

MIL-HDBK-264(SH)
30 September 1980

MILITARY HANDBOOK

**PROPERTIES OF STEEL SHAPES AND PLATE—
BEAM COMBINATION USED IN SHIPBUILDING**



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DEPARTMENT OF THE NAVY
NAVAL SEA SYSTEMS COMMAND
WASHINGTON, D.C. 20362

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Properties of Steel Shapes and Plate -
Beam Combination Used in Shipbuilding

1. This standardization handbook was developed by the Department of Defense in accordance with established procedure.

2. This publication was approved on 30 September 1980 for printing and inclusion in the military standardization handbook series.

3. Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commander, Naval Sea Systems Command, SEA 3112, Department of the Navy, Washington, DC 20362 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

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FOREWORD

The purpose of this handbook is to provide convenient tabulations of properties of structural steel sections which are readily available from the principal producers of structural steel shapes. The handbook is intended for use in the design of ship structure.

This handbook is the result of the combined efforts of the Surface Ship Structures Branch of the Naval Sea Systems Command (NAVSEA) and the Ship Structures Division of the David W. Taylor Naval Ship Research and Development Center (DTNSRDC).

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1. SCOPE

1.1 Scope. This handbook contains tabulations of the properties of the following items (using the 1978 American Institute of Steel Construction standard series of wide flange shapes):

Combined beam and plate:	Columns:	Structural shape catalogs:
Tees and plates	Wide flange shapes	Tees
Angles and plates	Tubes (iron pipe sizes)	Angles

1.2 Application. The tables for properties of combined beam and plate are intended to be used in the design of ship structure where the plate is considered to be acting as one of the flanges of the attached member. For properties of combined beam and plate based on earlier standard steel shapes see NAVSHIPS 250-443-1, Manual of Properties of Combined Beam and Plate, Part I - Tees and Angles, Part II - Flanged Plate.

2. REFERENCED DOCUMENTS

2.1 Issues of documents. (Not applicable).

2.2 Other publications. The following document forms a part of this handbook to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids or request for proposal shall apply.

AMERICAN INSTITUTE OF STEEL CONSTRUCTION, INC.
Manual of Steel Construction.

(Application for copies should be addressed to the American Institute of Steel Construction, Inc., 101 Park Avenue, New York, NY 10017.)

(Technical society and technical association specifications and standards are generally available for reference from libraries. They are also distributed among technical groups and using Federal agencies.)

3. DEFINITIONS

3.1 Symbol nomenclature and definitions. Symbol nomenclature and definitions shall be as follows:

A	= Area of the shape, in inches squared.
ALLOWABLE LENGTH	= Allowable length of a column based on $\frac{L}{R} = 60$, in feet.
ASH	= Shear area of shape only (depth of beam times thickness of web), inches squared.
C	= Channel CUT to an angle.
CTOE	= Distance from the neutral axis of the shape only to the toe of the shape, in inches.
D	= Depth of the beam or column, in inches.
I	= Inertia of the combined beam and plate or column, in inches to the fourth.

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IO	= Inertia of the shape only, in inches to the fourth.
R	= Radius of gyration, in inches cubed.
S	= Section modulus with respect to the indicated axis, in inches cubed.
SECTION MODULUS FLANGE	= Section modulus of combined beam and plate to the flange, in inches cubed.
SECTION MODULUS PLATE	= Section modulus of combined beam and plate to the plate, in inches cubed.
T	= Thickness of plate.
TF	= Thickness of flange, in inches.
TW	= Thickness of web, in inches.
WF	= Width of flange, in inches.
WT/FT	= Weight of shape only (after it is cut) in pounds per foot.
YF	= Distance from the neutral axis of the combined beam and plate to the flange, in inches.
YP	= Distance from the neutral axis of the combined beam and plate to the plate, in inches.

See figures 1 and 2 for a pictorial representation of some of these symbols and definitions.

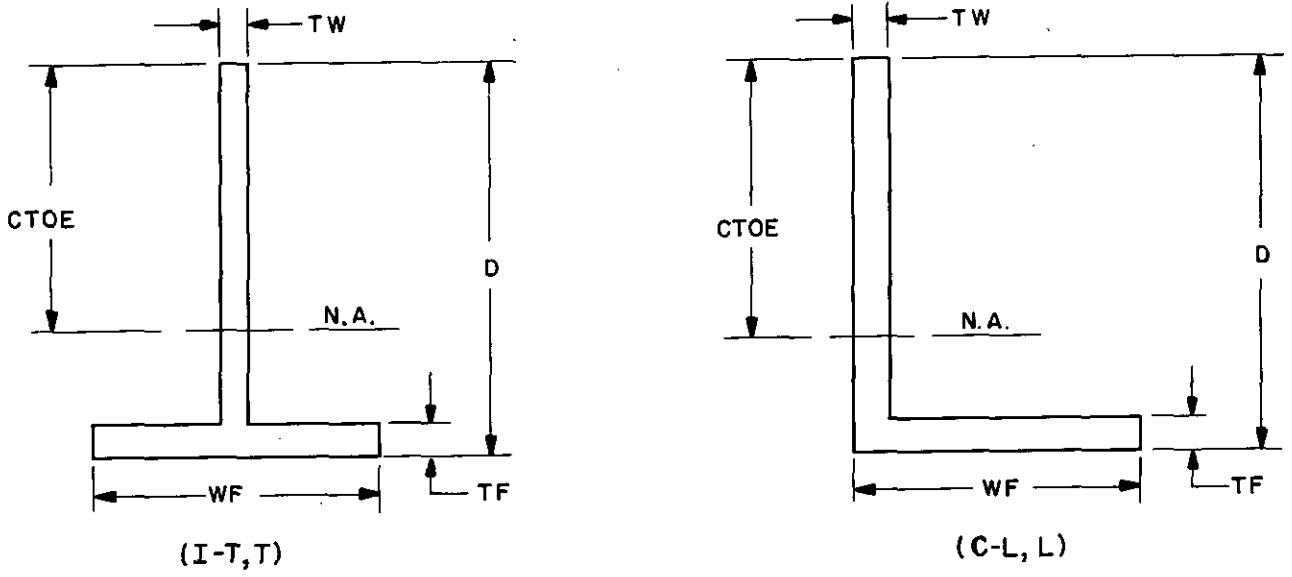


FIGURE 1. Typical structural shape (tee, angle).

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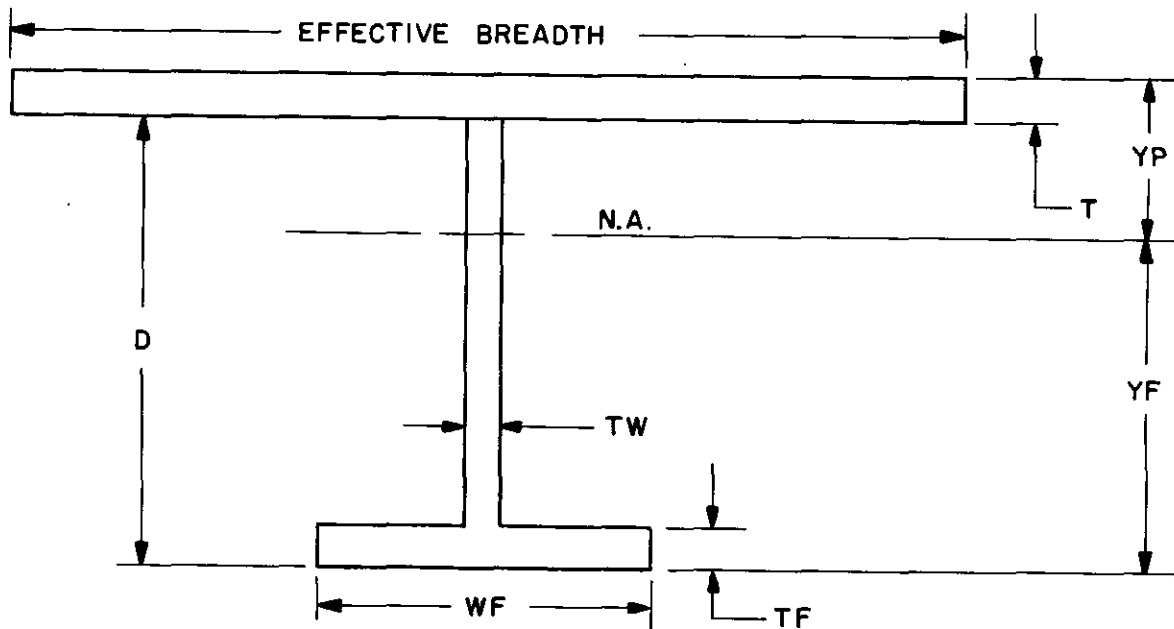


FIGURE 2. Typical tee-beam and plate combination.

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4. GENERAL REQUIREMENTS

4.1 Shapes. The steel shapes selected for inclusion in tables I thru XIV are those produced as or cut from U.S. commercial standards. The sizes were chosen based on experience of actual use.

4.1.1 Properties. The properties indicated in tables II thru XIV are for rolled shapes. These are produced by one of the following methods:

- (a) By cutting off two sides of one flange of an I-beam even with the web, a tee-beam can be made having the same depth as the original beam (indicated as an I cut to a tee or I-T).
- (b) By cutting through the middle of the web of an I-beam to make two tees having a depth of one-half that of the original beam (indicated as a T).
- (c) By off-center cutting through the web of an I-beam (for nominal depths greater than 12 inches) a tee-beam can be made having a depth which may vary from a maximum equal to the original depth of the beam to a minimum equal to the width of the flange (indicated as a tee cut from a wide flange or CF W).
- (d) By cutting off one flange of a channel even with the web, an angle can be made having the same depth as the original channel (indicated as a channel cut to an angle or C-L).

Weights and properties have been calculated from the theoretical dimensions which appear in the Manual of Steel Construction. Fillets or rounded edges have not been included in computing the weights and properties of all sections. Weights of all sections are computed on the bases that one cubic inch of steel weighs 0.2833 pounds.

4.2 Effective breadth of plating. The selection of an effective breadth of plating to be assumed acting in association with any shape (tee or angle) is influenced by the yield strength and the modulus of elasticity of the material. This is calculated by the formula $\sqrt{E/F_y} t$ when E is the modulus of elasticity (lb/in²a), F_y is the tensile yield strength (lb/in²a) and t is the thickness of the plate. If the plating and beams have different yield strength, the lower value yield strength is used in the formula.

4.2.1 Values. The values of effective breadth of plating in tables VIII thru XI have been selected as 60t, 50t, 38t, and 35t for tee shapes and tables XII and XIII have been selected as 60t and 50t for angle shapes. These correspond to the actual values for MS (60t), HTS (50t), HY80 (38t), and HY100 (35t).

4.2.1.1 Tables VIII thru XIII apply only if the calculated stiffener spacing is equal to or greater than the effective breadth of plating. Where stiffener spacing is less than the nominal effective breadth, equivalent plating having the required area can be used by selecting an appropriate thickness. This method will result in only negligible error for most cases.

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4.3 Limitations for shape attachment to plate. In order to avoid unreasonable combinations of beams and plates, the following limitations have been imposed on selecting shapes for attachment to plates whose thickness is greater than 0.1875 inches:

- (a) The neutral axis of the combined section must lie outside the plate.
- (b) The thickness of the web must not exceed the thickness of the plate to which it is attached.
- (c) For plates 0.1875 inches thick or less use shape sizes for plate of 0.2188 inches thick.

Preparing activity:
Navy - SH
(Project 19GP-N005)

TABLE I. Effective breadths and equivalent areas (60t, 50t, 38t, 35t).

EFFECTIVE BREADTHS AND EQUIVALENT AREAS										
PLATE			60T		50T		38T		35T	
LBS/FT ²	DECIMAL	FRACTION	BREADTH	AREA	BREADTH	AREA	BREADTH	AREA	BREADTH	AREA
	IN	IN	IN	IN ²	IN	IN ²	IN	IN ²	IN	IN ²
5.100	.1250	1/8	7.50	.94	6.25	.78	4.75	.59	4.38	.55
6.375	.1563	5/32	9.38	1.46	7.81	1.22	5.94	.93	5.47	.85
7.650	.1875	3/16	11.25	2.11	9.38	1.76	7.13	1.34	6.56	1.23
8.925	.2188	7/32	13.13	2.87	10.94	2.39	8.31	1.82	7.66	1.67
10.200	.2500	1/4	15.00	3.75	12.50	3.13	9.50	2.38	8.75	2.19
11.475	.2813	9/32	16.88	4.75	14.06	3.96	10.69	3.01	9.84	2.77
12.750	.3125	5/16	18.75	5.86	15.63	4.88	11.88	3.71	10.94	3.42
14.025	.3438	11/32	20.63	7.09	17.19	5.91	13.06	4.49	12.03	4.14
15.300	.3750	3/8	22.50	8.44	18.75	7.03	14.25	5.34	13.13	4.92
17.850	.4375	7/16	26.25	11.48	21.88	9.57	16.63	7.27	15.31	6.70
20.400	.5000	1/2	30.00	15.00	25.00	12.50	19.00	9.50	17.50	8.75
22.950	.5625	9/16	33.75	18.99	28.13	15.82	21.38	12.02	19.69	11.07
25.500	.6250	5/8	37.50	23.44	31.25	19.53	23.75	14.84	21.88	13.67
28.050	.6875	11/16	41.25	28.36	34.38	23.63	26.13	17.95	24.06	16.54
30.600	.7500	3/4	45.00	33.75	37.50	28.13	28.50	21.38	26.25	19.69
35.700	.8750	7/8	52.50	45.94	43.75	38.28	33.25	29.09	30.63	26.80
40.800	1.0000	1.0	60.00	60.00	50.00	50.00	38.00	38.00	35.00	35.00
45.900	1.1250	1 1/8	67.50	75.94	56.25	63.28	42.75	48.09	39.38	44.30
51.000	1.2500	1 1/4	75.00	93.75	62.50	78.13	47.50	59.38	43.75	54.69
56.100	1.3750	1 3/8	82.50	113.44	68.75	94.53	52.25	71.84	48.13	66.17
61.200	1.5000	1 1/2	90.00	135.00	75.00	112.50	57.00	85.50	52.50	78.75
71.400	1.7500	1 3/4	105.00	183.75	87.50	153.13	66.50	116.38	61.25	107.19

EFFECTIVE BREADTHS AND EQUIVALENT AREAS

TABLE I. Effective breadths and equivalent areas (60t, 50t, 38t, 35t). - Continued

EFFECTIVE BREADTHS AND EQUIVALENT AREAS										
LBS/FT ²	PLATE		60T		50T		38T		35T	
	DECIMAL	FRACTION	BREADTH	AREA	BREADTH	AREA	BREADTH	AREA	BREADTH	AREA
	IN	IN	IN	IN ²	IN	IN ²	IN	IN ²	IN	IN ²
81.600	2.0000	2.0	120.00	240.00	100.00	200.00	76.00	152.00	70.00	140.00
91.800	2.2500	2 1/4	135.00	303.75	112.50	253.13	85.50	192.38	78.75	177.19
102.000	2.5000	2 1/2	150.00	375.00	125.00	312.50	95.00	237.50	87.50	218.75
112.200	2.7500	2 3/4	165.00	453.75	137.50	378.13	104.50	287.38	96.25	264.69
122.400	3.0000	3.0	180.00	540.00	150.00	450.00	114.00	342.00	105.00	315.00
132.600	3.2500	3 1/4	195.00	633.75	162.50	528.13	123.50	401.38	113.75	369.69
142.800	3.5000	3 1/2	210.00	735.00	175.00	612.50	133.00	465.50	122.50	428.75
153.000	3.7500	3 3/4	225.00	843.75	187.50	703.13	142.50	534.38	131.25	492.19
163.200	4.0000	4.0	240.00	960.00	200.00	800.00	152.00	608.00	140.00	560.00

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EFFECTIVE BREADTHS AND EQUIVALENT AREAS

TABLE II. Properties of wide flange columns.

PROPERTIES OF WIDE FLANGE COLUMNS																	
ELASTIC PROPERTIES																	
NOMINAL SIZE			WT/FT	A	AXIS X-X			AXIS Y-Y			D	FLANGE		TW	ALLOWABLE LENGTH		
					I	S	R	I	S	R		WF	TF				
IN X	IN X	LBS/FT	LBS	IN ²	IN ³	IN	IN ⁴	IN ³	IN	IN	IN	IN	IN	IN	FT		
4 X	4	X 13 I	13.0	3.8	11.3	5.5	1.72	3.9	1.9	1.00	4.16	4.060	.345	.280	5.0		
6 X	6	X 15 I	15.1	4.4	29.1	9.7	2.56	9.3	3.1	1.45	5.99	5.990	.260	.230	7.3		
6 X	6	X 20 I	20.0	5.9	41.4	13.4	2.66	13.3	4.4	1.50	6.20	6.020	.365	.260	7.5		
6 X	6	X 25 I	25.0	7.3	53.4	16.7	2.70	17.1	5.6	1.52	6.38	6.080	.455	.320	7.6		
8 X	8	X 31 I	31.0	9.1	110.0	27.5	3.47	37.1	9.3	2.02	8.00	7.995	.435	.285	10.1		
8 X	8	X 35 I	35.0	10.3	127.0	31.2	3.51	42.6	10.6	2.03	8.12	8.020	.495	.310	10.2		
8 X	8	X 40 I	39.8	11.7	146.0	35.5	3.53	49.1	12.2	2.04	8.25	8.070	.560	.360	10.2		
8 X	8	X 48 I	47.9	14.1	184.0	43.3	3.61	60.9	15.0	2.08	8.50	8.110	.685	.400	10.4		
8 X	8	X 58 I	58.1	17.1	228.0	52.0	3.65	75.1	18.3	2.10	8.75	8.220	.810	.510	10.5		
8 X	8	X 67 I	67.0	19.7	272.0	60.4	3.72	88.6	21.4	2.12	9.00	8.280	.935	.570	10.6		
10 X	10	X 49 I	49.0	14.4	272.0	54.6	4.35	93.4	19.7	2.54	9.98	10.000	.560	.340	12.7		
10 X	10	X 54 I	53.7	15.8	303.0	60.0	4.37	103.0	20.6	2.56	10.09	10.030	.615	.370	12.8		
10 X	10	X 60 I	59.8	17.6	341.0	66.7	4.39	116.0	23.0	2.57	10.22	10.080	.680	.420	12.9		
10 X	10	X 68 I	68.0	20.0	394.0	75.7	4.44	134.0	26.4	2.59	10.40	10.130	.770	.470	13.0		
10 X	10	X 77 I	75.8	22.6	455.0	85.9	4.49	154.0	30.1	2.60	10.60	10.190	.870	.530	13.0		
10 X	10	X 88 I	88.1	25.9	534.0	98.5	4.54	179.0	34.8	2.63	10.84	10.265	.990	.605	13.2		
10 X	10	X 100 I	100.0	29.4	623.0	112.0	4.60	207.0	40.0	2.65	11.10	10.340	1.120	.680	13.3		
10 X	10	X 112 I	111.9	32.9	716.0	126.0	4.66	236.0	45.3	2.68	11.36	10.415	1.250	.755	13.4		
12 X	12	X 65 I	64.9	19.1	533.0	87.9	5.28	174.0	29.1	3.02	12.12	12.000	.605	.390	15.1		
12 X	12	X 72 I	71.7	21.1	597.0	97.4	5.31	195.0	32.4	3.04	12.25	12.040	.670	.430	15.2		
12 X	12	X 79 I	79.9	23.2	662.0	107.0	5.34	216.0	35.8	3.05	12.38	12.080	.735	.470	15.3		
12 X	12	X 87 I	87.0	25.6	740.0	118.0	5.38	241.0	39.7	3.07	12.53	12.125	.810	.515	15.4		
12 X	12	X 96 I	95.9	28.2	833.0	131.0	5.44	270.0	44.4	3.09	12.71	12.160	.900	.550	15.5		

PROPERTIES OF WIDE FLANGE COLUMNS

TABLE II. Properties of wide flange columns. - Continued

PROPERTIES OF WIDE FLANGE COLUMNS															
ELASTIC PROPERTIES															
NOMINAL SIZE			WT/FT	A	AXIS X-X			AXIS Y-Y			FLANGE			ALLOWABLE LENGTH	
					I	S	R	I	S	R	D	WF	TF		TW
IN X	IN X	LBS/FT	LBS	IN ²	IN ⁴	IN ³	IN	IN ⁴	IN ³	IN	IN	IN	IN	IN	FT
12 X 12	X 106	I	106.1	31.2	933.0	145.0	5.47	301.0	49.3	3.11	12.89	12.220	.990	.610	15.6
12 X 12	X 120	I	120.0	35.3	1070.0	163.0	5.51	345.0	56.0	3.13	13.12	12.320	1.105	.710	15.7
12 X 12	X 136	I	135.7	39.9	1240.0	186.0	5.58	398.0	64.2	3.16	13.41	12.400	1.250	.790	15.8
12 X 12	X 152	I	152.0	44.7	1430.0	209.0	5.66	454.0	72.9	3.19	13.71	12.480	1.400	.870	16.0
12 X 12	X 170	I	170.0	50.0	1650.0	235.0	5.74	517.0	82.3	3.22	14.03	12.570	1.560	.960	16.1
12 X 12	X 190	I	189.7	55.8	1890.0	263.0	5.82	589.0	93.0	3.25	14.38	12.670	1.735	1.060	16.3
12 X 12	X 210	I	210.1	61.8	2140.0	292.0	5.89	664.0	104.0	3.28	14.71	12.790	1.900	1.180	16.4
14 X 14 1/2	X 90	I	90.1	26.5	999.0	143.0	6.14	362.0	49.9	3.70	14.02	14.520	.710	.440	18.5
14 X 14 1/2	X 99	I	98.9	29.1	1110.0	157.0	6.17	402.0	55.2	3.71	14.16	14.565	.780	.485	18.6
14 X 14 1/2	X 109	I	108.8	32.0	1240.0	173.0	6.22	447.0	61.2	3.73	14.32	14.605	.860	.525	18.7
14 X 14 1/2	X 120	I	120.0	35.3	1380.0	190.0	6.24	495.0	67.5	3.74	14.48	14.670	.940	.590	18.7
14 X 14 1/2	X 132	I	131.9	38.8	1530.0	209.0	6.28	548.0	74.5	3.76	14.66	14.725	1.030	.645	18.8
14 X 16	X 145	I	145.2	42.7	1710.0	232.0	6.33	677.0	87.3	3.98	14.78	15.500	1.090	.680	19.9
14 X 16	X 159	I	158.8	46.7	1900.0	254.0	6.38	748.0	96.2	4.00	14.98	15.565	1.190	.745	20.0
14 X 16	X 176	I	176.1	51.8	2140.0	281.0	6.43	838.0	107.0	4.02	15.22	15.650	1.310	.830	20.1
14 X 16	X 193	I	193.1	56.8	2400.0	310.0	6.50	931.0	119.0	4.05	15.48	15.710	1.440	.890	20.3
14 X 16	X 211	I	210.8	62.0	2660.0	338.0	6.55	1030.0	130.0	4.07	15.72	15.800	1.560	.980	20.4
14 X 16	X 233	I	232.9	68.5	3010.0	375.0	6.63	1150.0	145.0	4.10	16.04	15.890	1.720	1.070	20.5
14 X 16	X 257	I	257.0	75.6	3400.0	415.0	6.71	1290.0	161.0	4.13	16.38	15.995	1.890	1.175	20.7
14 X 16	X 283	I	283.2	83.3	3840.0	459.0	6.79	1440.0	179.0	4.17	16.74	16.110	2.070	1.290	20.9
14 X 16	X 311	I	310.8	91.4	4330.0	506.0	6.88	1610.0	199.0	4.20	17.12	16.230	2.260	1.410	21.0
14 X 16	X 342	I	343.4	101.0	4900.0	559.0	6.98	1810.0	221.0	4.24	17.54	16.360	2.470	1.540	21.2
14 X 16	X 370	I	370.6	109.0	5440.0	607.0	7.07	1990.0	241.0	4.27	17.92	16.475	2.660	1.655	21.4
14 X 16	X 398	I	397.8	117.0	6000.0	656.0	7.16	2170.0	262.0	4.31	18.29	16.590	2.845	1.770	21.6
14 X 16	X 426	I	425.0	125.0	6600.0	707.0	7.26	2360.0	283.0	4.34	18.67	16.695	3.035	1.875	21.7

PROPERTIES OF WIDE FLANGE COLUMNS

TABLE III. Properties of structural steel tubes (standard iron pipe sizes).

PROPERTIES OF STRUCTURAL STEEL TUBES										
PIPE SIZE OUTSIDE DIA X WALL THICKNESS	WT/FT	A	I	S	R	DIAMETER		WALL THICKNESS	ALLOWABLE LENGTH	
						OUTSIDE	INSIDE			
IN X IN	LBS	IN ²	IN ⁴	IN ³	IN	IN	IN	IN	FT	
3.500 X 0.216	7.58	2.23	3.02	1.72	1.16	3.500	3.068	.216	5.80	
4.000 X 0.226	9.11	2.68	4.79	2.39	1.34	4.000	3.548	.226	6.70	
4.500 X 0.237	10.79	3.17	7.23	3.21	1.51	4.500	4.026	.237	7.55	
5.563 X 0.258	14.62	4.30	15.20	5.45	1.88	5.563	5.047	.258	9.40	
6.625 X 0.280	18.97	5.58	28.10	8.50	2.25	6.625	6.065	.280	11.25	
8.625 X 0.322	28.55	8.40	72.50	16.88	2.94	8.625	7.981	.322	14.70	
10.750 X 0.365	40.48	11.90	161.00	29.90	3.67	10.750	10.020	.365	18.35	
12.750 X 0.375	49.56	14.60	279.00	43.80	4.38	12.750	12.000	.375	21.90	

NOTE- THESE ARE STRUCTURAL STEEL TUBES IN STANDARD IRON PIPE SIZES

PROPERTIES OF STRUCTURAL STEEL TUBES

TABLE IV. Properties of structural steel tubes (extra strong iron pipe sizes).

PROPERTIES OF STRUCTURAL STEEL TUBES											
PIPE OUTSIDE DIA	PIPE WALL THICKNESS	WT/FT	A	I	S	R	DIAMETER		WALL THICKNESS	ALLOWABLE LENGTH	
IN X IN	IN	LBS	IN ²	IN ⁴	IN ³	IN	IN	IN	IN	FT	
3.500 X 0.300		10.25	3.02	3.89	2.23	1.14	3.500	2.900	.300	5.70	
4.000 X 0.318		12.50	3.68	6.28	3.14	1.31	4.000	3.364	.318	6.55	
4.500 X 0.337		14.98	4.41	9.61	4.27	1.48	4.500	3.826	.337	7.40	
5.563 X 0.375		20.78	6.11	20.70	7.43	1.84	5.563	4.813	.375	9.20	
6.625 X 0.432		28.57	8.40	40.50	12.20	2.19	6.625	5.761	.432	10.95	
8.625 X 0.500		43.39	12.80	106.00	24.50	2.88	8.625	7.625	.500	14.40	
10.750 X 0.500		54.74	16.10	212.00	39.40	3.63	10.750	9.750	.500	18.15	
12.750 X 0.500		65.42	19.20	362.00	56.70	4.33	12.750	11.750	.500	21.65	

NOTE - THESE ARE STRUCTURAL STEEL TUBES IN EXTRA-STRONG IRON PIPE SIZES

PROPERTIES OF STRUCTURAL STEEL TUBES

TABLE V. Properties of structural steel tubes (double-extra strong iron pipe sizes).

PROPERTIES OF STRUCTURAL STEEL TUBES											
PIPE SIZE		WT/FT	A	I	S	R	DIAMETER		WALL THICKNESS	ALLOWABLE LENGTH	
OUTSIDE DIA	X WALL THICKNESS						OUTSIDE	INSIDE			
IN	X IN	LBS	IN ²	IN ⁴	IN ³	IN	IN	IN	IN	FT	
3.500	X 0.600	18.58	5.47	5.99	3.42	1.05	3.500	2.300	.600	5.25	
4.500	X 0.674	27.54	8.10	15.30	6.79	1.37	4.500	3.152	.674	6.85	
5.563	X 0.750	38.55	11.30	33.60	12.10	1.72	5.563	4.063	.750	8.60	
6.625	X 0.864	53.16	15.60	66.30	20.00	2.06	6.625	4.897	.864	10.30	
8.625	X 0.875	72.42	21.30	162.00	37.60	2.76	8.625	6.875	.875	13.80	

NOTE- THESE ARE STRUCTURAL STEEL TUBES IN DOUBLE-EXTRA STRONG IRON PIPE SIZES

PROPERTIES OF STRUCTURAL STEEL TUBES

TABLE VI. Steel structural shape catalog (I-T and T).

S T E E L											
STRUCTURAL SHAPE CATALOG (I-T AND T)											
	NOMINAL SIZE				A	COE	IO	D	TW	WF	TF
	IN	X IN	X LBS/FT		IN2	IN	IN4	IN	IN	IN	IN
4	X	4	X 5.0	T	1.44	2.98	2.1	3.95	.170	3.94	.205
4	X	4	X 6.5	T	1.88	2.96	2.9	4.00	.230	4.00	.255
4	X	4	X 7.5	T	2.18	3.05	3.3	4.06	.245	4.02	.315
4	X	5 1/4	X 9.0	T	2.59	3.23	3.4	4.07	.230	5.25	.330
4	X	4	X 13.0	T-T	2.47	3.09	3.9	4.16	.280	4.06	.345
5	X	4	X 6.0	T	1.73	3.55	4.3	4.94	.190	3.96	.210
5	X	4	X 7.5	T	2.17	3.61	5.4	5.00	.230	4.00	.270
5	X	4	X 9.5	T	2.46	3.73	6.0	5.06	.240	4.01	.330
5	X	4	X 9.5	T	2.77	3.83	6.7	5.17	.250	4.02	.395
5	X	5	X 15.0	T-T	2.92	3.87	6.4	5.01	.240	5.00	.360
5	X	5	X 19.0	T-T	3.44	3.98	7.7	5.15	.270	5.02	.430
6	X	4	X 7.0	T	2.04	4.17	7.6	5.96	.200	3.97	.225
6	X	4	X 9.0	T	2.32	4.24	8.6	6.00	.220	3.99	.265
6	X	4	X 9.0	I-T	1.81	4.22	6.5	5.90	.170	3.94	.215
6	X	4	X 9.5	T	2.75	4.42	10.0	6.08	.235	4.01	.350
6	X	4	X 11.0	T	3.20	4.51	11.7	6.16	.260	4.03	.425
6	X	4	X 12.0	T-T	2.44	4.26	9.2	6.03	.230	4.00	.280
6	X	6	X 15.0	T-T	2.88	4.49	10.0	5.99	.230	5.99	.260
6	X	4	X 16.0	I-T	3.16	4.56	12.2	6.28	.260	4.02	.405
6	X	6	X 20.0	I-T	3.71	4.75	13.0	6.20	.260	6.02	.365
7	X	5	X 11.0	T	3.18	5.08	14.7	6.87	.230	5.01	.335
7	X	5	X 13.0	T	3.78	5.21	17.3	6.96	.255	5.03	.420
7	X	6 3/4	X 15.0	T	4.36	5.33	18.9	6.92	.270	6.73	.385
7	X	6 3/4	X 17.0	T	4.93	5.44	20.8	6.99	.285	6.75	.455
7	X	6 3/4	X 19.0	T	5.51	5.50	23.2	7.05	.310	6.77	.515
7	X	8	X 21.5	T	6.16	5.50	21.9	6.83	.305	8.00	.530
7	X	8	X 24.0	T	6.92	5.53	24.9	6.90	.340	8.03	.595

STRUCTURAL SHAPE CATALOG (I-T AND T)

TABLE VI. Steel structural shape catalog (I-T and T). - Continued

S T E E L													
STRUCTURAL SHAPE CATALOG (I-T AND T)													
NOMINAL SIZE					A	CTOE	IO	0	TW	WF	TF		
	IN	X	IN	X	LBS/FT	IN2	IN	IN4	TN	TN	TN		
8	X	4	X	10.0	I-T	2.11	5.35	14.2	7.89	.170	3.94	.205	
8	X	4	X	13.0	I-T	2.80	5.32	19.2	7.99	.230	4.00	.255	
8	X	5	1/2	X	13.0	T	3.77	5.73	23.4	7.85	.250	5.50	.345
8	X	4	X	15.0	I-T	3.17	5.51	22.2	8.11	.245	4.02	.315	
8	X	5	1/2	X	15.5	T	4.49	5.90	27.3	7.94	.275	5.53	.440
8	X	5	1/4	X	18.0	I-T	3.53	5.90	23.8	8.14	.230	5.25	.330
8	X	7	X	18.0	T	5.22	6.03	30.4	7.93	.295	6.55	.430	
8	X	7	X	20.0	T	5.82	6.18	33.1	8.01	.305	7.00	.505	
8	X	5	1/4	X	21.0	I-T	4.09	6.08	27.7	8.28	.250	5.27	.400
8	X	7	X	22.5	T	6.56	6.20	37.8	8.07	.345	7.04	.565	
8	X	6	1/2	X	24.0	I-T	4.44	6.08	25.7	7.93	.245	5.50	.400
8	X	7	1/8	X	25.0	T	7.30	6.23	42.2	8.13	.380	7.07	.630
8	X	6	1/2	X	28.0	I-T	5.23	6.15	31.0	8.06	.285	6.54	.465
8	X	7	1/8	X	28.5	T	8.32	6.27	48.7	8.22	.430	7.12	.715
8	X	8	X	31.0	I-T	5.63	6.25	31.6	8.00	.285	8.00	.435	
9	X	6	X	17.5	T	5.08	6.43	39.8	8.85	.300	6.00	.425	
9	X	6	X	20.0	T	5.81	6.64	44.6	8.95	.315	6.02	.525	
10	X	4	X	12.0	I-T	2.67	6.37	28.2	9.87	.190	3.96	.210	
10	X	4	X	15.0	I-T	3.32	6.49	35.8	9.99	.230	4.00	.270	
10	X	4	X	17.0	I-T	3.67	6.71	40.3	10.11	.240	4.01	.330	
10	X	4	X	19.0	I-T	4.05	6.93	45.2	10.24	.250	4.02	.395	
10	X	5	3/4	X	22.0	I-T	4.42	7.28	47.4	10.17	.240	5.75	.360
10	X	5	3/4	X	26.0	I-T	5.11	7.51	55.1	10.33	.260	5.77	.440
10	X	5	3/4	X	30.0	I-T	5.95	7.59	65.5	10.47	.300	5.81	.510
10	X	8	X	33.0	I-T	6.16	7.38	55.3	9.73	.290	7.96	.435	
10	X	8	X	39.0	I-T	7.19	7.61	64.7	9.92	.315	7.55	.530	
10	X	8	X	45.0	I-T	8.29	7.77	75.8	10.10	.350	8.02	.620	

STRUCTURAL SHAPE CATALOG (I-T AND T)

TABLE VI. Steel structural shape catalog (I-T and T). - Continued

S T E E L												
STRUCTURAL SHAPE CATALOG (I-T AND T)												
NOMINAL SIZE				A	GTOE	I ₀	D	TW	WF	TF		
IN	X	IN	X	LBS/FT	IN ²	IN	IN ⁴	TN	TN	TN	IN	IN
12	X	4	X	14.0 I-T	3.23	7.49	49.5	11.91	.200	3.97	.225	
12	X	4	X	16.0 I-T	3.64	7.61	56.5	11.99	.220	3.99	.265	
12	X	4	X	19.0 I-T	4.18	7.95	66.7	12.16	.235	4.01	.350	
12	X	4	X	22.0 I-T	4.80	8.14	78.1	12.31	.260	4.03	.425	
12	X	6 1/2	X	26.0 I-T	5.19	8.82	80.2	12.77	.230	6.49	.380	
12	X	6 1/2	X	30.0 I-T	5.96	8.92	93.2	12.34	.260	6.52	.440	
12	X	6 1/2	X	35.0 I-T	7.01	9.03	111.4	12.50	.300	6.56	.520	
12	X	8	X	40.0 I-T	7.49	9.00	102.8	11.94	.295	8.01	.515	
12	X	8	X	45.0 I-T	8.47	9.03	118.8	12.06	.335	8.05	.575	
12	X	8 1/8	X	50.0 I-T	9.44	9.11	134.6	12.19	.370	8.08	.640	
12	X	10	X	53.0 I-T	9.71	9.31	129.0	12.06	.345	10.00	.575	
12	X	10	X	58.0 I-T	10.56	9.47	140.1	12.19	.360	10.01	.640	
14	X	5	X	22.0 I-T	4.76	9.12	97.4	13.74	.230	5.00	.335	
14	X	5	X	26.0 I-T	5.55	9.39	115.5	13.91	.255	5.03	.420	
14	X	6 3/4	X	30.0 I-T	6.22	9.61	127.3	13.84	.270	6.73	.385	
14	X	6 3/4	X	34.0 I-T	6.92	9.86	142.3	13.98	.285	6.76	.455	
14	X	6 3/4	X	38.0 I-T	7.70	9.99	159.6	14.10	.310	6.77	.515	
14	X	8	X	43.0 I-T	8.24	10.08	153.7	13.66	.305	8.00	.530	
14	X	8	X	48.0 I-T	9.26	10.15	175.2	13.79	.340	8.03	.595	
16	X	5 1/2	X	26.0 I-T	5.73	10.27	153.4	15.69	.250	5.50	.345	
16	X	5 1/2	X	31.0 I-T	6.68	10.61	181.9	15.88	.275	5.53	.440	
16	X	7	X	36.0 I-T	7.56	10.87	204.1	15.86	.295	6.99	.430	
16	X	7	X	40.0 I-T	8.26	11.18	224.4	16.01	.305	7.00	.505	
16	X	7	X	45.0 I-T	9.34	11.21	257.1	16.13	.345	7.04	.565	
16	X	7 1/8	X	50.0 I-T	10.39	11.30	289.3	16.26	.380	7.07	.630	
16	X	7 1/8	X	57.0 I-T	11.85	11.39	335.2	16.43	.430	7.12	.715	
16	X	10 1/4	X	67.0 I-T	12.99	12.11	342.9	16.33	.395	10.24	.665	
16	X	10 1/4	X	77.0 I-T	15.00	12.19	404.1	16.52	.455	10.30	.760	

STRUCTURAL SHAPE CATALOG (I-T AND T)

TABLE VI. Steel structural shape catalog (I-T and T). - Continued

S T E E L												
STRUCTURAL SHAPE CATALOG (I-T AND T)												
NOMINAL SIZE				A	CTOE	IO	0	TW	WF	TF		
IN	X	IN	X	LBS/FT	TN2	TN	IN4	TA	TN	TA	IN	
16	X	10	3/8	X	89.0	I-T	17.40	12.30	480.2	16.75	.525	10.37 .875
18	X	6		X	35.0	I-T	7.73	11.56	262.8	17.70	.300	6.00 .425
18	X	6		X	40.0	I-T	8.63	11.96	298.2	17.90	.315	6.02 .525
18	X	7	1/2	X	50.0	I-T	10.46	12.39	360.9	17.99	.355	7.50 .570
18	X	7	1/2	X	60.0	I-T	12.53	12.59	440.7	18.24	.415	7.56 .695
18	X	7	5/8	X	71.0	I-T	14.93	12.66	536.4	18.47	.495	7.64 .810
18	X	11	1/8	X	86.0	I-T	17.00	13.43	578.5	18.39	.480	11.09 .770
18	X	11	1/8	X	97.0	I-T	19.18	13.56	662.8	18.59	.535	11.15 .870
18	X	11	1/4	X	106.0	I-T	21.02	13.58	738.6	18.73	.590	11.20 .940
18	X	11	1/4	X	119.0	I-T	23.67	13.74	847.1	18.97	.655	11.27 1.060
21	X	8	1/4	X	62.0	I-T	13.22	14.21	626.3	20.99	.400	8.24 .615
21	X	8	1/4	X	68.0	I-T	14.46	14.36	691.0	21.13	.430	8.27 .685
21	X	8	1/4	X	73.0	I-T	15.47	14.47	744.5	21.24	.455	8.30 .740
21	X	8	3/8	X	83.0	I-T	17.58	14.55	858.5	21.43	.515	8.36 .835
21	X	8	3/8	X	93.0	I-T	19.83	14.61	982.4	21.62	.580	8.42 .930
21	X	12	1/4	X	101.0	I-T	20.11	15.50	935.9	21.36	.500	12.25 .800
21	X	12	3/8	X	111.0	I-T	22.15	15.56	1043.4	21.51	.550	12.34 .875

STRUCTURAL SHAPE CATALOG (I-T AND T)

TABLE VII. Steel structural shape catalog (C-L and L).

S T E E L

STRUCTURAL SHAPE CATALOG (C-L AND L)

NOMINAL SIZE				A	CTOE	IO	D	TW	WF	TF			
IN	X	IN	X	IN	X	LBS/FT	IN2	IN	IN4	IN	IN	IN	
2	X	1 1/2	X	3/16	X	2.12 L	.62	1.36	.2	2.00	.187	1.50	.187
2	X	2	X	3/16	X	2.44 L	.71	1.43	.3	2.00	.187	2.00	.187
2	X	1 1/2	X	1/4	X	2.77 L	.81	1.34	.3	2.00	.250	1.50	.250
2	X	2	X	1/4	X	3.19 L	.94	1.41	.3	2.00	.250	2.00	.250
2	X	2	X	3/8	X	4.7 L	1.36	1.36	.5	2.00	.375	2.00	.375
2 1/2	X	2	X	3/16	X	2.75 L	.81	1.74	.5	2.50	.187	2.00	.187
2 1/2	X	2	X	1/4	X	3.62 L	1.06	1.71	.7	2.50	.250	2.00	.250
2 1/2	X	2	X	5/16	X	4.5 L	1.31	1.69	.8	2.50	.313	2.00	.313
2 1/2	X	2	X	3/8	X	5.3 L	1.55	1.67	.9	2.50	.375	2.00	.375
3	X	2	X	3/16	X	3.07 L	.90	2.03	.8	3.00	.187	2.00	.187
3	X	3	X	3/16	X	3.71 L	1.09	2.18	1.0	3.00	.187	3.00	.187
3	X	2	X	1/4	X	4.1 L	1.19	2.01	1.1	3.00	.250	2.00	.250
3	X	2 1/2	X	1/4	X	4.5 L	1.31	2.09	1.2	3.00	.250	2.50	.250
3	X	3	X	1/4	X	4.9 L	1.44	2.16	1.2	3.00	.250	3.00	.250
3	X	2	X	5/16	X	5.0 L	1.47	1.98	1.3	3.00	.313	2.00	.313
3	X	2 1/2	X	5/16	X	5.6 L	1.62	2.07	1.4	3.00	.313	2.50	.313
3	X	3	X	5/16	X	6.1 L	1.78	2.13	1.5	3.00	.313	3.00	.313
3	X	2 1/2	X	3/8	X	6.6 L	1.92	2.04	1.7	3.00	.375	2.50	.375
3	X	3	X	3/8	X	7.2 L	2.11	2.11	1.8	3.00	.375	3.00	.375
3	X	2 1/2	X	7/16	X	7.6 L	2.22	2.02	1.9	3.00	.438	2.50	.438
3	X	3	X	7/16	X	8.3 L	2.44	2.09	2.0	3.00	.438	3.00	.438
3	X	3	X	1/2	X	9.4 L	2.75	2.07	2.2	3.00	.500	3.00	.500
3 1/2	X	2 1/2	X	1/4	X	4.9 L	1.44	2.39	1.8	3.50	.250	2.50	.250
3 1/2	X	3	X	1/4	X	5.4 L	1.56	2.47	1.9	3.50	.250	3.00	.250
3 1/2	X	2 1/2	X	5/16	X	6.1 L	1.78	2.36	2.2	3.50	.313	2.50	.313
3 1/2	X	3	X	5/16	X	6.6 L	1.94	2.44	2.3	3.50	.313	3.00	.313
3 1/2	X	2 1/2	X	3/8	X	7.2 L	2.11	2.34	2.6	3.50	.375	2.50	.375

STRUCTURAL SHAPE CATALOG (C-L AND L)

TABLE VII. Steel structural shape catalog (C-L and L). - Continued

S T E E L															
STRUCTURAL SHAPE CATALOG (C-L AND L)															
NOMINAL SIZE						A	CTOE	IO	D	TW	WF	TF			
IN	X	IN	X	IN	X	LBS/FT	IN2	IN	IN4	IN	IN	IN			
3	1/2	X	3	X	3/8	X	7.9	L	2.30	2.42	2.7	3.50	.375	3.00	.375
4	X	3	X	1/4	X	5.8	L	1.69	2.76	2.8	4.00	.250	3.00	.250	
4	X	3 1/2	X	1/4	X	6.2	L	1.81	2.84	2.9	4.00	.250	3.50	.250	
4	X	4	X	1/4	X	6.6	L	1.94	2.91	3.0	4.00	.250	4.00	.250	
4	X	3	X	5/16	X	7.2	L	2.09	2.74	3.4	4.00	.313	3.00	.313	
4	X	3 1/2	X	5/16	X	7.7	L	2.25	2.82	3.6	4.00	.313	3.50	.313	
4	X	4	X	5/16	X	8.2	L	2.41	2.88	3.7	4.00	.313	4.00	.313	
4	X	3	X	3/8	X	8.5	L	2.48	2.72	4.0	4.00	.375	3.00	.375	
4	X	3 1/2	X	3/8	X	9.1	L	2.67	2.79	4.2	4.00	.375	3.50	.375	
4	X	4	X	3/8	X	9.8	L	2.86	2.86	4.4	4.00	.375	4.00	.375	
4	X	3	X	7/16	X	9.8	L	2.87	2.70	4.5	4.00	.438	3.00	.438	
4	X	3	X	1/2	X	11.1	L	3.25	2.67	5.0	4.00	.500	3.00	.500	
4	X	4	X	7/16	X	11.3	L	3.31	2.84	5.0	4.00	.438	4.00	.438	
4	X	3 1/2	X	1/2	X	11.9	L	3.50	2.75	5.3	4.00	.500	3.50	.500	
4	X	4	X	1/2	X	12.8	L	3.75	2.82	5.6	4.00	.500	4.00	.500	
4	X	4	X	5/8	X	15.7	L	4.61	2.77	6.7	4.00	.625	4.00	.625	
4	X	4	X	3/4	X	18.5	L	5.44	2.73	7.7	4.00	.750	4.00	.750	
5	X	3	X	1/4	X	6.6	L	1.94	3.34	5.1	5.00	.250	3.00	.250	
5	X	3 1/2	X	1/4	X	7.0	L	2.06	3.44	5.4	5.00	.250	3.50	.250	
5	X	3	X	5/16	X	8.2	L	2.41	3.32	6.3	5.00	.313	3.00	.313	
5	X	3 1/2	X	5/16	X	8.7	L	2.56	3.41	6.6	5.00	.313	3.50	.313	
5	X	3	X	3/8	X	9.8	L	2.86	3.30	7.4	5.00	.375	3.00	.375	
5	X	3 1/2	X	3/8	X	10.4	L	3.05	3.39	7.8	5.00	.375	3.50	.375	
5	X	3	X	7/16	X	11.3	L	3.31	3.27	8.4	5.00	.438	3.00	.438	
5	X	3 1/2	X	7/16	X	12.0	L	3.53	3.37	8.9	5.00	.438	3.50	.438	
5	X	5	X	3/8	X	12.3	L	3.61	3.61	8.7	5.00	.375	5.00	.375	
5	X	3	X	1/2	X	12.8	L	3.75	3.25	9.5	5.00	.500	3.00	.500	

STRUCTURAL SHAPE CATALOG (C-L AND L)

TABLE VII. Steel structural shape catalog (C-L and L). - Continued

S T E E L															
STRUCTURAL SHAPE CATALOG (C-L AND L)															
NOMINAL SIZE					A	CTOE	IO	O	TW	WF	TF				
	IN	X	IN	X	IN	X	LBS/FT	IN ²	IN	IN ⁴	IN	IN	IN	IN	
5	X	3	1/2	X	1/2	X	13.6	L	4.00	3.34	10.0	5.00	.500	3.50	.500
5	X	3	1/2	X	5/8	X	16.8	L	4.92	3.30	12.0	5.00	.625	3.50	.625
5	X	3	1/2	X	3/4	X	19.8	L	5.81	3.25	13.9	5.00	.750	3.50	.750
6	X	3	1/2	X	5/16	X	9.8	L	2.88	3.99	10.9	6.00	.313	3.50	.313
6	X	4		X	5/16	X	10.3	L	3.03	4.08	11.4	6.00	.313	4.00	.313
6	X	3	1/2	X		X	15.3	C	3.26	4.05	12.1	6.00	.340	3.50	.385
6	X	3	1/2	X	3/8	X	11.7	L	3.42	3.96	12.9	6.00	.375	3.50	.375
6	X	4		X	3/8	X	12.3	L	3.61	4.06	13.5	6.00	.375	4.00	.375
6	X	3	1/2	X		X	18.0	C	3.76	4.09	13.7	6.00	.379	3.50	.475
6	X	4		X	7/16	X	14.3	L	4.19	4.04	15.5	6.00	.438	4.00	.438
6	X	4		X	1/2	X	16.2	L	4.75	4.01	17.4	6.00	.500	4.00	.500
6	X	4		X	9/16	X	18.1	L	5.31	3.99	19.3	6.00	.563	4.00	.563
6	X	4		X	5/8	X	20.0	L	5.86	3.97	21.1	6.00	.625	4.00	.625
6	X	4		X	3/4	X	23.6	L	6.94	3.92	24.5	6.00	.750	4.00	.750
7	X	4		X	3/8	X	13.6	L	3.98	4.63	20.6	7.00	.375	4.00	.375
7	X	4		X	1/2	X	17.9	L	5.25	4.58	26.7	7.00	.500	4.00	.500
7	X	4		X	5/8	X	22.1	L	6.48	4.54	32.4	7.00	.625	4.00	.625
7	X	4		X	3/4	X	26.2	L	7.69	4.49	37.8	7.00	.750	4.00	.750
8	X	4		X	1/2	X	19.6	L	5.75	5.14	38.5	8.00	.500	4.00	.500
8	X	4		X	9/16	X	21.9	L	6.44	5.12	42.8	8.00	.563	4.00	.563
8	X	6		X	1/2	X	23.0	L	6.75	5.53	44.3	8.00	.500	6.00	.500
8	X	4		X	5/8	X	24.2	L	7.11	5.09	46.9	8.00	.625	4.00	.625
8	X	6		X	9/16	X	25.7	L	7.57	5.50	49.3	8.00	.563	6.00	.563
8	X	4		X	3/4	X	28.7	L	8.44	5.05	54.9	8.00	.750	4.00	.750
8	X	4		X	7/8	X	33.1	L	9.73	5.00	62.5	8.00	.875	4.00	.875
8	X	6		X	3/4	X	33.9	L	9.94	5.44	63.4	8.00	.750	6.00	.750
8	X	4		X	1	X	37.4	L	11.00	4.95	69.6	8.00	1.000	4.00	1.000

STRUCTURAL SHAPE CATALOG (C-L AND L)

TABLE VII. Steel structural shape catalog (C-L and L). - Continued

S T E E L												
STRUCTURAL SHAPE CATALOG (C-L AND L)												
NOMINAL SIZE					A	CTOE	IO	D	TW	WF	TF	
IN	X IN	X IN	X LBS/FT		IN2	IN	IN4	IN	IN	IN	IN	
8	X 6	X 7/8	X 39.1	L	11.48	5.39	72.3	8.00	.875	6.00	.875	
8	X 6	X 1	X 44.2	L	13.00	5.35	80.8	8.00	1.000	6.00	1.000	
9	X 4	X 1/2	X 21.3	L	6.25	5.69	53.2	9.00	.563	4.00	.500	
9	X 4	X 9/16	X 23.8	L	7.00	5.67	59.2	9.00	.563	4.00	.563	
9	X 4	X 5/8	X 26.3	L	7.73	5.64	64.9	9.00	.625	4.00	.625	
10	X 2 5/8	X	X 15.3	C	3.43	6.43	36.5	10.00	.240	2.60	.436	
10	X 3 1/2	X	X 21.9	C	4.81	6.54	50.9	10.00	.325	3.45	.503	
10	X 2 5/8	X	X 20.0	C	4.82	6.02	50.1	10.00	.379	2.74	.436	
10	X 3 1/2	X	X 24.9	C	5.51	6.49	57.9	10.00	.377	3.40	.575	
10	X 3 1/2	X	X 25.3	C	5.81	6.28	61.2	10.00	.425	3.55	.500	
10	X 4 1/2	X	X 28.5	C	6.28	6.52	65.9	10.00	.425	3.35	.575	
10	X 3 1/2	X	X 28.3	C	6.51	6.26	68.1	10.00	.477	3.50	.575	
10	X 4	X	X 33.6	C	7.78	6.23	81.3	10.00	.575	4.10	.575	
10	X 4	X	X 41.1	C	9.99	5.96	102.3	10.00	.796	4.32	.575	
12	X 3	X	X 20.7	C	4.72	7.62	72.2	12.00	.282	2.94	.501	
12	X 3	X	X 25.0	C	5.98	7.28	90.0	12.00	.387	3.05	.501	
12	X 3 1/2	X	X 30.9	C	7.20	7.43	108.7	12.00	.450	3.45	.600	
12	X 3	X	X 30.0	C	7.45	7.03	109.6	12.00	.510	3.17	.501	
12	X 3 1/2	X	X 32.9	C	7.80	7.32	117.0	12.00	.500	3.50	.600	
12	X 4	X	X 35.0	C	7.92	7.65	119.6	12.00	.467	3.77	.700	
12	X 3 1/2	X	X 37.0	C	9.00	7.14	133.2	12.00	.600	3.60	.600	
12	X 4	X	X 40.0	C	9.39	7.39	140.7	12.00	.590	3.89	.700	
12	X 4	X	X 45.0	C	10.85	7.20	160.6	12.00	.712	4.01	.700	
12	X 4	X	X 50.0	C	12.33	7.06	180.3	12.00	.835	4.14	.700	
13	X 4	X	X 31.8	C	7.09	8.43	127.1	13.00	.375	4.00	.610	
13	X 4	X	X 35.0	C	8.02	8.21	143.4	13.00	.447	4.07	.610	

STRUCTURAL SHAPE CATALOG (C-L AND L)

TABLE VII. Steel structural shape catalog (C-L and L). - Continued

S T E E L													
STRUCTURAL SHAPE CATALOG (C-L AND L)													
NOMINAL SIZE				A	CTOE	IO	D	TW	WF	TF			
IN	X	IN	X	IN	X	LBS/FT	IN ²	IN	IN ⁴	IN	IN	IN	IN
13	X	4	X			X 40.0 C	9.49	7.94	167.8	13.00	.560	4.19	.610
13	X	4	X			X 50.0 C	12.44	7.60	213.9	13.00	.787	4.41	.610
15	X	3 3/8	X			X 33.9 C	7.95	9.26	188.3	15.00	.400	3.40	.650
15	X	3 3/8	X			X 40.0 C	9.75	8.94	226.6	15.00	.520	3.52	.650
15	X	4	X			X 50.0 C	12.06	9.08	281.3	15.00	.625	4.00	.797
15	X	3 3/8	X			X 50.0 C	12.69	8.60	286.5	15.00	.716	3.72	.650
15	X	4	X			X 53.2 C	13.01	8.97	301.2	15.00	.688	4.06	.797
15	X	4	X			X 56.4 C	13.96	8.87	321.0	15.00	.751	4.13	.797
15	X	4	X			X 59.6 C	14.89	8.78	340.0	15.00	.813	4.19	.797
15	X	4	X			X 62.8 C	15.83	8.71	359.1	15.00	.876	4.25	.797
15	X	4	X			X 65.9 C	16.74	8.64	377.5	15.00	.937	4.31	.797
15	X	4	X			X 69.1 C	17.69	8.58	396.3	15.00	1.000	4.37	.797
15	X	4	X			X 75.0 C	19.43	8.48	430.9	15.00	1.116	4.49	.797
18	X	4	X			X 42.7 C	10.29	10.85	348.8	18.00	.450	3.95	.625
18	X	4	X			X 45.8 C	11.19	10.70	375.9	18.00	.500	4.00	.625
18	X	4	X			X 51.9 C	12.99	10.46	429.0	18.00	.600	4.10	.625
18	X	4	X			X 58.0 C	14.79	10.29	480.9	18.00	.700	4.20	.625

TABLE VIII. Properties of combined beam and plate, I-T and T (60t).

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(60T = 7.500 IN.) PLATE WEIGHT = 5.100 LBS. (.1250 IN.) EFFECTIVE PLATE AREA = .938 SQ. IN.																		
NOMINAL SIZE						SECTION MODULUS							BEAM DIMENSIONS					
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X TN X LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2				
4 X 4 X 5.0 T	4.91	3.4	3.9	7.4	1.76	2.2	1.9	1.44	3.35	3.94	.205	.170	.67					
5 X 4 X 6.0 T	5.88	4.6	5.1	12.3	2.14	2.7	2.4	1.73	4.34	3.96	.210	.190	.94					
6 X 4 X 7.0 T	6.94	6.1	6.5	19.1	2.53	3.1	3.0	2.04	5.96	3.97	.225	.200	1.19					
6 X 4 X 9.0 I-T	6.17	5.7	6.2	17.9	2.55	3.1	2.9	1.81	5.90	3.94	.215	.170	1.00					
8 X 4 X 10.0 I-T	7.19	7.9	8.7	33.2	3.30	4.2	3.8	2.11	7.89	3.94	.205	.170	1.34					
10 X 4 X 12.0 I-T	9.07	11.0	11.8	56.9	3.97	5.2	4.8	2.67	9.87	3.96	.210	.190	1.88					
12 X 4 X 14.0 I-T	10.98	14.9	15.4	91.0	4.67	6.1	5.9	3.23	11.91	3.97	.225	.200	2.38					

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(60T) PLATE WEIGHT = 5.100 LBS. (.1250 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																			
(60T = 9.375 IN.) PLATE WEIGHT = 6.375 LBS. (.1563 IN.) EFFECTIVE PLATE AREA = 1.465 SQ. IN.																			
NOMINAL SIZE						SECTION MODULUS						BEAM DIMENSIONS							
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT				LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
4	X 4	X 5.0	T			4.91	3.6	5.6	8.9	1.75	2.5	1.6	1.44	3.95	3.94	.205	.170	.67	
5	X 4	X 6.0	T			5.88	4.8	7.2	14.8	2.15	3.1	2.0	1.73	4.94	3.96	.210	.190	.94	
6	X 4	X 7.0	T			6.94	6.5	9.0	23.0	2.56	3.6	2.6	2.04	5.96	3.97	.225	.200	1.19	
6	X 4	X 9.0	I-T			6.17	6.0	8.8	21.5	2.56	3.6	2.5	1.81	5.90	3.94	.215	.170	1.00	
8	X 4	X 10.0	I-T			7.19	8.3	12.1	39.7	3.33	4.8	3.3	2.11	7.89	3.94	.205	.170	1.34	
10	X 4	X 12.0	I-T			9.07	11.7	15.9	67.5	4.04	5.8	4.2	2.67	9.87	3.96	.210	.190	1.88	
12	X 4	X 14.0	I-T			10.98	15.8	20.3	107.2	4.78	6.8	5.3	3.23	11.91	3.97	.225	.200	2.38	

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(60T) PLATE WEIGHT = 6.375 LBS. (.1563 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(60T = 11.250 IN.) PLATE WEIGHT = 7.650 LBS. (.1875 IN.) EFFECTIVE PLATE AREA = 2.109 SQ. IN.																		
NOMINAL SIZE						SECTION MODULUS				BEAM DIMENSIONS								
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X IN X	IN X	IN X	LBS/FT			LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
4	X	4	X	5.0	T	4.91	3.7	7.6	10.2	1.70	2.8	1.3	1.44	3.95	3.94	.205	.170	.67
5	X	4	X	6.0	T	5.88	5.0	9.8	17.0	2.10	3.4	1.7	1.73	4.94	3.96	.210	.190	.94
6	X	4	X	7.0	T	6.94	6.7	12.1	26.5	2.53	4.0	2.2	2.04	5.96	3.97	.225	.200	1.19
6	X	4	X	9.0	I-T	6.17	6.2	11.8	24.7	2.51	4.0	2.1	1.81	5.90	3.94	.215	.170	1.00
8	X	4	X	10.0	I-T	7.19	8.7	16.1	45.5	3.28	5.3	2.8	2.11	7.89	3.94	.205	.170	1.34
10	X	4	X	12.0	I-T	9.07	12.2	20.9	77.4	4.03	6.4	3.7	2.67	9.87	3.96	.210	.190	1.88
12	X	4	X	14.0	I-T	10.98	16.6	26.3	122.9	4.80	7.4	4.7	3.23	11.91	3.97	.225	.200	2.38

(60T) PLATE WEIGHT = 7.650 LBS. (.1875 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																	
(60T = 13.125 IN.) PLATE WEIGHT = 8.925 LBS. (.2188 IN.) EFFECTIVE PLATE AREA = 2.871 SQ. IN.																	
NOMINAL SIZE						SECTION MODULUS							BEAM DIMENSIONS				
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN	IN2
4	X 4	X 5.0 T	4.91	3.7	9.9	11.3	1.62	3.0	1.1	1.44	3.95	3.94	.205	.170	.67		
5	X 4	X 6.0 T	5.88	5.1	12.6	18.8	2.02	3.7	1.5	1.73	4.94	3.96	.210	.190	.94		
6	X 4	X 7.0 T	6.94	6.9	15.6	29.5	2.45	4.3	1.9	2.04	5.96	3.97	.225	.200	1.19		
6	X 4	X 9.0 I-T	6.17	6.3	15.3	27.4	2.42	4.3	1.8	1.81	5.90	3.94	.215	.170	1.00		
8	X 4	X 10.0 I-T	7.19	8.9	20.8	50.5	3.18	5.7	2.4	2.11	7.89	3.94	.205	.170	1.34		
10	X 4	X 12.0 I-T	9.07	12.6	26.7	86.2	3.95	6.9	3.2	2.67	9.87	3.96	.210	.190	1.88		
12	X 4	X 14.0 I-T	10.98	17.2	33.2	137.3	4.74	8.0	4.1	3.23	11.91	3.97	.225	.200	2.38		

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(60T) PLATE WEIGHT = 8.925 LBS. (.2188 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(60T = 15.000 IN.) PLATE WEIGHT = 10.200 LBS. (.2500 IN.) EFFECTIVE PLATE AREA = 3.750 SQ. IN.																
NOMINAL SIZE						SECTION MODULUS							BEAM DIMENSIONS			
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF
IN X IN X LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2		
4 X 4 X 5.0 T	4.91	3.8	12.3	12.2	1.53	3.2	1.0	1.44	3.95	3.94	.205	.170	.67			
4 X 4 X 6.5 T	6.40	4.8	12.8	14.8	1.62	3.1	1.2	1.88	4.00	4.00	.255	.230	.92			
4 X 4 X 7.5 T	7.42	5.7	13.3	17.2	1.70	3.0	1.3	2.18	4.06	4.02	.315	.245	.99			
4 X 5 1/4 X 9.0 T	8.82	7.3	13.8	20.7	1.81	2.8	1.5	2.59	4.07	5.25	.330	.230	.94			
5 X 4 X 6.0 T	5.88	5.2	15.8	20.3	1.93	3.9	1.3	1.73	4.94	3.96	.210	.190	.94			
5 X 4 X 7.5 T	7.37	6.6	16.5	24.6	2.04	3.8	1.5	2.17	5.00	4.00	.270	.230	1.15			
5 X 4 X 8.5 T	8.36	7.7	17.0	28.1	2.13	3.7	1.7	2.46	5.06	4.01	.330	.240	1.21			
5 X 4 X 9.5 T	9.42	8.9	17.5	31.6	2.20	3.6	1.8	2.77	5.12	4.02	.395	.250	1.28			
5 X 5 X 16.0 I-T	9.91	9.6	17.4	32.6	2.21	3.4	1.9	2.92	5.01	5.00	.360	.240	1.20			
6 X 4 X 7.0 T	6.94	7.0	19.5	32.0	2.35	4.6	1.6	2.04	5.96	3.97	.225	.200	1.19			
6 X 4 X 8.0 T	7.88	8.1	20.0	35.9	2.43	4.5	1.8	2.32	6.00	3.99	.265	.220	1.32			
6 X 4 X 9.0 I-T	6.17	6.4	19.2	29.6	2.31	4.6	1.5	1.81	5.90	3.94	.215	.170	1.00			
6 X 4 X 9.5 T	9.34	10.0	20.9	42.8	2.57	4.3	2.0	2.75	6.08	4.01	.350	.235	1.43			
6 X 4 X 12.0 I-T	8.30	8.5	20.3	37.6	2.46	4.4	1.9	2.44	6.03	4.00	.280	.230	1.39			
6 X 6 X 15.0 I-T	9.78	10.9	21.0	44.7	2.60	4.1	2.1	2.88	5.99	5.99	.260	.230	1.38			
7 X 5 X 11.0 T	10.81	13.3	24.4	61.3	2.97	4.6	2.5	3.18	6.87	5.00	.335	.230	1.58			
8 X 4 X 10.0 I-T	7.19	9.1	26.1	54.7	3.06	6.0	2.1	2.11	7.89	3.94	.205	.170	1.34			
8 X 4 X 13.0 I-T	9.52	11.5	27.2	66.8	3.19	5.8	2.5	2.80	7.99	4.00	.255	.230	1.84			
8 X 5 1/2 X 13.0 T	12.83	17.4	28.7	87.8	3.42	5.0	3.1	3.77	7.85	5.50	.345	.250	1.96			
8 X 4 X 15.0 I-T	10.79	13.6	28.4	76.9	3.33	5.7	2.7	3.17	8.11	4.02	.315	.245	1.99			
8 X 5 1/4 X 18.0 I-T	12.00	16.8	29.5	89.8	3.51	5.3	3.0	3.53	8.14	5.25	.330	.230	1.87			
8 X 5 1/4 X 21.0 I-T	13.87	19.9	30.7	102.9	3.63	5.2	3.4	4.08	8.28	5.27	.400	.250	2.07			
8 X 6 1/2 X 24.0 I-T	15.11	22.2	29.8	104.1	3.56	4.7	3.5	4.44	7.93	6.50	.460	.245	1.94			

(60T) PLATE WEIGHT = 10.200 LBS. (.2500 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																	
(60T = 15.000 IN.) PLATE WEIGHT = 10.200 LBS. (.2500 IN.) EFFECTIVE PLATE AREA = 3.750 SQ. IN.																	
NOMINAL SIZE			SECTION MODULUS					BEAM DIMENSIONS									
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2		
10	X 4	X 12.0	I-T	9.07	12.9	33.3	94.0	3.83	7.3	2.8	2.67	9.87	3.96	.210	.190	1.88	
10	X 4	X 15.0	I-T	11.27	16.1	34.9	112.7	3.99	7.0	3.2	3.32	9.99	4.00	.270	.230	2.30	
10	X 4	X 17.0	I-T	12.48	18.5	36.2	127.1	4.14	6.9	3.5	3.67	10.11	4.01	.330	.240	2.43	
10	X 4	X 19.0	I-T	13.77	21.2	37.5	142.1	4.27	6.7	3.8	4.05	10.24	4.02	.395	.250	2.56	
10	X 5 3/4	X 22.0	I-T	15.04	25.3	38.4	158.8	4.41	6.3	4.1	4.42	10.17	5.75	.360	.240	2.44	
12	X 4	X 14.0	I-T	10.98	17.6	41.2	150.1	4.64	8.5	3.6	3.23	11.91	3.97	.225	.200	2.38	
12	X 4	X 16.0	I-T	12.37	20.1	42.4	166.9	4.75	8.3	3.9	3.64	11.99	3.99	.265	.220	2.64	
12	X 4	X 19.0	I-T	14.20	24.3	44.6	195.4	4.97	8.0	4.4	4.18	12.16	4.01	.350	.235	2.86	
12	X 6 1/2	X 26.0	I-T	17.64	35.6	47.8	254.5	5.34	7.2	5.3	5.19	12.22	6.49	.380	.230	2.81	
28	14	X 5	X 22.0	I-T	16.18	31.8	52.3	276.7	5.70	8.7	5.3	4.76	13.74	5.00	.335	.230	3.16
	16	X 5 1/2	X 26.0	I-T	19.49	41.8	62.2	398.4	6.48	9.5	6.4	5.73	15.69	5.50	.345	.250	3.92

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(60T) PLATE WEIGHT = 10.200 LBS. (.2500 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(60T = 16.875 IN.) PLATE WEIGHT = 11.475 LBS. (.2813 IN.) EFFECTIVE PLATE AREA = 4.746 SQ. IN.																		
NOMINAL SIZE						SECTION MODULUS				BEAM DIMENSIONS								
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	WM	ASH
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2			
4	X	4	X	5.0	T	4.91	3.8	14.9	12.9	1.45	3.4	.9	1.44	3.95	3.94	.205	.170	.67
4	X	4	X	6.5	T	6.40	4.9	15.5	15.8	1.55	3.3	1.0	1.88	4.00	4.00	.255	.230	.92
4	X	4	X	7.5	T	7.42	5.8	16.2	18.5	1.63	3.2	1.1	2.18	4.06	4.02	.315	.245	.99
4	X	5 1/4	X	9.0	T	8.82	7.4	16.9	22.5	1.75	3.0	1.3	2.59	4.07	5.25	.330	.230	.94
4	X	4	X	13.0	I-T	8.39	6.5	16.8	20.9	1.70	3.2	1.2	2.47	4.16	4.06	.345	.280	1.16
5	X	4	X	6.0	T	5.88	5.3	19.2	21.6	1.83	4.1	1.1	1.73	4.94	3.96	.210	.190	.94
5	X	4	X	7.5	T	7.37	6.7	20.0	26.4	1.95	4.0	1.3	2.17	5.00	4.00	.270	.230	1.15
5	X	4	X	8.5	T	8.36	7.8	20.7	30.3	2.05	3.9	1.5	2.46	5.06	4.01	.330	.240	1.21
5	X	4	X	9.5	T	9.42	9.0	21.4	34.3	2.14	3.8	1.6	2.77	5.12	4.02	.395	.250	1.28
5	X	5	X	16.0	I-T	9.91	9.8	21.3	35.5	2.15	3.6	1.7	2.92	5.01	5.00	.360	.240	1.20
5	X	5	X	19.0	I-T	11.69	11.7	22.2	41.6	2.25	3.6	1.9	3.44	5.15	5.03	.430	.270	1.39
6	X	4	X	7.0	T	6.94	7.1	23.8	34.2	2.24	4.8	1.4	2.04	5.96	3.37	.225	.200	1.19
6	X	4	X	8.0	T	7.88	8.2	24.4	38.5	2.33	4.7	1.6	2.32	6.00	3.99	.265	.220	1.32
6	X	4	X	9.0	I-T	6.17	6.5	23.4	31.5	2.19	4.8	1.3	1.81	5.90	3.94	.215	.170	1.00
6	X	4	X	9.5	T	9.34	10.2	25.5	46.2	2.48	4.5	1.8	2.75	6.08	4.01	.350	.235	1.43
6	X	4	X	11.0	T	10.89	12.0	26.4	53.1	2.59	4.4	2.0	3.20	6.16	4.03	.425	.260	1.60
6	X	4	X	12.0	I-T	8.30	8.6	24.7	40.4	2.37	4.7	1.6	2.44	6.03	4.00	.280	.230	1.39
6	X	6	X	15.0	I-T	9.78	11.0	25.7	48.4	2.52	4.4	1.9	2.88	5.99	5.99	.260	.230	1.38
6	X	4	X	16.0	I-T	10.74	11.9	26.8	54.1	2.62	4.5	2.0	3.16	6.28	4.03	.405	.260	1.63
6	X	6	X	20.0	I-T	12.63	15.0	27.5	62.8	2.73	4.2	2.3	3.71	6.20	6.02	.365	.260	1.61
7	X	5	X	11.0	T	10.81	13.5	29.8	66.6	2.90	4.9	2.2	3.18	6.87	5.00	.335	.230	1.58
7	X	5	X	13.0	T	12.85	16.4	30.9	77.6	3.02	4.7	2.5	3.78	6.96	5.03	.420	.255	1.77
7	X	6 3/4	X	15.0	T	14.81	19.5	31.5	86.8	3.09	4.4	2.8	4.36	6.92	6.73	.385	.270	1.87

(60T) PLATE WEIGHT = 11.475 LBS. (.2813 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																			
(60T = 16.875 IN.) PLATE WEIGHT = 11.475 LBS. (.2813 IN.) EFFECTIVE PLATE AREA = 4.746 SQ. IN.																			
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS											
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN X IN X LBS/FT				LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2				
8	X	4	X	10.0	I-T	7.19	9.2	31.8	58.3	2.92	6.3	1.8	2.11	7.89	3.94	.205	.170	1.34	
8	X	4	X	13.0	I-T	9.52	11.8	33.1	71.8	3.09	6.1	2.2	2.80	7.99	4.00	.255	.230	1.84	
8	X	5	1/2	X	13.0	T	12.83	17.8	35.0	95.7	3.35	5.4	2.7	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X	15.0	I-T	10.79	13.9	34.5	83.0	3.24	6.0	2.4	3.17	8.11	4.02	.315	.245	1.99	
8	X	5	1/2	X	15.5	T	15.28	21.7	36.2	111.5	3.47	5.1	3.1	4.49	7.94	5.53	.440	.275	2.18
8	X	5	1/4	X	18.0	I-T	12.00	17.1	36.0	97.7	3.44	5.7	2.7	3.53	8.14	5.25	.330	.230	1.87
8	X	5	1/4	X	21.0	I-T	13.87	20.3	37.3	112.6	3.57	5.5	3.0	4.08	8.28	5.27	.400	.250	2.07
8	X	6	1/2	X	24.0	I-T	15.11	22.7	36.4	114.6	3.53	5.1	3.2	4.44	7.93	6.50	.400	.245	1.94
10	X	4	X	12.0	I-T	9.07	13.1	40.5	100.6	3.68	7.7	2.5	2.67	9.87	3.96	.210	.190	1.88	
10	X	4	X	15.0	I-T	11.27	16.4	42.4	121.5	3.88	7.4	2.9	3.32	9.99	4.00	.270	.230	2.30	
10	X	4	X	17.0	I-T	12.48	18.9	44.0	137.6	4.04	7.3	3.1	3.67	10.11	4.01	.330	.240	2.43	
10	X	4	X	19.0	I-T	13.77	21.7	45.5	154.5	4.19	7.1	3.4	4.05	10.24	4.02	.395	.250	2.56	
10	X	5	3/4	X	22.0	I-T	15.04	25.8	46.6	173.6	4.35	6.7	3.7	4.42	10.17	5.75	.360	.240	2.44
10	X	5	3/4	X	26.0	I-T	17.37	30.6	48.5	199.2	4.50	6.5	4.1	5.11	10.33	5.77	.440	.260	2.69
12	X	4	X	14.0	I-T	10.98	18.0	50.0	161.4	4.50	9.0	3.2	3.23	11.91	3.97	.225	.200	2.38	
12	X	4	X	16.0	I-T	12.37	20.5	51.4	180.1	4.63	8.8	3.5	3.64	11.99	3.99	.265	.220	2.64	
12	X	4	X	19.0	I-T	14.20	24.9	54.0	212.0	4.87	8.5	3.9	4.18	12.16	4.01	.350	.235	2.86	
12	X	4	X	22.0	I-T	16.33	29.2	56.2	241.8	5.03	8.3	4.3	4.80	12.31	4.03	.425	.260	3.20	
12	X	6	1/2	X	26.0	I-T	17.64	36.4	57.9	279.4	5.30	7.7	4.8	5.19	12.22	6.49	.380	.230	2.81
12	X	6	1/2	X	30.0	I-T	20.27	41.7	59.8	310.1	5.38	7.4	5.2	5.96	12.34	6.52	.440	.260	3.21
14	X	5	X	22.0	I-T	16.18	32.6	63.1	301.3	5.63	9.2	4.8	4.76	13.74	5.00	.335	.230	3.16	
14	X	5	X	26.0	I-T	18.87	39.0	65.9	347.9	5.81	8.9	5.3	5.55	13.91	5.03	.420	.255	3.55	
14	X	6	3/4	X	30.0	I-T	21.16	45.4	67.6	383.2	5.91	8.4	5.7	6.22	13.84	6.73	.385	.270	3.74

(60T) PLATE WEIGHT = 11.475 LBS. (.2813 IN.)

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TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T															
(60T = 16.875 IN.) PLATE WEIGHT = 11.475 LBS. (.2813 IN.) EFFECTIVE PLATE AREA = 4.746 SQ. IN.															
NOMINAL SIZE		WT/FT	SECTION MODULUS				BEAM DIMENSIONS								
			FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT	LBS	IN ³	IN ³	IN ⁴	IN	IN	IN	IN	IN ²	IN	IN	IN	IN ²
16	X 5 1/2 X	26.0 I-T	19.49	42.9	74.5	434.8	6.44	10.1	5.8	5.73	15.69	5.50	.345	.250	3.92
16	X 5 1/2 X	31.0 I-T	22.70	51.6	78.2	502.6	6.63	9.7	6.4	6.68	15.88	5.53	.440	.275	4.37

(60T) PLATE WEIGHT = 11.475 LBS. (.2813 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T															
(60T = 18.750 IN.) PLATE WEIGHT = 12.750 LBS. (.3125 IN.) EFFECTIVE PLATE AREA = 5.859 SQ. IN.															
NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS							
		WT/FT	FLANGE		PLATE		I	R	YF	YP	A	D	WF	TF	TW
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
4	X 4	X 5.0 T	4.91	3.9	17.5	13.6	1.36	3.5	.8	1.44	3.95	3.94	.205	.170	.67
4	X 4	X 6.5 T	6.40	4.9	18.3	16.7	1.47	3.4	.9	1.88	4.00	4.00	.255	.230	.92
4	X 4	X 7.5 T	7.42	5.9	19.2	19.7	1.56	3.3	1.0	2.18	4.06	4.02	.315	.245	.99
4	X 5 1/4	X 9.0 T	8.82	7.5	20.1	24.1	1.69	3.2	1.2	2.59	4.07	5.25	.330	.230	.94
4	X 4	X 13.0 I-T	8.39	6.6	19.9	22.3	1.63	3.4	1.1	2.47	4.16	4.06	.345	.280	1.16
5	X 4	X 6.0 T	5.88	5.3	22.7	22.7	1.73	4.3	1.0	1.73	4.94	3.96	.210	.190	.94
5	X 4	X 7.5 T	7.37	6.7	23.8	27.9	1.87	4.1	1.2	2.17	5.00	4.00	.270	.230	1.15
5	X 4	X 8.5 T	8.36	7.9	24.7	32.2	1.97	4.1	1.3	2.46	5.06	4.01	.330	.240	1.21
5	X 4	X 9.5 T	9.42	9.2	25.5	36.6	2.06	4.0	1.4	2.77	5.12	4.02	.395	.250	1.28
5	X 5	X 16.0 I-T	9.91	9.9	25.4	38.0	2.08	3.8	1.5	2.92	5.01	5.00	.360	.240	1.20
5	X 5	X 19.0 I-T	11.69	11.9	26.6	44.8	2.20	3.8	1.7	3.44	5.15	5.03	.430	.270	1.39
6	X 4	X 7.0 T	6.94	7.2	28.3	36.0	2.13	5.0	1.3	2.04	5.96	3.97	.225	.200	1.19
6	X 4	X 8.0 T	7.88	8.3	29.1	40.7	2.23	4.9	1.4	2.32	6.00	3.99	.265	.220	1.32
6	X 4	X 9.0 I-T	6.17	6.6	27.8	33.1	2.08	5.0	1.2	1.81	5.90	3.94	.215	.170	1.00
6	X 4	X 9.5 T	9.34	10.3	30.4	49.2	2.39	4.8	1.6	2.75	6.08	4.01	.350	.235	1.43
6	X 4	X 11.0 T	10.89	12.2	31.5	56.9	2.51	4.7	1.8	3.20	6.16	4.03	.425	.260	1.60
6	X 4	X 12.0 I-T	8.30	8.8	29.4	42.8	2.27	4.9	1.5	2.44	6.03	4.00	.280	.230	1.39
6	X 6	X 15.0 I-T	9.78	11.2	30.7	51.7	2.43	4.6	1.7	2.88	5.99	5.99	.260	.230	1.38
6	X 4	X 16.0 I-T	10.74	12.1	32.0	57.9	2.53	4.8	1.8	3.16	6.28	4.03	.405	.260	1.63
6	X 6	X 20.0 I-T	12.63	15.2	32.9	67.8	2.66	4.5	2.1	3.71	6.20	6.02	.365	.260	1.61
7	X 5	X 11.0 T	10.81	13.7	35.7	71.2	2.81	5.2	2.0	3.18	6.87	5.00	.335	.230	1.58
7	X 5	X 13.0 T	12.85	16.7	36.9	83.5	2.94	5.0	2.3	3.78	6.96	5.03	.420	.255	1.77
7	X 6 3/4	X 15.0 T	14.81	19.8	37.7	94.0	3.03	4.7	2.5	4.36	6.92	6.73	.385	.270	1.87
7	X 6 3/4	X 17.0 T	16.77	22.8	38.6	104.8	3.12	4.6	2.7	4.93	6.99	6.75	.455	.285	1.99
7	X 6 3/4	X 19.0 T	18.74	25.5	39.4	114.0	3.17	4.5	2.9	5.51	7.05	6.77	.515	.310	2.19

(60T) PLATE WEIGHT = 12.750 LBS. (.3125 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(60T = 18.750 IN.) PLATE WEIGHT = 12.750 LBS. (.3125 IN.) EFFECTIVE PLATE AREA = 5.859 SQ. IN.																		
NOMINAL SIZE						SECTION MODULUS							BEAM DIMENSIONS					
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TM	ASH
IN X IN X LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN	IN	IN2				
7	X	8	X	21.5	T	20.94	28.9	38.6	118.0	3.13	4.1	3.1	6.16	6.83	8.00	.530	.305	2.08
8	X	4	X	10.0	I-T	7.19	9.3	38.0	61.3	2.77	6.6	1.6	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X	13.0	I-T	9.52	11.9	39.5	76.1	2.97	6.4	1.9	2.80	7.99	4.00	.255	.230	1.84
8	X	5 1/2	X	13.0	T	12.83	18.0	41.8	102.8	3.27	5.7	2.5	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X	15.0	I-T	10.79	14.1	41.2	88.4	3.13	6.3	2.1	3.17	8.11	4.02	.315	.245	1.99
8	X	5 1/2	X	15.5	T	15.28	22.0	43.3	120.6	3.41	5.5	2.8	4.49	7.94	5.53	.440	.275	2.18
8	X	5 1/4	X	18.0	I-T	12.00	17.4	43.0	104.7	3.34	6.0	2.4	3.53	8.14	5.25	.330	.230	1.87
8	X	7	X	18.0	T	17.73	26.3	44.4	136.2	3.51	5.2	3.1	5.22	7.93	6.99	.430	.295	2.34
8	X	7	X	20.0	T	19.79	30.1	45.4	150.5	3.59	5.0	3.3	5.82	8.01	7.00	.505	.305	2.44
8	X	5 1/4	X	21.0	I-T	13.87	20.6	44.6	121.2	3.49	5.9	2.7	4.08	8.28	5.27	.400	.250	2.07
8	X	6 1/2	X	24.0	I-T	15.11	23.0	43.6	124.1	3.47	5.4	2.8	4.44	7.93	6.50	.400	.245	1.94
8	X	6 1/2	X	28.0	I-T	17.69	26.8	45.0	140.7	3.57	5.2	3.1	5.20	8.06	6.54	.465	.285	2.30
8	X	8	X	31.0	I-T	19.16	29.8	45.4	149.6	3.61	5.0	3.3	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X	17.5	T	17.26	26.6	49.1	158.1	3.80	5.9	3.2	5.88	8.85	6.00	.425	.300	2.66
10	X	4	X	12.0	I-T	9.07	13.3	48.4	106.3	3.53	8.0	2.2	2.67	9.87	3.96	.210	.190	1.88
10	X	4	X	15.0	I-T	11.27	16.7	50.6	129.3	3.75	7.7	2.6	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X	17.0	I-T	12.48	19.3	52.4	146.9	3.93	7.6	2.8	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X	19.0	I-T	13.77	22.1	54.2	165.5	4.09	7.5	3.1	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0	I-T	15.04	26.2	55.7	187.0	4.26	7.1	3.4	4.42	10.17	5.75	.360	.240	2.44
10	X	5 3/4	X	26.0	I-T	17.37	31.2	57.8	215.6	4.43	6.9	3.7	5.11	10.33	5.77	.440	.260	2.69
10	X	5 3/4	X	30.0	I-T	20.23	36.1	59.8	242.6	4.53	6.7	4.1	5.95	10.47	5.81	.510	.300	3.14
10	X	8	X	33.0	I-T	20.94	37.5	56.2	226.0	4.34	6.0	4.0	6.16	9.73	7.96	.435	.290	2.82

(60T) PLATE WEIGHT = 12.750 LBS. (.3125 IN.)

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TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																	
(60T = 18.750 IN.) PLATE WEIGHT = 12.750 LBS. (.3125 IN.) EFFECTIVE PLATE AREA = 5.859 SQ. IN.																	
NOMINAL SIZE					SECTION MODULUS				BEAM DIMENSIONS								
					WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	LBS/FT			LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2	
12	X 4	X 14.0	I-T		10.98	18.3	59.6	171.3	4.34	9.3	2.9	3.23	11.91	3.97	.225	.200	2.38
12	X 4	X 16.0	I-T		12.37	20.9	61.3	191.7	4.49	9.2	3.1	3.64	11.99	3.99	.265	.220	2.64
12	X 4	X 19.0	I-T		14.20	25.4	64.3	226.8	4.75	8.9	3.5	4.18	12.16	4.01	.350	.235	2.86
12	X 4	X 22.0	I-T		16.33	29.8	66.7	259.7	4.94	8.7	3.9	4.80	12.31	4.03	.425	.260	3.20
12	X 6 1/2	X 26.0	I-T		17.64	37.0	69.1	302.1	5.23	8.2	4.4	5.19	12.22	6.49	.380	.230	2.81
12	X 6 1/2	X 30.0	I-T		20.27	42.5	71.1	336.6	5.34	7.9	4.7	5.96	12.34	6.52	.440	.260	3.21
12	X 6 1/2	X 35.0	I-T		23.82	49.8	73.8	380.9	5.44	7.7	5.2	7.01	12.50	6.56	.520	.300	3.75
12	X 8	X 40.0	I-T		25.48	54.4	71.5	378.4	5.32	7.0	5.3	7.49	11.94	8.01	.515	.295	3.52
34	14	X 5	X 22.0	I-T	16.18	33.2	75.0	323.5	5.52	9.7	4.3	4.76	13.74	5.00	.335	.230	3.16
	14	X 5	X 26.0	I-T	18.87	39.8	78.2	375.2	5.73	9.4	4.8	5.55	13.91	5.03	.420	.255	3.55
	14	X 6 3/4	X 30.0	I-T	21.16	46.3	80.0	415.1	5.86	9.0	5.2	6.22	13.84	6.73	.385	.270	3.74
	14	X 6 3/4	X 34.0	I-T	23.54	52.9	82.6	460.8	6.00	8.7	5.6	6.92	13.98	6.75	.455	.285	3.98
	14	X 6 3/4	X 38.0	I-T	26.17	59.1	84.9	501.9	6.08	8.5	5.9	7.70	14.10	6.77	.515	.310	4.37
	14	X 8	X 43.0	I-T	28.02	65.4	83.5	512.3	6.03	7.8	6.1	8.24	13.66	8.00	.530	.305	4.17
16	X 5 1/2	X 26.0	I-T	19.49	43.8	88.2	468.4	6.36	10.7	5.3	5.73	15.69	5.50	.345	.250	3.92	
16	X 5 1/2	X 31.0	I-T	22.70	52.8	92.3	543.7	6.59	10.3	5.9	6.68	15.88	5.53	.440	.275	4.37	
16	X 7	X 36.0	I-T	25.69	61.7	95.1	605.2	6.72	9.8	6.4	7.56	15.86	6.99	.430	.295	4.68	
16	X 7	X 40.0	I-T	28.09	69.7	97.9	664.6	6.86	9.5	6.8	8.26	16.01	7.00	.505	.305	4.88	
18	X 6	X 35.0	I-T	26.29	64.3	105.6	720.1	7.28	11.2	6.8	7.73	17.70	6.00	.425	.300	5.31	

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(60T) PLATE WEIGHT = 12.750 LBS. (.3125 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(60T = 20.625 IN.) PLATE WEIGHT = 14.025 LBS. (.3438 IN.) EFFECTIVE PLATE AREA = 7.090 SQ. IN.																
NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS								
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	IF	TW	ASH		
IN X	YN X	LBS/FT	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2		
4	X 4	X 5.0 T	4.91	3.9	20.0	14.1	1.29	3.6	.7	1.44	3.95	3.94	.205	.170	.67	
4	X 4	X 6.5 T	6.40	5.0	21.1	17.5	1.40	3.5	.8	1.88	4.00	4.00	.255	.230	.92	
4	X 4	X 7.5 T	7.42	5.9	22.2	20.7	1.49	3.5	.9	2.18	4.06	4.02	.315	.245	.99	
4	X 5 1/4	X 9.0 T	8.82	7.6	23.5	25.4	1.62	3.3	1.1	2.59	4.07	5.25	.330	.230	.94	
4	X 4	X 13.0 I-T	8.39	6.7	23.1	23.5	1.57	3.5	1.0	2.47	4.16	4.06	.345	.280	1.16	
	5	X 4	X 6.0 T	5.88	5.4	26.2	23.7	1.64	4.4	.9	1.73	4.94	3.96	.210	.190	.94
	5	X 4	X 7.5 T	7.37	6.8	27.7	29.2	1.78	4.3	1.1	2.17	5.00	4.00	.270	.230	1.15
	5	X 4	X 8.5 T	8.36	8.0	28.8	33.9	1.88	4.2	1.2	2.46	5.06	4.01	.330	.240	1.21
	5	X 4	X 9.5 T	9.42	9.3	29.8	38.6	1.98	4.2	1.3	2.77	5.12	4.02	.395	.250	1.28
	5	X 5	X 16.0 I-T	9.91	10.0	29.8	40.2	2.00	4.0	1.4	2.92	5.01	5.00	.360	.240	1.20
35	5	X 5	X 19.0 I-T	11.69	12.0	31.2	47.7	2.13	4.0	1.5	3.44	5.15	5.03	.430	.270	1.39
	6	X 4	X 7.0 T	6.94	7.3	32.9	37.6	2.03	5.2	1.1	2.04	5.96	3.97	.225	.200	1.19
	6	X 4	X 8.0 T	7.88	8.4	33.9	42.7	2.13	5.1	1.3	2.32	6.00	3.99	.265	.220	1.32
	6	X 4	X 9.0 I-T	6.17	6.7	32.3	34.5	1.97	5.2	1.1	1.81	5.90	3.94	.215	.170	1.00
	6	X 4	X 9.5 T	9.34	10.4	35.6	51.6	2.29	5.0	1.5	2.75	6.08	4.01	.350	.235	1.43
	6	X 4	X 11.0 T	10.89	12.4	36.9	60.2	2.42	4.9	1.6	3.20	6.16	4.03	.425	.260	1.60
	6	X 4	X 12.0 I-T	8.30	8.9	34.3	44.9	2.17	5.1	1.3	2.44	6.03	4.00	.280	.230	1.39
	6	X 6	X 15.0 I-T	9.78	11.3	35.9	54.5	2.34	4.8	1.5	2.88	5.99	5.99	.260	.230	1.38
	6	X 4	X 16.0 I-T	10.74	12.3	37.5	61.2	2.44	5.0	1.6	3.16	6.28	4.03	.405	.260	1.63
	6	X 6	X 20.0 I-T	12.63	15.4	38.7	72.1	2.58	4.7	1.9	3.71	6.20	6.02	.365	.260	1.61
	7	X 5	X 11.0 T	10.81	13.9	41.9	75.3	2.71	5.4	1.8	3.18	6.87	5.00	.335	.230	1.58
	7	X 5	X 13.0 T	12.85	16.9	43.4	88.8	2.86	5.3	2.0	3.78	6.96	5.03	.420	.255	1.77
	7	X 6 3/4	X 15.0 T	14.81	20.1	44.4	100.5	2.96	5.0	2.3	4.36	6.92	6.73	.385	.270	1.87
	7	X 6 3/4	X 17.0 T	16.77	23.2	45.5	112.6	3.06	4.9	2.5	4.93	6.99	6.75	.455	.285	1.99
	7	X 6 3/4	X 19.0 T	18.74	25.9	46.4	122.9	3.12	4.7	2.7	5.51	7.05	6.77	.515	.310	2.19

(60T) PLATE WEIGHT = 14.025 LBS. (.3438 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(60T = 20.625 IN.) PLATE WEIGHT = 14.025 LBS. (.3438 IN.) EFFECTIVE PLATE AREA = 7.090 SQ. IN.																		
NOMINAL SIZE					SECTION MODULUS								BEAM DIMENSIONS					
					WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN	X	IN	X	LBS/FT	LBS	IN ³	IN ³	IN ⁴	IN	IN	IN	IN	IN ²	IN	IN	IN	IN ²	
7	X	8	X	21.5	T	20.94	29.3	45.6	128.0	3.11	4.4	2.8	6.16	6.83	8.00	.530	.305	2.08
7	X	8	X	24.0	T	23.53	32.7	46.5	139.0	3.15	4.3	3.0	6.92	6.90	8.03	.595	.340	2.35
8	X	4	X	10.0	I-T	7.19	9.4	44.4	63.9	2.64	6.8	1.4	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X	13.0	I-T	9.52	12.1	46.3	79.9	2.84	6.6	1.7	2.80	7.99	4.00	.255	.230	1.84
8	X	5 1/2	X	13.0	T	12.83	18.3	49.1	109.1	3.17	6.0	2.2	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X	15.0	I-T	10.79	14.3	48.2	93.1	3.01	6.5	1.9	3.17	8.11	4.02	.315	.245	1.99
8	X	5 1/2	X	15.5	T	15.28	22.4	50.9	128.7	3.33	5.8	2.5	4.49	7.94	5.53	.440	.275	2.18
8	X	5 1/4	X	18.0	I-T	12.00	17.6	50.6	110.8	3.23	6.3	2.2	3.53	8.14	5.25	.330	.230	1.87
8	X	7	X	18.0	T	17.73	26.7	52.2	146.2	3.45	5.5	2.8	5.22	7.93	6.99	.430	.295	2.34
8	X	7	X	20.0	T	19.79	30.5	53.4	162.3	3.54	5.3	3.0	5.82	8.01	7.00	.505	.305	2.44
8	X	5 1/4	X	21.0	I-T	13.87	20.9	52.5	128.9	3.40	6.2	2.5	4.08	8.28	5.27	.400	.250	2.07
8	X	6 1/2	X	24.0	I-T	15.11	23.3	51.4	132.7	3.39	5.7	2.6	4.44	7.93	6.50	.400	.245	1.94
8	X	6 1/2	X	28.0	I-T	17.69	27.2	53.0	151.0	3.51	5.6	2.8	5.20	8.06	6.54	.465	.285	2.30
8	X	8	X	31.0	I-T	19.16	30.3	53.5	161.2	3.56	5.3	3.0	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X	17.5	T	17.26	27.0	57.7	169.1	3.73	6.3	2.9	5.08	8.85	6.00	.425	.300	2.66
9	X	6	X	20.0	T	19.76	31.9	59.6	193.1	3.87	6.1	3.2	5.81	8.95	6.02	.525	.315	2.82
10	X	4	X	12.0	I-T	9.07	13.5	56.7	111.2	3.38	8.3	2.0	2.67	9.87	3.96	.210	.190	1.88
10	X	4	X	15.0	I-T	11.27	16.9	59.3	136.0	3.62	8.0	2.3	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X	17.0	I-T	12.48	19.5	61.5	155.0	3.80	7.9	2.5	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X	19.0	I-T	13.77	22.4	63.7	175.3	3.97	7.8	2.8	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0	I-T	15.04	26.6	65.5	198.9	4.16	7.5	3.0	4.42	10.17	5.75	.360	.240	2.44
10	X	5 3/4	X	26.0	I-T	17.37	31.6	68.0	230.4	4.35	7.3	3.4	5.11	10.33	5.77	.440	.260	2.69
10	X	5 3/4	X	30.0	I-T	20.23	36.7	70.1	260.4	4.47	7.1	3.7	5.95	10.47	5.81	.510	.300	3.14
10	X	8	X	33.0	I-T	20.94	38.1	66.1	243.5	4.29	6.4	3.7	6.16	9.73	7.96	.435	.290	2.82

(60T) PLATE WEIGHT = 14.025 LBS. (.3438 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																	
(60T = 20.625 IN.) PLATE WEIGHT = 14.025 LBS. (.3438 IN.) EFFECTIVE PLATE AREA = 7.090 SQ. IN.																	
NOMINAL SIZE			SECTION MODULUS								BEAM DIMENSIONS						
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2	
10	X	8	X	39.0 I-T	24.45	45.6	68.7	281.2	4.44	6.2	4.1	7.19	9.92	7.99	.530	.315	3.12
12	X	4	X	14.0 I-T	10.98	18.6	70.0	179.8	4.17	9.7	2.6	3.23	11.91	3.97	.225	.200	2.38
12	X	4	X	16.0 I-T	12.37	21.2	71.9	202.0	4.34	9.5	2.8	3.64	11.99	3.99	.265	.220	2.64
12	X	4	X	19.0 I-T	14.20	25.7	75.4	240.0	4.61	9.3	3.2	4.18	12.16	4.01	.350	.235	2.86
12	X	4	X	22.0 I-T	16.33	30.2	78.2	275.9	4.82	9.1	3.5	4.80	12.31	4.03	.425	.260	3.20
12	X	6 1/2	X	26.0 I-T	17.64	37.6	81.2	322.7	5.13	8.6	4.0	5.19	12.22	6.49	.380	.230	2.81
12	X	6 1/2	X	30.0 I-T	20.27	43.2	83.5	360.9	5.26	8.4	4.3	5.96	12.34	6.52	.440	.260	3.21
12	X	6 1/2	X	35.0 I-T	23.82	50.6	86.4	410.1	5.39	8.1	4.7	7.01	12.50	6.56	.520	.300	3.75
12	X	8	X	40.0 I-T	25.48	55.3	83.8	409.2	5.30	7.4	4.9	7.49	11.94	8.01	.515	.295	3.52
12	X	8	X	45.0 I-T	28.81	61.8	86.0	446.0	5.35	7.2	5.2	8.47	12.06	8.05	.575	.335	4.04
14	X	5	X	22.0 I-T	16.18	33.7	88.0	343.4	5.38	10.2	3.9	4.76	13.74	5.00	.335	.230	3.16
14	X	5	X	26.0 I-T	18.87	40.5	91.6	400.2	5.63	9.9	4.4	5.55	13.91	5.03	.420	.255	3.55
14	X	6 3/4	X	30.0 I-T	21.16	47.1	93.7	444.4	5.78	9.4	4.7	6.22	13.84	6.73	.385	.270	3.74
14	X	6 3/4	X	34.0 I-T	23.54	53.8	96.5	495.0	5.94	9.2	5.1	6.92	13.98	6.75	.455	.285	3.98
14	X	6 3/4	X	38.0 I-T	26.17	60.2	99.0	540.5	6.05	9.0	5.5	7.70	14.10	6.77	.515	.310	4.37
14	X	8	X	43.0 I-T	28.82	66.6	97.5	554.0	6.01	8.3	5.7	8.24	13.66	8.00	.530	.305	4.17
14	X	8	X	48.0 I-T	31.50	74.4	100.2	603.5	6.07	8.1	6.0	9.26	13.79	8.03	.595	.340	4.69
16	X	5 1/2	X	26.0 I-T	19.49	44.6	103.1	499.1	6.24	11.2	4.8	5.73	15.69	5.50	.345	.250	3.92
16	X	5 1/2	X	31.0 I-T	22.70	53.8	107.7	581.7	6.50	10.8	5.4	6.68	15.88	5.53	.440	.275	4.37
16	X	7	X	36.0 I-T	25.69	62.9	110.8	650.0	6.66	10.3	5.9	7.56	15.36	6.99	.430	.295	4.68
16	X	7	X	40.0 I-T	28.09	71.0	114.0	715.7	6.83	10.1	6.3	8.26	16.01	7.00	.505	.305	4.88
18	X	6	X	35.0 I-T	26.29	65.6	122.7	771.6	7.21	11.8	6.3	7.73	17.70	6.00	.425	.300	5.31
18	X	6	X	40.0 I-T	29.35	76.4	127.5	871.3	7.44	11.4	6.8	8.63	17.90	6.02	.525	.315	5.64

(60T) PLATE WEIGHT = 14.025 LBS. (.3438 IN.)

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TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(60T = 22.500 IN.) PLATE WEIGHT = 15.300 LBS. (.3750 IN.) EFFECTIVE PLATE AREA = 8.438 SQ. IN.																		
NOMINAL SIZE							SECTION MODULUS				BEAM DIMENSIONS							
							WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2		
4	X	4	X	5.0	T	4.91	4.0	22.4	14.6	1.21	3.7	.7	1.44	3.95	3.94	.205	.170	.67
4	X	4	X	6.5	T	6.40	5.0	23.9	18.2	1.33	3.6	.8	1.88	4.00	4.00	.255	.230	.92
4	X	4	X	7.5	T	7.42	6.0	25.3	21.5	1.42	3.6	.9	2.18	4.06	4.02	.315	.245	.99
4	X	5 1/4	X	9.0	T	8.82	7.7	26.9	26.7	1.55	3.5	1.0	2.59	4.07	5.25	.330	.230	.94
4	X	4	X	13.0	I-T	8.39	6.8	26.4	24.5	1.50	3.6	.9	2.47	4.16	4.06	.345	.280	1.16
5	X	4	X	6.0	T	5.88	5.5	29.7	24.5	1.55	4.5	.8	1.73	4.94	3.96	.210	.190	.94
5	X	4	X	7.5	T	7.37	6.9	31.5	30.4	1.69	4.4	1.0	2.17	5.00	4.00	.270	.230	1.15
5	X	4	X	8.5	T	8.36	8.1	33.0	35.3	1.80	4.4	1.1	2.46	5.06	4.01	.330	.240	1.21
5	X	4	X	9.5	T	9.42	9.4	34.2	40.4	1.90	4.3	1.2	2.77	5.12	4.02	.395	.250	1.28
5	X	5	X	16.0	I-T	9.91	10.1	34.3	42.2	1.93	4.2	1.2	2.92	5.01	5.00	.368	.240	1.20
5	X	5	X	19.0	I-T	11.69	12.2	36.0	50.2	2.06	4.1	1.4	3.44	5.15	5.03	.430	.270	1.39
6	X	4	X	7.0	T	6.94	7.3	37.6	38.9	1.93	5.3	1.0	2.04	5.96	3.97	.225	.200	1.19
6	X	4	X	8.0	T	7.88	8.5	38.8	44.3	2.03	5.2	1.1	2.32	6.00	3.99	.265	.220	1.32
6	X	4	X	9.0	I-T	6.17	6.7	36.8	35.6	1.86	5.3	1.0	1.81	5.90	3.94	.215	.170	1.00
6	X	4	X	9.5	T	9.34	10.5	41.0	54.1	2.20	5.1	1.3	2.75	6.08	4.01	.350	.235	1.43
6	X	4	X	11.0	T	10.89	12.5	42.6	63.1	2.33	5.1	1.5	3.20	6.16	4.03	.425	.260	1.60
6	X	4	X	12.0	I-T	8.30	8.9	39.4	46.7	2.07	5.2	1.2	2.44	6.03	4.00	.280	.230	1.39
6	X	6	X	15.0	I-T	9.78	11.4	41.4	57.0	2.24	5.0	1.4	2.88	5.99	5.99	.260	.230	1.38
6	X	4	X	16.0	I-T	10.74	12.4	43.3	64.1	2.35	5.2	1.5	3.16	6.28	4.03	.405	.260	1.63
6	X	6	X	20.0	I-T	12.63	15.6	44.8	76.0	2.50	4.9	1.7	3.71	6.20	6.02	.365	.260	1.61
7	X	5	X	11.0	T	10.81	14.0	48.4	78.8	2.60	5.6	1.6	3.18	6.87	5.00	.335	.230	1.58
7	X	5	X	13.0	T	12.85	17.1	50.3	93.5	2.77	5.5	1.9	3.78	6.96	5.03	.420	.255	1.77
7	X	6 3/4	X	15.0	T	14.81	20.3	51.5	106.3	2.88	5.2	2.1	4.36	6.92	6.73	.385	.270	1.87
7	X	6 3/4	X	17.0	T	16.77	23.4	52.8	119.6	2.99	5.1	2.3	4.93	6.99	6.75	.455	.285	1.99
7	X	6 3/4	X	19.0	T	18.74	26.3	53.8	131.0	3.06	5.0	2.4	5.51	7.05	6.77	.515	.310	2.19

(60T) PLATE WEIGHT = 15.300 LBS. (.3750 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(60T = 22.500 IN.) PLATE WEIGHT = 15.300 LBS. (.3750 IN.) EFFECTIVE PLATE AREA = 8.438 SQ. IN.																		
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS										
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
7	X	8	X	21.5	T	20.94	29.7	53.0	137.1	3.06	4.6	2.6	6.16	6.83	8.00	.530	.305	2.08
7	X	8	X	24.0	T	23.53	33.1	54.0	149.4	3.12	4.5	2.8	6.92	6.90	8.03	.595	.340	2.35
8	X	4	X	10.0	I-T	7.19	9.5	51.0	66.1	2.50	7.0	1.3	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X	13.0	I-T	9.52	12.2	53.3	83.2	2.72	6.8	1.6	2.80	7.99	4.00	.255	.230	1.84
8	X	5 1/2	X	13.0	T	12.83	18.5	56.9	114.6	3.06	6.2	2.0	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X	15.0	I-T	10.79	14.4	55.7	97.2	2.89	6.7	1.7	3.17	8.11	4.02	.315	.245	1.99
8	X	5 1/2	X	15.5	T	15.28	22.6	59.1	136.0	3.24	6.0	2.3	4.49	7.94	5.53	.440	.275	2.18
8	X	5 1/4	X	18.0	I-T	12.00	17.8	58.6	116.2	3.12	6.5	2.0	3.53	8.14	5.25	.330	.230	1.87
8	X	7	X	18.0	T	17.73	27.0	60.6	155.3	3.37	5.7	2.6	5.22	7.93	6.99	.430	.295	2.34
8	X	7	X	20.0	T	19.79	30.9	62.0	173.0	3.48	5.6	2.8	5.82	8.01	7.00	.505	.305	2.44
8	X	5 1/4	X	21.0	I-T	13.87	21.1	60.9	135.8	3.29	6.4	2.2	4.08	8.28	5.27	.400	.250	2.07
8	X	7	X	22.5	T	22.32	34.5	63.2	188.3	3.54	5.5	3.0	6.56	8.07	7.04	.565	.345	2.78
8	X	6 1/2	X	24.0	I-T	15.11	23.6	59.7	140.3	3.30	6.0	2.4	4.44	7.93	6.50	.400	.245	1.94
8	X	6 1/2	X	28.0	I-T	17.69	27.5	61.6	160.4	3.43	5.8	2.6	5.20	8.06	6.54	.465	.285	2.30
8	X	8	X	31.0	I-T	19.16	30.6	62.1	171.8	3.49	5.6	2.8	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X	17.5	T	17.26	27.3	66.9	179.0	3.64	6.5	2.7	5.08	8.85	6.00	.425	.300	2.66
9	X	6	X	20.0	T	19.76	32.3	69.1	205.4	3.80	6.4	3.0	5.81	8.95	6.02	.525	.315	2.82
10	X	4	X	12.0	I-T	9.07	13.6	65.5	115.4	3.22	8.5	1.8	2.67	9.87	3.96	.210	.190	1.88
10	X	4	X	15.0	I-T	11.27	17.1	68.5	141.9	3.47	8.3	2.1	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X	17.0	I-T	12.48	19.8	71.2	162.2	3.66	8.2	2.3	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X	19.0	I-T	13.77	22.7	73.7	183.9	3.84	8.1	2.5	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0	I-T	15.04	26.9	76.0	209.5	4.04	7.8	2.8	4.42	10.17	5.75	.360	.240	2.44
10	X	5 3/4	X	26.0	I-T	17.37	32.0	78.9	243.8	4.24	7.6	3.1	5.11	10.33	5.77	.440	.260	2.69
10	X	5 3/4	X	30.0	I-T	20.23	37.2	81.3	276.5	4.38	7.4	3.4	5.95	10.47	5.81	.510	.300	3.14

(60T) PLATE WEIGHT = 15.300 LBS. (.3750 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(60T = 22.500 IN.) PLATE WEIGHT = 15.300 LBS. (.3750 IN.) EFFECTIVE PLATE AREA = 8.438 SQ. IN.																
NOMINAL SIZE			SECTION MODULUS						BEAM DIMENSIONS							
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
10	X 8	X 33.0	I-T	20.94	38.6	76.7	259.5	4.22	6.7	3.4	6.16	9.73	7.96	.435	.290	2.82
10	X 8	X 39.0	I-T	24.45	46.2	79.7	301.1	4.39	6.5	3.8	7.19	9.92	7.99	.530	.315	3.12
10	X 8	X 45.0	I-T	28.19	53.7	82.4	340.6	4.51	6.3	4.1	8.29	10.10	8.02	.620	.350	3.54
12	X 4	X 14.0	I-T	10.98	18.8	81.0	187.3	4.01	10.0	2.3	3.23	11.91	3.97	.225	.200	2.38
12	X 4	X 16.0	I-T	12.37	21.5	83.2	210.9	4.18	9.8	2.5	3.64	11.99	3.99	.265	.220	2.64
12	X 4	X 19.0	I-T	14.20	26.1	87.3	251.6	4.47	9.7	2.9	4.18	12.16	4.01	.350	.235	2.86
12	X 4	X 22.0	I-T	16.33	30.6	90.5	290.4	4.68	9.5	3.2	4.80	12.31	4.03	.425	.260	3.20
12	X 6 1/2	X 26.0	I-T	17.64	38.0	94.3	341.2	5.00	9.0	3.6	5.19	12.22	6.49	.380	.230	2.81
12	X 6 1/2	X 30.0	I-T	20.27	43.7	96.8	383.0	5.16	8.8	4.0	5.96	12.34	6.52	.440	.260	3.21
12	X 6 1/2	X 35.0	I-T	23.82	51.4	100.0	437.0	5.32	8.5	4.4	7.01	12.50	6.56	.520	.300	3.75
12	X 8	X 40.0	I-T	25.48	56.1	97.1	437.7	5.24	7.8	4.5	7.49	11.94	8.01	.515	.295	3.52
12	X 8	X 45.0	I-T	28.81	62.7	99.5	478.4	5.32	7.6	4.8	8.47	12.06	8.05	.575	.335	4.04
12	X 8 1/8	X 50.0	I-T	32.11	69.7	102.0	520.1	5.39	7.5	5.1	9.44	12.19	8.08	.640	.370	4.51
12	X 10	X 53.0	I-T	33.01	74.9	101.8	536.5	5.44	7.2	5.3	9.71	12.06	10.00	.575	.345	4.16
12	X 10	X 58.0	I-T	35.92	82.5	104.0	577.8	5.51	7.0	5.6	10.56	12.19	10.01	.640	.360	4.39
14	X 5	X 22.0	I-T	16.18	34.2	101.9	361.1	5.23	10.6	3.5	4.76	13.74	5.00	.335	.230	3.16
14	X 5	X 26.0	I-T	18.87	41.0	106.0	422.6	5.50	10.3	4.0	5.55	13.91	5.03	.420	.255	3.55
14	X 6 3/4	X 30.0	I-T	21.16	47.7	108.4	471.1	5.67	9.9	4.3	6.22	13.84	6.73	.385	.270	3.74
14	X 6 3/4	X 34.0	I-T	23.54	54.6	111.6	526.4	5.85	9.6	4.7	6.92	13.98	6.75	.455	.285	3.98
14	X 6 3/4	X 38.0	I-T	26.17	61.1	114.3	576.3	5.98	9.4	5.0	7.70	14.10	6.77	.515	.310	4.37
14	X 8	X 43.0	I-T	28.02	67.6	112.8	593.0	5.96	8.8	5.3	8.24	13.66	8.00	.530	.305	4.17
14	X 8	X 48.0	I-T	31.50	75.6	115.6	647.5	6.05	8.6	5.6	9.26	13.79	8.03	.595	.340	4.69
16	X 5 1/2	X 26.0	I-T	19.49	45.2	119.2	526.8	6.10	11.6	4.4	5.73	15.69	5.50	.345	.250	3.92
16	X 5 1/2	X 31.0	I-T	22.70	54.6	124.4	616.6	6.39	11.3	5.0	6.68	15.88	5.53	.440	.275	4.37

(60T) PLATE WEIGHT = 15.300 LBS. (.3750 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(60T = 22.500 IN.) PLATE WEIGHT = 15.300 LBS. (.3750 IN.) EFFECTIVE PLATE AREA = 8.438 SQ. IN.																
NOMINAL SIZE			WT/FT	SECTION MODULUS				BEAM DIMENSIONS								
				FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
16	X 7	X 36.0	I-T	25.69	63.9	127.8	691.4	6.58	10.8	5.4	7.56	15.86	6.99	.430	.295	4.68
16	X 7	X 40.0	I-T	28.09	72.2	131.4	763.4	6.76	10.6	5.8	8.26	16.01	7.00	.505	.305	4.88
16	X 7	X 45.0	I-T	31.77	80.7	134.9	833.5	6.85	10.3	6.2	9.34	16.13	7.04	.565	.345	5.56
18	X 6	X 35.0	I-T	26.29	66.8	141.2	819.3	7.12	12.3	5.8	7.73	17.70	6.00	.425	.300	5.31
18	X 6	X 40.0	I-T	29.35	77.7	146.6	928.1	7.37	11.9	6.3	8.63	17.90	6.02	.525	.315	5.64
18	X 7 1/2	X 50.0	I-T	35.55	98.0	153.8	1099.1	7.63	11.2	7.1	10.46	17.99	7.50	.570	.355	6.39

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(60T) PLATE WEIGHT = 15.300 LBS. (.3750 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																	
(60T = 26.250 IN.) PLATE WEIGHT = 17.850 LBS. (.4375 IN.) EFFECTIVE PLATE AREA = 11.484 SQ. IN.																	
NOMINAL SIZE						SECTION MODULUS						BEAM DIMENSIONS					
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2		
4	X 4	X 5.0	T	4.91	4.0	26.8	15.4	1.09	3.8	.6	1.44	3.95	3.94	.205	.170	.67	
4	X 4	X 6.5	T	6.40	5.1	29.1	19.4	1.20	3.8	.7	1.88	4.00	4.00	.255	.230	.92	
4	X 4	X 7.5	T	7.42	6.1	31.1	23.0	1.30	3.8	.7	2.18	4.06	4.02	.315	.245	.99	
4	X 5 1/4	X 9.0	T	8.82	7.9	33.7	28.7	1.43	3.7	.9	2.59	4.07	5.25	.330	.230	.94	
4	X 4	X 13.0	I-T	8.39	6.9	32.8	26.3	1.37	3.8	.8	2.47	4.16	4.06	.345	.280	1.16	
	5	X 4	X 6.0	T	5.88	5.5	36.3	25.9	1.40	4.7	.7	1.73	4.94	3.96	.210	.190	.94
	5	X 4	X 7.5	T	7.37	7.0	39.1	32.3	1.54	4.6	.8	2.17	5.00	4.00	.270	.230	1.15
	5	X 4	X 8.5	T	8.36	8.2	41.3	37.7	1.65	4.6	.9	2.46	5.06	4.01	.330	.240	1.21
	5	X 4	X 9.5	T	9.42	9.5	43.2	43.4	1.75	4.6	1.0	2.77	5.12	4.02	.395	.250	1.28
	5	X 5	X 16.0	I-T	9.91	10.3	43.4	45.4	1.78	4.4	1.0	2.92	5.01	5.00	.360	.260	1.20
42	5	X 5	X 19.0	I-T	11.69	12.4	46.0	54.5	1.91	4.4	1.2	3.44	5.15	5.03	.430	.270	1.39
	6	X 4	X 7.0	T	6.94	7.5	46.7	41.2	1.75	5.5	.9	2.04	5.96	3.97	.225	.200	1.19
	6	X 4	X 8.0	T	7.88	8.6	48.7	47.1	1.85	5.5	1.0	2.32	6.00	3.99	.265	.220	1.32
	6	X 4	X 9.0	I-T	6.17	6.8	45.6	37.6	1.68	5.5	.8	1.81	5.90	3.94	.215	.170	1.00
	6	X 4	X 9.5	T	9.34	10.7	52.0	57.9	2.02	5.4	1.1	2.75	6.08	4.01	.350	.235	1.43
	6	X 4	X 11.0	T	10.89	12.7	54.3	68.0	2.15	5.3	1.3	3.20	6.16	4.03	.425	.260	1.60
	6	X 4	X 12.0	I-T	8.30	9.1	49.5	49.7	1.89	5.5	1.0	2.44	6.03	4.00	.280	.230	1.39
	6	X 6	X 15.0	I-T	9.78	11.6	52.6	61.1	2.06	5.3	1.2	2.88	5.99	5.99	.260	.230	1.38
	6	X 4	X 16.0	I-T	10.74	12.6	55.2	69.0	2.17	5.5	1.2	3.16	6.28	4.03	.405	.260	1.63
	6	X 6	X 20.0	I-T	12.63	15.8	57.5	82.5	2.33	5.2	1.4	3.71	6.20	6.02	.365	.260	1.61
	7	X 5	X 11.0	T	10.81	14.3	62.0	84.7	2.40	5.9	1.4	3.18	6.87	5.00	.335	.230	1.58
	7	X 5	X 13.0	T	12.85	17.4	64.8	101.3	2.58	5.8	1.6	3.78	6.96	5.03	.420	.255	1.77
	7	X 6 3/4	X 15.0	T	14.81	20.7	66.6	116.1	2.71	5.6	1.7	4.36	6.92	6.73	.385	.270	1.87
	7	X 6 3/4	X 17.0	T	16.77	23.9	68.6	131.6	2.83	5.5	1.9	4.93	6.99	6.75	.455	.285	1.99
	7	X 6 3/4	X 19.0	T	18.74	26.8	70.0	145.1	2.92	5.4	2.1	5.51	7.05	6.77	.515	.310	2.19

(60T) PLATE WEIGHT = 17.850 LBS. (.4375 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(60T = 26.250 IN.) PLATE WEIGHT = 17.850 LBS. (.4375 IN.) EFFECTIVE PLATE AREA = 11.484 SQ. IN.																		
NOMINAL SIZE						SECTION MODULUS						BEAM DIMENSIONS						
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN	X	IN	X	LBS/FT		LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN2	
7	X	8	X	21.5	T	20.94	30.3	69.1	153.1	2.95	5.1	2.2	6.16	6.83	8.00	.530	.305	2.08
7	X	8	X	24.0	T	23.53	33.9	70.5	168.0	3.02	5.0	2.4	6.92	6.90	8.03	.595	.340	2.35
8	X	4	X	10.0	I-T	7.19	9.6	64.3	69.7	2.26	7.2	1.1	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X	13.0	I-T	9.52	12.4	67.8	88.5	2.49	7.1	1.3	2.80	7.99	4.00	.255	.230	1.84
8	X	5 1/2	X	13.0	T	12.83	18.8	73.4	123.9	2.85	6.6	1.7	3.77	7.85	5.50	.345	.250	1.36
8	X	4	X	15.0	I-T	10.79	14.7	71.3	104.1	2.66	7.1	1.5	3.17	8.11	4.02	.315	.245	1.99
8	X	5 1/2	X	15.5	T	15.28	23.0	76.5	148.3	3.05	6.4	1.9	4.49	7.94	5.53	.440	.275	2.18
8	X	5 1/4	X	18.0	I-T	12.00	18.1	75.5	125.1	2.89	6.9	1.7	3.53	8.14	5.25	.330	.230	1.87
8	X	7	X	18.0	T	17.73	27.6	78.7	170.8	3.20	6.2	2.2	5.22	7.93	6.99	.430	.295	2.34
8	X	7	X	20.0	T	19.79	31.5	80.8	191.6	3.33	6.1	2.4	5.82	8.01	7.00	.505	.305	2.44
8	X	5 1/4	X	21.0	I-T	13.87	21.5	78.8	147.3	3.08	6.8	1.9	4.08	8.28	5.27	.400	.250	2.07
8	X	7	X	22.5	T	22.32	35.2	82.2	209.8	3.41	6.0	2.6	6.56	8.07	7.04	.565	.345	2.78
8	X	6 1/2	X	24.0	I-T	15.11	24.0	77.5	153.1	3.10	6.4	2.0	4.44	7.93	6.50	.400	.245	1.94
8	X	7 1/8	X	25.0	T	24.83	39.0	83.7	228.0	3.48	5.8	2.7	7.30	8.13	7.07	.630	.380	3.09
8	X	6 1/2	X	28.0	I-T	17.69	28.0	80.0	176.5	3.25	6.3	2.2	5.20	8.06	6.54	.465	.285	2.30
8	X	7 1/8	X	28.5	T	28.28	44.1	85.6	251.9	3.57	5.7	2.9	8.32	8.22	7.12	.715	.430	3.53
8	X	8	X	31.0	I-T	19.16	31.2	80.9	190.1	3.33	6.1	2.3	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X	17.5	T	17.26	27.9	86.7	195.9	3.44	7.0	2.3	5.08	8.85	6.00	.425	.300	2.66
9	X	6	X	20.0	T	19.76	33.0	89.7	226.6	3.62	6.9	2.5	5.81	8.95	6.02	.525	.315	2.82
10	X	4	X	12.0	I-T	9.07	13.8	83.8	122.3	2.94	8.8	1.5	2.67	9.87	3.96	.210	.190	1.88
10	X	4	X	15.0	I-T	11.27	17.4	88.1	151.7	3.20	8.7	1.7	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X	17.0	I-T	12.48	20.1	91.8	174.2	3.39	8.7	1.9	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X	19.0	I-T	13.77	23.1	95.3	198.4	3.57	8.6	2.1	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0	I-T	15.04	27.4	98.6	227.4	3.78	8.3	2.3	4.42	10.17	5.75	.360	.240	2.44

(60T) PLATE WEIGHT = 17.850 LBS. (.4375 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T															
(60T = 26.250 IN.) PLATE WEIGHT = 17.850 LBS. (.4375 IN.) EFFECTIVE PLATE AREA = 11.484 SQ. IN.															
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS							
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW
IN X IN X LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN	IN2
10 X 5 3/4 X 26.0 I-T	17.37	32.6	102.6	266.6	4.01	8.2	2.6	5.11	10.33	5.77	.440	.260	2.69		
10 X 5 3/4 X 30.0 I-T	20.23	37.9	105.6	304.5	4.18	8.0	2.9	5.95	10.47	5.81	.510	.300	3.14		
10 X 8 X 33.0 I-T	20.94	39.4	100.0	287.2	4.03	7.3	2.9	6.16	9.73	7.96	.435	.290	2.82		
10 X 8 X 39.0 I-T	24.45	47.2	103.9	336.2	4.24	7.1	3.2	7.19	9.92	7.99	.530	.315	3.12		
10 X 8 X 45.0 I-T	28.19	55.0	107.4	383.1	4.40	7.0	3.6	8.29	10.10	8.02	.620	.350	3.54		
12 X 4 X 14.0 I-T	10.98	19.1	104.4	199.5	3.68	10.4	1.9	3.23	11.91	3.97	.225	.200	2.38		
12 X 4 X 16.0 I-T	12.37	21.9	107.5	225.8	3.86	10.3	2.1	3.64	11.99	3.99	.265	.220	2.64		
12 X 4 X 19.0 I-T	14.20	26.6	113.1	271.0	4.16	10.2	2.4	4.18	12.16	4.01	.350	.235	2.86		
12 X 4 X 22.0 I-T	16.33	31.3	117.3	314.8	4.40	10.1	2.7	4.80	12.31	4.03	.425	.260	3.20		
12 X 6 1/2 X 26.0 I-T	17.64	38.7	122.8	372.6	4.73	9.6	3.0	5.19	12.22	6.49	.380	.230	2.81		
12 X 6 1/2 X 30.0 I-T	20.27	44.6	126.0	421.1	4.91	9.4	3.3	5.96	12.34	6.52	.440	.260	3.21		
12 X 6 1/2 X 35.0 I-T	23.82	52.5	130.0	484.1	5.12	9.2	3.7	7.01	12.50	6.56	.520	.300	3.75		
12 X 8 X 40.0 I-T	25.48	57.3	126.5	488.2	5.07	8.5	3.9	7.49	11.94	8.01	.515	.295	3.52		
12 X 8 X 45.0 I-T	28.81	64.2	129.3	536.5	5.18	8.4	4.1	8.47	12.06	8.05	.575	.335	4.04		
12 X 8 1/8 X 50.0 I-T	32.11	71.5	132.3	586.0	5.29	8.2	4.4	9.44	12.19	8.08	.640	.370	4.51		
12 X 10 X 53.0 I-T	33.01	76.7	132.4	607.1	5.35	7.9	4.6	9.71	12.06	10.00	.575	.345	4.16		
12 X 10 X 58.0 I-T	35.92	84.6	135.1	657.0	5.46	7.8	4.9	10.56	12.19	10.01	.640	.360	4.39		
14 X 5 X 22.0 I-T	16.18	34.8	132.3	391.1	4.91	11.2	3.0	4.76	13.74	5.00	.335	.230	3.16		
14 X 5 X 26.0 I-T	18.97	41.9	137.7	461.1	5.20	11.0	3.3	5.55	13.91	5.03	.420	.255	3.55		
14 X 6 3/4 X 30.0 I-T	21.16	48.8	140.8	517.2	5.40	10.6	3.7	6.22	13.84	6.73	.385	.270	3.74		
14 X 6 3/4 X 34.0 I-T	23.54	55.9	145.0	581.3	5.62	10.4	4.0	6.92	13.98	6.75	.455	.285	3.98		
14 X 6 3/4 X 38.0 I-T	26.17	62.6	148.3	639.7	5.77	10.2	4.3	7.70	14.10	6.77	.515	.310	4.37		
14 X 8 X 43.0 I-T	28.02	69.2	146.5	662.4	5.79	9.6	4.5	8.24	13.66	8.00	.530	.305	4.17		
14 X 8 X 48.0 I-T	31.50	77.5	149.9	727.1	5.92	9.4	4.8	9.26	13.79	8.03	.595	.340	4.69		

(60T) PLATE WEIGHT = 17.850 LBS. (.4375 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(60T = 26.250 IN.) PLATE WEIGHT = 17.850 LBS. (.4375 IN.) EFFECTIVE PLATE AREA = 11.484 SQ. IN.																
NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS								
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2		
16	X 5 1/2 X	26.0 I-T	19.49	46.2	154.7	574.2	5.78	12.4	3.7	5.73	15.69	5.50	.345	.250	3.92	
16	X 5 1/2 X	31.0 I-T	22.70	55.9	161.2	677.2	6.11	12.1	4.2	6.68	15.88	5.53	.440	.275	4.37	
16	X 7 X	36.0 I-T	25.69	65.5	165.5	764.4	6.34	11.7	4.6	7.56	15.86	6.99	.430	.295	4.68	
16	X 7 X	40.0 I-T	28.09	74.0	170.2	848.4	6.55	11.5	5.0	8.26	16.01	7.00	.505	.305	4.88	
16	X 7 X	45.0 I-T	31.77	82.9	174.0	930.6	6.68	11.2	5.3	9.34	16.13	7.04	.565	.345	5.56	
16	X 7 1/8 X	50.0 I-T	35.34	92.1	178.1	1013.3	6.81	11.0	5.7	10.39	16.26	7.07	.630	.380	6.18	
16	X 7 1/8 X	57.0 I-T	40.28	104.2	183.4	1120.9	6.93	10.8	6.1	11.85	16.43	7.12	.715	.430	7.06	
16	X 10 1/4 X	67.0 I-T	44.18	126.9	187.7	1269.6	7.20	10.0	6.8	12.99	16.33	10.24	.665	.395	6.45	
45	18	X 6 X	35.0 I-T	26.29	68.6	182.3	903.7	6.86	13.2	5.0	7.73	17.70	6.00	.425	.300	5.31
	18	X 6 X	40.0 I-T	29.35	79.9	189.1	1029.5	7.15	12.9	5.4	8.63	17.90	6.02	.525	.315	5.64
	18	X 7 1/2 X	50.0 I-T	35.55	100.8	197.7	1230.6	7.49	12.2	6.2	10.46	17.99	7.50	.570	.355	6.39
	18	X 7 1/2 X	60.0 I-T	42.61	121.0	206.3	1424.7	7.70	11.8	6.9	12.53	18.24	7.56	.695	.415	7.57
21	X 8 1/4 X	62.0 I-T	44.94	141.3	240.1	1906.0	8.78	13.5	7.9	13.22	20.99	8.24	.615	.400	8.40	
21	X 8 1/4 X	68.0 I-T	49.15	155.2	245.9	2051.9	8.89	13.2	8.3	14.46	21.13	8.27	.685	.430	9.09	

(60T) PLATE WEIGHT = 17.850 LBS. (.4375 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																			
(60T = 30.000 IN.) PLATE WEIGHT = 20.400 LBS. (.5000 IN.) EFFECTIVE PLATE AREA = 15.000 SQ. IN.																			
NOMINAL SIZE					SECTION MODULUS					BEAM DIMENSIONS									
					WT/FT	FLANGE	PLATE	I	R	YP	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	IN X	LBS/FT		IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2				
4	X	4	X	5.0	T	4.91	4.1	30.3	16.2	.99	3.9	.5	1.44	3.95	3.94	.205	.170	.67	
4	X	4	X	6.5	T	6.40	5.2	33.6	20.4	1.10	3.9	.6	1.88	4.00	4.00	.255	.230	.92	
4	X	4	X	7.5	T	7.42	6.3	36.4	24.3	1.19	3.9	.7	2.18	4.06	4.02	.315	.245	.99	
4	X	5	1/4	X	9.0	T	8.82	8.0	40.0	30.5	1.32	3.8	.8	2.59	4.07	5.25	.330	.230	.94
4	X	4	X	13.0	I-T	8.39	7.1	38.6	27.9	1.26	3.9	.7	2.47	4.16	4.06	.345	.280	1.16	
5	X	4	X	6.0	T	5.88	5.6	42.1	27.1	1.27	4.8	.6	1.73	4.94	3.96	.210	.190	.94	
5	X	4	X	7.5	T	7.37	7.1	46.1	34.0	1.41	4.8	.7	2.17	5.00	4.00	.270	.230	1.15	
5	X	4	X	8.5	T	8.36	8.4	49.1	39.8	1.51	4.7	.8	2.46	5.06	4.01	.330	.240	1.21	
5	X	4	X	9.5	T	9.42	9.7	51.8	45.9	1.61	4.7	.9	2.77	5.12	4.02	.395	.250	1.28	
5	X	5	X	16.0	I-T	9.91	10.5	52.3	48.1	1.64	4.6	.9	2.92	5.01	5.00	.360	.240	1.20	
46	5	X	5	X	19.0	I-T	11.69	12.6	55.9	58.1	1.77	4.6	1.0	3.44	5.15	5.03	.430	.270	1.39
6	X	4	X	7.0	T	6.94	7.6	55.2	43.0	1.59	5.7	.8	2.04	5.96	3.97	.225	.200	1.19	
6	X	4	X	8.0	T	7.88	8.7	58.0	49.4	1.69	5.6	.9	2.32	6.00	3.99	.265	.220	1.32	
6	X	4	X	9.0	I-T	6.17	6.9	53.5	39.2	1.53	5.7	.7	1.81	5.90	3.94	.215	.170	1.00	
6	X	4	X	9.5	T	9.34	10.9	62.6	60.9	1.85	5.6	1.0	2.75	6.08	4.01	.350	.235	1.43	
6	X	4	X	11.0	T	10.89	12.9	66.1	71.9	1.99	5.6	1.1	3.20	6.16	4.03	.425	.260	1.60	
6	X	4	X	12.0	I-T	8.30	9.2	59.2	52.2	1.73	5.6	.9	2.44	6.03	4.00	.280	.230	1.39	
6	X	6	X	15.0	I-T	9.78	11.8	63.7	64.5	1.90	5.5	1.0	2.88	5.99	5.99	.260	.230	1.38	
6	X	4	X	16.0	I-T	10.74	12.8	67.1	72.9	2.00	5.7	1.1	3.16	6.28	4.03	.405	.260	1.63	
6	X	6	X	20.0	I-T	12.63	16.1	70.6	87.7	2.17	5.5	1.2	3.71	6.20	6.02	.365	.260	1.61	
7	X	5	X	11.0	T	10.81	14.5	75.7	89.5	2.22	6.2	1.2	3.18	6.87	5.00	.335	.230	1.58	
7	X	5	X	13.0	T	12.85	17.6	79.8	107.7	2.39	6.1	1.3	3.78	6.96	5.03	.420	.255	1.77	
7	X	6	3/4	X	15.0	T	14.81	21.0	82.5	124.1	2.53	5.9	1.5	4.36	6.92	6.73	.385	.270	1.87
7	X	6	3/4	X	17.0	T	16.77	24.3	85.3	141.4	2.66	5.8	1.7	4.93	6.99	6.75	.455	.285	1.99
7	X	6	3/4	X	19.0	T	18.74	27.2	87.3	156.7	2.76	5.8	1.8	5.51	7.05	6.77	.515	.310	2.19

(60T) PLATE WEIGHT = 20.400 LBS. (.5000 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(60T = 30.000 IN.) PLATE WEIGHT = 20.400 LBS. (.5000 IN.) EFFECTIVE PLATE AREA = 15.000 SQ. IN.																		
NOMINAL SIZE					SECTION MODULUS								BEAM DIMENSIONS					
					WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	TN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2			
7	X	8	X	21.5	T	20.94	30.8	66.6	166.5	2.81	5.4	1.9	6.16	6.83	8.00	.530	.305	2.08
7	X	8	X	24.0	T	23.53	34.5	88.4	183.6	2.89	5.3	2.1	6.92	6.90	8.03	.595	.340	2.35
8	X	4	X	10.0	I-T	7.19	9.7	77.1	72.6	2.06	7.4	.9	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X	13.0	I-T	9.52	12.6	82.4	92.8	2.28	7.4	1.1	2.80	7.99	4.00	.255	.230	1.84
8	X	5 1/2	X	13.0	T	12.83	19.0	90.5	131.4	2.65	6.9	1.5	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X	15.0	I-T	10.79	14.9	87.2	109.5	2.45	7.4	1.3	3.17	8.11	4.02	.315	.245	1.99
8	X	5 1/2	X	15.5	T	15.28	23.4	94.9	158.3	2.85	6.8	1.7	4.49	7.94	5.53	.440	.275	2.18
8	X	5 1/4	X	18.0	I-T	12.00	18.3	93.0	132.2	2.67	7.2	1.4	3.53	8.14	5.25	.330	.230	1.87
8	X	7	X	18.0	T	17.73	28.0	98.1	183.5	3.01	6.6	1.9	5.22	7.93	6.99	.430	.295	2.34
8	X	7	X	20.0	T	19.79	32.0	101.0	207.0	3.15	6.5	2.0	5.82	8.01	7.00	.505	.305	2.44
8	X	5 1/4	X	21.0	I-T	13.87	21.8	97.6	156.5	2.86	7.2	1.6	4.08	8.28	5.27	.400	.250	2.07
8	X	7	X	22.5	T	22.32	35.8	103.0	227.8	3.25	6.4	2.2	6.56	8.07	7.04	.565	.345	2.78
8	X	6 1/2	X	24.0	I-T	15.11	24.3	96.3	163.5	2.90	6.7	1.7	4.44	7.93	6.50	.400	.245	1.94
8	X	7 1/8	X	25.0	T	24.83	39.7	104.9	248.7	3.34	6.3	2.4	7.30	8.13	7.07	.630	.380	3.09
8	X	6 1/2	X	28.0	I-T	17.69	28.5	99.9	189.6	3.06	6.7	1.9	5.20	8.06	6.54	.465	.285	2.30
8	X	7 1/8	X	28.5	T	28.28	45.0	107.3	276.4	3.44	6.1	2.6	8.32	8.22	7.12	.715	.430	3.53
8	X	8	X	31.0	I-T	19.16	31.7	101.3	205.1	3.15	6.5	2.0	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X	17.5	T	17.26	28.3	108.0	209.7	3.23	7.4	1.9	5.08	8.85	6.00	.425	.300	2.66
9	X	6	X	20.0	T	19.76	33.5	112.2	244.0	3.42	7.3	2.2	5.81	8.95	6.02	.525	.315	2.82
10	X	4	X	12.0	I-T	9.07	14.0	102.2	127.7	2.69	9.1	1.2	2.67	9.87	3.96	.210	.190	1.88
10	X	4	X	15.0	I-T	11.27	17.7	108.4	159.3	2.95	9.0	1.5	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X	17.0	I-T	12.48	20.4	113.4	183.6	3.14	9.0	1.6	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X	19.0	I-T	13.77	23.4	118.2	209.9	3.32	9.0	1.8	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0	I-T	15.04	27.8	122.9	241.6	3.53	8.7	2.0	4.42	10.17	5.75	.360	.240	2.44

(60T) PLATE WEIGHT = 20.400 LBS. (.5000 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																			
(60T = 30.000 IN.) PLATE WEIGHT = 20.400 LBS. (.5000 IN.) EFFECTIVE PLATE AREA = 15.000 SQ. IN.																			
NOMINAL SIZE				WT/FT	SECTION MODULUS				BEAM DIMENSIONS										
					FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2			
10	X	5 3/4	X	26.0	I-T	17.37	33.1	128.2	285.0	3.76	8.6	2.2	5.11	10.33	5.77	.440	.260	2.69	
10	X	5 3/4	X	30.0	I-T	20.23	38.6	132.3	327.5	3.95	8.5	2.5	5.95	10.47	5.81	.510	.300	3.14	
10	X	8	X	33.0	I-T	20.94	40.0	125.4	310.0	3.83	7.8	2.5	6.16	9.73	7.96	.435	.290	2.82	
10	X	8	X	39.0	I-T	24.45	48.0	130.6	365.6	4.06	7.6	2.8	7.19	9.92	7.99	.530	.315	3.12	
10	X	8	X	45.0	I-T	28.19	56.0	135.1	419.4	4.24	7.5	3.1	8.29	10.10	8.02	.620	.350	3.54	
12	X	4	X	14.0	I-T	10.98	19.4	128.9	209.0	3.39	10.8	1.6	3.23	11.91	3.97	.225	.200	2.38	
12	X	4	X	16.0	I-T	12.37	22.2	133.2	237.5	3.57	10.7	1.8	3.64	11.99	3.99	.265	.220	2.64	
12	X	4	X	19.0	I-T	14.20	27.0	140.8	286.5	3.86	10.6	2.0	4.18	12.16	4.01	.350	.235	2.86	
12	X	4	X	22.0	I-T	16.33	31.8	146.4	334.4	4.11	10.5	2.3	4.80	12.31	4.03	.425	.260	3.20	
12	X	6 1/2	X	26.0	I-T	17.64	39.2	154.1	397.9	4.44	10.1	2.6	5.19	12.22	6.49	.380	.230	2.81	
48	12	X	6 1/2	X	30.0	I-T	20.27	45.3	158.2	452.2	4.64	10.0	2.9	5.96	12.34	6.52	.440	.260	3.21
	12	X	6 1/2	X	35.0	I-T	23.82	53.4	163.3	523.3	4.88	9.8	3.2	7.01	12.50	6.56	.520	.300	3.75
	12	X	8	X	40.0	I-T	25.48	58.2	159.3	530.4	4.86	9.1	3.3	7.49	11.94	8.01	.515	.295	3.52
	12	X	8	X	45.0	I-T	28.81	65.4	162.7	585.9	5.00	9.0	3.6	8.47	12.06	8.05	.575	.335	4.04
	12	X	8 1/8	X	50.0	I-T	32.11	72.9	166.2	642.9	5.13	8.8	3.9	9.44	12.19	8.08	.640	.370	4.51
	12	X	10	X	53.0	I-T	33.01	78.1	166.7	668.2	5.20	8.6	4.0	9.71	12.06	10.00	.575	.345	4.16
	12	X	10	X	58.0	I-T	35.92	86.2	170.2	726.2	5.33	8.4	4.3	10.56	12.19	10.01	.640	.360	4.39
	14	X	5	X	22.0	I-T	16.18	35.4	165.5	414.9	4.58	11.7	2.5	4.76	13.74	5.00	.335	.230	3.16
	14	X	5	X	26.0	I-T	18.87	42.6	172.5	492.2	4.89	11.6	2.9	5.55	13.91	5.03	.420	.255	3.55
	14	X	6 3/4	X	30.0	I-T	21.16	49.6	176.7	555.1	5.11	11.2	3.1	6.22	13.84	6.73	.385	.270	3.74
	14	X	6 3/4	X	34.0	I-T	23.54	56.8	182.1	626.9	5.35	11.0	3.4	6.92	13.98	6.75	.455	.285	3.98
	14	X	6 3/4	X	38.0	I-T	26.17	63.7	186.2	692.9	5.53	10.9	3.7	7.70	14.10	6.77	.515	.310	4.37
	14	X	8	X	43.0	I-T	28.02	70.4	184.4	721.2	5.57	10.2	3.9	8.24	13.66	8.00	.530	.305	4.17
	14	X	8	X	48.0	I-T	31.50	79.0	188.4	795.4	5.73	10.1	4.2	9.26	13.79	8.03	.595	.340	4.69
(60T) PLATE WEIGHT = 20.400 LBS. (.5000 IN.)																			

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T														
(60T = 30.000 IN.) PLATE WEIGHT = 20.400 LBS. (.5000 IN.) EFFECTIVE PLATE AREA = 15.000 SQ. IN.														
NOMINAL SIZE			SECTION MODULUS					BEAM DIMENSIONS						
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW
IN X IN X LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
16 X 5 1/2 X 26.0 I-T	19.49	47.0	194.0	612.7	5.44	13.0	3.2	5.73	15.69	5.50	.345	.250	3.92	
16 X 5 1/2 X 31.0 I-T	22.70	56.9	202.3	727.2	5.79	12.8	3.6	6.68	15.88	5.53	.440	.275	4.37	
16 X 7 X 36.0 I-T	25.69	66.6	207.7	825.5	6.05	12.4	4.0	7.56	15.86	6.99	.430	.295	4.68	
16 X 7 X 40.0 I-T	28.09	75.4	213.6	920.1	6.29	12.2	4.3	8.26	16.01	7.00	.505	.305	4.88	
16 X 7 X 45.0 I-T	31.77	84.6	218.1	1014.0	6.45	12.0	4.7	9.34	16.13	7.04	.565	.345	5.56	
16 X 7 1/8 X 50.0 I-T	35.34	94.1	222.7	1108.5	6.61	11.8	5.0	10.39	16.26	7.07	.630	.380	6.18	
16 X 7 1/8 X 57.0 I-T	40.28	106.7	228.8	1232.8	6.77	11.5	5.4	11.85	16.43	7.12	.715	.430	7.06	
16 X 10 1/4 X 67.0 I-T	44.18	129.7	235.0	1406.7	7.09	10.8	6.0	12.99	16.33	10.24	.665	.395	6.45	
16 X 10 1/4 X 77.0 I-T	50.98	148.3	241.9	1564.8	7.22	10.6	6.5	15.00	16.52	10.30	.760	.455	7.52	
18 X 6 X 35.0 I-T	26.29	69.9	228.4	974.3	6.55	13.9	4.3	7.73	17.70	6.00	.425	.300	5.31	
18 X 6 X 40.0 I-T	29.35	81.5	236.8	1115.5	6.87	13.7	4.7	8.63	17.90	6.02	.525	.315	5.64	
18 X 7 1/2 X 50.0 I-T	35.55	103.1	247.2	1344.9	7.27	13.1	5.4	10.46	17.99	7.50	.570	.355	6.39	
18 X 7 1/2 X 60.0 I-T	42.61	124.0	257.1	1567.3	7.55	12.6	6.1	12.53	18.24	7.56	.695	.415	7.57	
18 X 7 5/8 X 71.0 I-T	50.75	145.2	266.6	1783.0	7.72	12.3	6.7	14.93	18.47	7.64	.810	.495	9.14	
18 X 11 1/8 X 86.0 I-T	57.79	182.0	275.4	2069.9	8.04	11.4	7.5	17.00	18.39	11.09	.770	.480	8.83	
21 X 8 1/4 X 62.0 I-T	44.94	144.9	298.4	2096.0	8.62	14.5	7.0	13.22	20.99	8.24	.615	.400	8.40	
21 X 8 1/4 X 68.0 I-T	49.15	159.3	305.0	2263.2	8.77	14.2	7.4	14.46	21.13	8.27	.685	.430	9.09	
21 X 8 1/4 X 73.0 I-T	52.58	170.7	310.1	2393.6	8.86	14.0	7.7	15.47	21.24	8.30	.740	.455	9.66	
21 X 12 1/4 X 101.0 I-T	68.38	243.7	330.9	3067.8	9.35	12.6	9.3	20.11	21.36	12.29	.800	.500	10.68	

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(60T) PLATE WEIGHT = 20.400 LBS. (.5000 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																			

(60T = 33.750 IN.) PLATE WEIGHT = 22.950 LBS. (.5625 IN.) EFFECTIVE PLATE AREA = 18.984 SQ. IN.																			

NOMINAL SIZE					SECTION MODULUS								BEAM DIMENSIONS						
					WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	NF	TF	TW	ASH		
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2			

4	X	4	X	6.5	T	6.40	5.3	37.2	21.3	1.01	4.0	.6	1.88	4.00	4.00	.255	.230	.92	
4	X	4	X	7.5	T	7.42	6.4	40.8	25.5	1.10	4.0	.6	2.18	4.06	4.02	.315	.245	.99	
4	X	5 1/4	X	9.0	T	8.82	8.1	45.5	32.0	1.22	3.9	.7	2.59	4.07	5.25	.330	.230	.94	
4	X	4	X	13.0	I-T	8.39	7.2	43.7	29.2	1.17	4.1	.7	2.47	4.16	4.06	.345	.280	1.16	
5	X	4	X	6.0	T	5.88	5.7	46.7	28.1	1.17	4.9	.6	1.73	4.94	3.96	.210	.190	.94	
5	X	4	X	7.5	T	7.37	7.2	52.0	35.4	1.29	4.9	.7	2.17	5.00	4.00	.270	.230	1.15	
5	X	4	X	8.5	T	8.36	8.5	56.0	41.5	1.39	4.9	.7	2.46	5.06	4.01	.330	.240	1.21	
5	X	4	X	9.5	T	9.42	9.8	59.7	48.0	1.49	4.9	.8	2.77	5.12	4.02	.395	.250	1.28	
5	X	5	X	16.0	I-T	9.91	10.6	60.5	50.4	1.52	4.7	.8	2.92	5.01	5.00	.360	.240	1.20	
50	5	X	5	X	19.0	I-T	11.69	12.8	65.3	61.1	1.65	4.8	.9	3.44	5.15	5.03	.430	.270	1.39
6	X	4	X	7.0	T	6.94	7.7	62.6	44.6	1.46	5.8	.7	2.04	5.96	3.97	.225	.200	1.19	
6	X	4	X	8.0	T	7.88	8.9	66.4	51.3	1.55	5.8	.8	2.32	6.00	3.99	.265	.220	1.32	
6	X	4	X	9.0	I-T	6.17	7.0	60.2	40.6	1.40	5.8	.7	1.81	5.90	3.94	.215	.170	1.00	
6	X	4	X	9.5	T	9.34	11.0	72.6	63.5	1.71	5.8	.9	2.75	6.08	4.01	.350	.235	1.43	
6	X	4	X	11.0	T	10.89	13.1	77.2	75.2	1.84	5.7	1.0	3.20	6.16	4.03	.425	.260	1.60	
6	X	4	X	12.0	I-T	8.30	9.4	67.9	54.2	1.59	5.8	.8	2.44	6.03	4.00	.280	.230	1.39	
6	X	6	X	15.0	I-T	9.78	11.9	74.1	67.3	1.75	5.6	.9	2.88	5.99	5.99	.260	.230	1.38	
6	X	4	X	16.0	I-T	10.74	13.0	78.4	76.2	1.85	5.9	1.0	3.16	6.28	4.03	.405	.260	1.63	
6	X	6	X	20.0	I-T	12.63	16.3	83.4	92.1	2.01	5.7	1.1	3.71	6.20	6.02	.365	.260	1.61	
7	X	5	X	11.0	T	10.81	14.6	89.0	93.4	2.05	6.4	1.0	3.18	6.87	5.00	.335	.230	1.58	
7	X	5	X	13.0	T	12.85	17.8	94.6	112.9	2.23	6.3	1.2	3.78	6.96	5.03	.420	.255	1.77	
7	X	6 3/4	X	15.0	T	14.81	21.2	98.5	130.8	2.37	6.2	1.3	4.36	6.92	6.73	.385	.270	1.87	
7	X	6 3/4	X	17.0	T	16.77	24.6	102.4	149.6	2.50	6.1	1.5	4.93	6.99	6.75	.455	.285	1.99	
7	X	6 3/4	X	19.0	T	18.74	27.6	105.2	166.3	2.61	6.0	1.6	5.51	7.05	6.77	.515	.310	2.19	
(60T) PLATE WEIGHT = 22.950 LBS. (.5625 IN.)																			

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TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(60T = 33.750 IN.) PLATE WEIGHT = 22.950 LBS. (.5625 IN.) EFFECTIVE PLATE AREA = 18.984 SQ. IN.																		
NOMINAL SIZE					SECTION MODULUS								BEAM DIMENSIONS					
					WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2		
7	X	8	X	21.5	T	20.94	31.2	104.7	177.8	2.66	5.7	1.7	6.16	6.83	8.00	.530	.305	2.08
7	X	8	X	24.0	T	23.53	35.0	107.3	196.9	2.76	5.6	1.8	6.92	6.30	8.03	.595	.340	2.35
8	X	4	X	10.0	I-T	7.19	9.9	88.7	75.0	1.89	7.6	.8	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X	13.0	I-T	9.52	12.8	96.2	96.3	2.10	7.6	1.0	2.80	7.99	4.00	.255	.230	1.84
8	X	5 1/2	X	13.0	T	12.83	19.3	107.6	137.5	2.46	7.1	1.3	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X	15.0	I-T	10.79	15.1	102.6	114.0	2.27	7.6	1.1	3.17	8.11	4.02	.315	.245	1.99
8	X	5 1/2	X	15.5	T	15.28	23.7	113.8	166.5	2.66	7.0	1.5	4.49	7.94	5.53	.440	.275	2.18
8	X	5 1/4	X	18.0	I-T	12.00	18.5	110.4	138.1	2.48	7.5	1.3	3.53	8.14	5.25	.330	.230	1.87
8	X	7	X	18.0	T	17.73	28.3	118.2	194.1	2.83	6.9	1.6	5.22	7.33	6.99	.430	.295	2.34
8	X	7	X	20.0	T	19.79	32.4	122.2	219.8	2.98	6.8	1.8	5.82	8.01	7.00	.505	.305	2.44
8	X	5 1/4	X	21.0	I-T	13.87	22.1	116.6	164.0	2.67	7.4	1.4	4.08	8.28	5.27	.400	.250	2.07
8	X	7	X	22.5	T	22.32	36.3	124.9	242.9	3.08	6.7	1.9	6.56	8.07	7.04	.565	.345	2.78
8	X	6 1/2	X	24.0	I-T	15.11	24.6	115.6	172.1	2.71	7.0	1.5	4.44	7.93	6.50	.400	.245	1.94
8	X	7 1/8	X	25.0	T	24.83	40.3	127.4	266.3	3.18	6.6	2.1	7.30	9.13	7.07	.630	.380	3.09
8	X	6 1/2	X	28.0	I-T	17.69	28.8	120.4	200.5	2.88	7.0	1.7	5.20	8.06	6.54	.465	.285	2.30
8	X	7 1/8	X	28.5	T	28.28	45.7	130.6	297.3	3.30	6.5	2.3	8.32	8.22	7.12	.715	.430	3.53
8	X	8	X	31.0	I-T	19.16	32.1	122.5	217.6	2.97	6.8	1.8	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X	17.5	T	17.26	28.7	130.1	221.0	3.03	7.7	1.7	5.08	8.85	6.00	.425	.300	2.66
9	X	6	X	20.0	T	19.76	34.0	135.8	258.5	3.23	7.6	1.9	5.81	8.95	6.02	.525	.315	2.82
10	X	4	X	12.0	I-T	9.07	14.2	120.1	132.1	2.47	9.3	1.1	2.67	9.87	3.96	.210	.190	1.88
10	X	4	X	15.0	I-T	11.27	17.9	128.6	165.6	2.72	9.3	1.3	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X	17.0	I-T	12.48	20.7	135.2	191.3	2.91	9.3	1.4	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X	19.0	I-T	13.77	23.7	141.6	219.3	3.09	9.3	1.5	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0	I-T	15.04	28.1	148.0	253.3	3.29	9.0	1.7	4.42	10.17	5.75	.360	.240	2.44

(60T) PLATE WEIGHT = 22.950 LBS. (.5625 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(60T = 33.750 IN.) PLATE WEIGHT = 22.950 LBS. (.5625 IN.) EFFECTIVE PLATE AREA = 18.984 SQ. IN.																		
NOMINAL SIZE		WT/FT		SECTION MODULUS				BEAM DIMENSIONS										
				FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN	X	IN	X	LBS/FT	LBS	IN ³	IN ³	IN ⁴	IN	IN	IN	IN	IN ²	IN	IN	IN ²		
10	X	5 3/4	X	26.0	I-T	17.37	33.5	155.2	300.1	3.53	9.0	1.9	5.11	10.33	5.77	.440	.260	2.69
10	X	5 3/4	X	30.0	I-T	20.23	39.0	160.5	346.5	3.73	8.9	2.2	5.95	10.47	5.81	.510	.300	3.14
10	X	8	X	33.0	I-T	20.94	40.4	152.4	329.0	3.62	8.1	2.2	6.16	9.73	7.96	.435	.290	2.82
10	X	8	X	39.0	I-T	24.45	48.6	159.3	390.3	3.86	8.0	2.5	7.19	9.92	7.99	.530	.315	3.12
10	X	8	X	45.0	I-T	28.19	56.7	165.0	450.2	4.06	7.9	2.7	8.29	10.10	8.02	.620	.350	3.54
12	X	4	X	14.0	I-T	10.98	19.6	153.6	216.7	3.12	11.1	1.4	3.23	11.91	3.97	.225	.200	2.38
12	X	4	X	16.0	I-T	12.37	22.4	159.3	246.9	3.30	11.0	1.5	3.64	11.99	3.99	.265	.220	2.64
12	X	4	X	19.0	I-T	14.20	27.3	169.4	298.9	3.59	11.0	1.8	4.18	12.16	4.01	.350	.235	2.86
12	X	4	X	22.0	I-T	16.33	32.2	176.8	350.3	3.84	10.9	2.0	4.80	12.31	4.03	.425	.260	3.20
12	X	6 1/2	X	26.0	I-T	17.64	39.7	187.2	418.5	4.16	10.5	2.2	5.19	12.22	6.49	.380	.230	2.81
12	X	6 1/2	X	30.0	I-T	20.27	45.8	192.6	477.8	4.38	10.4	2.5	5.96	12.34	6.52	.440	.260	3.21
12	X	6 1/2	X	35.0	I-T	23.82	54.1	199.1	555.9	4.62	10.3	2.8	7.01	12.50	6.56	.520	.300	3.75
12	X	8	X	40.0	I-T	25.48	59.0	194.7	565.9	4.62	9.6	2.9	7.49	11.94	8.01	.515	.295	3.52
12	X	8	X	45.0	I-T	28.81	66.3	198.9	627.7	4.78	9.5	3.2	8.47	12.06	8.05	.575	.335	4.04
12	X	8 1/8	X	50.0	I-T	32.11	74.8	203.3	691.6	4.93	9.4	3.4	9.44	12.19	8.08	.640	.370	4.51
12	X	10	X	53.0	I-T	33.01	79.2	204.3	720.7	5.01	9.1	3.5	9.71	12.06	10.00	.575	.345	4.16
12	X	10	X	58.0	I-T	35.92	87.5	208.5	786.1	5.16	9.0	3.8	10.56	12.19	10.01	.640	.360	4.39
14	X	5	X	22.0	I-T	16.18	35.8	200.5	434.2	4.28	12.1	2.2	4.76	13.74	5.00	.335	.230	3.16
14	X	5	X	26.0	I-T	18.87	43.1	209.7	517.6	4.59	12.0	2.5	5.55	13.91	5.03	.420	.255	3.55
14	X	6 3/4	X	30.0	I-T	21.16	50.2	215.3	586.2	4.82	11.7	2.7	6.22	13.84	6.73	.385	.270	3.74
14	X	6 3/4	X	34.0	I-T	23.54	57.5	222.2	664.7	5.07	11.6	3.0	6.92	13.98	6.75	.455	.285	3.98
14	X	6 3/4	X	38.0	I-T	26.17	64.6	227.4	737.5	5.26	11.4	3.2	7.70	14.10	6.77	.515	.310	4.37
14	X	8	X	43.0	I-T	28.02	71.3	225.6	770.7	5.32	10.8	3.4	8.24	13.66	8.00	.530	.305	4.17
14	X	8	X	48.0	I-T	31.50	80.2	230.5	853.6	5.50	10.6	3.7	9.26	13.79	8.03	.595	.340	4.69
(60T)						PLATE WEIGHT = 22.950 LBS. (.5625 IN.)												

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(60T = 33.750 IN.) PLATE WEIGHT = 22.950 LBS. (.5625 IN.) EFFECTIVE PLATE AREA = 18.984 SQ. IN.																		
NOMINAL SIZE			SECTION MODULUS					BEAM DIMENSIONS										
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN	IN2			
16	X	5 1/2	X	26.0	I-T	19.49	47.6	236.1	644.1	5.10	13.5	2.7	5.73	15.69	5.50	.345	.250	3.92
16	X	5 1/2	X	31.0	I-T	22.70	57.7	246.6	768.4	5.47	13.3	3.1	6.68	15.88	5.53	.440	.275	4.37
16	X	7	X	36.0	I-T	25.69	67.6	253.7	876.4	5.75	13.0	3.5	7.56	15.86	6.99	.430	.295	4.68
16	X	7	X	40.0	I-T	28.09	76.5	261.1	980.4	6.00	12.8	3.8	8.26	16.11	7.00	.505	.305	4.88
16	X	7	X	45.0	I-T	31.77	86.0	266.4	1084.9	6.19	12.6	4.1	9.34	16.13	7.04	.565	.345	5.56
16	X	7 1/8	X	50.0	I-T	35.34	95.7	271.9	1190.5	6.37	12.4	4.4	10.39	16.26	7.07	.630	.380	6.18
16	X	7 1/8	X	57.0	I-T	40.28	108.7	278.9	1329.0	6.57	12.2	4.8	11.85	16.43	7.12	.715	.430	7.06
16	X	10 1/4	X	67.0	I-T	44.18	132.0	287.4	1527.7	6.91	11.6	5.3	12.99	16.33	10.24	.665	.395	6.45
16	X	10 1/4	X	77.0	I-T	50.98	151.1	295.2	1707.6	7.09	11.3	5.8	15.00	16.52	10.30	.760	.455	7.52
16	X	10 3/8	X	89.0	I-T	59.17	174.2	304.5	1918.4	7.26	11.0	6.3	17.40	16.75	10.37	.875	.525	8.79
18	X	6	X	35.0	I-T	26.29	71.0	278.7	1033.2	6.22	14.6	3.7	7.73	17.70	6.00	.425	.300	5.31
18	X	6	X	40.0	I-T	29.35	82.8	289.2	1188.1	6.56	14.4	4.1	8.63	17.90	6.02	.525	.315	5.64
18	X	7 1/2	X	50.0	I-T	35.55	104.8	301.9	1443.2	7.00	13.8	4.8	10.46	17.99	7.50	.570	.355	6.39
18	X	7 1/2	X	60.0	I-T	42.61	126.3	313.4	1692.6	7.33	13.4	5.4	12.53	18.24	7.56	.695	.415	7.57
18	X	7 5/8	X	71.0	I-T	50.75	148.2	323.9	1935.6	7.56	13.1	6.0	14.93	18.47	7.64	.810	.495	9.14
18	X	11 1/8	X	86.0	I-T	57.79	185.7	335.1	2264.8	7.93	12.2	6.8	17.00	18.39	11.09	.770	.480	8.83
18	X	11 1/8	X	97.0	I-T	65.20	209.0	344.2	2490.9	8.08	11.9	7.2	19.18	18.59	11.15	.870	.535	9.95
21	X	8 1/4	X	62.0	I-T	44.94	147.7	363.3	2263.4	8.38	15.3	6.2	13.22	20.99	8.24	.615	.400	8.40
21	X	8 1/4	X	68.0	I-T	49.15	162.6	370.8	2451.4	8.56	15.1	6.6	14.46	21.13	8.27	.685	.430	9.09
21	X	8 1/4	X	73.0	I-T	52.58	174.4	376.5	2598.3	8.68	14.9	6.9	15.47	21.24	8.30	.740	.455	9.66
21	X	8 3/8	X	83.0	I-T	59.78	196.6	386.7	2866.6	8.85	14.6	7.4	17.58	21.43	8.36	.835	.515	11.04
21	X	12 1/4	X	101.0	I-T	68.38	249.1	401.1	3368.9	9.28	13.5	8.4	20.11	21.36	12.29	.800	.500	10.68
21	X	12 3/8	X	111.0	I-T	75.30	272.2	409.6	3609.4	9.37	13.3	8.8	22.15	21.51	12.34	.875	.550	11.83

(60T) PLATE WEIGHT = 22.950 LBS. (.5625 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																	
(60T = 37.500 IN.) PLATE WEIGHT = 25.500 LBS. (.6250 IN.) EFFECTIVE PLATE AREA = 23.438 SQ. IN.																	
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS									
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
4	X	5 1/4	X	9.0 T	8.82	8.3	50.3	33.5	1.13	4.0	.7	2.59	4.07	5.25	.330	.230	.94
4	X	4	X	13.0 I-T	8.39	7.4	47.9	30.5	1.09	4.1	.6	2.47	4.16	4.06	.345	.280	1.16
5	X	4	X	7.5 T	7.37	7.4	57.0	36.7	1.20	5.0	.6	2.17	5.00	4.00	.270	.230	1.15
5	X	4	X	8.5 T	8.36	8.6	61.9	43.1	1.29	5.0	.7	2.46	5.06	4.01	.330	.240	1.21
5	X	4	X	9.5 T	9.42	10.0	66.5	49.9	1.38	5.0	.8	2.77	5.12	4.02	.395	.250	1.28
5	X	5	X	16.0 I-T	9.91	10.8	67.7	52.5	1.41	4.9	.8	2.92	5.01	5.00	.360	.240	1.20
5	X	5	X	19.0 I-T	11.69	13.0	74.0	63.7	1.54	4.9	.9	3.44	5.15	5.03	.430	.270	1.39
6	X	4	X	7.0 T	6.94	7.8	68.7	46.1	1.35	5.9	.7	2.84	5.96	3.97	.225	.200	1.19
6	X	4	X	8.0 T	7.88	9.0	73.5	53.1	1.44	5.9	.7	2.32	6.00	3.99	.265	.220	1.32
6	X	4	X	9.0 I-T	6.17	7.1	65.6	41.9	1.29	5.9	.6	1.81	5.90	3.94	.215	.170	1.00
6	X	4	X	9.5 T	9.34	11.2	81.4	65.8	1.59	5.9	.8	2.75	6.08	4.01	.350	.235	1.43
6	X	4	X	11.0 T	10.89	13.3	87.5	78.1	1.71	5.9	.9	3.20	6.16	4.03	.425	.260	1.60
6	X	4	X	12.0 I-T	8.30	9.5	75.5	56.1	1.47	5.9	.7	2.44	6.03	4.00	.280	.230	1.39
6	X	6	X	15.0 I-T	9.78	12.1	83.4	69.8	1.63	5.8	.8	2.88	5.99	5.99	.260	.230	1.38
6	X	4	X	16.0 I-T	10.74	13.1	88.7	79.0	1.72	6.0	.9	3.16	6.28	4.03	.405	.260	1.63
6	X	6	X	20.0 I-T	12.63	16.5	95.4	95.9	1.88	5.8	1.0	3.71	6.20	6.02	.365	.260	1.61
7	X	5	X	11.0 T	10.81	14.8	101.2	96.8	1.91	6.5	1.0	3.18	6.87	5.00	.335	.230	1.58
7	X	5	X	13.0 T	12.85	18.0	108.7	117.4	2.08	6.5	1.1	3.78	6.96	5.03	.420	.255	1.77
7	X	6 3/4	X	15.0 T	14.81	21.5	114.0	136.4	2.22	6.3	1.2	4.36	6.92	6.73	.385	.270	1.87
7	X	6 3/4	X	17.0 T	16.77	24.8	119.2	156.5	2.35	6.3	1.3	4.93	6.99	6.75	.455	.285	1.99
7	X	6 3/4	X	19.0 T	18.74	27.9	123.1	174.6	2.46	6.3	1.4	5.51	7.05	6.77	.515	.310	2.19
7	X	8	X	21.5 T	20.94	31.6	123.1	187.4	2.52	5.9	1.5	6.16	6.83	8.00	.530	.305	2.08
7	X	8	X	24.0 T	23.53	35.4	126.6	208.3	2.62	5.9	1.6	6.92	6.90	8.03	.595	.340	2.35
(60T) PLATE WEIGHT = 25.500 LBS. (.6250 IN.)																	

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T															
(60T = 37.500 IN.) PLATE WEIGHT = 25.500 LBS. (.6250 IN.) EFFECTIVE PLATE AREA = 23.438 SQ. IN.															
NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS							
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN	X IN	X LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
8	X 4	X 10.0	7.19	10.0	98.8	77.1	1.74	7.7	.8	2.11	7.89	3.94	.205	.170	1.34
8	X 4	X 13.0	9.52	12.9	108.8	99.4	1.95	7.7	.9	2.80	7.99	4.00	.255	.230	1.84
8	X 5 1/2	X 13.0	12.83	19.5	124.0	142.6	2.29	7.3	1.1	3.77	7.85	5.50	.345	.250	1.96
8	X 4	X 15.0	10.79	15.2	117.0	117.8	2.10	7.7	1.0	3.17	8.11	4.02	.315	.245	1.99
8	X 5 1/2	X 15.5	15.28	23.9	132.3	173.5	2.49	7.3	1.3	4.49	7.94	5.53	.440	.275	2.18
8	X 5 1/4	X 18.0	12.00	18.7	127.0	143.0	2.30	7.6	1.1	3.53	8.14	5.25	.330	.230	1.87
8	X 7	X 18.0	17.73	28.6	138.3	203.0	2.66	7.1	1.5	5.22	7.93	6.99	.430	.295	2.34
8	X 7	X 20.0	19.79	32.8	143.7	230.6	2.81	7.0	1.6	5.82	8.01	7.00	.505	.305	2.44
8	X 5 1/4	X 21.0	13.87	22.3	135.2	170.4	2.49	7.6	1.3	4.08	8.28	5.27	.400	.250	2.07
8	X 7	X 22.5	22.32	36.8	147.3	255.8	2.92	7.0	1.7	6.56	8.07	7.04	.565	.345	2.78
8	X 6 1/2	X 24.0	15.11	24.8	134.6	179.3	2.54	7.2	1.3	4.44	7.93	6.50	.400	.245	1.94
8	X 7 1/8	X 25.0	24.83	40.8	150.7	281.3	3.02	6.9	1.9	7.30	8.13	7.07	.630	.380	3.09
8	X 6 1/2	X 28.0	17.69	29.1	141.0	209.6	2.71	7.2	1.5	5.20	8.06	6.54	.465	.285	2.30
8	X 7 1/8	X 28.5	28.28	46.3	154.9	315.3	3.15	6.8	2.0	8.32	8.22	7.12	.715	.430	3.53
8	X 8	X 31.0	19.16	32.4	144.0	228.1	2.80	7.0	1.6	5.63	8.00	8.00	.435	.285	2.28
9	X 6	X 17.5	17.26	29.0	152.3	230.6	2.84	8.0	1.5	5.08	8.85	6.00	.425	.300	2.66
9	X 6	X 20.0	19.76	34.4	159.8	270.8	3.04	7.9	1.7	5.81	8.95	6.02	.525	.315	2.82
10	X 4	X 12.0	9.07	14.3	136.5	135.9	2.28	9.5	1.0	2.67	9.87	3.96	.210	.190	1.88
10	X 4	X 15.0	11.27	18.1	147.9	170.8	2.53	9.5	1.2	3.32	9.99	4.00	.270	.230	2.30
10	X 4	X 17.0	12.48	20.9	156.5	197.7	2.70	9.5	1.3	3.67	10.11	4.01	.330	.240	2.43
10	X 4	X 19.0	13.77	23.9	164.6	227.1	2.87	9.5	1.4	4.05	10.24	4.02	.395	.250	2.56
10	X 5 3/4	X 22.0	15.04	28.3	173.1	262.9	3.07	9.3	1.5	4.42	10.17	5.75	.360	.240	2.44
10	X 5 3/4	X 26.0	17.37	33.8	182.5	312.6	3.31	9.2	1.7	5.11	10.33	5.77	.440	.260	2.69
10	X 5 3/4	X 30.0	20.23	39.5	189.6	362.4	3.51	9.2	1.9	5.95	10.47	5.81	.510	.300	3.14
10	X 8	X 33.0	20.94	40.9	180.2	344.9	3.41	8.4	1.9	6.16	9.73	7.96	.435	.290	2.82
10	X 8	X 39.0	24.45	49.1	189.2	411.2	3.66	8.4	2.2	7.19	9.92	7.99	.530	.315	3.12
(60T)			PLATE WEIGHT = 25.500 LBS. (.6250 IN.)												

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TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																	
(60T = 37.500 IN.) PLATE WEIGHT = 25.500 LBS. (.6250 IN.) EFFECTIVE PLATE AREA = 23.438 SQ. IN.																	
NOMINAL SIZE			WT/FT	SECTION MODULUS				BEAM DIMENSIONS									
				FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2	
10	X	8	X	45.0 I-T	28.19	57.4	196.6	476.5	3.88	8.3	2.4	8.29	10.10	8.02	.620	.350	3.54
12	X	4	X	14.0 I-T	10.98	19.8	177.4	223.1	2.89	11.3	1.3	3.23	11.91	3.97	.225	.200	2.38
12	X	4	X	16.0 I-T	12.37	22.7	185.1	254.7	3.07	11.2	1.4	3.64	11.99	3.99	.265	.220	2.64
12	X	4	X	19.0 I-T	14.20	27.6	198.0	309.2	3.35	11.2	1.6	4.18	12.16	4.01	.350	.235	2.86
12	X	4	X	22.0 I-T	16.33	32.5	207.8	363.5	3.59	11.2	1.7	4.80	12.31	4.03	.425	.260	3.20
12	X	6 1/2	X	26.0 I-T	17.64	40.0	221.2	435.6	3.90	10.9	2.0	5.19	12.22	6.49	.380	.230	2.81
12	X	6 1/2	X	30.0 I-T	20.27	46.3	228.4	499.0	4.12	10.8	2.2	5.96	12.34	6.52	.440	.260	3.21
12	X	6 1/2	X	35.0 I-T	23.82	54.7	236.8	583.3	4.38	10.7	2.5	7.01	12.50	6.56	.520	.300	3.75
12	X	8	X	40.0 I-T	25.48	59.6	232.0	595.7	4.39	10.0	2.6	7.49	11.94	8.01	.515	.295	3.52
12	X	8	X	45.0 I-T	28.81	67.1	237.4	663.3	4.56	9.9	2.8	8.47	12.06	8.05	.575	.335	4.04
12	X	8 1/8	X	50.0 I-T	32.11	74.9	242.9	733.3	4.72	9.8	3.0	9.44	12.19	8.08	.640	.370	4.51
12	X	10	X	53.0 I-T	33.01	80.1	244.5	765.7	4.81	9.6	3.1	9.71	12.06	10.00	.575	.345	4.16
12	X	10	X	58.0 I-T	35.92	88.5	250.0	837.9	4.96	9.5	3.4	10.56	12.19	10.01	.640	.360	4.39
14	X	5	X	22.0 I-T	16.18	36.1	236.4	450.1	4.00	12.5	1.9	4.76	13.74	5.00	.335	.230	3.16
14	X	5	X	26.0 I-T	18.87	43.6	248.2	538.7	4.31	12.4	2.2	5.55	13.91	5.03	.420	.255	3.55
14	X	6 3/4	X	30.0 I-T	21.16	50.7	255.6	612.1	4.54	12.1	2.4	6.22	13.84	6.73	.385	.270	3.74
14	X	6 3/4	X	34.0 I-T	23.54	58.2	264.5	696.2	4.79	12.0	2.6	6.92	13.98	6.75	.455	.285	3.98
14	X	6 3/4	X	38.0 I-T	26.17	65.3	271.1	774.9	4.99	11.9	2.9	7.70	14.10	6.77	.515	.310	4.37
14	X	8	X	43.0 I-T	28.02	72.1	269.5	812.6	5.06	11.3	3.0	8.24	13.66	8.00	.530	.305	4.17
14	X	8	X	48.0 I-T	31.50	81.1	275.6	903.3	5.26	11.1	3.3	9.26	13.79	8.03	.595	.340	4.69
16	X	5 1/2	X	26.0 I-T	19.49	48.1	280.1	670.0	4.79	13.9	2.4	5.73	15.69	5.50	.345	.250	3.92
16	X	5 1/2	X	31.0 I-T	22.70	58.3	293.5	802.7	5.16	13.8	2.7	6.68	15.88	5.53	.440	.275	4.37
16	X	7	X	36.0 I-T	25.69	68.3	302.5	919.1	5.45	13.4	3.0	7.56	15.86	6.99	.430	.295	4.68
16	X	7	X	40.0 I-T	28.09	77.4	311.9	1031.3	5.70	13.3	3.3	8.26	16.01	7.00	.505	.305	4.88

(60T) PLATE WEIGHT = 25.500 LBS. (.6250 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(60T = 37.500 IN.) PLATE WEIGHT = 25.500 LBS. (.6250 IN.) EFFECTIVE PLATE AREA = 23.438 SQ. IN.																
NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS								
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	YF	TW	ASH		
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN2		
16	X 7	X 45.0	I-T	31.77	87.0	318.3	1145.3	5.91	13.2	3.6	9.34	16.13	7.04	.565	.345	5.56
16	X 7 1/8	X 50.0	I-T	35.34	97.0	325.0	1260.9	6.10	13.0	3.9	10.39	16.26	7.07	.630	.380	6.18
16	X 7 1/8	X 57.0	I-T	40.28	110.3	333.2	1413.2	6.33	12.8	4.2	11.85	16.43	7.12	.715	.430	7.06
16	X 10 1/4	X 67.0	I-T	44.18	133.8	344.4	1633.5	6.70	12.2	4.7	12.99	16.33	10.24	.665	.395	6.45
16	X 10 1/4	X 77.0	I-T	50.98	153.4	353.4	1834.2	6.91	12.0	5.2	15.00	16.52	10.30	.760	.455	7.52
16	X 10 3/8	X 89.0	I-T	59.17	177.1	364.0	2070.2	7.12	11.7	5.7	17.40	16.75	10.37	.875	.525	8.79
18	X 6	X 35.0	I-T	26.29	71.8	332.4	1082.6	5.89	15.1	3.3	7.73	17.70	6.00	.425	.300	5.31
18	X 6	X 40.0	I-T	29.35	83.8	345.5	1249.3	6.24	14.9	3.6	8.63	17.90	6.02	.525	.315	5.64
18	X 7 1/2	X 50.0	I-T	35.55	106.2	361.1	1527.5	6.71	14.4	4.2	10.46	17.99	7.50	.570	.355	6.39
18	X 7 1/2	X 60.0	I-T	42.61	128.2	374.6	1801.7	7.08	14.1	4.8	12.53	18.24	7.56	.695	.415	7.57
18	X 7 5/8	X 71.0	I-T	50.75	150.8	386.5	2070.9	7.35	13.7	5.4	14.93	18.47	7.64	.810	.495	9.14
18	X 11 1/8	X 86.0	I-T	57.79	188.8	400.7	2439.8	7.77	12.9	6.1	17.00	18.39	11.09	.770	.480	8.83
18	X 11 1/8	X 97.0	I-T	65.20	212.7	410.9	2693.3	7.95	12.7	6.6	19.18	18.59	11.15	.870	.535	9.95
18	X 11 1/4	X 106.0	I-T	71.48	230.9	418.3	2879.7	8.05	12.5	6.9	21.02	18.73	11.20	.940	.590	11.05
21	X 8 1/4	X 62.0	I-T	44.94	150.0	434.2	2409.8	8.11	16.1	5.5	13.22	20.99	8.24	.615	.400	8.40
21	X 8 1/4	X 68.0	I-T	49.15	165.2	442.8	2617.3	8.31	15.8	5.9	14.46	21.13	8.27	.685	.430	9.09
21	X 8 1/4	X 73.0	I-T	52.58	177.3	449.3	2779.9	8.45	15.7	6.2	15.47	21.24	8.30	.740	.455	9.66
21	X 8 3/8	X 83.0	I-T	59.78	200.2	460.6	3078.1	8.66	15.4	6.7	17.58	21.43	8.36	.835	.515	11.04
21	X 8 3/8	X 93.0	I-T	67.42	223.7	472.0	3376.3	8.83	15.1	7.2	19.83	21.62	8.42	.930	.580	12.54
21	X 12 1/4	X 101.0	I-T	68.38	253.5	478.4	3643.3	9.15	14.4	7.6	20.11	21.36	12.29	.800	.500	10.68
21	X 12 3/8	X 111.0	I-T	75.30	277.3	487.7	3913.3	9.27	14.1	8.0	22.15	21.51	12.34	.875	.550	11.83

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(60T) PLATE WEIGHT = 25.500 LBS. (.6250 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																			
(60T = 41.250 IN.) PLATE WEIGHT = 28.050 LBS. (.6875 IN.) EFFECTIVE PLATE AREA = 28.359 SQ. IN.																			
NOMINAL SIZE			WT/FT	SECTION MODULUS				BEAM DIMENSIONS											
				FLANGE	PLATE	I	R	YF	YP	A	D	WF	YF	TW	ASH				
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2			
5	X	4	X	9.5	T	9.42	10.2	72.3	51.7	1.29	5.1	.7	2.77	5.12	4.02	.395	.250	1.28	
5	X	5	X	16.0	I-T	9.91	11.0	73.9	54.4	1.32	5.0	.7	2.92	5.01	5.00	.360	.240	1.20	
5	X	5	X	19.0	I-T	11.69	13.2	81.6	66.2	1.44	5.0	.8	3.44	5.15	5.03	.430	.270	1.39	
6	X	4	X	8.0	T	7.88	9.1	79.3	54.7	1.34	6.0	.7	2.32	6.00	3.99	.265	.220	1.32	
6	X	4	X	9.5	T	9.34	11.3	88.9	67.9	1.48	6.0	.8	2.75	6.08	4.01	.350	.235	1.43	
6	X	4	X	11.0	T	10.89	13.4	96.5	80.7	1.60	6.0	.8	3.20	6.16	4.03	.425	.260	1.60	
6	X	4	X	12.0	I-T	8.30	9.6	81.7	57.9	1.37	6.0	.7	2.44	6.03	4.00	.280	.230	1.39	
6	X	6	X	15.0	I-T	9.78	12.2	91.4	72.1	1.52	5.9	.8	2.88	5.99	5.99	.260	.230	1.38	
6	X	4	X	16.0	I-T	10.74	13.3	97.8	81.7	1.61	6.1	.8	3.16	6.28	4.03	.405	.260	1.63	
6	X	6	X	20.0	I-T	12.63	16.7	106.4	99.3	1.76	6.0	.9	3.71	6.20	6.02	.365	.260	1.61	
7	X	5	X	11.0	T	10.81	15.0	112.2	99.8	1.78	6.7	.9	3.18	6.87	5.00	.335	.230	1.58	
7	X	5	X	13.0	T	12.85	18.2	121.7	121.4	1.94	6.7	1.0	3.78	6.96	5.03	.420	.255	1.77	
7	X	6	3/4	X	15.0	T	14.81	21.7	128.7	141.4	2.08	6.5	1.1	4.36	6.92	6.73	.385	.270	1.87
7	X	6	3/4	X	17.0	T	16.77	25.1	135.4	162.6	2.21	6.5	1.2	4.93	6.99	6.75	.455	.285	1.99
7	X	6	3/4	X	19.0	T	18.74	28.2	140.4	181.8	2.32	6.4	1.3	5.51	7.05	6.77	.515	.310	2.19
7	X	8	X	21.5	T	20.94	31.9	141.2	195.8	2.38	6.1	1.4	6.16	6.83	8.00	.530	.305	2.08	
7	X	8	X	24.0	T	23.53	35.8	145.8	218.2	2.49	6.1	1.5	6.92	6.90	8.03	.595	.340	2.35	
8	X	4	X	10.0	I-T	7.19	10.1	107.1	79.1	1.61	7.8	.7	2.11	7.89	3.94	.205	.170	1.34	
8	X	4	X	13.0	I-T	9.52	13.1	119.8	102.2	1.81	7.8	.9	2.80	7.99	4.00	.255	.230	1.84	
8	X	5	1/2	X	13.0	T	12.83	19.7	139.3	147.2	2.14	7.5	1.1	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X	15.0	I-T	10.79	15.4	129.9	121.2	1.96	7.9	.9	3.17	8.11	4.02	.315	.245	1.99	
8	X	5	1/2	X	15.5	T	15.28	24.2	149.9	179.5	2.34	7.4	1.2	4.49	7.94	5.53	.440	.275	2.18
8	X	5	1/4	X	18.0	I-T	12.00	18.9	142.4	147.3	2.15	7.8	1.0	3.53	8.14	5.25	.330	.230	1.87
8	X	7	X	18.0	T	17.73	28.9	157.9	210.7	2.51	7.3	1.3	5.22	7.93	6.99	.430	.295	2.34	
(60T) PLATE WEIGHT = 28.050 LBS. (.6875 IN.)																			

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TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(60T = 41.250 IN.) PLATE WEIGHT = 28.050 LBS. (.6875 IN.) EFFECTIVE PLATE AREA = 28.359 SQ. IN.																		
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS										
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
8	X	7	X	20.0	T	19.79	33.1	164.9	239.9	2.65	7.2	1.5	5.82	8.01	7.00	.505	.305	2.44
8	X	5 1/4	X	21.0	I-T	13.87	22.5	152.8	175.9	2.33	7.8	1.2	4.08	8.28	5.27	.400	.250	2.07
8	X	7	X	22.5	T	22.32	37.1	169.7	266.9	2.76	7.2	1.6	6.56	8.07	7.04	.565	.345	2.78
8	X	6 1/2	X	24.0	I-T	15.11	25.1	152.8	185.5	2.38	7.4	1.2	4.44	7.93	6.50	.400	.245	1.94
8	X	7 1/8	X	25.0	T	24.83	41.3	174.1	294.3	2.87	7.1	1.7	7.30	8.13	7.07	.630	.380	3.09
8	X	6 1/2	X	28.0	I-T	17.69	29.4	161.1	217.6	2.55	7.4	1.4	5.20	8.06	6.54	.465	.285	2.30
8	X	7 1/8	X	28.5	T	28.28	46.9	179.6	331.0	3.00	7.1	1.8	8.32	8.22	7.12	.715	.430	3.53
8	X	8	X	31.0	I-T	19.16	32.7	165.1	237.2	2.64	7.3	1.4	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X	17.5	T	17.26	29.3	173.9	238.8	2.67	8.2	1.4	5.08	8.85	6.00	.425	.300	2.66
9	X	6	X	20.0	T	19.76	34.7	183.6	281.3	2.87	8.1	1.5	5.81	8.95	6.02	.525	.315	2.82
10	X	4	X	12.0	I-T	9.07	14.4	151.1	139.2	2.12	9.6	.9	2.67	9.87	3.96	.210	.190	1.88
10	X	4	X	15.0	I-T	11.27	18.2	165.7	175.4	2.35	9.6	1.1	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X	17.0	I-T	12.48	21.1	176.4	203.3	2.52	9.6	1.2	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X	19.0	I-T	13.77	24.2	186.7	233.8	2.69	9.7	1.3	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0	I-T	15.04	28.6	197.5	271.2	2.88	9.5	1.4	4.42	10.17	5.75	.360	.240	2.44
10	X	5 3/4	X	26.0	I-T	17.37	34.1	209.6	323.3	3.11	9.5	1.5	5.11	10.33	5.77	.440	.260	2.69
10	X	5 3/4	X	30.0	I-T	20.23	39.8	218.7	376.0	3.31	9.4	1.7	5.95	10.47	5.81	.510	.300	3.14
10	X	8	X	33.0	I-T	20.94	41.2	208.2	358.5	3.22	8.7	1.7	6.16	9.73	7.96	.435	.290	2.82
10	X	8	X	39.0	I-T	24.45	49.6	219.7	429.0	3.47	8.7	2.0	7.19	9.92	7.99	.530	.315	3.12
10	X	8	X	45.0	I-T	28.19	58.0	229.1	499.1	3.69	8.6	2.2	8.29	10.10	8.02	.620	.350	3.54
12	X	4	X	14.0	I-T	10.98	20.0	199.7	228.6	2.69	11.5	1.1	3.23	11.91	3.97	.225	.200	2.38
12	X	4	X	16.0	I-T	12.37	22.9	209.5	261.3	2.86	11.4	1.2	3.64	11.99	3.99	.265	.220	2.64
12	X	4	X	19.0	I-T	14.20	27.8	225.8	318.0	3.13	11.4	1.4	4.18	12.16	4.01	.350	.235	2.86
12	X	4	X	22.0	I-T	16.33	32.8	238.3	374.7	3.36	11.4	1.6	4.80	12.31	4.03	.425	.260	3.20
12	X	6 1/2	X	26.0	I-T	17.64	40.4	255.4	449.9	3.66	11.1	1.8	5.19	12.22	6.49	.380	.230	2.81

(60T) PLATE WEIGHT = 28.050 LBS. (.6875 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																	
(60T = 41.250 IN.) PLATE WEIGHT = 28.050 LBS. (.6875 IN.) EFFECTIVE PLATE AREA = 28.359 SQ. IN.																	
NOMINAL SIZE			WT/FT	SECTION MODULUS				BEAM DIMENSIONS									
				FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2		
12	X 6 1/2	X 30.0	I-T	20.27	46.7	264.7	517.0	3.88	11.1	2.0	5.96	12.34	6.52	.440	.260	3.21	
12	X 6 1/2	X 35.0	I-T	23.82	55.2	275.5	606.5	4.14	11.0	2.2	7.01	12.50	6.56	.520	.300	3.75	
12	X 8	X 40.0	I-T	25.48	60.1	270.5	621.1	4.16	10.3	2.3	7.49	11.94	8.01	.515	.295	3.52	
12	X 8	X 45.0	I-T	28.81	67.7	277.3	693.7	4.34	10.2	2.5	8.47	12.06	8.05	.575	.335	4.04	
12	X 8 1/8	X 50.0	I-T	32.11	75.6	284.3	769.2	4.51	10.2	2.7	9.44	12.19	8.08	.640	.370	4.51	
12	X 10	X 53.0	I-T	33.01	80.9	286.6	804.4	4.60	9.9	2.8	9.71	12.06	10.00	.575	.345	4.16	
12	X 10	X 58.0	I-T	35.92	89.4	293.5	882.7	4.76	9.9	3.0	10.56	12.19	10.01	.640	.360	4.39	
60	14	X 5	X 22.0	I-T	16.18	36.4	272.1	463.5	3.74	12.7	1.7	4.76	13.74	5.00	.335	.230	3.16
	14	X 5	X 26.0	I-T	18.87	43.9	287.2	556.4	4.05	12.7	1.9	5.55	13.91	5.03	.420	.255	3.55
	14	X 6 3/4	X 30.0	I-T	21.16	51.1	296.9	633.9	4.28	12.4	2.1	6.22	13.84	6.73	.385	.270	3.74
	14	X 6 3/4	X 34.0	I-T	23.54	58.7	308.1	722.9	4.53	12.3	2.3	6.92	13.98	6.75	.455	.285	3.98
	14	X 6 3/4	X 38.0	I-T	26.17	65.9	316.5	806.7	4.73	12.2	2.5	7.70	14.10	6.77	.515	.310	4.37
	14	X 8	X 43.0	I-T	28.02	72.8	315.3	848.2	4.81	11.7	2.7	8.24	13.66	8.00	.530	.305	4.17
	14	X 8	X 48.0	I-T	31.50	81.9	323.0	945.8	5.01	11.5	2.9	9.26	13.79	8.03	.595	.340	4.69
	16	X 5 1/2	X 26.0	I-T	19.49	48.5	325.0	691.7	4.50	14.2	2.1	5.73	15.69	5.50	.345	.250	3.92
	16	X 5 1/2	X 31.0	I-T	22.70	58.8	342.0	831.5	4.87	14.1	2.4	6.68	15.88	5.53	.440	.275	4.37
	16	X 7	X 36.0	I-T	25.69	69.0	353.5	955.1	5.16	13.8	2.7	7.56	15.86	6.99	.430	.295	4.68
16	X 7	X 40.0	I-T	28.09	78.1	365.1	1074.4	5.42	13.8	2.9	8.26	16.01	7.00	.505	.305	4.88	
16	X 7	X 45.0	I-T	31.77	87.9	373.1	1196.9	5.63	13.6	3.2	9.34	16.13	7.04	.565	.345	5.56	
16	X 7 1/8	X 50.0	I-T	35.34	98.0	381.2	1321.4	5.84	13.5	3.5	10.39	16.26	7.07	.630	.380	6.18	
16	X 7 1/8	X 57.0	I-T	40.28	111.6	391.1	1486.4	6.08	13.3	3.8	11.85	16.43	7.12	.715	.430	7.06	
16	X 10 1/4	X 67.0	I-T	44.18	135.3	405.5	1725.9	6.46	12.8	4.3	12.99	16.33	10.24	.665	.395	6.45	
16	X 10 1/4	X 77.0	I-T	50.98	155.3	415.9	1946.1	6.70	12.5	4.7	15.00	16.52	10.30	.760	.455	7.52	
16	X 10 3/8	X 89.0	I-T	59.17	179.6	428.1	2206.0	6.94	12.3	5.2	17.40	16.75	10.37	.875	.525	8.79	

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(60T) PLATE WEIGHT = 28.050 LBS. (.6875 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																			

(60T = 41.250 IN.) PLATE WEIGHT = 28.050 LBS. (.6875 IN.) EFFECTIVE PLATE AREA = 28.359 SQ. IN.																			

NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS											
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH					
IN X IN X LBS/FT		LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2				

18	X	6	X	35.0	I-T	26.29	72.6	388.6	1124.3	5.58	15.5	2.9	7.73	17.70	6.00	.425	.300	5.31	
18	X	6	X	40.0	I-T	29.35	84.7	404.8	1301.3	5.93	15.4	3.2	8.63	17.90	6.02	.525	.315	5.64	
18	X	7 1/2	X	50.0	I-T	35.55	107.3	424.1	1599.8	6.42	14.9	3.8	10.46	17.99	7.50	.570	.355	6.39	
18	X	7 1/2	X	60.0	I-T	42.61	129.7	440.2	1896.6	6.81	14.6	4.3	12.53	18.24	7.56	.695	.415	7.57	
18	X	7 5/8	X	71.0	I-T	50.75	152.8	453.8	2190.2	7.11	14.3	4.8	14.93	18.47	7.64	.810	.495	9.14	
18	X	11 1/8	X	86.0	I-T	57.79	191.2	471.5	2595.7	7.56	13.6	5.5	17.00	18.39	11.09	.770	.480	8.83	
18	X	11 1/8	X	97.0	I-T	65.20	215.8	483.1	2875.5	7.78	13.3	6.0	19.18	18.59	11.15	.870	.535	9.95	
18	X	11 1/4	X	106.0	I-T	71.48	234.5	491.3	3081.9	7.90	13.1	6.3	21.02	18.73	11.20	.940	.590	11.05	
18	X	11 1/4	X	119.0	I-T	80.48	264.0	504.7	3407.2	8.09	12.9	6.8	23.67	18.97	11.27	1.060	.655	12.43	
61	21	X	8 1/4	X	62.0	I-T	44.94	151.9	510.4	2537.3	7.81	16.7	5.0	13.22	20.99	8.24	.615	.400	8.40
	21	X	8 1/4	X	68.0	I-T	49.15	167.4	520.4	2763.0	8.03	16.5	5.3	14.46	21.13	8.27	.685	.430	9.09
	21	X	8 1/4	X	73.0	I-T	52.58	179.8	527.9	2940.3	8.19	16.4	5.6	15.47	21.24	8.30	.740	.455	9.66
	21	X	8 3/8	X	83.0	I-T	59.78	203.2	540.6	3266.8	8.43	16.1	6.0	17.58	21.43	8.36	.835	.515	11.04
	21	X	8 3/8	X	93.0	I-T	67.42	227.4	553.1	3594.4	8.64	15.8	6.5	19.83	21.62	8.42	.930	.580	12.54
	21	X	12 1/4	X	101.0	I-T	68.38	257.2	562.5	3891.2	8.96	15.1	6.9	20.11	21.36	12.29	.800	.500	10.68
	21	X	12 3/8	X	111.0	I-T	75.30	281.6	572.6	4190.3	9.11	14.9	7.3	22.15	21.51	12.34	.875	.550	11.83

MIL-HDBK-264(SH)
30 September 1980

(60T) PLATE WEIGHT = 28.050 LBS. (.6875 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																	
(60T = 45.000 IN.) PLATE WEIGHT = 30.600 LBS. (.7500 IN.) EFFECTIVE PLATE AREA = 33.750 SQ. IN.																	
NOMINAL SIZE				WT/FT	SECTION MODULUS				BEAM DIMENSIONS								
					FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
5	X	5	X 19.0	I-T	11.69	13.4	88.1	68.5	1.36	5.1	.8	3.44	5.15	5.03	.430	.270	1.39
6	X	4	X 11.0	T	10.89	13.6	104.1	83.2	1.50	6.1	.8	3.20	6.16	4.03	.425	.260	1.60
6	X	6	X 15.0	I-T	9.78	12.4	98.1	74.2	1.42	6.0	.8	2.88	5.99	5.99	.260	.230	1.38
6	X	4	X 16.0	I-T	10.74	13.5	105.5	84.1	1.51	6.2	.8	3.16	6.28	4.03	.405	.260	1.63
6	X	6	X 20.0	I-T	12.63	16.9	116.0	102.5	1.65	6.1	.9	3.71	6.20	6.02	.365	.260	1.61
7	X	5	X 11.0	T	10.81	15.2	121.6	102.7	1.67	6.8	.8	3.18	6.87	5.00	.335	.230	1.58
7	X	5	X 13.0	T	12.85	18.5	133.3	125.0	1.82	6.8	.9	3.78	6.96	5.03	.420	.255	1.77
7	X	6 3/4	X 15.0	T	14.81	22.0	142.1	145.8	1.96	6.6	1.0	4.36	6.92	6.73	.385	.270	1.87
7	X	6 3/4	X 17.0	T	16.77	25.4	150.5	168.0	2.08	6.6	1.1	4.93	6.99	6.75	.455	.285	1.99
7	X	6 3/4	X 19.0	T	18.74	28.5	156.9	188.2	2.19	6.6	1.2	5.51	7.05	6.77	.515	.310	2.19
7	X	8	X 21.5	T	20.94	32.3	158.6	203.2	2.26	6.3	1.3	6.16	6.83	8.00	.530	.305	2.08
7	X	8	X 24.0	T	23.53	36.2	164.4	227.0	2.36	6.3	1.4	6.92	6.90	8.03	.595	.340	2.35
8	X	4	X 13.0	I-T	9.52	13.2	129.1	104.7	1.69	7.9	.8	2.80	7.99	4.00	.255	.230	1.84
8	X	5 1/2	X 13.0	T	12.83	19.9	153.0	151.3	2.01	7.6	1.0	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X 15.0	I-T	10.79	15.6	141.1	124.4	1.84	8.0	.9	3.17	8.11	4.02	.315	.245	1.99
8	X	5 1/2	X 15.5	T	15.28	24.4	166.3	184.9	2.20	7.6	1.1	4.49	7.94	5.53	.440	.275	2.18
8	X	5 1/4	X 18.0	I-T	12.00	19.1	156.1	151.3	2.01	7.9	1.0	3.53	8.14	5.25	.330	.230	1.87
8	X	7	X 18.0	T	17.73	29.2	176.5	217.6	2.36	7.4	1.2	5.22	7.93	6.99	.430	.295	2.34
8	X	7	X 20.0	T	19.79	33.4	185.3	248.2	2.50	7.4	1.3	5.82	8.01	7.00	.505	.305	2.44
8	X	5 1/4	X 21.0	I-T	13.87	22.7	168.9	180.9	2.19	8.0	1.1	4.08	8.28	5.27	.400	.250	2.07
8	X	7	X 22.5	T	22.32	37.5	191.5	276.6	2.62	7.4	1.4	6.56	8.07	7.04	.565	.345	2.78
8	X	5 1/2	X 24.0	I-T	15.11	25.3	169.6	191.1	2.24	7.6	1.1	4.44	7.93	6.50	.400	.245	1.94
8	X	7 1/8	X 25.0	T	24.83	41.7	197.2	305.7	2.73	7.3	1.5	7.30	8.13	7.07	.630	.380	3.09
8	X	6 1/2	X 28.0	I-T	17.69	29.7	180.1	224.6	2.40	7.6	1.2	5.20	8.06	6.54	.465	.285	2.30

(60T) PLATE WEIGHT = 30.600 LBS. (.7500 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(60T = 45.000 IN.) PLATE WEIGHT = 30.600 LBS. (.7500 IN.) EFFECTIVE PLATE AREA = 33.750 SQ. IN.																
NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS								
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
8	X 7 1/8	X 26.5	T	28.28	47.4	204.2	344.8	2.86	7.3	1.7	8.32	8.22	7.12	.715	.430	3.53
8	X 8	X 31.0	I-T	19.16	33.0	185.4	245.2	2.50	7.4	1.3	5.63	8.00	8.00	.435	.285	2.28
9	X 6	X 17.5	T	17.26	29.5	194.5	246.1	2.52	8.3	1.3	5.08	8.85	6.00	.425	.300	2.66
9	X 6	X 20.0	T	19.76	35.0	206.6	290.5	2.71	8.3	1.4	5.81	8.95	6.02	.525	.315	2.82
10	X 4	X 12.0	I-T	9.07	14.6	163.7	142.2	1.98	9.8	.9	2.67	9.87	3.96	.210	.190	1.88
10	X 4	X 15.0	I-T	11.27	18.4	181.5	179.5	2.20	9.8	1.0	3.32	9.99	4.00	.270	.230	2.30
10	X 4	X 17.0	I-T	12.48	21.3	194.6	208.2	2.36	9.8	1.1	3.67	10.11	4.01	.330	.240	2.43
10	X 4	X 19.0	I-T	13.77	24.4	207.1	239.7	2.52	9.8	1.2	4.05	10.24	4.02	.395	.250	2.56
10	X 5 3/4	X 22.0	I-T	15.04	28.8	220.5	278.4	2.70	9.7	1.3	4.42	10.17	5.75	.360	.240	2.44
10	X 5 3/4	X 26.0	I-T	17.37	34.4	235.6	332.7	2.93	9.7	1.4	5.11	10.33	5.77	.440	.260	2.69
10	X 5 3/4	X 30.0	I-T	20.23	40.2	247.3	387.8	3.13	9.7	1.6	5.95	10.47	5.81	.510	.300	3.14
10	X 8	X 33.0	I-T	20.94	41.6	235.6	370.4	3.05	8.9	1.6	6.16	9.73	7.96	.435	.290	2.82
10	X 8	X 39.0	I-T	24.45	50.0	250.0	444.6	3.30	8.9	1.8	7.19	9.92	7.99	.530	.315	3.12
10	X 8	X 45.0	I-T	28.19	58.5	261.9	518.8	3.51	8.9	2.0	8.29	10.10	8.02	.620	.350	3.54
12	X 4	X 14.0	I-T	10.98	20.1	219.8	233.4	2.51	11.6	1.1	3.23	11.91	3.97	.225	.200	2.38
12	X 4	X 16.0	I-T	12.37	23.1	232.1	267.2	2.67	11.6	1.2	3.64	11.99	3.99	.265	.220	2.64
12	X 4	X 19.0	I-T	14.20	28.0	252.1	325.6	2.93	11.6	1.3	4.18	12.16	4.01	.350	.235	2.86
12	X 4	X 22.0	I-T	16.33	33.1	267.8	384.4	3.16	11.6	1.4	4.80	12.31	4.03	.425	.260	3.20
12	X 6 1/2	X 26.0	I-T	17.64	40.7	288.8	462.3	3.45	11.4	1.6	5.19	12.22	6.49	.380	.230	2.81
12	X 6 1/2	X 30.0	I-T	20.27	47.0	300.8	532.5	3.66	11.3	1.8	5.96	12.34	6.52	.440	.260	3.21
12	X 6 1/2	X 35.0	I-T	23.82	55.7	314.5	626.5	3.92	11.3	2.0	7.01	12.58	6.56	.520	.300	3.75
12	X 8	X 40.0	I-T	25.48	60.6	309.5	643.0	3.95	10.6	2.1	7.49	11.94	8.01	.515	.295	3.52
12	X 8	X 45.0	I-T	28.81	68.3	318.1	720.0	4.13	10.5	2.3	8.47	12.06	8.05	.575	.335	4.04
12	X 8 1/8	X 50.0	I-T	32.11	76.3	326.8	800.4	4.30	10.5	2.4	9.44	12.19	8.08	.640	.370	4.51

(60T) PLATE WEIGHT = 30.600 LBS. (.7500 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T															
(60T = 45.000 IN.) PLATE WEIGHT = 30.600 LBS. (.7500 IN.) EFFECTIVE PLATE AREA = 33.750 SQ. IN.															
NOMINAL SIZE			WT/FT	SECTION MODULUS				BEAM DIMENSIONS							
				FLANGE	PLATE	I	R	YF	YP	A	D	WF	YF	TW	ASH
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
12	X 10	X 53.0 I-T	33.01	81.6	330.1	838.1	4.39	10.3	2.5	9.71	12.06	10.00	.575	.345	4.16
12	X 10	X 58.0 I-T	35.92	90.2	338.6	921.7	4.56	10.2	2.7	10.56	12.19	10.01	.640	.360	4.39
14	X 5	X 22.0 I-T	16.18	36.7	306.8	475.0	3.51	12.9	1.5	4.76	13.74	5.00	.335	.230	3.16
14	X 5	X 26.0 I-T	18.87	44.3	325.8	571.5	3.81	12.9	1.8	5.55	13.91	5.03	.420	.255	3.55
14	X 6 3/4	X 30.0 I-T	21.16	51.5	339.2	652.6	4.04	12.7	1.9	6.22	13.84	6.73	.385	.270	3.74
14	X 6 3/4	X 34.0 I-T	23.54	59.1	352.2	745.8	4.28	12.6	2.1	6.92	13.98	6.75	.455	.285	3.98
14	X 6 3/4	X 38.0 I-T	26.17	66.5	362.8	834.1	4.49	12.6	2.3	7.70	14.10	6.77	.515	.310	4.37
14	X 8	X 43.0 I-T	28.02	73.3	362.2	878.8	4.57	12.0	2.4	8.24	13.66	8.00	.530	.305	4.17
14	X 8	X 48.0 I-T	31.50	82.6	371.8	982.6	4.78	11.9	2.6	9.26	13.79	8.03	.595	.340	4.69
16	X 5 1/2	X 26.0 I-T	19.49	48.9	369.8	710.2	4.24	14.5	1.9	5.73	15.69	5.50	.345	.250	3.92
16	X 5 1/2	X 31.0 I-T	22.70	59.3	391.0	856.2	4.60	14.4	2.2	6.68	15.88	5.53	.440	.275	4.37
16	X 7	X 36.0 I-T	25.69	69.5	405.5	986.0	4.89	14.2	2.4	7.56	15.86	6.99	.430	.295	4.68
16	X 7	X 40.0 I-T	28.09	78.7	420.0	1111.4	5.14	14.1	2.6	8.26	16.01	7.00	.505	.305	4.88
16	X 7	X 45.0 I-T	31.77	88.7	429.9	1241.4	5.37	14.0	2.9	9.34	16.13	7.04	.565	.345	5.56
16	X 7 1/8	X 50.0 I-T	35.34	98.9	439.8	1373.8	5.58	13.9	3.1	10.39	16.26	7.07	.630	.380	6.18
16	X 7 1/8	X 57.0 I-T	40.28	112.7	451.7	1550.1	5.83	13.7	3.4	11.85	16.43	7.12	.715	.430	7.06
16	X 10 1/4	X 67.0 I-T	44.18	136.5	469.8	1806.7	6.22	13.2	3.8	12.99	16.33	10.24	.665	.395	6.45
16	X 10 1/4	X 77.0 I-T	50.98	156.9	482.2	2044.8	6.48	13.0	4.2	15.00	16.52	10.30	.760	.455	7.52
16	X 10 3/8	X 89.0 I-T	59.17	181.6	496.4	2327.1	6.74	12.8	4.7	17.40	16.75	10.37	.875	.525	8.79
18	X 6	X 35.0 I-T	26.29	73.2	446.3	1159.9	5.29	15.9	2.6	7.73	17.70	6.00	.425	.300	5.31
18	X 6	X 40.0 I-T	29.35	85.4	466.1	1345.9	5.64	15.6	2.9	8.63	17.90	6.02	.525	.315	5.64
18	X 7 1/2	X 50.0 I-T	35.55	108.3	489.9	1662.3	6.13	15.3	3.4	10.46	17.99	7.50	.570	.355	6.39
18	X 7 1/2	X 60.0 I-T	42.61	131.0	509.3	1979.3	6.54	15.1	3.9	12.53	18.24	7.56	.695	.415	7.57
18	X 7 5/8	X 71.0 I-T	50.75	154.6	525.2	2295.5	6.87	14.8	4.4	14.93	18.47	7.64	.810	.495	9.14

(60T) PLATE WEIGHT = 30.600 LBS. (.7500 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T															
(60T = 45.000 IN.) PLATE WEIGHT = 30.600 LBS. (.7500 IN.) EFFECTIVE PLATE AREA = 33.750 SQ. IN.															
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS							
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW
IN X	IN X	LBS/FT		LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2
18	X 11 1/8 X	86.0 I-T		57.79	193.4	547.0	2734.3	7.34	14.1	5.0	17.00	18.39	11.09	.770	.480 8.83
18	X 11 1/8 X	97.0 I-T		65.20	218.4	560.3	3038.9	7.58	13.9	5.4	19.18	18.59	11.15	.870	.535 9.95
18	X 11 1/4 X	106.0 I-T		71.48	237.5	569.4	3264.6	7.72	13.7	5.7	21.02	18.73	11.20	.940	.590 11.05
18	X 11 1/4 X	119.0 I-T		80.48	267.7	584.5	3620.5	7.94	13.5	6.2	23.67	18.97	11.27	1.060	.655 12.43
21	X 8 1/4 X	62.0 I-T		44.94	153.5	591.2	2648.6	7.51	17.3	4.5	13.22	20.99	8.24	.615	.400 8.40
21	X 8 1/4 X	68.0 I-T		49.15	169.2	602.9	2890.8	7.74	17.1	4.8	14.46	21.13	8.27	.685	.430 9.09
21	X 8 1/4 X	73.0 I-T		52.58	181.8	611.6	3081.7	7.91	17.0	5.0	15.47	21.24	8.30	.740	.455 9.66
21	X 8 3/8 X	83.0 I-T		59.78	205.8	626.0	3434.8	8.18	16.7	5.5	17.58	21.43	8.36	.835	.515 11.04
21	X 8 3/8 X	93.0 I-T		67.42	230.4	640.0	3790.2	8.41	16.4	5.9	19.83	21.62	8.42	.930	.580 12.54
21	X 12 1/4 X	101.0 I-T		68.38	260.3	652.7	4113.8	8.74	15.8	6.3	20.11	21.36	12.29	.800	.500 10.68
21	X 12 3/8 X	111.0 I-T		75.30	285.2	663.9	4440.9	8.91	15.6	6.7	22.15	21.51	12.34	.875	.550 11.83

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(60T) PLATE WEIGHT = 30.600 LBS. (.7500 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																				
(60T = 52.500 IN.) PLATE WEIGHT = 35.700 LBS. (.8750 IN.) EFFECTIVE PLATE AREA = 45.938 SQ. IN.																				
SECTION MODULUS							BEAM DIMENSIONS													
NOMINAL SIZE							WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN	X	IN	X	LBS/FT			LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN	IN	IN2
7	X	6 3/4	X	15.0	T		14.81	22.4	164.4	154.0	1.75	6.9	.9	4.36	6.92	6.73	.385	.270	1.87	
7	X	6 3/4	X	17.0	T		16.77	25.9	176.4	177.7	1.87	6.9	1.0	4.93	6.99	6.75	.455	.285	1.99	
7	X	6 3/4	X	19.0	T		18.74	29.1	185.8	199.5	1.97	6.9	1.1	5.51	7.05	6.77	.515	.310	2.19	
7	X	8	X	21.5	T		20.94	32.9	189.8	216.2	2.04	6.6	1.1	6.16	6.83	8.00	.530	.305	2.08	
7	X	8	X	24.0	T		23.53	37.0	198.7	242.3	2.14	6.6	1.2	6.92	6.90	8.03	.595	.340	2.35	
8	X	5 1/2	X	13.0	T		12.83	20.3	175.4	158.8	1.79	7.8	.9	3.77	7.85	5.50	.345	.250	1.96	
8	X	5 1/2	X	15.5	T		15.28	24.9	194.1	194.5	1.96	7.8	1.0	4.49	7.94	5.53	.440	.275	2.18	
8	X	5 1/4	X	18.0	I-T		12.00	19.5	178.1	158.4	1.79	8.1	.9	3.53	8.14	5.25	.330	.230	1.87	
8	X	7	X	18.0	T		17.73	29.8	209.2	229.5	2.12	7.7	1.1	5.22	7.93	6.99	.430	.295	2.34	
8	X	7	X	20.0	T		19.79	34.1	222.0	262.5	2.25	7.7	1.2	5.82	8.01	7.00	.505	.305	2.44	
8	X	5 1/4	X	21.0	I-T		13.87	23.2	195.8	189.7	1.95	8.2	1.0	4.08	8.28	5.27	.400	.250	2.07	
8	X	7	X	22.5	T		22.32	38.2	231.6	293.4	2.36	7.7	1.3	6.56	8.07	7.04	.565	.345	2.78	
8	X	6 1/2	X	24.0	I-T		15.11	25.8	198.4	200.9	2.00	7.8	1.0	4.44	7.93	6.50	.400	.245	1.94	
8	X	7 1/8	X	25.0	T		24.83	42.5	240.5	325.2	2.47	7.7	1.4	7.30	8.13	7.07	.630	.380	3.09	
8	X	6 1/2	X	28.0	I-T		17.69	30.3	213.8	236.8	2.15	7.8	1.1	5.20	8.06	6.54	.465	.285	2.30	
8	X	7 1/8	X	28.5	T		28.28	48.3	251.3	368.3	2.61	7.6	1.5	8.32	8.22	7.12	.715	.430	3.53	
8	X	8	X	31.0	I-T		19.16	33.6	221.8	259.1	2.24	7.7	1.2	5.63	8.00	8.00	.435	.285	2.28	
9	X	6	X	17.5	T		17.26	30.1	230.7	258.7	2.25	8.6	1.1	5.08	8.85	6.00	.425	.300	2.66	
9	X	6	X	20.0	T		19.76	35.6	248.5	306.3	2.43	8.6	1.2	5.81	8.95	6.02	.525	.315	2.82	
10	X	4	X	15.0	I-T		11.27	18.8	206.9	187.0	1.95	10.0	.9	3.32	9.99	4.00	.270	.230	2.30	
10	X	4	X	17.0	I-T		12.48	21.7	224.6	217.0	2.09	10.0	1.0	3.67	10.11	4.01	.330	.240	2.43	
10	X	4	X	19.0	I-T		13.77	24.8	241.8	250.1	2.24	10.1	1.0	4.05	10.24	4.02	.395	.250	2.56	
10	X	5 3/4	X	22.0	I-T		15.04	29.3	260.7	290.9	2.40	9.9	1.1	4.42	10.17	5.75	.360	.240	2.44	
10	X	5 3/4	X	26.0	I-T		17.37	35.0	282.6	348.5	2.61	10.0	1.2	5.11	10.33	5.77	.440	.260	2.69	

(60T) PLATE WEIGHT = 35.700 LBS. (.8750 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(60T = 52.500 IN.) PLATE WEIGHT = 35.700 LBS. (.8750 IN.) EFFECTIVE PLATE AREA = 45.938 SQ. IN.																		
NOMINAL SIZE			SECTION MODULUS					BEAM DIMENSIONS										
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2		
10	X	5 3/4	X	30.0	I-T	20.23	40.8	300.3	407.7	2.80	10.0	1.4	5.95	10.47	5.81	.510	.300	3.14
10	X	8	X	33.0	I-T	20.94	42.2	286.6	390.4	2.74	9.2	1.4	6.16	9.73	7.96	.435	.290	2.82
10	X	8	X	39.0	I-T	24.45	50.8	308.2	470.7	2.98	9.3	1.5	7.19	9.92	7.99	.530	.315	3.12
10	X	8	X	45.0	I-T	28.19	59.4	326.0	551.6	3.19	9.3	1.7	8.29	10.10	8.02	.620	.350	3.54
12	X	4	X	14.0	I-T	10.98	20.5	252.6	242.1	2.22	11.8	1.0	3.23	11.91	3.97	.225	.200	2.38
12	X	4	X	16.0	I-T	12.37	23.4	270.0	277.4	2.37	11.8	1.0	3.64	11.99	3.99	.265	.220	2.64
12	X	4	X	19.0	I-T	14.20	28.5	298.1	338.7	2.60	11.9	1.1	4.18	12.16	4.01	.350	.235	2.86
12	X	4	X	22.0	I-T	16.33	33.6	320.9	400.8	2.81	11.9	1.2	4.80	12.31	4.03	.425	.260	3.20
12	X	6 1/2	X	26.0	I-T	17.64	41.2	350.6	483.0	3.07	11.7	1.4	5.19	12.22	6.49	.380	.230	2.81
12	X	6 1/2	X	30.0	I-T	20.27	47.7	369.0	558.1	3.28	11.7	1.5	5.96	12.34	6.52	.440	.260	3.21
12	X	6 1/2	X	35.0	I-T	23.82	56.4	390.1	659.6	3.53	11.7	1.7	7.01	12.50	6.56	.520	.300	3.75
12	X	8	X	40.0	I-T	25.48	61.4	385.8	679.2	3.57	11.1	1.8	7.49	11.94	8.01	.515	.295	3.52
12	X	8	X	45.0	I-T	28.81	69.3	399.2	763.6	3.75	11.0	1.9	8.47	12.06	8.05	.575	.335	4.04
12	X	8 1/8	X	50.0	I-T	32.11	77.5	412.4	852.0	3.92	11.0	2.1	9.44	12.19	8.08	.640	.370	4.51
12	X	10	X	53.0	I-T	33.01	82.8	417.9	893.8	4.01	10.8	2.1	9.71	12.06	10.00	.575	.345	4.16
12	X	10	X	58.0	I-T	35.92	91.5	430.7	986.3	4.18	10.8	2.3	10.56	12.19	10.01	.640	.360	4.39
14	X	5	X	22.0	I-T	16.18	37.2	370.3	494.3	3.12	13.3	1.3	4.76	13.74	5.00	.335	.230	3.16
14	X	5	X	26.0	I-T	18.87	44.9	398.6	596.6	3.40	13.3	1.5	5.55	13.91	5.03	.420	.255	3.55
14	X	6 3/4	X	30.0	I-T	21.16	52.2	417.7	683.4	3.62	13.1	1.6	6.22	13.84	6.73	.385	.270	3.74
14	X	6 3/4	X	34.0	I-T	23.54	59.9	438.5	783.3	3.85	13.1	1.8	6.92	13.98	6.75	.455	.285	3.98
14	X	6 3/4	X	38.0	I-T	26.17	67.4	454.6	878.9	4.05	13.0	1.9	7.70	14.10	6.77	.515	.310	4.37
14	X	8	X	43.0	I-T	28.02	74.3	456.1	929.1	4.14	12.5	2.0	8.24	13.66	8.00	.530	.305	4.17
14	X	8	X	48.0	I-T	31.50	83.8	470.9	1042.9	4.35	12.5	2.2	9.26	13.79	8.03	.595	.340	4.69
16	X	5 1/2	X	26.0	I-T	19.49	49.6	455.6	740.6	3.79	14.9	1.6	5.73	15.69	5.50	.345	.250	3.92

(60T) PLATE WEIGHT = 35.700 LBS. (.8750 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(60T = 52.500 IN.) PLATE WEIGHT = 35.700 LBS. (.8750 IN.) EFFECTIVE PLATE AREA = 45.938 SQ. IN.																
NOMINAL SIZE		WT/FT	SECTION MODULUS				BEAM DIMENSIONS									
			FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	LBS/FT	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2		
16	X 5 1/2	X 31.0	I-T	22.70	60.1	487.3	896.4	4.13	14.9	1.8	6.68	15.88	5.53	.440	.275	4.37
16	X 7	X 36.0	I-T	25.69	70.5	509.4	1036.3	4.40	14.7	2.0	7.56	15.86	6.99	.430	.295	4.68
16	X 7	X 40.0	I-T	28.09	79.8	530.7	1171.6	4.65	14.7	2.2	8.26	16.01	7.00	.535	.305	4.88
16	X 7	X 45.0	I-T	31.77	90.0	545.9	1314.0	4.88	14.6	2.4	9.34	16.13	7.04	.565	.345	5.56
16	X 7 1/8	X 50.0	I-T	35.34	100.5	560.8	1459.8	5.09	14.5	2.6	10.39	16.26	7.07	.630	.380	6.18
16	X 7 1/8	X 57.0	I-T	40.28	114.6	578.3	1655.1	5.35	14.4	2.9	11.85	16.43	7.12	.715	.430	7.06
16	X 10 1/4	X 67.0	I-T	44.18	138.6	605.6	1940.3	5.74	14.0	3.2	12.99	16.33	10.24	.665	.395	6.45
16	X 10 1/4	X 77.0	I-T	50.98	159.5	623.3	2209.6	6.02	13.8	3.5	15.00	16.52	10.30	.760	.455	7.52
16	X 10 3/8	X 89.0	I-T	59.17	185.0	642.9	2531.6	6.32	13.7	3.9	17.40	16.75	10.37	.875	.525	8.79
18	X 6	X 35.0	I-T	26.29	74.2	562.3	1217.7	4.76	16.4	2.2	7.73	17.70	6.00	.425	.300	5.31
18	X 6	X 40.0	I-T	29.35	86.6	591.2	1418.2	5.10	16.4	2.4	8.63	17.90	6.02	.525	.315	5.64
18	X 7 1/2	X 50.0	I-T	35.55	109.9	626.8	1764.3	5.59	16.0	2.8	10.46	17.99	7.50	.570	.355	6.39
18	X 7 1/2	X 60.0	I-T	42.61	133.2	654.9	2115.6	6.02	15.9	3.2	12.53	18.24	7.56	.695	.415	7.57
18	X 7 5/8	X 71.0	I-T	50.75	157.4	677.2	2470.8	6.37	15.7	3.6	14.93	18.47	7.64	.810	.495	9.14
18	X 11 1/8	X 86.0	I-T	57.79	196.7	709.4	2967.1	6.87	15.1	4.2	17.00	18.39	11.09	.770	.480	8.83
18	X 11 1/8	X 97.0	I-T	65.20	222.5	727.3	3316.4	7.14	14.9	4.6	19.18	18.59	11.15	.870	.535	9.95
18	X 11 1/4	X 106.0	I-T	71.48	242.3	739.1	3577.4	7.31	14.8	4.8	21.02	18.73	11.20	.940	.590	11.05
18	X 11 1/4	X 119.0	I-T	80.48	273.5	758.7	3989.8	7.57	14.6	5.3	23.67	18.97	11.27	1.060	.655	12.43
21	X 8 1/4	X 62.0	I-T	44.94	156.0	763.2	2831.8	6.92	18.2	3.7	13.22	20.99	8.24	.615	.400	8.40
21	X 8 1/4	X 68.0	I-T	49.15	172.1	779.5	3102.5	7.17	18.0	4.0	14.46	21.13	8.27	.685	.430	9.09
21	X 8 1/4	X 73.0	I-T	52.58	185.1	791.5	3317.0	7.35	17.9	4.2	15.47	21.24	8.30	.740	.455	9.66
21	X 8 3/8	X 83.0	I-T	59.78	209.8	810.6	3717.3	7.65	17.7	4.6	17.58	21.43	8.36	.835	.515	11.04
21	X 8 3/8	X 93.0	I-T	67.42	235.3	828.6	4123.1	7.92	17.5	5.0	19.83	21.62	8.42	.930	.580	12.54
21	X 12 1/4	X 101.0	I-T	68.38	265.1	849.1	4492.3	8.25	16.9	5.3	20.11	21.36	12.29	.800	.500	10.68
21	X 12 3/8	X 111.0	I-T	75.30	290.9	863.4	4871.0	8.46	16.7	5.6	22.15	21.51	12.34	.875	.550	11.83

(60T) PLATE WEIGHT = 35.700 LBS. (.8750 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(60T = 60.000 IN.) PLATE WEIGHT = 40.800 LBS. (1.0000 IN.) EFFECTIVE PLATE AREA = 60.000 SQ. IN.																
NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS								
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X IN X LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN	IN	IN2		
7 X 6 3/4 X 19.0 T	18.74	29.8	208.8	209.8	1.79	7.0	1.0	5.51	7.05	6.77	.515	.310	2.19			
7 X 8 X 21.5 T	20.94	33.7	215.3	227.9	1.86	6.8	1.1	6.16	6.83	8.00	.530	.305	2.08			
7 X 8 X 24.0 T	23.53	37.8	227.6	255.8	1.96	6.8	1.1	6.92	6.90	8.03	.595	.340	2.35			
8 X 7 X 18.0 T	17.73	30.4	235.0	240.3	1.92	7.9	1.0	5.22	7.93	6.99	.430	.295	2.34			
8 X 7 X 20.0 T	19.79	34.7	252.1	275.1	2.04	7.9	1.1	5.82	8.01	7.00	.565	.305	2.44			
8 X 7 X 22.5 T	22.32	38.9	265.5	308.1	2.15	7.9	1.2	6.56	8.07	7.04	.565	.345	2.78			
8 X 7 1/8 X 25.0 T	24.83	43.3	278.0	342.0	2.25	7.9	1.2	7.30	8.13	7.07	.630	.380	3.09			
8 X 6 1/2 X 28.0 I-T	17.69	30.9	240.4	247.8	1.95	8.0	1.0	5.20	8.06	6.54	.465	.285	2.30			
8 X 7 1/8 X 28.5 T	28.28	49.2	293.3	388.3	2.38	7.9	1.3	8.32	8.22	7.12	.715	.430	3.53			
8 X 8 X 31.0 I-T	19.16	34.3	251.4	271.4	2.03	7.9	1.1	5.63	8.00	8.00	.435	.285	2.28			
9 X 6 X 17.5 T	17.26	30.6	259.3	270.0	2.04	8.8	1.0	5.08	8.85	6.00	.425	.300	2.66			
9 X 6 X 20.0 T	19.76	36.3	283.0	320.1	2.21	8.8	1.1	5.81	8.95	6.02	.525	.315	2.82			
10 X 5 3/4 X 22.0 I-T	15.04	29.8	292.0	302.1	2.17	10.1	1.0	4.42	10.17	5.75	.360	.240	2.44			
10 X 5 3/4 X 26.0 I-T	17.37	35.5	321.0	362.3	2.36	10.2	1.1	5.11	10.33	5.77	.440	.260	2.69			
10 X 5 3/4 X 30.0 I-T	20.23	41.5	345.3	424.6	2.54	10.2	1.2	5.95	10.47	5.81	.510	.300	3.14			
10 X 8 X 33.0 I-T	20.94	42.9	330.2	407.4	2.48	9.5	1.2	6.16	9.73	7.96	.435	.290	2.82			
10 X 8 X 39.0 I-T	24.45	51.6	359.9	492.4	2.71	9.6	1.4	7.19	9.92	7.99	.530	.315	3.12			
10 X 8 X 45.0 I-T	28.19	60.3	384.9	578.8	2.91	9.6	1.5	8.29	10.10	8.02	.620	.350	3.54			
12 X 4 X 19.0 I-T	14.20	28.9	333.7	350.2	2.34	12.1	1.0	4.18	12.16	4.01	.350	.235	2.86			
12 X 4 X 22.0 I-T	16.33	34.1	363.9	414.9	2.53	12.2	1.1	4.80	12.31	4.03	.425	.260	3.20			
12 X 6 1/2 X 26.0 I-T	17.64	41.8	402.8	500.4	2.77	12.0	1.2	5.19	12.22	6.49	.380	.230	2.81			
12 X 6 1/2 X 30.0 I-T	20.27	48.3	428.7	579.4	2.96	12.0	1.4	5.96	12.34	6.52	.440	.260	3.21			
12 X 6 1/2 X 35.0 I-T	23.82	57.2	458.7	686.5	3.20	12.0	1.5	7.01	12.50	6.56	.520	.300	3.75			

(60T) PLATE WEIGHT = 40.800 LBS. (1.0000 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(60T = 60.000 IN.) PLATE WEIGHT = 40.800 LBS. (1.0000 IN.) EFFECTIVE PLATE AREA = 60.000 SQ. IN.																
NOMINAL SIZE			WT/FT	SECTION MODULUS				BEAM DIMENSIONS								
				FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
12	X 8	X 40.0	I-T	25.48	62.2	455.9	708.6	3.24	11.4	1.6	7.49	11.94	8.01	.515	.295	3.52
12	X 8	X 45.0	I-T	28.81	70.2	475.5	798.8	3.42	11.4	1.7	8.47	12.06	8.05	.575	.335	4.04
12	X 8 1/8	X 50.0	I-T	32.11	78.5	494.4	893.6	3.59	11.4	1.8	9.44	12.19	8.08	.640	.370	4.51
12	X 10	X 53.0	I-T	33.01	83.8	502.8	938.5	3.67	11.2	1.9	9.71	12.06	10.00	.575	.345	4.16
12	X 10	X 58.0	I-T	35.92	92.7	521.0	1038.2	3.84	11.2	2.0	10.56	12.19	10.01	.640	.360	4.39
14	X 5	X 22.0	I-T	16.18	37.7	423.0	510.5	2.81	13.5	1.2	4.76	13.74	5.00	.335	.230	3.16
14	X 5	X 26.0	I-T	18.87	45.5	461.6	617.4	3.07	13.6	1.3	5.55	13.91	5.03	.420	.255	3.55
14	X 6 3/4	X 30.0	I-T	21.16	52.9	488.6	708.4	3.27	13.4	1.5	6.22	13.84	6.73	.385	.270	3.74
14	X 6 3/4	X 34.0	I-T	23.54	60.7	517.6	813.6	3.49	13.4	1.6	6.92	13.98	6.75	.455	.285	3.98
14	X 6 3/4	X 38.0	I-T	26.17	68.2	540.5	914.8	3.68	13.4	1.7	7.70	14.10	6.77	.515	.310	4.37
14	X 8	X 43.0	I-T	28.02	75.2	545.3	969.3	3.77	12.9	1.8	8.24	13.66	8.00	.530	.305	4.17
14	X 8	X 48.0	I-T	31.50	84.8	566.8	1091.1	3.97	12.9	1.9	9.26	13.79	8.03	.595	.340	4.69
16	X 5 1/2	X 26.0	I-T	19.49	50.2	531.7	765.3	3.41	15.3	1.4	5.73	15.69	5.50	.345	.250	3.92
16	X 5 1/2	X 31.0	I-T	22.70	60.8	575.8	928.6	3.73	15.3	1.6	6.68	15.88	5.53	.440	.275	4.37
16	X 7	X 36.0	I-T	25.69	71.3	607.6	1076.3	3.99	15.1	1.8	7.56	15.86	6.99	.430	.295	4.68
16	X 7	X 40.0	I-T	28.09	80.8	637.3	1219.2	4.23	15.1	1.9	8.26	16.01	7.00	.505	.305	4.88
16	X 7	X 45.0	I-T	31.77	91.1	659.8	1371.4	4.45	15.1	2.1	9.34	16.13	7.04	.565	.345	5.56
16	X 7 1/8	X 50.0	I-T	35.34	101.7	681.3	1527.6	4.66	15.0	2.2	10.39	16.26	7.07	.630	.380	6.18
16	X 7 1/8	X 57.0	I-T	40.20	116.1	706.6	1738.4	4.92	15.0	2.5	11.85	16.43	7.12	.715	.430	7.06
16	X 10 1/4	X 67.0	I-T	44.18	140.3	745.5	2046.1	5.29	14.6	2.7	12.99	16.33	10.24	.665	.395	6.45
16	X 10 1/4	X 77.0	I-T	50.98	161.6	770.7	2341.0	5.59	14.5	3.0	15.00	16.52	10.30	.760	.455	7.52
16	X 10 3/8	X 89.0	I-T	59.17	187.6	798.1	2696.2	5.90	14.4	3.4	17.40	16.75	10.37	.875	.525	8.79
18	X 6	X 35.0	I-T	26.29	75.1	673.3	1263.4	4.32	16.8	1.9	7.73	17.70	6.00	.425	.300	5.31
18	X 6	X 40.0	I-T	29.35	87.6	713.5	1475.0	4.64	16.8	2.1	8.63	17.90	6.02	.525	.315	5.64
18	X 7 1/2	X 50.0	I-T	35.55	111.3	764.6	1844.3	5.12	16.6	2.4	10.46	17.99	7.50	.570	.355	6.39

(60T) PLATE WEIGHT = 40.800 LBS. (1.0000 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(60T = 60.000 IN.) PLATE WEIGHT = 40.000 LBS. (1.0000 IN.) EFFECTIVE PLATE AREA = 60.000 SQ. IN.																
NOMINAL SIZE			SECTION MODULUS					BEAM DIMENSIONS								
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2		
18	X	7 1/2 X 60.0	I-T	42.61	134.9	804.8	2223.0	5.54	16.5	2.8	12.53	18.24	7.56	.695	.415	7.57
18	X	7 5/8 X 71.0	I-T	50.75	159.7	836.4	2610.3	5.90	16.3	3.1	14.93	18.47	7.64	.810	.495	9.14
18	X	11 1/8 X 86.0	I-T	57.79	199.4	882.1	3153.4	6.40	15.8	3.6	17.00	18.39	11.09	.770	.480	8.83
18	X	11 1/8 X 97.0	I-T	65.20	225.7	906.6	3540.5	6.69	15.7	3.9	19.18	18.59	11.15	.870	.535	9.95
18	X	11 1/4 X 106.0	I-T	71.48	246.0	922.3	3832.0	6.88	15.6	4.2	21.02	18.73	11.20	.940	.590	11.05
18	X	11 1/4 X 119.0	I-T	80.48	278.1	948.2	4294.0	7.16	15.4	4.5	23.67	18.97	11.27	1.060	.655	12.43
21	X	8 1/4 X 62.0	I-T	44.94	158.0	942.9	2975.4	6.37	18.8	3.2	13.22	20.99	8.24	.615	.400	8.40
21	X	8 1/4 X 68.0	I-T	49.15	174.4	965.6	3269.3	6.63	18.7	3.4	14.46	21.13	8.27	.685	.430	9.09
21	X	8 1/4 X 73.0	I-T	52.58	187.6	982.2	3503.2	6.81	18.7	3.6	15.47	21.24	8.30	.740	.455	9.66
21	X	8 3/8 X 83.0	I-T	59.78	212.9	1008.3	3943.0	7.13	18.5	3.9	17.58	21.43	8.36	.835	.515	11.04
21	X	8 3/8 X 93.0	I-T	67.42	239.1	1032.3	4391.9	7.42	18.4	4.3	19.83	21.62	8.42	.930	.580	12.54
21	X	12 1/4 X 101.0	I-T	68.38	268.9	1062.1	4797.5	7.74	17.8	4.5	20.11	21.36	12.29	.800	.500	10.68
21	X	12 3/8 X 111.0	I-T	75.30	295.3	1081.0	5221.1	7.97	17.7	4.8	22.15	21.51	12.34	.875	.550	11.83

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(60T) PLATE WEIGHT = 40.000 LBS. (1.0000 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(60T = 67.500 IN.) PLATE WEIGHT = 45.900 LBS. (1.1250 IN.) EFFECTIVE PLATE AREA = 75.938 SQ. IN.																
NOMINAL SIZE		WT/FT	SECTION MODULUS				BEAM DIMENSIONS									
			FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	LBS/FT	LBS	IN ³	IN ³	IN ⁴	IN	IN	IN	IN	IN ²	IN	IN	IN	IN	IN ²
8	X 7 1/8	X 25.0	T	24.83	44.2	308.7	357.6	2.07	8.1	1.2	7.30	8.13	7.07	.630	.380	3.09
8	X 7 1/8	X 28.5	T	28.28	50.1	328.7	406.5	2.20	8.1	1.2	8.32	8.22	7.12	.715	.430	3.53
10	X 5 3/4	X 30.0	I-T	20.23	42.1	381.1	440.0	2.32	10.4	1.2	5.95	10.47	5.81	.510	.300	3.14
10	X 8	X 33.0	I-T	20.94	43.6	365.1	423.0	2.27	9.7	1.2	6.16	9.73	7.96	.435	.290	2.82
10	X 8	X 39.0	I-T	24.45	52.4	403.1	511.8	2.48	9.8	1.3	7.19	9.92	7.99	.530	.315	3.12
10	X 8	X 45.0	I-T	28.19	61.2	435.8	602.6	2.67	9.8	1.4	8.29	10.10	8.02	.620	.350	3.54
12	X 6 1/2	X 26.0	I-T	17.64	42.4	443.8	516.1	2.52	12.2	1.2	5.19	12.22	6.49	.380	.230	2.81
12	X 6 1/2	X 30.0	I-T	20.27	49.0	477.5	598.2	2.70	12.2	1.3	5.96	12.34	6.52	.440	.260	3.21
12	X 6 1/2	X 35.0	I-T	23.82	58.0	517.1	710.0	2.93	12.3	1.4	7.01	12.50	6.56	.520	.300	3.75
12	X 8	X 40.0	I-T	25.48	63.0	516.6	734.1	2.97	11.6	1.4	7.49	11.94	8.01	.515	.295	3.52
12	X 8	X 45.0	I-T	28.81	71.1	543.2	828.9	3.13	11.7	1.5	8.47	12.06	8.05	.575	.335	4.04
12	X 8 1/8	X 50.0	I-T	32.11	79.5	568.9	928.8	3.30	11.7	1.6	9.44	12.19	8.08	.640	.370	4.51
12	X 10	X 53.0	I-T	33.01	84.9	580.5	976.4	3.38	11.5	1.7	9.71	12.06	10.00	.575	.345	4.16
12	X 10	X 58.0	I-T	35.92	93.8	605.1	1081.8	3.54	11.5	1.8	10.56	12.19	10.01	.640	.360	4.39
14	X 5	X 22.0	I-T	16.18	38.3	463.4	525.3	2.55	13.7	1.1	4.76	13.74	5.00	.335	.230	3.16
14	X 5	X 26.0	I-T	18.87	46.1	512.6	635.8	2.79	13.8	1.2	5.55	13.91	5.03	.420	.255	3.55
14	X 6 3/4	X 30.0	I-T	21.16	53.6	547.9	730.3	2.98	13.6	1.3	6.22	13.84	6.73	.385	.270	3.74
14	X 6 3/4	X 34.0	I-T	23.54	61.4	585.8	839.7	3.18	13.7	1.4	6.92	13.98	6.75	.455	.285	3.98
14	X 6 3/4	X 38.0	I-T	26.17	69.0	616.5	945.3	3.36	13.7	1.5	7.70	14.10	6.77	.515	.310	4.37
14	X 8	X 43.0	I-T	28.02	76.1	625.4	1003.2	3.45	13.2	1.6	8.24	13.66	8.00	.530	.305	4.17
14	X 8	X 48.0	I-T	31.50	85.8	654.9	1131.4	3.64	13.2	1.7	9.26	13.79	8.03	.595	.340	4.69
16	X 5 1/2	X 26.0	I-T	19.49	50.8	594.8	786.9	3.10	15.5	1.3	5.73	15.69	5.50	.345	.250	3.92
16	X 5 1/2	X 31.0	I-T	22.70	61.5	652.4	956.1	3.40	15.5	1.5	6.68	15.88	5.53	.440	.275	4.37

(60T) PLATE WEIGHT = 45.900 LBS. (1.1250 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(60T = 67.500 IN.) PLATE WEIGHT = 45.900 LBS. (1.1250 IN.) EFFECTIVE PLATE AREA = 75.938 SQ. IN.																
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS								
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	LBS/FT		LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2	
16	X 7	X 36.0	I-T	25.69	72.1	695.1	1109.9	3.65	15.4	1.6	7.56	15.86	6.99	.430	.295	4.68
16	X 7	X 40.0	I-T	28.09	81.6	734.4	1259.0	3.87	15.4	1.7	8.26	16.01	7.00	.505	.305	4.88
16	X 7	X 45.0	I-T	31.77	92.1	765.8	1418.9	4.08	15.4	1.9	9.34	16.13	7.04	.565	.345	5.56
16	X 7 1/8	X 50.0	I-T	35.34	102.9	795.6	1583.6	4.28	15.4	2.0	10.39	16.26	7.07	.630	.380	6.18
16	X 7 1/8	X 57.0	I-T	40.28	117.5	830.6	1806.8	4.54	15.4	2.2	11.85	16.43	7.12	.715	.430	7.06
16	X 10 1/4	X 67.0	I-T	44.18	141.8	883.4	2132.5	4.90	15.0	2.4	12.99	16.33	10.24	.665	.395	6.45
16	X 10 1/4	X 77.0	I-T	50.98	163.5	918.6	2448.5	5.19	15.0	2.7	15.00	16.52	10.30	.760	.455	7.52
16	X 10 3/8	X 89.0	I-T	59.17	189.9	956.2	2831.4	5.51	14.9	3.0	17.40	16.75	10.37	.875	.525	8.79
18	X 6	X 35.0	I-T	26.29	75.9	773.5	1301.4	3.94	17.1	1.7	7.73	17.70	6.00	.425	.300	5.31
18	X 6	X 40.0	I-T	29.35	88.6	826.8	1521.9	4.24	17.2	1.8	8.63	17.90	6.02	.525	.315	5.64
18	X 7 1/2	X 50.0	I-T	35.55	112.4	896.8	1909.7	4.70	17.0	2.1	10.46	17.99	7.50	.570	.355	6.39
18	X 7 1/2	X 60.0	I-T	42.61	136.4	952.4	2310.6	5.11	16.9	2.4	12.53	18.24	7.56	.695	.415	7.57
18	X 7 5/8	X 71.0	I-T	50.75	161.6	996.4	2724.2	5.48	16.9	2.7	14.93	18.47	7.64	.810	.495	9.14
18	X 11 1/8	X 86.0	I-T	57.79	201.6	1058.9	3305.5	5.96	16.4	3.1	17.00	18.39	11.09	.770	.480	8.83
18	X 11 1/8	X 97.0	I-T	65.20	228.4	1092.2	3724.3	6.26	16.3	3.4	19.18	18.59	11.15	.870	.535	9.95
18	X 11 1/4	X 106.0	I-T	71.48	249.1	1113.5	4042.0	6.46	16.2	3.6	21.02	18.73	11.20	.940	.590	11.05
18	X 11 1/4	X 119.0	I-T	80.48	281.8	1147.7	4546.4	6.76	16.1	4.0	23.67	18.97	11.27	1.060	.655	12.43
21	X 8 1/4	X 62.0	I-T	44.94	159.7	1123.1	3091.5	5.89	19.4	2.8	13.22	20.99	8.24	.615	.400	8.40
21	X 8 1/4	X 68.0	I-T	49.15	176.3	1154.2	3404.2	6.14	19.3	2.9	14.46	21.13	8.27	.685	.430	9.09
21	X 8 1/4	X 73.0	I-T	52.58	189.7	1176.8	3654.1	6.32	19.3	3.1	15.47	21.24	8.30	.740	.455	9.66
21	X 8 3/8	X 83.0	I-T	59.78	215.5	1212.5	4126.7	6.64	19.2	3.4	17.58	21.43	8.36	.835	.515	11.04
21	X 8 3/8	X 93.0	I-T	67.42	242.2	1244.8	4611.9	6.94	19.0	3.7	19.83	21.62	8.42	.930	.580	12.54
21	X 12 1/4	X 101.0	I-T	68.38	271.9	1285.5	5046.9	7.25	18.6	3.9	20.11	21.36	12.29	.800	.500	10.68
21	X 12 3/8	X 111.0	I-T	75.30	298.9	1310.7	5508.9	7.49	18.4	4.2	22.15	21.51	12.34	.875	.550	11.83

(60T) PLATE WEIGHT = 45.900 LBS. (1.1250 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T															
(60T = 75.000 IN.) PLATE WEIGHT = 51.000 LBS. (1.2500 IN.) EFFECTIVE PLATE AREA = 93.750 SQ. IN.															
NOMINAL SIZE			WT/FT	SECTION MODULUS				BEAM DIMENSIONS							
				FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
10	X 8	X 45.0 I-T	28.19	62.2	477.9	624.6	2.47	10.0	1.3	8.29	10.10	8.02	.620	.350	3.54
12	X 6 1/2	X 35.0 I-T	23.82	58.8	564.3	731.7	2.69	12.5	1.3	7.01	12.50	6.56	.520	.300	3.75
12	X 8	X 40.0 I-T	25.48	63.9	566.5	757.4	2.74	11.9	1.3	7.49	11.94	8.01	.515	.295	3.52
12	X 8	X 45.0 I-T	28.81	72.0	600.5	856.1	2.89	11.9	1.4	8.47	12.06	8.05	.575	.335	4.04
12	X 8 1/8	X 50.0 I-T	32.11	80.5	633.4	960.3	3.05	11.9	1.5	9.44	12.19	8.08	.640	.370	4.51
12	X 10	X 53.0 I-T	33.01	85.9	648.4	1009.9	3.12	11.8	1.6	9.71	12.06	10.00	.575	.345	4.16
12	X 10	X 58.0 I-T	35.92	95.0	679.9	1120.1	3.28	11.8	1.6	10.56	12.19	10.01	.640	.360	4.39
14	X 6 3/4	X 30.0 I-T	21.16	54.3	594.8	750.7	2.74	13.8	1.3	6.22	13.84	6.73	.385	.270	3.74
14	X 6 3/4	X 34.0 I-T	23.54	62.2	641.4	863.4	2.93	13.9	1.3	6.92	13.98	6.75	.455	.285	3.98
14	X 6 3/4	X 38.0 I-T	26.17	69.9	680.2	972.8	3.10	13.9	1.4	7.70	14.10	6.77	.515	.310	4.37
14	X 8	X 43.0 I-T	28.02	77.0	693.7	1033.5	3.18	13.4	1.5	8.24	13.66	8.00	.530	.305	4.17
14	X 8	X 48.0 I-T	31.50	86.8	731.9	1166.9	3.37	13.4	1.6	9.26	13.79	8.03	.595	.340	4.69
16	X 5 1/2	X 26.0 I-T	19.49	51.4	644.0	806.9	2.85	15.7	1.3	5.73	15.69	5.50	.345	.250	3.92
16	X 5 1/2	X 31.0 I-T	22.70	62.3	715.0	980.9	3.13	15.8	1.4	6.68	15.88	5.53	.440	.275	4.37
16	X 7	X 36.0 I-T	25.69	72.9	769.1	1139.8	3.35	15.6	1.5	7.56	15.86	6.99	.430	.295	4.68
16	X 7	X 40.0 I-T	28.09	82.5	818.5	1293.8	3.56	15.7	1.6	8.26	16.01	7.00	.505	.305	4.88
16	X 7	X 45.0 I-T	31.77	93.1	859.9	1460.1	3.76	15.7	1.7	9.34	16.13	7.04	.565	.345	5.56
16	X 7 1/8	X 50.0 I-T	35.34	104.0	899.1	1631.8	3.96	15.7	1.8	10.39	16.26	7.07	.630	.380	6.18
16	X 7 1/8	X 57.0 I-T	40.28	118.8	945.5	1865.2	4.20	15.7	2.0	11.85	16.43	7.12	.715	.430	7.06
16	X 10 1/4	X 67.0 I-T	44.18	143.2	1014.0	2205.7	4.55	15.4	2.2	12.99	16.33	10.24	.668	.395	6.45
16	X 10 1/4	X 77.0 I-T	50.98	165.1	1061.5	2539.3	4.83	15.4	2.4	15.00	16.52	10.30	.760	.455	7.52
16	X 10 3/8	X 89.0 I-T	59.17	191.9	1111.9	2945.3	5.15	15.4	2.6	17.40	16.75	10.37	.875	.525	8.79
18	X 6	X 35.0 I-T	26.29	76.7	859.5	1334.9	3.63	17.4	1.6	7.73	17.70	6.00	.425	.300	5.31

(60T) PLATE WEIGHT = 51.000 LBS. (1.2500 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		

(60T = 75.000 IN.) PLATE WEIGHT = 51.000 LBS. (1.2500 IN.) EFFECTIVE PLATE AREA = 93.750 SQ. IN.																		
NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS										
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH				
IN X IN X LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN	IN	IN2				

18	X	6	X	40.0	I-T	29.35	89.5	926.7	1562.5	3.91	17.5	1.7	8.63	17.90	6.02	.525	.315	5.64
18	X	7 1/2	X	50.0	I-T	35.55	113.5	1018.1	1965.4	4.34	17.3	1.9	10.46	17.99	7.50	.570	.355	6.39
18	X	7 1/2	X	60.0	I-T	42.61	137.8	1092.0	2384.5	4.74	17.3	2.2	12.53	18.24	7.56	.695	.415	7.57
18	X	7 5/8	X	71.0	I-T	50.75	163.3	1151.4	2819.9	5.09	17.3	2.4	14.93	18.47	7.64	.810	.495	9.14
18	X	11 1/8	X	86.0	I-T	57.79	203.6	1233.9	3432.8	5.57	16.9	2.8	17.00	18.39	11.09	.770	.480	8.83
18	X	11 1/8	X	97.0	I-T	65.20	230.8	1278.4	3878.3	5.86	16.8	3.0	19.18	18.59	11.15	.870	.535	9.95
18	X	11 1/4	X	106.0	I-T	71.48	251.8	1306.8	4218.2	6.06	16.8	3.2	21.02	18.73	11.20	.940	.590	11.05
18	X	11 1/4	X	119.0	I-T	80.48	285.0	1351.7	4759.1	6.37	16.7	3.5	23.67	18.97	11.27	1.060	.655	12.43
21	X	8 1/4	X	62.0	I-T	44.94	161.2	1297.0	3188.4	5.46	19.8	2.5	13.22	20.99	8.24	.615	.400	8.40
21	X	8 1/4	X	68.0	I-T	49.15	178.0	1338.5	3516.6	5.70	19.8	2.6	14.46	21.13	8.27	.685	.430	9.09
21	X	8 1/4	X	73.0	I-T	52.58	191.6	1368.5	3779.7	5.88	19.7	2.8	15.47	21.24	8.30	.740	.455	9.66
21	X	8 3/8	X	83.0	I-T	59.78	217.7	1416.5	4279.7	6.20	19.7	3.0	17.58	21.43	8.36	.835	.515	11.04
21	X	8 3/8	X	93.0	I-T	67.42	244.9	1459.6	4795.5	6.50	19.6	3.3	19.83	21.62	8.42	.930	.580	12.54
21	X	12 1/4	X	101.0	I-T	68.38	274.6	1512.7	5254.4	6.79	19.1	3.5	20.11	21.36	12.29	.800	.500	10.68
21	X	12 3/8	X	111.0	T-T	75.30	301.9	1546.3	5749.1	7.04	19.0	3.7	22.15	21.51	12.34	.875	.550	11.83

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(60T) PLATE WEIGHT = 51.000 LBS. (1.2500 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(60T = 82.500 IN.) PLATE WEIGHT = 56.100 LBS. (1.3750 IN.) EFFECTIVE PLATE AREA = 113.438 SQ. IN.																
NOMINAL SIZE			WT/FT	SECTION MODULUS				BEAM DIMENSIONS								
				FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT	LBS	IN ³	IN ³	IN ⁴	IN	IN	IN	IN	IN ²	IN	IN	IN	IN ²	
12	X 8 1/8	X 50.0	I-T	32.11	81.6	687.0	989.8	2.84	12.1	1.4	9.44	12.19	8.08	.640	.370	4.51
12	X 10	X 53.0	I-T	33.01	87.1	705.4	1041.1	2.91	12.0	1.5	9.71	12.06	10.00	.575	.345	4.16
12	X 10	X 58.0	I-T	35.92	96.2	743.9	1155.3	3.05	12.0	1.6	10.56	12.19	10.01	.640	.360	4.39
14	X 8	X 43.0	I-T	28.02	78.0	749.5	1061.8	2.95	13.6	1.4	8.24	13.66	8.00	.530	.305	4.17
14	X 8	X 48.0	I-T	31.50	87.8	796.6	1199.7	3.13	13.7	1.5	9.26	13.79	8.03	.595	.340	4.69
16	X 7	X 36.0	I-T	25.69	73.8	828.8	1167.8	3.11	15.8	1.4	7.56	15.86	6.99	.430	.295	4.68
16	X 7	X 40.0	I-T	28.09	83.4	888.2	1325.9	3.30	15.9	1.5	8.26	16.01	7.00	.505	.305	4.88
16	X 7	X 45.0	I-T	31.77	94.1	940.0	1497.6	3.49	15.9	1.6	9.34	16.13	7.04	.565	.345	5.56
16	X 7 1/8	X 50.0	I-T	35.34	105.1	989.1	1675.2	3.68	15.9	1.7	10.39	16.26	7.07	.630	.380	6.18
16	X 7 1/8	X 57.0	I-T	40.28	120.0	1048.0	1917.2	3.91	16.0	1.8	11.85	16.43	7.12	.715	.430	7.06
16	X 10 1/4	X 67.0	I-T	44.18	144.6	1133.4	2269.9	4.24	15.7	2.0	12.99	16.33	10.24	.665	.395	6.45
16	X 10 1/4	X 77.0	I-T	50.98	166.7	1195.0	2618.2	4.52	15.7	2.2	15.00	16.52	10.30	.760	.455	7.52
16	X 10 3/8	X 89.0	I-T	59.17	193.8	1260.3	3043.9	4.82	15.7	2.4	17.40	16.75	10.37	.875	.525	8.79
18	X 6	X 35.0	I-T	26.29	77.6	929.9	1365.8	3.36	17.6	1.5	7.73	17.70	6.00	.425	.300	5.31
18	X 6	X 40.0	I-T	29.35	90.4	1011.1	1599.5	3.62	17.7	1.6	8.63	17.90	6.02	.525	.315	5.64
18	X 7 1/2	X 50.0	I-T	35.55	114.7	1125.1	2014.9	4.03	17.6	1.8	10.46	17.99	7.50	.570	.355	6.39
18	X 7 1/2	X 60.0	I-T	42.61	139.1	1219.3	2449.2	4.41	17.6	2.0	12.53	18.24	7.56	.695	.415	7.57
18	X 7 5/8	X 71.0	I-T	50.75	164.9	1296.5	2903.0	4.76	17.6	2.2	14.93	18.47	7.64	.810	.495	9.14
18	X 11 1/8	X 86.0	I-T	57.79	205.5	1401.7	3542.3	5.21	17.2	2.5	17.00	18.39	11.09	.770	.480	8.83
18	X 11 1/8	X 97.0	I-T	65.20	232.9	1459.5	4010.4	5.50	17.2	2.7	19.18	18.59	11.15	.870	.535	9.95
18	X 11 1/4	X 106.0	I-T	71.48	254.2	1496.8	4369.3	5.70	17.2	2.9	21.02	18.73	11.20	.940	.590	11.05
18	X 11 1/4	X 119.0	I-T	80.48	287.8	1554.7	4941.4	6.00	17.2	3.2	23.67	18.97	11.27	1.060	.655	12.43
21	X 8 1/4	X 62.0	I-T	44.94	162.6	1459.2	3271.9	5.08	20.1	2.2	13.22	20.99	8.24	.615	.400	8.40

(60T) PLATE WEIGHT = 56.100 LBS. (1.3750 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(60T = 82.500 IN.) PLATE WEIGHT = 56.100 LBS. (1.3750 IN.) EFFECTIVE PLATE AREA = 113.438 SQ. IN.																
NOMINAL SIZE		WT/FT	SECTION MODULUS				BEAM DIMENSIONS									
			FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	LBS/FT	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2		
21	X 8 1/4 X	68.0	I-T	49.15	179.6	1512.6	3613.2	5.32	20.1	2.4	14.46	21.13	8.27	.685	.430	9.09
21	X 8 1/4 X	73.0	I-T	52.58	193.3	1551.5	3887.2	5.49	20.1	2.5	15.47	21.24	8.30	.740	.455	9.66
21	X 8 3/8 X	83.0	I-T	59.78	219.7	1614.2	4410.4	5.80	20.1	2.7	17.58	21.43	8.36	.835	.515	11.04
21	X 8 3/8 X	93.0	I-T	67.42	247.2	1670.6	4952.2	6.10	20.0	3.0	19.83	21.62	8.42	.930	.580	12.54
21	X 12 1/4 X	101.0	I-T	68.38	276.9	1737.6	5430.7	6.38	19.6	3.1	20.11	21.36	12.29	.800	.500	10.68
21	X 12 3/8 X	111.0	I-T	75.30	304.6	1781.6	5953.3	6.63	19.5	3.3	22.15	21.51	12.34	.875	.550	11.83

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(60T) PLATE WEIGHT = 56.100 LBS. (1.3750 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(60T = 90.000 IN.) PLATE WEIGHT = 61.200 LBS. (1.5000 IN.) EFFECTIVE PLATE AREA = 135.000 SQ. IN.																		
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS										
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X IN X LBS/FT				LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2			
16	X	7	X	45.0	I-T	31.77	95.2	1005.7	1533.2	3.26	16.1	1.5	9.34	16.13	7.04	.565	.345	5.56
16	X	7	1/8 X	50.0	I-T	35.34	106.2	1064.8	1715.7	3.44	16.1	1.6	10.39	16.26	7.07	.630	.380	6.18
16	X	7	1/8 X	57.0	I-T	40.28	121.3	1136.4	1965.1	3.66	16.2	1.7	11.85	16.43	7.12	.715	.430	7.06
16	X	10	1/4 X	67.0	I-T	44.18	146.0	1239.0	2328.2	3.97	16.0	1.9	12.99	16.33	10.24	.665	.395	6.45
16	X	10	1/4 X	77.0	I-T	50.98	168.3	1315.9	2689.2	4.23	16.0	2.0	15.00	16.52	10.30	.760	.455	7.52
16	X	10	3/8 X	89.0	I-T	59.17	195.6	1397.8	3131.7	4.53	16.0	2.2	17.40	16.75	10.37	.875	.525	8.79
18	X	6	X	40.0	I-T	29.35	91.4	1079.6	1634.4	3.37	17.9	1.5	8.63	17.90	6.02	.525	.315	5.64
18	X	7	1/2 X	50.0	I-T	35.55	115.8	1216.2	2060.6	3.76	17.8	1.7	10.46	17.99	7.50	.570	.355	6.39
18	X	7	1/2 X	60.0	I-T	42.61	140.4	1331.5	2507.9	4.12	17.9	1.9	12.53	18.24	7.56	.695	.415	7.57
18	X	7	5/8 X	71.0	I-T	50.75	166.5	1428.2	2977.3	4.46	17.9	2.1	14.93	18.47	7.64	.810	.495	9.14
18	X	11	1/8 X	86.0	I-T	57.79	207.3	1558.1	3639.1	4.89	17.6	2.3	17.00	18.39	11.09	.770	.480	8.83
18	X	11	1/8 X	97.0	I-T	65.20	235.0	1631.1	4126.5	5.17	17.6	2.5	19.18	18.59	11.15	.870	.535	9.95
18	X	11	1/4 X	106.0	I-T	71.48	256.5	1678.8	4501.8	5.37	17.5	2.7	21.02	18.73	11.20	.940	.590	11.05
18	X	11	1/4 X	119.0	I-T	80.48	290.5	1751.8	5100.8	5.67	17.6	2.9	23.67	18.97	11.27	1.060	.655	12.43
21	X	8	1/4 X	62.0	I-T	44.94	164.0	1605.6	3346.4	4.75	20.4	2.1	13.22	20.99	8.24	.615	.400	8.40
21	X	8	1/4 X	68.0	I-T	49.15	181.1	1672.2	3698.6	4.97	20.4	2.2	14.46	21.13	8.27	.685	.430	9.09
21	X	8	1/4 X	73.0	I-T	52.58	194.9	1720.9	3982.1	5.14	20.4	2.3	15.47	21.24	8.30	.740	.455	9.66
21	X	8	3/8 X	83.0	I-T	59.78	221.6	1800.6	4524.9	5.45	20.4	2.5	17.58	21.43	8.36	.835	.515	11.04
21	X	8	3/8 X	93.0	I-T	67.42	249.4	1872.5	5089.0	5.73	20.4	2.7	19.83	21.62	8.42	.930	.580	12.54
21	X	12	1/4 X	101.0	I-T	68.38	279.2	1954.4	5584.0	6.00	20.0	2.9	20.11	21.36	12.29	.800	.500	10.68
21	X	12	3/8 X	111.0	I-T	75.30	307.1	2010.8	6130.5	6.25	20.0	3.0	22.15	21.51	12.34	.875	.550	11.83

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MIL-HDBK-264 (SH)
30 September 1980

(60T) PLATE WEIGHT = 61.200 LBS. (1.5000 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T															
(60T = 105.000 IN.) PLATE WEIGHT = 71.400 LBS. (1.7500 IN.) EFFECTIVE PLATE AREA = 183.750 SQ. IN.															
NOMINAL SIZE			SECTION MODULUS					BEAM DIMENSIONS							
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2	
16	X 10 1/4	X 77.0 I-T	50.98	171.7	1514.1	2817.4	3.77	16.4	1.9	15.00	16.52	10.30	.760	.455	7.52
16	X 10 3/8	X 89.0 I-T	59.17	199.4	1631.5	3287.5	4.04	16.5	2.0	17.40	16.75	10.37	.875	.525	8.79
18	X 7 5/8	X 71.0 I-T	50.75	169.7	1644.6	3110.9	3.96	18.3	1.9	14.93	18.47	7.64	.810	.495	9.14
18	X 11 1/8	X 86.0 I-T	57.79	211.0	1825.8	3808.8	4.36	18.1	2.1	17.00	18.39	11.09	.770	.480	8.83
18	X 11 1/8	X 97.0 I-T	65.20	239.1	1932.8	4327.8	4.62	18.1	2.2	19.18	18.59	11.15	.870	.535	9.95
18	X 11 1/4	X 106.0 I-T	71.48	261.0	2004.6	4729.9	4.81	18.1	2.4	21.02	18.73	11.20	.940	.590	11.05
18	X 11 1/4	X 119.0 I-T	80.48	295.6	2112.9	5372.9	5.09	18.2	2.5	23.67	18.97	11.27	1.060	.655	12.43
21	X 8 1/4	X 62.0 I-T	44.94	166.9	1843.6	3479.6	4.20	20.9	1.9	13.22	20.99	8.24	.615	.400	8.40
21	X 8 1/4	X 68.0 I-T	49.15	184.2	1938.0	3849.6	4.41	20.9	2.0	14.46	21.13	8.27	.685	.430	9.09
21	X 8 1/4	X 73.0 I-T	52.58	198.2	2007.9	4148.2	4.56	20.9	2.1	15.47	21.24	8.30	.740	.455	9.66
21	X 8 3/8	X 83.0 I-T	59.78	225.4	2125.5	4723.0	4.84	21.0	2.2	17.58	21.43	8.36	.835	.515	11.04
21	X 8 3/8	X 93.0 I-T	67.42	253.7	2233.1	5323.2	5.11	21.0	2.4	19.83	21.62	8.42	.930	.580	12.54
21	X 12 1/4	X 101.0 I-T	68.38	283.4	2346.5	5844.2	5.35	20.6	2.5	20.11	21.36	12.29	.800	.500	10.68
21	X 12 3/8	X 111.0 I-T	75.30	311.9	2432.8	6429.6	5.59	20.6	2.6	22.15	21.51	12.34	.875	.550	11.83

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(60T) PLATE WEIGHT = 71.400 LBS. (1.7500 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T															
(60T = 120.000 IN.) PLATE WEIGHT = 81.600 LBS. (2.0000 IN.) EFFECTIVE PLATE AREA = 240.000 SQ. IN.															
NOMINAL SIZE		WT/FT	SECTION MODULUS				BEAM DIMENSIONS								
			FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2	
18	X 11 1/8 X	97.0 I-T	65.28	243.5	2169.8	4507.2	4.17	18.5	2.1	19.18	19.59	11.15	.870	.535	9.95
18	X 11 1/4 X	106.0 I-T	71.48	265.7	2267.2	4930.4	4.35	18.6	2.2	21.02	18.73	11.20	.940	.590	11.05
18	X 11 1/4 X	119.0 I-T	80.48	300.8	2413.9	5608.2	4.61	18.6	2.3	23.67	18.97	11.27	1.060	.655	12.43
21	X 8 3/8 X	83.0 I-T	59.78	229.3	2376.7	4899.3	4.36	21.4	2.1	17.58	21.43	8.36	.835	.515	11.04
21	X 8 3/8 X	93.0 I-T	67.42	258.0	2522.2	5527.8	4.61	21.4	2.2	19.83	21.62	8.42	.930	.580	12.54
21	X 12 1/4 X	101.0 I-T	68.38	287.8	2666.5	6068.6	4.83	21.1	2.3	20.11	21.36	12.29	.600	.500	10.68
21	X 12 3/8 X	111.0 I-T	75.30	316.6	2786.2	6684.4	5.05	21.1	2.4	22.15	21.51	12.34	.875	.550	11.83

(60T) PLATE WEIGHT = 81.600 LBS. (2.0000 IN.)

TABLE VIII. Properties of combined beam and plate, I-T and T (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T														
(60T = 135.000 IN.) PLATE WEIGHT = 91.800 LBS. (2.2500 IN.) EFFECTIVE PLATE AREA = 303.750 SQ. IN.														
NOMINAL SIZE	WT/FT	SECTION MODULUS						BEAM DIMENSIONS						
		FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X IN X LBS/FT	LBS	IN ³	IN ³	IN ⁴	IN	IN	IN	IN	IN ²	IN	IN	IN	IN	IN ²
21 X 12 3/8 X 111.0 I-T	75.30	321.8	3062.8	6918.7	4.61	21.5	2.3	22.15	21.51	12.34	.875	.550	11.83	

(60T) PLATE WEIGHT = 91.800 LBS. (2.2500 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t).

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																			

(50T = 6.250 IN.) PLATE WEIGHT = 5.100 LBS. (.1250 IN.) EFFECTIVE PLATE AREA = .781 SQ. IN.																			

							SECTION MODULUS				BEAM DIMENSIONS								
NOMINAL SIZE						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X IN X LBS/FT						LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN	IN2	

4	X	4	X	5.0	T	4.91	3.3	3.4	6.8	1.75	2.0	2.0	1.44	3.95	3.94	.205	.170	.67	
5	X	4	X	6.0	T	5.88	4.5	4.4	11.3	2.13	2.5	2.6	1.73	4.94	3.96	.210	.190	.94	
6	X	4	X	7.0	T	6.94	6.0	5.7	17.7	2.51	3.0	3.1	2.04	5.96	3.97	.225	.200	1.19	
6	X	4	X	9.0	I-T	6.17	5.6	5.4	16.6	2.53	3.0	3.1	1.81	5.90	3.94	.215	.170	1.00	
8	X	4	X	10.0	I-T	7.19	7.7	7.7	30.9	3.27	4.0	4.0	2.11	7.89	3.94	.205	.170	1.34	
82	10	X	4	X	12.0	I-T	9.07	10.7	10.6	53.2	3.93	5.0	5.0	2.67	9.87	3.96	.210	.190	1.88
12	X	4	X	14.0	I-T	10.98	14.5	13.9	85.4	4.61	5.9	6.1	3.23	11.91	3.97	.225	.200	2.38	

(50T) PLATE WEIGHT = 5.100 LBS. (.1250 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(50T = 7.813 IN.) PLATE WEIGHT = 6.375 LBS. (.1563 IN.) EFFECTIVE PLATE AREA = 1.221 SQ. IN.																		
NOMINAL SIZE						SECTION MODULUS				BEAM DIMENSIONS								
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN	X	IN	X	LBS/FT	T	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
4	X	4		5.0	T	4.91	3.5	4.8	8.3	1.77	2.4	1.7	1.44	3.95	3.94	.205	.170	.67
5	X	4	X	6.0	T	5.88	4.8	6.2	13.7	2.16	2.9	2.2	1.73	4.94	3.96	.210	.190	.94
6	X	4	X	7.0	T	6.94	6.3	7.8	21.4	2.56	3.4	2.7	2.04	5.96	3.97	.225	.200	1.19
6	X	4	X	9.0	I-T	6.17	5.9	7.6	20.0	2.57	3.4	2.6	1.81	5.90	3.94	.215	.170	1.00
8	X	4	X	10.0	I-T	7.19	8.2	10.5	37.0	3.33	4.5	3.5	2.11	7.89	3.94	.205	.170	1.34
10	X	4	X	12.0	I-T	9.07	11.4	14.0	63.0	4.03	5.5	4.5	2.67	9.87	3.96	.210	.190	1.88
12	X	4	X	14.0	I-T	10.98	15.4	18.0	100.2	4.75	6.5	5.6	3.23	11.91	3.97	.225	.200	2.38

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(50T) PLATE WEIGHT = 6.375 LBS. (.1563 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(50T = 9.375 IN.) PLATE WEIGHT = 7.650 LBS. (.1875 IN.) EFFECTIVE PLATE AREA = 1.758 SQ. IN.																		
NOMINAL SIZE					SECTION MODULUS				BEAM DIMENSIONS									
					WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT			LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
4	X 4	X 5.0	T		4.91	3.6	6.5	9.6	1.73	2.7	1.5	1.44	3.95	3.94	.205	.170	.67	
5	X 4	X 6.0	T		5.88	4.9	8.4	15.9	2.14	3.2	1.9	1.73	4.94	3.96	.210	.190	.94	
6	X 4	X 7.0	T		6.94	6.6	10.4	24.8	2.56	3.8	2.4	2.04	5.96	3.97	.225	.200	1.19	
6	X 4	X 9.0	I-T		6.17	6.1	10.1	23.2	2.55	3.8	2.3	1.81	5.90	3.94	.215	.170	1.00	
8	X 4	X 10.0	I-T		7.19	8.5	13.9	42.6	3.32	5.0	3.1	2.11	7.89	3.94	.205	.170	1.34	
10	X 4	X 12.0	I-T		9.07	11.9	18.2	72.5	4.05	6.1	4.0	2.67	9.87	3.96	.210	.190	1.88	
12	X 4	X 14.0	I-T		10.98	16.2	23.0	115.0	4.80	7.1	5.0	3.23	11.91	3.97	.225	.200	2.38	

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(50T) PLATE WEIGHT = 7.650 LBS. (.1875 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(50T = 10.938 IN.) PLATE WEIGHT = 8.925 LBS. (.2188 IN.) EFFECTIVE PLATE AREA = 2.393 SQ. IN.																		
NOMINAL SIZE						SECTION MODULUS							BEAM DIMENSIONS					
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	LBS/FT																
IN X	IN X	LBS/FT																
4	X 4	X 5.0	T	4.91	3.7	8.4	10.7	1.67	2.9	1.3	1.44	3.95	3.94	.205	.170	.67		
5	X 4	X 6.0	T	5.88	5.1	10.8	17.8	2.08	3.5	1.6	1.73	4.94	3.96	.210	.190	.94		
6	X 4	X 7.0	T	6.94	6.8	13.4	27.8	2.50	4.1	2.1	2.04	5.96	3.97	.225	.200	1.19		
6	X 4	X 9.0	I-T	6.17	6.2	13.1	25.9	2.48	4.1	2.0	1.81	5.90	3.94	.215	.170	1.00		
8	X 4	X 10.0	I-T	7.19	8.8	17.8	47.7	3.25	5.4	2.7	2.11	7.89	3.94	.205	.170	1.34		
10	X 4	X 12.0	I-T	9.07	12.4	23.0	81.2	4.00	6.6	3.5	2.67	9.87	3.96	.210	.190	1.88		
12	X 4	X 14.0	I-T	10.98	16.8	28.8	128.9	4.79	7.7	4.5	3.23	11.91	3.97	.225	.200	2.38		

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(50T) PLATE WEIGHT = 8.925 LBS. (.2188 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(50T = 12.500 IN.) PLATE WEIGHT = 10.200 LBS. (.2500 IN.) EFFECTIVE PLATE AREA = 3.125 SQ. IN.																		
NOMINAL SIZE						SECTION MODULUS							BEAM DIMENSIONS					
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X IN X LBS/FT						LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2	
4	X	4	X	5.0	T	4.91	3.8	10.5	11.7	1.60	3.1	1.1	1.44	3.95	3.94	.205	.170	.67
4	X	4	X	6.5	T	6.40	4.7	10.9	14.1	1.68	3.0	1.3	1.88	4.00	4.00	.255	.230	.92
4	X	4	X	7.5	T	7.42	5.6	11.4	16.2	1.75	2.9	1.4	2.18	4.06	4.02	.315	.245	.99
4	X	5	1/4 X	9.0	T	8.82	7.2	11.8	19.4	1.84	2.7	1.6	2.59	4.07	5.25	.330	.230	.94
5	X	4	X	6.0	T	5.88	5.2	13.5	19.4	2.00	3.8	1.4	1.73	4.94	3.96	.210	.190	.94
5	X	4	X	7.5	T	7.37	6.5	14.1	23.3	2.10	3.6	1.7	2.17	5.00	4.00	.270	.230	1.15
5	X	4	X	8.5	T	8.36	7.6	14.5	26.5	2.18	3.5	1.8	2.46	5.06	4.01	.330	.240	1.21
5	X	4	X	9.5	T	9.42	8.8	14.9	29.6	2.24	3.4	2.0	2.77	5.12	4.02	.395	.250	1.28
5	X	5	X	16.0	I-T	9.91	9.5	14.8	30.5	2.25	3.2	2.1	2.92	5.01	5.00	.360	.240	1.20
6	X	4	X	7.0	T	6.94	6.9	16.7	30.4	2.43	4.4	1.8	2.04	5.96	3.97	.225	.200	1.19
6	X	4	X	8.0	T	7.88	8.0	17.1	34.0	2.50	4.3	2.0	2.32	6.00	3.99	.265	.220	1.32
6	X	4	X	9.0	I-T	6.17	6.4	16.4	28.2	2.39	4.4	1.7	1.81	5.90	3.94	.215	.170	1.00
6	X	4	X	9.5	T	9.34	9.9	17.9	40.2	2.62	4.1	2.2	2.75	6.08	4.01	.350	.235	1.43
6	X	4	X	12.0	I-T	8.30	8.4	17.3	35.5	2.53	4.2	2.0	2.44	6.03	4.00	.280	.230	1.39
6	X	6	X	15.0	I-T	9.78	10.7	17.9	41.9	2.64	3.9	2.3	2.88	5.99	5.99	.260	.230	1.38
7	X	5	X	11.0	T	10.81	13.1	20.9	57.4	3.02	4.4	2.7	3.18	6.87	5.00	.335	.230	1.58
8	X	4	X	10.0	I-T	7.19	9.0	22.3	52.0	3.15	5.8	2.3	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X	13.0	I-T	9.52	11.4	23.4	63.1	3.26	5.5	2.7	2.80	7.99	4.00	.255	.230	1.84
8	X	5	1/2 X	13.0	T	12.83	17.2	24.6	81.9	3.45	4.8	3.3	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X	15.0	I-T	10.79	13.4	24.4	72.3	3.39	5.4	3.0	3.17	8.11	4.02	.315	.245	1.99
8	X	5	1/4 X	18.0	I-T	12.00	16.6	25.3	84.0	3.55	5.1	3.3	3.53	8.14	5.25	.330	.230	1.87
8	X	5	1/4 X	21.0	I-T	13.87	19.6	26.3	95.8	3.65	4.9	3.6	4.08	8.28	5.27	.400	.250	2.07
8	X	6	1/2 X	24.0	I-T	15.11	21.9	25.6	96.4	3.57	4.4	3.8	4.44	7.93	6.50	.400	.245	1.94

(50T) PLATE WEIGHT = 10.200 LBS. (.2500 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T														
(50T = 12.500 IN.) PLATE WEIGHT = 10.200 LBS. (.2500 IN.) EFFECTIVE PLATE AREA = 3.125 SQ. IN.														
NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS						
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X IN X LBS/FT		LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
10	X 4 X 12.0 I-T	9.07	12.7	26.5	88.9	3.92	7.0	3.1	2.67	9.87	3.96	.210	.190	1.88
10	X 4 X 15.0 I-T	11.27	15.8	30.1	106.1	4.06	6.7	3.5	3.32	9.99	4.00	.270	.230	2.30
10	X 4 X 17.0 I-T	12.48	18.2	31.2	119.3	4.19	6.5	3.8	3.67	10.11	4.01	.330	.240	2.43
10	X 4 X 19.0 I-T	13.77	20.8	32.4	133.0	4.31	6.4	4.1	4.05	10.24	4.02	.395	.250	2.56
10	X 5 3/4 X 22.0 I-T	15.04	24.9	33.1	147.9	4.43	6.0	4.5	4.42	10.17	5.75	.360	.240	2.44
12	X 4 X 14.0 I-T	10.98	17.3	35.4	141.6	4.72	8.2	4.0	3.23	11.91	3.97	.225	.200	2.38
12	X 4 X 16.0 I-T	12.37	19.7	36.7	157.0	4.82	8.0	4.3	3.64	11.99	3.99	.265	.220	2.64
12	X 4 X 19.0 I-T	14.20	23.9	38.6	183.1	5.01	7.7	4.7	4.18	12.16	4.01	.350	.235	2.86
12	X 6 1/2 X 26.0 I-T	17.64	35.0	41.4	236.4	5.33	6.8	5.7	5.19	12.22	6.49	.380	.230	2.81
14	X 5 X 22.0 I-T	16.18	31.2	45.3	258.7	5.73	8.3	5.7	4.76	13.74	5.00	.335	.230	3.16
16	X 5 1/2 X 26.0 I-T	19.49	40.9	54.3	371.9	6.48	9.1	6.9	5.73	15.69	5.50	.345	.250	3.92

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(50T) PLATE WEIGHT = 10.200 LBS. (.2500 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(50T = 14.063 IN.) PLATE WEIGHT = 11.475 LBS. (.2813 IN.) EFFECTIVE PLATE AREA = 3.955 SQ. IN.																		
NOMINAL SIZE				WT/FT	SECTION MODULUS				BEAM DIMENSIONS									
					FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
4	X	4	X	5.0 T	4.91	3.8	12.8	12.4	1.52	3.3	1.0	1.44	3.95	3.94	.205	.170	.67	
4	X	4	X	6.5 T	6.40	4.8	13.3	15.1	1.61	3.1	1.1	1.88	4.00	4.00	.255	.230	.92	
4	X	4	X	7.5 T	7.42	5.7	13.8	17.6	1.69	3.1	1.3	2.18	4.06	4.02	.315	.245	.99	
4	X	5 1/4	X	9.0 T	8.82	7.4	14.4	21.2	1.80	2.9	1.5	2.59	4.07	5.25	.330	.230	.94	
4	X	4	X	13.0 I-T	8.39	6.5	14.3	19.8	1.76	3.1	1.4	2.47	4.16	4.06	.345	.280	1.16	
5	X	4	X	6.0 T	5.88	5.2	16.4	20.8	1.91	4.0	1.3	1.73	4.94	3.96	.210	.190	.94	
5	X	4	X	7.5 T	7.37	6.6	17.1	25.2	2.03	3.8	1.5	2.17	5.00	4.00	.270	.230	1.15	
5	X	4	X	8.5 T	8.36	7.7	17.7	28.7	2.12	3.7	1.6	2.46	5.06	4.01	.330	.240	1.21	
5	X	4	X	9.5 T	9.42	8.9	18.2	32.4	2.19	3.6	1.8	2.77	5.12	4.02	.395	.250	1.28	
5	X	5	X	16.0 I-T	9.91	9.7	18.1	33.4	2.20	3.4	1.8	2.92	5.01	5.00	.360	.240	1.20	
88	5	X	5	X	19.0 I-T	11.69	11.5	18.9	39.0	2.30	3.4	2.1	3.44	5.15	5.03	.430	.270	1.39
6	X	4	X	7.0 T	6.94	7.1	20.3	32.7	2.33	4.6	1.6	2.04	5.96	3.97	.225	.200	1.19	
6	X	4	X	8.0 T	7.88	8.1	20.9	36.7	2.42	4.5	1.8	2.32	6.00	3.99	.265	.220	1.32	
6	X	4	X	9.0 I-T	6.17	6.5	20.0	30.2	2.29	4.7	1.5	1.81	5.90	3.94	.215	.170	1.00	
6	X	4	X	9.5 T	9.34	10.0	21.8	43.7	2.55	4.4	2.0	2.75	6.08	4.01	.350	.235	1.43	
6	X	4	X	11.0 T	10.89	11.9	22.5	50.0	2.64	4.2	2.2	3.20	6.16	4.03	.425	.260	1.60	
6	X	4	X	12.0 I-T	8.30	8.5	21.1	38.4	2.45	4.5	1.8	2.44	6.03	4.00	.280	.230	1.39	
6	X	6	X	15.0 I-T	9.78	10.9	21.9	45.7	2.59	4.2	2.1	2.88	5.99	5.99	.260	.230	1.38	
6	X	4	X	16.0 I-T	10.74	11.8	22.9	51.0	2.68	4.3	2.2	3.16	6.28	4.03	.405	.260	1.63	
6	X	6	X	20.0 I-T	12.63	14.8	23.4	58.8	2.77	4.0	2.5	3.71	6.20	6.02	.365	.260	1.61	
7	X	5	X	11.0 T	10.81	13.4	25.4	62.7	2.97	4.7	2.5	3.18	6.87	5.00	.335	.230	1.58	
7	X	5	X	13.0 T	12.85	16.2	26.4	72.7	3.07	4.5	2.8	3.78	6.96	5.03	.420	.255	1.77	
7	X	6 3/4	X	15.0 T	14.81	19.3	26.9	80.8	3.12	4.2	3.0	4.36	6.92	6.73	.385	.270	1.87	
(50T) PLATE WEIGHT = 11.475 LBS. (.2813 IN.)																		

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(50T = 14.063 IN.) PLATE WEIGHT = 11.475 LBS. (.2813 IN.) EFFECTIVE PLATE AREA = 3.955 SQ. IN.																		
NOMINAL SIZE			SECTION MODULUS					BEAM DIMENSIONS										
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2				
8	X	4	X	10.0	I-T	7.19	9.1	27.2	55.8	3.03	6.1	2.1	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X	13.0	I-T	9.52	11.6	28.4	68.2	3.18	5.9	2.4	2.80	7.99	4.00	.255	.230	1.84
8	X	5 1/2	X	13.0	T	12.83	17.5	29.9	89.9	3.41	5.1	3.0	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X	15.0	I-T	10.79	13.7	29.5	78.5	3.32	5.7	2.7	3.17	8.11	4.02	.315	.245	1.99
8	X	5 1/2	X	15.5	T	15.28	21.4	31.0	104.0	3.51	4.9	3.4	4.49	7.94	5.53	.440	.275	2.18
8	X	5 1/4	X	18.0	I-T	12.00	16.9	30.7	91.9	3.50	5.4	3.0	3.53	8.14	5.25	.330	.230	1.87
8	X	5 1/4	X	21.0	I-T	13.87	20.0	32.0	105.4	3.62	5.3	3.3	4.08	8.28	5.27	.400	.250	2.07
8	X	6 1/2	X	24.0	I-T	15.11	22.4	31.1	106.8	3.57	4.8	3.4	4.44	7.93	6.50	.400	.245	1.94
10	X	4	X	12.0	I-T	9.07	13.0	34.7	95.7	3.80	7.4	2.8	2.67	9.87	3.96	.210	.190	1.88
10	X	4	X	15.0	I-T	11.27	16.2	36.4	115.0	3.98	7.1	3.2	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X	17.0	I-T	12.48	18.7	37.7	129.8	4.13	7.0	3.4	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X	19.0	I-T	13.77	21.4	39.1	145.3	4.26	6.8	3.7	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0	I-T	15.04	25.4	40.0	162.5	4.40	6.4	4.1	4.42	10.17	5.75	.360	.240	2.44
10	X	5 3/4	X	26.0	I-T	17.37	30.1	41.7	185.6	4.53	6.2	4.5	5.11	10.33	5.77	.440	.260	2.69
12	X	4	X	14.0	I-T	10.98	17.8	42.9	153.0	4.62	8.6	3.6	3.23	11.91	3.97	.225	.200	2.38
12	X	4	X	16.0	I-T	12.37	20.2	44.2	170.2	4.74	8.4	3.9	3.64	11.99	3.99	.265	.220	2.64
12	X	4	X	19.0	I-T	14.28	24.5	46.5	199.6	4.95	8.1	4.3	4.18	12.16	4.01	.350	.235	2.86
12	X	4	X	22.0	I-T	16.33	28.7	48.5	226.8	5.09	7.9	4.7	4.80	12.31	4.03	.425	.260	3.20
12	X	6 1/2	X	26.0	I-T	17.64	35.8	49.8	260.5	5.34	7.3	5.2	5.19	12.22	6.49	.380	.230	2.81
12	X	6 1/2	X	30.0	I-T	20.27	41.0	51.6	288.4	5.39	7.0	5.6	5.96	12.34	6.52	.440	.260	3.21
14	X	5	X	22.0	I-T	16.16	32.0	54.4	282.7	5.70	8.8	5.2	4.76	13.74	5.00	.335	.230	3.16
14	X	5	X	26.0	I-T	18.87	38.3	57.0	325.2	5.85	8.5	5.7	5.55	13.91	5.03	.420	.255	3.55
14	X	6 3/4	X	30.0	I-T	21.16	44.5	58.5	357.1	5.92	8.0	6.1	6.22	13.84	6.73	.385	.270	3.74

(50T) PLATE WEIGHT = 11.475 LBS. (.2813 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T															
(50T = 14.063 IN.) PLATE WEIGHT = 11.475 LBS. (.2813 IN.) EFFECTIVE PLATE AREA = 3.955 SQ. IN.															
NOMINAL SIZE		WT/FT	SECTION MODULUS				BEAM DIMENSIONS								
			FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
16	X 5 1/2 X	26.0 I-T	19.49	42.1	64.6	407.1	6.48	9.7	6.3	5.73	15.69	5.50	.345	.250	3.92
16	X 5 1/2 X	31.0 I-T	22.70	50.6	68.0	469.0	6.64	9.3	6.9	6.68	15.88	5.53	.440	.275	4.37

(50T) PLATE WEIGHT = 11.475 LBS. (.2813 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																			
(50T = 15.625 IN.) PLATE WEIGHT = 12.750 LBS. (.3125 IN.) EFFECTIVE PLATE AREA = 4.863 SQ. IN.																			
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS											
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN X	IN X	LBS/FT		LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2			
4	X	4	X	5.0	T	4.91	3.9	15.1	13.1	1.44	3.4	.9	1.44	3.95	3.94	.205	.170	.67	
4	X	4	X	6.5	T	6.40	4.9	15.7	16.1	1.54	3.3	1.0	1.88	4.00	4.00	.255	.230	.92	
4	X	4	X	7.5	T	7.42	5.8	16.4	18.8	1.63	3.2	1.1	2.18	4.06	4.02	.315	.245	.99	
4	X	5	1/4	X	9.0	T	8.82	7.5	17.2	22.9	1.75	3.1	1.3	2.59	4.07	5.25	.330	.230	.94
4	X	4	X	13.0	I-T	8.39	6.6	17.0	21.2	1.70	3.2	1.2	2.47	4.16	4.06	.345	.280	1.16	
5	X	4	X	6.0	T	5.88	5.3	19.5	21.9	1.82	4.1	1.1	1.73	4.94	3.96	.210	.190	.94	
5	X	4	X	7.5	T	7.37	6.7	20.4	26.8	1.95	4.0	1.3	2.17	5.00	4.00	.270	.230	1.15	
5	X	4	X	8.5	T	8.36	7.8	21.1	30.7	2.05	3.9	1.5	2.46	5.06	4.01	.330	.240	1.21	
5	X	4	X	9.5	T	9.42	9.1	21.8	34.8	2.13	3.8	1.6	2.77	5.12	4.02	.395	.250	1.28	
5	X	5	X	16.0	I-T	9.91	9.8	21.7	36.0	2.15	3.7	1.7	2.92	5.01	5.00	.360	.240	1.20	
5	X	5	X	19.0	I-T	11.69	11.8	22.7	42.3	2.25	3.6	1.9	3.44	5.15	5.03	.430	.270	1.39	
6	X	4	X	7.0	T	6.94	7.1	24.2	34.6	2.24	4.8	1.4	2.04	5.96	3.97	.225	.200	1.19	
6	X	4	X	8.0	T	7.88	8.2	24.8	39.0	2.33	4.7	1.6	2.32	6.00	3.99	.265	.220	1.32	
6	X	4	X	9.0	I-T	6.17	6.6	23.8	31.9	2.18	4.9	1.3	1.81	5.90	3.94	.215	.170	1.00	
6	X	4	X	9.5	T	9.34	10.2	26.0	46.8	2.48	4.6	1.8	2.75	6.08	4.01	.350	.235	1.43	
6	X	4	X	11.0	T	10.89	12.1	26.9	53.9	2.58	4.5	2.0	3.20	6.16	4.03	.425	.260	1.60	
6	X	4	X	12.0	I-T	8.30	8.7	25.1	40.9	2.36	4.7	1.6	2.44	6.03	4.00	.280	.230	1.39	
6	X	6	X	15.0	I-T	9.78	11.1	26.1	49.1	2.52	4.4	1.9	2.88	5.99	5.99	.260	.230	1.38	
6	X	4	X	16.0	I-T	10.74	12.0	27.3	54.9	2.61	4.6	2.0	3.16	6.28	4.03	.405	.260	1.63	
6	X	6	X	20.0	I-T	12.63	15.1	28.0	63.8	2.72	4.2	2.3	3.71	6.20	6.02	.365	.260	1.61	
7	X	5	X	11.0	T	10.81	13.6	30.4	67.5	2.89	5.0	2.2	3.18	6.87	5.00	.335	.230	1.58	
7	X	5	X	13.0	T	12.85	16.5	31.5	78.7	3.01	4.8	2.5	3.78	6.96	5.03	.420	.255	1.77	
7	X	6	3/4	X	15.0	T	14.81	19.6	32.1	88.1	3.09	4.5	2.7	4.36	6.92	6.73	.385	.270	1.87
7	X	6	3/4	X	17.0	T	16.77	22.6	32.9	97.8	3.16	4.3	3.0	4.93	6.99	6.75	.455	.285	1.99
7	X	6	3/4	X	19.0	T	18.74	25.2	33.6	106.0	3.19	4.2	3.2	5.51	7.05	6.77	.515	.310	2.19

(50T) PLATE WEIGHT = 12.750 LBS. (.3125 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																	
(50T = 15.625 IN.) PLATE WEIGHT = 12.750 LBS. (.3125 IN.) EFFECTIVE PLATE AREA = 4.883 SQ. IN.																	
NOMINAL SIZE					SECTION MODULUS								BEAM DIMENSIONS				
					WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
7	X	8	X	21.5 T	20.94	28.5	32.9	109.0	3.14	3.8	3.3	6.16	6.83	8.00	.530	.305	2.08
8	X	4	X	10.0 I-T	7.19	9.2	32.4	59.0	2.90	6.4	1.8	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X	13.0 I-T	9.52	11.8	33.8	72.7	3.08	6.1	2.2	2.80	7.99	4.00	.255	.230	1.84
8	X	5 1/2	X	13.0 T	12.83	17.8	35.7	97.1	3.35	5.4	2.7	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X	15.0 I-T	10.79	13.9	35.2	84.1	3.23	6.0	2.4	3.17	8.11	4.02	.315	.245	1.99
8	X	5 1/2	X	15.5 T	15.28	21.8	37.0	113.1	3.47	5.2	3.1	4.49	7.34	5.53	.440	.275	2.18
8	X	5 1/4	X	18.0 I-T	12.00	17.2	36.7	99.0	3.43	5.8	2.7	3.53	8.14	5.25	.330	.230	1.87
8	X	7	X	18.0 T	17.73	26.0	37.9	127.1	3.55	4.9	3.4	5.22	7.93	6.99	.430	.295	2.34
8	X	7	X	20.0 T	19.79	29.6	38.8	139.8	3.61	4.7	3.6	5.82	8.01	7.00	.505	.305	2.44
8	X	5 1/4	X	21.0 I-T	13.87	20.4	38.1	114.1	3.57	5.6	3.0	4.08	8.28	5.27	.400	.250	2.07
8	X	6 1/2	X	24.0 I-T	15.11	22.7	37.2	116.3	3.53	5.1	3.1	4.44	7.93	6.50	.400	.245	1.94
8	X	6 1/2	X	28.0 I-T	17.69	26.4	38.5	131.2	3.61	5.0	3.4	5.20	8.06	6.54	.465	.285	2.30
8	X	8	X	31.0 I-T	19.16	29.4	38.8	139.1	3.64	4.7	3.6	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X	17.5 T	17.26	26.2	42.1	148.0	3.85	5.6	3.5	5.08	8.85	6.00	.425	.300	2.66
10	X	4	X	12.0 I-T	9.07	13.2	41.3	101.7	3.67	7.7	2.5	2.67	9.87	3.96	.210	.190	1.88
10	X	4	X	15.0 I-T	11.27	16.5	43.3	123.0	3.87	7.5	2.8	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X	17.0 I-T	12.48	19.0	44.9	139.2	4.03	7.3	3.1	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X	19.0 I-T	13.77	21.8	46.4	156.4	4.18	7.2	3.4	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0 I-T	15.04	25.9	47.6	175.9	4.35	6.8	3.7	4.42	10.17	5.75	.360	.240	2.44
10	X	5 3/4	X	26.0 I-T	17.37	30.8	49.5	201.9	4.50	6.6	4.1	5.11	10.33	5.77	.440	.260	2.69
10	X	5 3/4	X	30.0 I-T	20.23	35.5	51.3	226.4	4.57	6.4	4.4	5.95	10.47	5.81	.510	.300	3.14
10	X	8	X	33.0 I-T	20.94	37.0	48.2	210.2	4.36	5.7	4.4	6.16	9.73	7.96	.435	.290	2.82

(50T) PLATE WEIGHT = 12.750 LBS. (.3125 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(50T = 15.625 IN.) PLATE WEIGHT = 12.750 LBS. (.3125 IN.) EFFECTIVE PLATE AREA = 4.883 SQ. IN.																
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS								
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	LBS/FT		LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2	
12	X	4	X 14.0 I-T	10.98	18.1	51.0	163.2	4.48	9.0	3.2	3.23	11.91	3.97	.225	.200	2.38
12	X	4	X 16.0 I-T	12.37	20.6	52.5	182.1	4.62	8.8	3.5	3.64	11.99	3.99	.265	.220	2.64
12	X	4	X 19.0 I-T	14.20	25.0	55.1	214.5	4.87	8.6	3.9	4.18	12.16	4.01	.350	.235	2.86
12	X	4	X 22.0 I-T	16.33	29.3	57.3	244.7	5.03	8.4	4.3	4.80	12.31	4.03	.425	.260	3.20
12	X	6 1/2	X 26.0 I-T	17.64	36.5	59.2	283.1	5.30	7.7	4.8	5.19	12.22	6.49	.380	.230	2.81
12	X	6 1/2	X 30.0 I-T	20.27	41.9	61.1	314.3	5.38	7.5	5.1	5.96	12.34	6.52	.440	.260	3.21
12	X	6 1/2	X 35.0 I-T	23.82	49.0	63.6	354.5	5.46	7.2	5.6	7.01	12.50	6.56	.520	.300	3.75
12	X	8	X 40.0 I-T	25.48	53.5	61.5	350.6	5.32	6.6	5.7	7.49	11.94	8.01	.515	.295	3.52
14	X	5	X 22.0 I-T	16.18	32.7	64.4	304.9	5.62	9.3	4.7	4.76	13.74	5.00	.335	.230	3.16
14	X	5	X 26.0 I-T	18.07	39.2	67.3	352.2	5.81	9.0	5.2	5.55	13.91	5.03	.420	.255	3.55
14	X	6 3/4	X 30.0 I-T	21.16	45.5	69.0	388.2	5.91	8.5	5.6	6.22	13.84	6.73	.385	.270	3.74
14	X	6 3/4	X 34.0 I-T	23.54	52.0	71.2	429.7	6.03	8.3	6.0	6.92	13.98	6.75	.455	.285	3.98
14	X	6 3/4	X 38.0 I-T	26.17	58.0	73.4	467.0	6.09	8.1	6.4	7.70	14.10	6.77	.515	.310	4.37
14	X	8	X 43.0 I-T	28.02	64.2	72.1	474.8	6.01	7.4	6.6	8.24	13.66	8.00	.530	.305	4.17
16	X	5 1/2	X 26.0 I-T	19.49	43.1	76.1	440.1	6.44	10.2	5.8	5.73	15.69	5.50	.345	.250	3.92
16	X	5 1/2	X 31.0 I-T	22.70	51.8	79.8	508.9	6.63	9.8	6.4	6.68	15.88	5.53	.440	.275	4.37
16	X	7	X 36.0 I-T	25.69	60.6	82.4	564.6	6.74	9.3	6.9	7.56	15.86	6.99	.430	.295	4.68
16	X	7	X 40.0 I-T	28.09	68.4	85.0	618.5	6.86	9.0	7.3	8.26	16.01	7.00	.505	.305	4.88
18	X	6	X 35.0 I-T	26.29	63.1	91.8	673.4	7.31	10.7	7.3	7.73	17.70	6.00	.425	.300	5.31
(50T)				PLATE WEIGHT = 12.750 LBS. (.3125 IN.)												

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																			
(50T = 17.188 IN.) PLATE WEIGHT = 14.025 LBS. (.3438 IN.) EFFECTIVE PLATE AREA = 5.908 SQ. IN.																			
NOMINAL SIZE					SECTION MODULUS								BEAM DIMENSIONS						
					WT/FT	FLANGE	PLATE	I	R	YF	YP	A	O	WF	TF	TW	ASH		
IN X	IN X	IN X	LBS/FT		LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2			
4	X	4	X	5.0	T	4.91	3.9	17.3	13.7	1.37	3.5	.8	1.44	3.95	3.94	.205	.170	.67	
4	X	4	X	6.5	T	6.40	4.9	18.2	16.9	1.47	3.4	.9	1.88	4.00	4.00	.255	.230	.92	
4	X	4	X	7.5	T	7.42	5.9	19.1	19.9	1.57	3.4	1.0	2.18	4.06	4.02	.315	.245	.99	
4	X	5	1/4	X	9.0	T	8.82	7.6	20.1	24.3	1.69	3.2	1.2	2.59	4.07	5.25	.330	.230	.94
4	X	4	X	13.0	I-T	8.39	6.7	19.9	22.5	1.64	3.4	1.1	2.47	4.16	4.06	.345	.280	1.16	
5	X	4	X	6.0	T	5.88	5.4	22.6	22.9	1.73	4.3	1.0	1.73	4.94	3.96	.210	.190	.94	
5	X	4	X	7.5	T	7.37	6.8	23.7	28.2	1.87	4.2	1.2	2.17	5.00	4.00	.270	.230	1.15	
5	X	4	X	8.5	T	8.36	7.9	24.7	32.5	1.97	4.1	1.3	2.46	5.06	4.01	.330	.240	1.21	
5	X	4	X	9.5	T	9.42	9.2	25.5	36.9	2.06	4.0	1.4	2.77	5.12	4.02	.395	.250	1.28	
5	X	5	X	16.0	I-T	9.91	10.0	25.4	38.3	2.08	3.8	1.5	2.92	5.01	5.00	.360	.240	1.20	
94	5	X	5	X	19.0	I-T	11.69	11.9	26.6	45.2	2.20	3.8	1.7	3.44	5.15	5.03	.430	.270	1.39
6	X	4	X	7.0	T	6.94	7.2	28.2	36.3	2.14	5.0	1.3	2.04	5.96	3.97	.225	.200	1.19	
6	X	4	X	8.0	T	7.88	8.3	29.0	41.0	2.23	4.9	1.4	2.32	6.00	3.99	.265	.220	1.32	
6	X	4	X	9.0	I-T	6.17	6.6	27.7	33.4	2.08	5.0	1.2	1.81	5.90	3.94	.215	.170	1.00	
6	X	4	X	9.5	T	9.34	10.3	30.4	49.6	2.39	4.8	1.6	2.75	6.08	4.01	.350	.235	1.43	
6	X	4	X	11.0	T	10.89	12.2	31.5	57.3	2.51	4.7	1.8	3.20	6.16	4.03	.425	.260	1.60	
6	X	4	X	12.0	I-T	8.30	8.8	29.4	43.1	2.27	4.9	1.5	2.44	6.03	4.00	.280	.230	1.39	
6	X	6	X	15.0	I-T	9.78	11.2	30.7	52.1	2.43	4.6	1.7	2.88	5.99	5.99	.260	.230	1.38	
6	X	4	X	16.0	I-T	10.74	12.1	32.0	58.3	2.54	4.8	1.8	3.16	6.28	4.03	.405	.260	1.63	
6	X	6	X	20.0	I-T	12.63	15.3	33.0	68.3	2.66	4.5	2.1	3.71	6.20	6.02	.365	.260	1.61	
7	X	5	X	11.0	T	10.81	13.8	35.7	71.7	2.81	5.2	2.0	3.18	6.87	5.00	.335	.230	1.58	
7	X	5	X	13.0	T	12.85	16.7	37.0	84.2	2.95	5.0	2.3	3.78	6.96	5.03	.420	.255	1.77	
7	X	6	3/4	X	15.0	T	14.81	19.9	37.8	94.7	3.04	4.8	2.5	4.36	6.92	6.73	.385	.270	1.87
7	X	6	3/4	X	17.0	T	16.77	22.9	38.7	105.6	3.12	4.6	2.7	4.93	6.99	6.75	.455	.285	1.99
7	X	6	3/4	X	19.0	T	18.74	25.6	39.5	114.9	3.17	4.5	2.9	5.51	7.05	6.77	.515	.310	2.19

(50T) PLATE WEIGHT = 14.025 LBS. (.3438 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(50T = 17.188 IN.) PLATE WEIGHT = 14.025 LBS. (.3438 IN.) EFFECTIVE PLATE AREA = 5.908 SQ. IN.																		
NOMINAL SIZE					SECTION MODULUS								BEAM DIMENSIONS					
					WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT			LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
7	X	8	X	21.5	T	20.94	29.0	38.8	118.9	3.14	4.1	3.1	6.16	6.83	8.00	.530	.305	2.08
7	X	8	X	24.0	T	23.53	32.2	39.6	128.7	3.17	4.0	3.3	6.92	6.90	8.03	.595	.340	2.35
8	X	4	X	10.0	I-T	7.19	9.3	37.9	61.7	2.77	6.6	1.6	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X	13.0	I-T	9.52	12.0	39.5	76.6	2.97	6.4	1.9	2.80	7.99	4.00	.255	.230	1.84
8	X	5 1/2	X	13.0	T	12.83	18.1	41.9	103.5	3.27	5.7	2.5	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X	15.0	I-T	10.79	14.1	41.2	89.0	3.13	6.3	2.2	3.17	8.11	4.02	.315	.245	1.99
8	X	5 1/2	X	15.5	T	15.28	22.1	43.4	121.4	3.42	5.5	2.8	4.49	7.94	5.53	.440	.275	2.18
8	X	5 1/4	X	18.0	I-T	12.00	17.4	43.1	105.3	3.34	6.0	2.4	3.53	8.14	5.25	.330	.230	1.87
8	X	7	X	18.0	T	17.73	26.4	44.5	137.2	3.51	5.2	3.1	5.22	7.93	6.99	.430	.295	2.34
8	X	7	X	20.0	T	19.79	30.1	45.6	151.6	3.59	5.0	3.3	5.82	8.01	7.00	.505	.305	2.44
8	X	5 1/4	X	21.0	I-T	13.87	20.7	44.8	122.0	3.50	5.9	2.7	4.08	8.28	5.27	.400	.250	2.07
8	X	6 1/2	X	24.0	I-T	15.11	23.1	43.8	125.0	3.48	5.4	2.9	4.44	7.93	6.50	.400	.245	1.94
8	X	6 1/2	X	28.0	I-T	17.69	26.9	45.2	141.7	3.57	5.3	3.1	5.20	8.06	6.54	.465	.285	2.30
8	X	8	X	31.0	I-T	19.16	29.9	45.6	150.7	3.61	5.0	3.3	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X	17.5	T	17.26	26.7	49.3	159.1	3.81	6.0	3.2	5.08	8.85	6.00	.425	.300	2.66
9	X	6	X	20.0	T	19.76	31.5	50.9	180.8	3.93	5.7	3.6	5.81	8.95	6.02	.525	.315	2.82
10	X	4	X	12.0	I-T	9.07	13.3	48.4	106.9	3.53	8.0	2.2	2.67	9.87	3.96	.210	.190	1.88
10	X	4	X	15.0	I-T	11.27	16.7	50.7	130.0	3.75	7.8	2.6	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X	17.0	I-T	12.48	19.3	52.6	147.7	3.93	7.6	2.8	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X	19.0	I-T	13.77	22.1	54.4	166.4	4.09	7.5	3.1	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0	I-T	15.04	26.3	55.9	188.1	4.27	7.1	3.4	4.42	10.17	5.75	.360	.240	2.44
10	X	5 3/4	X	26.0	I-T	17.37	31.3	58.1	216.9	4.44	6.9	3.7	5.11	10.33	5.77	.440	.260	2.69
10	X	5 3/4	X	30.0	I-T	20.23	36.2	60.0	244.1	4.54	6.7	4.1	5.95	10.47	5.81	.510	.300	3.14
10	X	8	X	33.0	I-T	20.94	37.6	56.5	227.5	4.34	6.0	4.0	6.16	9.73	7.96	.435	.290	2.82

(50T) PLATE WEIGHT = 14.025 LBS. (.3438 IN.)

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TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																	

(50T = 17.188 IN.) PLATE WEIGHT = 14.025 LBS. (.3438 IN.) EFFECTIVE PLATE AREA = 5.908 SQ. IN.																	
NOMINAL SIZE				WT/FT	SECTION MODULUS				BEAM DIMENSIONS								
					FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
10	X	8	X	39.0 I-T	24.45	44.9	58.8	261.3	4.47	5.8	4.4	7.19	9.92	7.99	.530	.315	3.12
12	X	4	X	14.0 I-T	10.98	18.4	59.8	172.1	4.34	9.4	2.9	3.23	11.91	3.97	.225	.200	2.38
12	X	4	X	16.0 I-T	12.37	21.0	61.5	192.7	4.49	9.2	3.1	3.64	11.99	3.99	.265	.220	2.64
12	X	4	X	19.0 I-T	14.20	25.4	64.5	228.0	4.75	9.0	3.5	4.18	12.16	4.01	.350	.235	2.86
12	X	4	X	22.0 I-T	16.33	29.8	67.0	261.1	4.94	8.8	3.9	4.80	12.31	4.03	.425	.260	3.20
12	X	6 1/2	X	26.0 I-T	17.64	37.1	69.4	303.8	5.23	8.2	4.4	5.19	12.22	6.49	.380	.230	2.81
12	X	6 1/2	X	30.0 I-T	20.27	42.6	71.4	338.5	5.34	7.9	4.7	5.96	12.34	6.52	.440	.260	3.21
12	X	6 1/2	X	35.0 I-T	23.82	49.9	74.2	383.1	5.45	7.7	5.2	7.01	12.50	6.56	.520	.300	3.75
12	X	8	X	40.0 I-T	25.48	54.5	71.8	380.6	5.33	7.0	5.3	7.49	11.94	8.01	.515	.295	3.52
12	X	8	X	45.0 I-T	28.81	60.8	74.0	413.9	5.36	6.8	5.6	8.47	12.06	8.05	.575	.335	4.04
14	X	5	X	22.0 I-T	16.18	33.3	75.3	325.1	5.52	9.8	4.3	4.76	13.74	5.00	.335	.230	3.16
14	X	5	X	26.0 I-T	18.87	39.9	78.5	377.2	5.74	9.5	4.8	5.55	13.91	5.03	.420	.255	3.55
14	X	6 3/4	X	30.0 I-T	21.16	46.4	80.4	417.2	5.86	9.0	5.2	6.22	13.84	6.73	.385	.270	3.74
14	X	6 3/4	X	34.0 I-T	23.54	53.0	82.9	463.2	6.01	8.7	5.6	6.92	13.98	6.75	.455	.285	3.98
14	X	6 3/4	X	38.0 I-T	26.17	59.2	85.3	504.6	6.09	8.5	5.9	7.70	14.10	6.77	.515	.310	4.37
14	X	8	X	43.0 I-T	28.02	65.5	83.9	515.2	6.03	7.9	6.1	8.24	13.66	8.00	.530	.305	4.17
14	X	8	X	48.0 I-T	31.50	73.1	86.5	559.9	6.07	7.7	6.5	9.26	13.79	8.03	.595	.340	4.69
16	X	5 1/2	X	26.0 I-T	19.49	43.9	88.6	470.7	6.36	10.7	5.3	5.73	15.69	5.50	.345	.250	3.92
16	X	5 1/2	X	31.0 I-T	22.70	52.9	92.7	546.4	6.59	10.3	5.9	6.68	15.88	5.53	.440	.275	4.37
16	X	7	X	36.0 I-T	25.69	61.8	95.5	608.3	6.72	9.8	6.4	7.56	15.86	6.99	.430	.295	4.68
16	X	7	X	40.0 I-T	28.09	69.8	98.4	668.0	6.87	9.6	6.8	8.26	16.01	7.00	.505	.305	4.88
18	X	6	X	35.0 I-T	26.29	64.5	106.1	723.5	7.28	11.2	6.8	7.73	17.70	6.00	.425	.300	5.31
18	X	6	X	40.0 I-T	29.35	75.0	110.5	814.6	7.49	10.9	7.4	8.63	17.90	6.02	.525	.315	5.64
					(50T)	PLATE WEIGHT = 14.025 LBS. (.3438 IN.)											

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(50T = 18.750 IN.) PLATE WEIGHT = 15.300 LBS. (.3750 IN.) EFFECTIVE PLATE AREA = 7.031 SQ. IN.																
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS								
				HT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
4	X	4	X 5.0 T	4.91	4.0	19.6	14.2	1.30	3.6	.7	1.44	3.95	3.94	.205	.170	.67
4	X	4	X 6.5 T	6.40	5.0	20.7	17.6	1.41	3.5	.9	1.88	4.00	4.00	.255	.230	.92
4	X	4	X 7.5 T	7.42	6.0	21.8	20.8	1.50	3.5	1.0	2.18	4.06	4.02	.315	.245	.99
4	X	5 1/4	X 9.0 T	8.82	7.7	23.1	25.6	1.63	3.3	1.1	2.59	4.07	5.25	.330	.230	.94
4	X	4	X 13.0 I-T	8.39	6.8	22.7	23.6	1.58	3.5	1.0	2.47	4.16	4.06	.345	.280	1.16
5	X	4	X 6.0 T	5.88	5.4	25.7	23.8	1.65	4.4	.9	1.73	4.94	3.96	.210	.190	.94
5	X	4	X 7.5 T	7.37	6.9	27.2	29.4	1.79	4.3	1.1	2.17	5.00	4.00	.270	.230	1.15
5	X	4	X 8.5 T	8.36	8.0	28.3	34.0	1.89	4.2	1.2	2.46	5.06	4.01	.330	.240	1.21
5	X	4	X 9.5 T	9.42	9.3	29.3	38.8	1.99	4.2	1.3	2.77	5.12	4.02	.395	.250	1.28
5	X	5	X 16.0 I-T	9.91	10.1	29.3	40.4	2.02	4.0	1.4	2.92	5.01	5.00	.360	.240	1.20
5	X	5	X 19.0 I-T	11.69	12.1	30.8	47.9	2.14	4.0	1.6	3.44	5.15	5.03	.430	.270	1.39
6	X	4	X 7.0 T	6.94	7.3	32.3	37.7	2.04	5.2	1.2	2.04	5.96	3.97	.225	.200	1.19
6	X	4	X 8.0 T	7.88	8.4	33.4	42.8	2.14	5.1	1.3	2.32	6.00	3.99	.265	.220	1.32
6	X	4	X 9.0 I-T	6.17	6.7	31.7	34.6	1.98	5.2	1.1	1.81	5.90	3.94	.215	.170	1.00
6	X	4	X 9.5 T	9.34	10.5	35.1	52.0	2.31	5.0	1.5	2.75	6.08	4.01	.350	.235	1.43
6	X	4	X 11.0 T	10.89	12.4	36.4	60.4	2.43	4.9	1.7	3.20	6.16	4.03	.425	.260	1.60
6	X	4	X 12.0 I-T	8.30	8.9	33.8	45.1	2.18	5.1	1.3	2.44	6.03	4.00	.280	.230	1.39
6	X	6	X 15.0 I-T	9.78	11.3	35.4	54.7	2.35	4.8	1.5	2.88	5.99	5.99	.260	.230	1.38
6	X	4	X 16.0 I-T	10.74	12.3	37.0	61.4	2.45	5.0	1.7	3.16	6.28	4.03	.405	.260	1.63
6	X	6	X 20.0 I-T	12.63	15.5	38.2	72.3	2.59	4.7	1.9	3.71	6.20	6.02	.365	.260	1.61
7	X	5	X 11.0 T	10.81	13.9	41.3	75.5	2.72	5.4	1.8	3.18	6.87	5.00	.335	.230	1.58
7	X	5	X 13.0 T	12.85	16.9	42.9	89.0	2.87	5.3	2.1	3.78	6.96	5.03	.420	.255	1.77
7	X	6 3/4	X 15.0 T	14.81	20.1	43.9	100.7	2.97	5.0	2.3	4.36	6.92	6.73	.385	.270	1.87
7	X	6 3/4	X 17.0 T	16.77	23.2	45.0	112.8	3.07	4.9	2.5	4.93	6.99	6.75	.455	.285	1.99
7	X	6 3/4	X 19.0 T	18.74	26.0	45.9	123.1	3.13	4.7	2.7	5.51	7.05	6.77	.515	.310	2.19

(50T) PLATE WEIGHT = 15.300 LBS. (.3750 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(50T = 18.750 IN.) PLATE WEIGHT = 15.300 LBS. (.3750 IN.) EFFECTIVE PLATE AREA = 7.031 SQ. IN.																		
NOMINAL SIZE				WT/FT	SECTION MODULUS				BEAM DIMENSIONS									
					FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
7	X	8	X	21.5	T	20.94	29.4	45.1	128.1	3.12	4.4	2.8	6.16	6.83	8.00	.530	.305	2.08
7	X	8	X	24.0	T	23.53	32.7	46.0	139.1	3.16	4.2	3.0	6.92	6.90	8.03	.595	.340	2.35
8	X	4	X	10.0	I-T	7.19	9.4	43.7	64.1	2.65	6.8	1.5	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X	13.0	I-T	9.52	12.1	45.6	80.1	2.85	6.6	1.8	2.80	7.99	4.00	.255	.230	1.84
8	X	5 1/2	X	13.0	T	12.83	18.3	48.5	109.3	3.18	6.0	2.3	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X	15.0	I-T	10.79	14.3	47.6	93.3	3.02	6.5	2.0	3.17	8.11	4.02	.315	.245	1.99
8	X	5 1/2	X	15.5	T	15.28	22.4	50.3	128.9	3.34	5.8	2.6	4.49	7.94	5.53	.440	.275	2.18
8	X	5 1/4	X	18.0	I-T	12.00	17.6	49.9	111.0	3.24	6.3	2.2	3.53	8.14	5.25	.330	.230	1.87
8	X	7	X	18.0	T	17.73	26.8	51.6	146.4	3.46	5.5	2.8	5.22	7.93	6.99	.430	.295	2.34
8	X	7	X	20.0	T	19.79	30.6	52.9	162.4	3.55	5.3	3.1	5.82	8.01	7.00	.505	.305	2.44
8	X	5 1/4	X	21.0	I-T	13.87	20.9	51.9	129.1	3.41	6.2	2.5	4.08	8.28	5.27	.400	.250	2.07
8	X	7	X	22.5	T	22.32	34.0	53.9	176.2	3.60	5.2	3.3	6.56	8.07	7.04	.565	.345	2.78
8	X	6 1/2	X	24.0	I-T	15.11	23.4	50.8	132.9	3.40	5.7	2.6	4.44	7.93	6.50	.400	.245	1.94
8	X	6 1/2	X	28.0	I-T	17.69	27.2	52.4	151.2	3.52	5.6	2.9	5.20	8.06	6.54	.465	.285	2.30
8	X	8	X	31.0	I-T	19.16	30.3	52.9	161.4	3.57	5.3	3.1	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X	17.5	T	17.26	27.0	57.1	169.2	3.74	6.3	3.0	5.08	8.85	6.00	.425	.300	2.66
9	X	6	X	20.0	T	19.76	32.0	58.9	193.2	3.88	6.0	3.3	5.81	8.95	6.02	.525	.315	2.82
10	X	4	X	12.0	I-T	9.07	13.5	56.0	111.4	3.39	8.3	2.0	2.67	9.87	3.96	.210	.190	1.88
10	X	4	X	15.0	I-T	11.27	16.9	58.6	136.2	3.63	8.0	2.3	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X	17.0	I-T	12.48	19.6	60.8	155.2	3.81	7.9	2.6	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X	19.0	I-T	13.77	22.4	62.9	175.5	3.98	7.8	2.8	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0	I-T	15.04	26.6	64.8	199.1	4.17	7.5	3.1	4.42	10.17	5.75	.360	.240	2.44
10	X	5 3/4	X	26.0	I-T	17.37	31.7	67.3	230.6	4.36	7.3	3.4	5.11	10.33	5.77	.440	.260	2.69
10	X	5 3/4	X	30.0	I-T	20.23	36.7	69.4	260.4	4.48	7.1	3.8	5.95	10.47	5.81	.510	.300	3.14

(50T) PLATE WEIGHT = 15.300 LBS. (.3750 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(50T = 10.750 IN.) PLATE WEIGHT = 15.300 LBS. (.3750 IN.) EFFECTIVE PLATE AREA = 7.031 SQ. IN.																		
NOMINAL SIZE				SECTION MODULUS								BEAM DIMENSIONS						
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN	X	TN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2		
10	X	8	X	33.0	I-T	20.94	38.2	65.4	243.6	4.30	6.4	3.7	6.16	9.73	7.96	.435	.290	2.82
10	X	8	X	39.0	I-T	24.45	45.6	68.0	281.1	4.45	6.2	4.1	7.19	9.92	7.99	.530	.315	3.12
10	X	8	X	45.0	I-T	28.19	52.9	70.5	316.7	4.55	6.0	4.5	8.29	10.10	8.02	.620	.350	3.54
12	X	4	X	14.0	I-T	10.98	18.6	69.1	180.0	4.19	9.7	2.6	3.23	11.91	3.97	.225	.200	2.38
12	X	4	X	16.0	I-T	12.37	21.2	71.1	202.2	4.35	9.5	2.8	3.64	11.99	3.99	.265	.220	2.64
12	X	4	X	19.0	I-T	14.20	25.8	74.6	240.1	4.63	9.3	3.2	4.18	12.16	4.01	.350	.235	2.86
12	X	4	X	22.0	I-T	16.33	30.3	77.4	276.0	4.83	9.1	3.6	4.80	12.31	4.03	.425	.260	3.20
12	X	6 1/2	X	26.0	I-T	17.64	37.6	80.4	322.7	5.14	8.6	4.0	5.19	12.22	6.49	.380	.230	2.81
12	X	6 1/2	X	30.0	I-T	20.27	43.2	82.6	360.9	5.27	8.3	4.4	5.96	12.34	6.52	.440	.260	3.21
12	X	6 1/2	X	35.0	I-T	23.82	50.7	85.6	409.9	5.40	8.1	4.8	7.01	12.50	6.56	.520	.300	3.75
12	X	8	X	40.0	I-T	25.48	55.3	83.0	408.9	5.31	7.4	4.9	7.49	11.94	8.01	.515	.295	3.52
12	X	8	X	45.0	I-T	28.81	61.8	85.3	445.7	5.36	7.2	5.2	8.47	12.06	8.05	.575	.335	4.04
12	X	8 1/8	X	50.0	I-T	32.11	68.6	87.6	483.3	5.42	7.0	5.5	9.44	12.19	8.08	.640	.370	4.51
12	X	10	X	53.0	I-T	33.01	73.8	87.2	497.1	5.45	6.7	5.7	9.71	12.06	10.00	.575	.345	4.16
12	X	10	X	58.0	I-T	35.92	81.2	89.2	534.0	5.51	6.6	6.0	10.56	12.19	10.01	.640	.360	4.39
14	X	5	X	22.0	I-T	16.18	33.8	87.1	343.4	5.40	10.2	3.9	4.76	13.74	5.00	.335	.230	3.16
14	X	5	X	26.0	I-T	18.87	40.5	90.7	400.1	5.64	9.9	4.4	5.55	13.91	5.03	.420	.255	3.55
14	X	6 3/4	X	30.0	I-T	21.16	47.1	92.8	444.1	5.79	9.4	4.8	6.22	13.84	6.73	.385	.270	3.74
14	X	6 3/4	X	34.0	I-T	23.54	53.9	95.6	494.6	5.95	9.2	5.2	6.92	13.98	6.75	.455	.285	3.98
14	X	6 3/4	X	38.0	I-T	26.17	60.2	98.1	540.0	6.06	9.0	5.5	7.70	14.10	6.77	.515	.310	4.37
14	X	8	X	43.0	I-T	28.02	66.6	96.7	593.5	6.02	8.3	5.7	8.24	13.66	8.00	.530	.305	4.17
14	X	8	X	48.0	I-T	31.50	74.4	99.4	602.8	6.08	8.1	6.1	9.26	13.79	8.03	.595	.340	4.69
16	X	5 1/2	X	26.0	I-T	19.49	44.6	102.1	498.8	6.25	11.2	4.9	5.73	15.69	5.50	.345	.250	3.92
16	X	5 1/2	X	31.0	I-T	22.70	53.8	106.7	581.3	6.51	10.8	5.4	6.68	15.88	5.53	.440	.275	4.37

(50T) PLATE WEIGHT = 15.300 LBS. (.3750 IN.)

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TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																	

(50T = 18.750 IN.) PLATE WEIGHT = 15.300 LBS. (.3750 IN.) EFFECTIVE PLATE AREA = 7.031 SQ. IN.																	

NOMINAL SIZE					SECTION MODULUS								BEAM DIMENSIONS				
					WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	LBS/FT															
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
16	X	7	X	36.0 I-T	25.69	62.9	109.8	649.3	6.67	10.3	5.9	7.56	15.86	6.99	.430	.295	4.68
16	X	7	X	40.0 I-T	28.09	71.1	113.0	714.9	6.84	10.1	6.3	8.26	16.01	7.00	.505	.305	4.88
16	X	7	X	45.0 I-T	31.77	79.4	116.3	778.6	6.90	9.8	6.7	9.34	16.13	7.04	.565	.345	5.56
18	X	6	X	35.0 I-T	26.29	65.7	121.6	770.7	7.23	11.7	6.3	7.73	17.70	6.00	.425	.300	5.31
18	X	6	X	40.0 I-T	29.35	76.4	126.4	870.2	7.45	11.4	6.9	8.63	17.90	6.02	.525	.315	5.64
18	X	7 1/2	X	50.0 I-T	35.55	96.2	133.1	1025.6	7.66	10.7	7.7	10.46	17.99	7.50	.570	.355	6.39

(50T) PLATE WEIGHT = 15.300 LBS. (.3750 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(50T = 21.875 IN.) PLATE WEIGHT = 17.850 LBS. (.4375 IN.) EFFECTIVE PLATE AREA = 9.570 SQ. IN.																
NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS								
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
4	X 4	X 5.0	T	4.91	4.0	23.7	15.1	1.17	3.7	.6	1.44	3.95	3.94	.205	.170	.67
4	X 4	X 6.5	T	6.40	5.1	25.5	18.9	1.28	3.7	.7	1.88	4.00	4.00	.255	.230	.92
4	X 4	X 7.5	T	7.42	6.1	27.1	22.4	1.38	3.7	.8	2.18	4.06	4.02	.315	.245	.99
4	X 5 1/4	X 9.0	T	8.82	7.8	29.2	27.8	1.51	3.6	1.0	2.59	4.07	5.25	.330	.230	.94
4	X 4	X 13.0	I-T	8.39	6.9	28.5	25.5	1.46	3.7	.9	2.47	4.16	4.06	.345	.260	1.16
5	X 4	X 6.0	T	5.88	5.5	31.8	25.3	1.50	4.6	.8	1.73	4.94	3.96	.210	.190	.94
5	X 4	X 7.5	T	7.37	7.0	34.0	31.5	1.64	4.5	.9	2.17	5.00	4.00	.270	.230	1.15
5	X 4	X 8.5	T	8.36	8.2	35.7	36.6	1.75	4.5	1.0	2.46	5.06	4.01	.330	.240	1.21
5	X 4	X 9.5	T	9.42	9.5	37.3	42.0	1.85	4.4	1.1	2.77	5.12	4.02	.395	.250	1.28
5	X 5	X 16.0	I-T	9.91	10.3	37.4	43.9	1.87	4.3	1.2	2.92	5.01	5.00	.360	.240	1.20
5	X 5	X 19.0	I-T	11.69	12.3	39.5	52.5	2.01	4.3	1.3	3.44	5.15	5.03	.430	.270	1.39
6	X 4	X 7.0	T	6.94	7.4	40.6	40.2	1.86	5.4	1.0	2.04	5.96	3.97	.225	.200	1.19
6	X 4	X 8.0	T	7.88	8.6	42.1	45.8	1.96	5.3	1.1	2.32	6.00	3.99	.265	.220	1.32
6	X 4	X 9.0	I-T	6.17	6.8	39.7	36.7	1.80	5.4	.9	1.81	5.90	3.94	.215	.170	1.00
6	X 4	X 9.5	T	9.34	10.6	44.7	56.1	2.13	5.3	1.3	2.75	6.08	4.01	.350	.235	1.43
6	X 4	X 11.0	T	10.89	12.6	46.7	65.6	2.27	5.2	1.4	3.20	6.16	4.03	.425	.260	1.60
6	X 4	X 12.0	I-T	8.30	9.0	42.8	48.3	2.01	5.3	1.1	2.44	6.03	4.00	.280	.230	1.39
6	X 6	X 15.0	I-T	9.78	11.5	45.3	59.1	2.18	5.1	1.3	2.88	5.99	5.99	.260	.230	1.38
6	X 4	X 16.0	I-T	10.74	12.5	47.4	66.6	2.29	5.3	1.4	3.16	6.28	4.03	.405	.260	1.63
6	X 6	X 20.0	I-T	12.63	15.7	49.2	79.2	2.44	5.0	1.6	3.71	6.20	6.02	.365	.260	1.61
7	X 5	X 11.0	T	10.81	14.2	53.1	81.8	2.53	5.8	1.5	3.18	6.87	5.00	.335	.230	1.58
7	X 5	X 13.0	T	12.85	17.3	55.4	97.4	2.70	5.6	1.8	3.78	6.96	5.03	.420	.255	1.77
7	X 6 3/4	X 15.0	T	14.81	20.5	56.9	111.0	2.82	5.4	2.0	4.36	6.92	6.73	.385	.270	1.87
7	X 6 3/4	X 17.0	T	16.77	23.7	58.4	125.3	2.94	5.3	2.1	4.93	6.99	6.75	.455	.285	1.99
7	X 6 3/4	X 19.0	T	18.74	26.6	59.6	137.6	3.02	5.2	2.3	5.51	7.05	6.77	.515	.310	2.19

(50T) PLATE WEIGHT = 17.850 LBS. (.4375 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(50T = 21.875 IN.) PLATE WEIGHT = 17.850 LBS. (.4375 IN.) EFFECTIVE PLATE AREA = 9.570 SQ. IN.																		
NOMINAL SIZE				WT/FT	SECTION MODULUS				BEAM DIMENSIONS									
					FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2		
7	X	8	X	21.5	T	20.94	30.1	58.0	144.6	3.03	4.8	2.5	6.16	6.83	8.00	.530	.305	2.08
7	X	8	X	24.0	T	23.53	33.6	60.0	157.9	3.09	4.7	2.6	6.92	6.90	8.03	.595	.340	2.35
8	X	4	X	10.0	I-T	7.19	9.6	55.5	68.0	2.41	7.1	1.2	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X	13.0	I-T	9.52	12.4	58.3	85.9	2.64	7.0	1.5	2.80	7.99	4.00	.255	.230	1.84
8	X	5 1/2	X	13.0	T	12.03	18.7	62.7	119.2	2.99	6.4	1.9	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X	15.0	I-T	10.79	14.6	61.1	100.7	2.81	6.9	1.6	3.17	8.11	4.02	.315	.245	1.99
8	X	5 1/2	X	15.5	T	15.20	22.9	65.3	141.8	3.18	6.2	2.2	4.49	7.94	5.53	.440	.275	2.18
8	X	5 1/4	X	18.0	I-T	12.00	18.0	64.5	120.5	3.03	6.7	1.9	3.53	8.14	5.25	.330	.230	1.87
8	X	7	X	18.0	T	17.73	27.4	67.1	162.6	3.32	5.9	2.4	5.22	7.93	6.99	.430	.295	2.34
8	X	7	X	20.0	T	19.79	31.3	68.8	181.6	3.43	5.8	2.6	5.82	8.01	7.00	.505	.305	2.44
8	X	5 1/4	X	21.0	I-T	13.87	21.4	67.3	141.3	3.22	6.6	2.1	4.08	8.28	5.27	.400	.250	2.07
8	X	7	X	22.5	T	22.32	34.9	70.1	198.1	3.50	5.7	2.8	6.56	8.07	7.04	.565	.345	2.78
8	X	6 1/2	X	24.0	I-T	15.11	23.8	66.0	146.4	3.23	6.2	2.2	4.44	7.93	6.50	.400	.245	1.94
8	X	7 1/8	X	25.0	T	24.83	38.6	71.3	214.6	3.57	5.6	3.0	7.30	8.13	7.07	.630	.380	3.09
8	X	6 1/2	X	28.0	I-T	17.69	27.8	68.2	167.9	3.37	6.0	2.5	5.20	8.06	6.54	.465	.285	2.30
8	X	7 1/8	X	28.5	T	28.28	43.5	73.0	236.1	3.63	5.4	3.2	8.32	8.22	7.12	.715	.430	3.53
8	X	8	X	31.0	I-T	19.16	31.0	68.9	180.3	3.44	5.8	2.6	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X	17.5	T	17.26	27.6	74.0	186.9	3.57	6.8	2.5	5.08	8.85	6.00	.425	.300	2.66
9	X	6	X	20.0	T	19.76	32.7	76.5	215.1	3.74	6.6	2.8	5.81	8.95	6.02	.525	.315	2.82
10	X	4	X	12.0	I-T	9.07	13.7	71.9	118.9	3.12	8.7	1.7	2.67	9.87	3.96	.210	.190	1.88
10	X	4	X	15.0	I-T	11.27	17.3	75.4	146.7	3.37	8.5	1.9	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X	17.0	I-T	12.48	20.0	78.5	168.0	3.56	8.4	2.1	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X	19.0	I-T	13.77	22.9	81.4	190.8	3.74	8.3	2.3	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0	I-T	15.04	27.2	84.1	217.9	3.95	8.0	2.6	4.42	10.17	5.75	.360	.240	2.44

(50T) PLATE WEIGHT = 17.850 LBS. (.4375 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		

(50T = 21.875 IN.) PLATE WEIGHT = 17.850 LBS. (.4375 IN.) EFFECTIVE PLATE AREA = 9.570 SQ. IN.																		

NOMINAL SIZE			SECTION MODULUS						BEAM DIMENSIONS									
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN X IN X LBS/FT			LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2			

10	X	5 3/4	X	26.0	I-T	17.37	32.4	87.4	254.3	4.16	7.9	2.9	5.11	10.33	5.77	.440	.260	2.69
10	X	5 3/4	X	30.0	I-T	20.23	37.6	90.1	289.2	4.32	7.7	3.2	5.95	10.47	5.81	.510	.300	3.14
10	X	8	X	33.0	I-T	20.94	39.0	85.1	272.0	4.16	7.0	3.2	6.16	9.73	7.96	.435	.290	2.82
10	X	8	X	39.0	I-T	24.45	46.7	88.5	316.7	4.35	6.8	3.6	7.19	9.92	7.99	.530	.315	3.12
10	X	8	X	45.0	I-T	28.19	54.4	91.5	359.3	4.49	6.6	3.9	8.29	10.10	8.02	.620	.350	3.54
12	X	4	X	14.0	I-T	10.98	19.0	89.3	193.2	3.88	10.2	2.2	3.23	11.91	3.97	.225	.200	2.38
12	X	4	X	16.0	I-T	12.37	21.7	91.9	218.0	4.06	10.1	2.4	3.64	11.99	3.99	.265	.220	2.64
12	X	4	X	19.0	I-T	14.20	26.3	96.6	260.7	4.35	9.9	2.7	4.18	12.16	4.01	.350	.235	2.86
12	X	4	X	22.0	I-T	16.33	31.0	100.2	301.6	4.58	9.7	3.0	4.80	12.31	4.03	.425	.260	3.20
12	X	6 1/2	X	26.0	I-T	17.64	38.4	104.6	355.4	4.91	9.3	3.4	5.19	12.22	6.49	.380	.230	2.81
12	X	6 1/2	X	30.0	I-T	20.27	44.2	107.4	400.1	5.08	9.1	3.7	5.96	12.34	6.52	.440	.260	3.21
12	X	6 1/2	X	35.0	I-T	23.82	52.0	110.9	457.8	5.26	8.8	4.1	7.01	12.50	6.56	.520	.300	3.75
12	X	8	X	40.0	I-T	25.48	56.7	107.8	459.9	5.19	8.1	4.3	7.49	11.94	8.01	.515	.295	3.52
12	X	8	X	45.0	I-T	28.81	63.5	110.4	503.8	5.28	7.9	4.6	8.47	12.06	8.05	.575	.335	4.04
12	X	8 1/8	X	50.0	I-T	32.11	70.6	113.0	548.6	5.37	7.8	4.9	9.44	12.19	8.08	.640	.370	4.51
12	X	10	X	53.0	I-T	33.01	75.8	113.0	566.9	5.42	7.5	5.0	9.71	12.06	10.00	.575	.345	4.16
12	X	10	X	58.0	I-T	35.92	83.5	115.4	611.7	5.51	7.3	5.3	10.56	12.19	10.01	.640	.360	4.39
14	X	5	X	22.0	I-T	16.18	34.5	112.9	374.8	5.11	10.9	3.3	4.76	13.74	5.00	.335	.230	3.16
14	X	5	X	26.0	I-T	18.87	41.5	117.5	439.9	5.39	10.6	3.7	5.55	13.91	5.03	.420	.255	3.55
14	X	6 3/4	X	30.0	I-T	21.16	48.3	120.2	491.6	5.58	10.2	4.1	6.22	13.84	6.73	.385	.270	3.74
14	X	6 3/4	X	34.0	I-T	23.54	55.2	123.7	550.6	5.78	10.0	4.4	6.92	13.98	6.75	.455	.285	3.98
14	X	6 3/4	X	38.0	I-T	26.17	61.8	126.7	604.0	5.91	9.8	4.8	7.70	14.10	6.77	.515	.310	4.37
14	X	8	X	43.0	I-T	28.02	68.4	125.1	623.2	5.91	9.1	5.0	8.24	13.66	8.00	.530	.305	4.17
14	X	8	X	48.0	I-T	31.50	76.5	128.1	681.8	6.02	8.9	5.3	9.26	13.79	8.03	.595	.340	4.69

(50T) PLATE WEIGHT = 17.850 LBS. (.4375 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(50T = 21.875 IN.) PLATE WEIGHT = 17.850 LBS. (.4375 IN.) EFFECTIVE PLATE AREA = 9.570 SQ. IN.																		
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS										
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X IN X LBS/FT				LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2			
16	X	5 1/2	X	26.0	I-T	19.49	45.7	132.1	547.9	5.98	12.0	4.1	5.73	15.69	5.50	.345	.250	3.92
16	X	5 1/2	X	31.0	I-T	22.70	55.2	137.8	643.3	6.29	11.6	4.7	6.68	15.88	5.53	.440	.275	4.37
16	X	7	X	36.0	I-T	25.69	64.6	141.5	723.2	6.50	11.2	5.1	7.56	15.86	6.99	.430	.295	4.68
16	X	7	X	40.0	I-T	28.09	73.1	145.5	800.2	6.70	10.9	5.5	8.26	16.01	7.00	.505	.305	4.88
16	X	7	X	45.0	I-T	31.77	81.8	149.2	875.1	6.80	10.7	5.9	9.34	16.13	7.04	.565	.345	5.56
16	X	7 1/8	X	50.0	I-T	35.34	90.7	152.9	950.4	6.90	10.5	6.2	10.39	16.26	7.07	.630	.380	6.18
16	X	7 1/8	X	57.0	I-T	40.28	102.5	157.9	1048.5	7.00	10.2	6.6	11.85	16.43	7.12	.715	.430	7.06
16	X	10 1/4	X	67.0	I-T	44.18	124.9	161.3	1180.6	7.23	9.4	7.3	12.99	16.33	10.24	.665	.395	6.45
18	X	6	X	35.0	I-T	26.29	67.6	156.2	855.9	7.03	12.7	5.5	7.73	17.70	6.00	.425	.300	5.31
18	X	6	X	40.0	I-T	29.35	78.7	162.1	971.7	7.31	12.3	6.0	8.63	17.90	6.02	.525	.315	5.64
18	X	7 1/2	X	50.0	I-T	35.55	99.3	169.8	1154.9	7.59	11.6	6.8	10.46	17.99	7.50	.570	.355	6.39
18	X	7 1/2	X	60.0	I-T	42.61	119.0	177.9	1331.7	7.76	11.2	7.5	12.53	18.24	7.56	.695	.415	7.57
21	X	8 1/4	X	62.0	I-T	44.94	138.8	207.5	1782.3	8.84	12.8	8.6	13.22	20.99	8.24	.615	.400	8.40
21	X	8 1/4	X	68.0	I-T	49.15	152.3	213.0	1915.4	8.93	12.6	9.0	14.46	21.13	8.27	.685	.430	9.09

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(50T) PLATE WEIGHT = 17.850 LBS. (.4375 IN.)

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TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(50T = 25.000 IN.) PLATE WEIGHT = 20.400 LBS. (.5000 IN.) EFFECTIVE PLATE AREA = 12.500 SQ. IN.																		
NOMINAL SIZE						SECTION MODULUS						BEAM DIMENSIONS						
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2		
4	X	4	X	5.0	T	4.91	4.1	27.2	15.9	1.07	3.9	.6	1.44	3.95	3.94	.205	.170	.67
4	X	4	X	6.5	T	6.40	5.2	29.8	20.0	1.18	3.8	.7	1.88	4.00	4.00	.255	.230	.92
4	X	4	X	7.5	T	7.42	6.2	32.1	23.8	1.27	3.8	.7	2.18	4.06	4.02	.315	.245	.99
4	X	5 1/4	X	9.0	T	8.82	8.0	35.0	29.7	1.40	3.7	.8	2.59	4.07	5.25	.330	.230	.94
4	X	4	X	13.0	I-T	8.39	7.0	33.9	27.2	1.35	3.9	.8	2.47	4.16	4.06	.345	.280	1.16
5	X	4	X	6.0	T	5.88	5.6	37.3	26.5	1.37	4.7	.7	1.73	4.94	3.96	.210	.190	.94
5	X	4	X	7.5	T	7.37	7.1	40.5	33.2	1.50	4.7	.8	2.17	5.00	4.00	.270	.230	1.15
5	X	4	X	8.5	T	8.36	8.3	42.9	38.8	1.61	4.7	.9	2.46	5.06	4.01	.330	.240	1.21
5	X	4	X	9.5	T	9.42	9.6	45.1	44.7	1.71	4.6	1.0	2.77	5.12	4.02	.395	.250	1.28
5	X	5	X	16.0	I-T	9.91	10.4	45.4	46.8	1.74	4.5	1.0	2.92	5.01	5.00	.360	.240	1.20
5	X	5	X	19.0	I-T	11.69	12.5	48.4	56.2	1.88	4.5	1.2	3.44	5.15	5.03	.430	.270	1.39
6	X	4	X	7.0	T	6.94	7.5	48.4	42.2	1.70	5.6	.9	2.04	5.96	3.97	.225	.200	1.19
6	X	4	X	8.0	T	7.88	8.7	50.7	48.3	1.80	5.5	1.0	2.32	6.00	3.99	.265	.220	1.32
6	X	4	X	9.0	I-T	6.17	6.9	47.1	38.4	1.64	5.6	.8	1.81	5.90	3.94	.215	.170	1.00
6	X	4	X	9.5	T	9.34	10.8	54.4	59.3	1.97	5.5	1.1	2.75	6.08	4.01	.350	.235	1.43
6	X	4	X	11.0	T	10.89	12.8	57.1	69.8	2.11	5.4	1.2	3.20	6.16	4.03	.425	.260	1.60
6	X	4	X	12.0	I-T	8.30	9.2	51.6	50.9	1.85	5.5	1.0	2.44	6.03	4.00	.280	.230	1.39
6	X	6	X	15.0	I-T	9.78	11.7	55.2	62.7	2.02	5.4	1.1	2.88	5.99	5.99	.260	.230	1.38
6	X	4	X	16.0	I-T	10.74	12.7	58.0	70.8	2.13	5.6	1.2	3.16	6.28	4.03	.405	.260	1.63
6	X	6	X	20.0	I-T	12.63	16.0	60.8	84.8	2.29	5.3	1.4	3.71	6.20	6.02	.365	.260	1.61
7	X	5	X	11.0	T	10.81	14.4	65.3	86.9	2.35	6.0	1.3	3.18	6.87	5.00	.335	.230	1.58
7	X	5	X	13.0	T	12.85	17.5	68.6	104.1	2.53	5.9	1.5	3.78	6.96	5.03	.420	.255	1.77
7	X	6 3/4	X	15.0	T	14.81	20.9	70.7	119.6	2.66	5.7	1.7	4.36	6.92	6.73	.385	.270	1.87
7	X	6 3/4	X	17.0	T	16.77	24.1	72.9	135.7	2.79	5.6	1.9	4.93	6.99	6.75	.455	.285	1.99
7	X	6 3/4	X	19.0	T	18.74	27.0	74.6	149.8	2.88	5.5	2.0	5.51	7.05	6.77	.515	.310	2.19

(50T) PLATE WEIGHT = 20.400 LBS. (.5000 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(50T = 25.000 IN.) PLATE WEIGHT = 20.400 LBS. (.5000 IN.) EFFECTIVE PLATE AREA = 12.500 SQ. IN.																		
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS										
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X IN X LBS/FT				LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2			
7	X	8	X	21.5	T	20.94	30.6	73.8	158.5	2.91	5.2	2.1	6.16	6.83	8.00	.530	.305	2.08
7	X	8	X	24.0	T	23.53	34.2	75.3	174.1	2.99	5.1	2.3	6.92	6.90	8.03	.595	.340	2.35
8	X	4	X	10.0	I-T	7.19	9.7	67.1	71.2	2.21	7.3	1.1	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X	13.0	I-T	9.52	12.5	71.3	90.5	2.43	7.2	1.3	2.80	7.99	4.00	.255	.230	1.84
8	X	5 1/2	X	13.0	T	12.83	18.9	77.7	127.1	2.80	6.7	1.6	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X	15.0	I-T	10.79	14.8	75.2	106.5	2.61	7.2	1.4	3.17	8.11	4.02	.315	.245	1.99
8	X	5 1/2	X	15.5	T	15.28	23.2	81.3	152.5	3.00	6.6	1.9	4.49	7.94	5.53	.440	.275	2.18
8	X	5 1/4	X	18.0	I-T	12.00	18.2	79.9	128.2	2.83	7.0	1.6	3.53	8.14	5.25	.330	.230	1.87
8	X	7	X	18.0	T	17.73	27.8	83.8	176.0	3.15	6.3	2.1	5.22	7.93	6.99	.430	.295	2.34
8	X	7	X	20.0	T	19.79	31.8	86.2	197.7	3.28	6.2	2.3	5.82	8.01	7.00	.505	.305	2.44
8	X	5 1/4	X	21.0	I-T	13.87	21.7	83.6	151.1	3.02	7.0	1.8	4.08	8.28	5.27	.400	.250	2.07
8	X	7	X	22.5	T	22.32	35.5	87.8	216.9	3.37	6.1	2.5	6.56	8.07	7.04	.565	.345	2.78
8	X	6 1/2	X	24.0	I-T	15.11	24.2	82.4	157.5	3.05	6.5	1.9	4.44	7.93	6.50	.400	.245	1.94
8	X	7 1/8	X	25.0	T	24.83	39.4	89.4	236.0	3.45	6.0	2.6	7.30	8.13	7.07	.630	.380	3.09
8	X	6 1/2	X	28.0	I-T	17.69	28.3	85.3	181.8	3.20	6.4	2.1	5.20	8.06	6.54	.465	.285	2.30
8	X	7 1/8	X	28.5	T	28.28	44.5	91.5	261.2	3.54	5.9	2.9	8.32	8.22	7.12	.715	.430	3.53
8	X	8	X	31.0	I-T	19.16	31.5	86.4	196.1	3.29	6.2	2.3	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X	17.5	T	17.26	28.1	92.4	201.5	3.39	7.2	2.2	5.08	8.85	6.00	.425	.300	2.66
9	X	6	X	28.0	T	19.76	33.3	95.8	233.5	3.57	7.0	2.4	5.81	8.95	6.02	.525	.315	2.82
10	X	4	X	12.0	I-T	9.07	13.9	88.2	124.8	2.87	9.0	1.4	2.67	9.87	3.96	.210	.190	1.88
10	X	4	X	15.0	I-T	11.27	17.6	93.2	155.0	3.13	8.8	1.7	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X	17.0	I-T	12.48	20.3	97.3	178.1	3.32	8.8	1.8	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X	19.0	I-T	13.77	23.3	101.2	203.1	3.50	8.7	2.0	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0	I-T	15.04	27.6	105.0	233.1	3.71	8.5	2.2	4.42	10.17	5.75	.360	.240	2.44

(50T) PLATE WEIGHT = 20.400 LBS. (.5000 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(50T = 25.000 IN.) PLATE WEIGHT = 20.400 LBS. (.5000 IN.) EFFECTIVE PLATE AREA = 12.500 SQ. IN.																		
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS										
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
10	X	5 3/4	X	26.0	I-T	17.37	32.9	109.4	273.8	3.94	8.3	2.5	5.11	10.33	5.77	.440	.260	2.69
10	X	5 3/4	X	30.0	I-T	20.23	38.3	112.8	313.4	4.12	8.2	2.8	5.95	10.47	5.81	.510	.300	3.14
10	X	8	X	33.0	I-T	20.94	39.7	106.9	296.0	3.98	7.5	2.8	6.16	9.73	7.96	.435	.290	2.82
10	X	8	X	39.0	I-T	24.45	47.6	111.2	347.2	4.20	7.3	3.1	7.19	9.92	7.99	.530	.315	3.12
10	X	8	X	45.0	I-T	28.19	55.4	115.0	396.5	4.37	7.2	3.4	8.29	10.10	8.02	.620	.350	3.54
12	X	4	X	14.0	I-T	10.98	19.3	110.7	203.5	3.60	10.6	1.8	3.23	11.91	3.97	.225	.200	2.38
12	X	4	X	16.0	I-T	12.37	22.0	114.1	230.6	3.78	10.5	2.0	3.64	11.99	3.99	.265	.220	2.64
12	X	4	X	19.0	I-T	14.20	26.8	120.4	277.2	4.08	10.4	2.3	4.18	12.16	4.01	.350	.235	2.86
12	X	4	X	22.0	I-T	16.33	31.5	125.1	322.5	4.32	10.2	2.6	4.80	12.31	4.03	.425	.260	3.20
12	X	6 1/2	X	26.0	I-T	17.64	39.0	131.3	382.3	4.65	9.8	2.9	5.19	12.22	6.49	.380	.230	2.81
12	X	6 1/2	X	30.0	I-T	20.27	45.0	134.8	432.8	4.84	9.6	3.2	5.96	12.34	6.52	.440	.260	3.21
12	X	6 1/2	X	35.0	I-T	23.82	53.0	139.1	498.6	5.06	9.4	3.6	7.01	12.50	6.56	.520	.300	3.75
12	X	8	X	40.0	I-T	25.48	57.7	135.6	503.7	5.02	8.7	3.7	7.49	11.94	8.01	.515	.295	3.52
12	X	8	X	45.0	I-T	28.81	64.8	138.6	554.4	5.14	8.6	4.0	8.47	12.06	8.05	.575	.335	4.04
12	X	8 1/8	X	50.0	I-T	32.11	72.1	141.7	606.4	5.26	8.4	4.3	9.44	12.19	8.08	.640	.370	4.51
12	X	10	X	53.0	I-T	33.01	77.4	142.0	628.9	5.32	8.1	4.4	9.71	12.06	10.00	.575	.345	4.16
12	X	10	X	58.0	I-T	35.92	85.3	144.9	681.4	5.44	8.0	4.7	10.56	12.19	10.01	.640	.360	4.39
14	X	5	X	22.0	I-T	16.18	35.1	141.3	400.3	4.82	11.4	2.8	4.76	13.74	5.00	.335	.230	3.16
14	X	5	X	26.0	I-T	18.87	42.2	147.1	472.9	5.12	11.2	3.2	5.55	13.31	5.03	.420	.255	3.55
14	X	6 3/4	X	30.0	I-T	21.16	49.1	150.7	531.3	5.33	10.8	3.5	6.22	13.84	6.73	.385	.270	3.74
14	X	6 3/4	X	34.0	I-T	23.54	56.3	155.2	598.1	5.55	10.6	3.9	6.92	13.98	6.75	.455	.285	3.98
14	X	6 3/4	X	38.0	I-T	26.17	63.1	158.8	659.0	5.71	10.4	4.2	7.70	14.10	6.77	.515	.310	4.37
14	X	8	X	43.0	I-T	28.02	69.7	157.0	683.6	5.74	9.8	4.4	8.24	13.66	8.00	.530	.305	4.17
14	X	8	X	48.0	I-T	31.50	78.2	160.6	751.4	5.88	9.6	4.7	9.26	13.79	8.03	.595	.340	4.69

(50T) PLATE WEIGHT = 20.400 LBS. (.5000 IN.)

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TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																	
(50T = 25.000 IN.) PLATE WEIGHT = 20.400 LBS. (.5000 IN.) EFFECTIVE PLATE AREA = 12.500 SQ. IN.																	
NOMINAL SIZE			SECTION MODULUS					BEAM DIMENSIONS									
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2			
16	X 5 1/2	X 26.0	I-T	19.49	46.6	165.4	588.6	5.68	12.6	3.6	5.73	15.69	5.50	.345	.250	3.92	
16	X 5 1/2	X 31.0	I-T	22.70	56.3	172.5	695.5	6.02	12.3	4.0	6.68	15.88	5.53	.440	.275	4.37	
16	X 7	X 36.0	I-T	25.69	66.0	177.2	786.4	6.26	11.9	4.4	7.56	15.86	6.99	.430	.295	4.68	
16	X 7	X 40.0	I-T	28.09	74.6	182.2	873.9	6.49	11.7	4.8	8.26	16.01	7.00	.505	.305	4.88	
16	X 7	X 45.0	I-T	31.77	83.6	186.3	960.0	6.63	11.5	5.2	9.34	16.13	7.04	.565	.345	5.56	
16	X 7 1/8	X 50.0	I-T	35.34	92.9	190.5	1046.5	6.76	11.3	5.5	10.39	16.26	7.07	.630	.380	6.18	
16	X 7 1/8	X 57.0	I-T	40.28	105.2	196.1	1159.2	6.90	11.0	5.9	11.85	16.43	7.12	.715	.430	7.06	
16	X 10 1/4	X 67.0	I-T	44.18	128.8	201.0	1316.3	7.19	10.3	6.5	12.99	16.33	10.24	.665	.395	6.45	
16	X 10 1/4	X 77.0	I-T	50.98	146.1	207.5	1459.3	7.29	10.0	7.0	15.00	16.52	10.30	.760	.455	7.52	
108	18	X 6	X 35.0	I-T	26.29	69.1	195.1	928.9	6.78	13.4	4.8	7.73	17.70	6.00	.425	.300	5.31
	18	X 6	X 40.0	I-T	29.35	80.5	202.3	1059.9	7.08	13.2	5.2	8.63	17.90	6.02	.525	.315	5.64
	18	X 7 1/2	X 50.0	I-T	35.55	101.7	211.5	1270.2	7.44	12.5	6.0	10.46	17.99	7.50	.570	.355	6.39
	18	X 7 1/2	X 60.0	I-T	42.61	122.2	220.6	1473.3	7.67	12.1	6.7	12.53	18.24	7.56	.695	.415	7.57
	18	X 7 5/8	X 71.0	I-T	50.75	142.8	229.6	1669.9	7.80	11.7	7.3	14.93	18.47	7.64	.810	.495	9.14
18	X 11 1/8	X 86.0	I-T	57.79	179.1	236.9	1926.6	8.08	10.8	8.1	17.00	18.39	11.09	.770	.480	8.83	
21	X 8 1/4	X 62.0	I-T	44.94	142.7	256.4	1970.1	8.75	13.8	7.7	13.22	21.99	8.24	.615	.400	8.40	
21	X 8 1/4	X 68.0	I-T	49.15	156.7	262.5	2122.6	8.87	13.5	8.1	14.46	21.13	8.27	.685	.430	9.09	
21	X 8 1/4	X 73.0	I-T	52.58	167.9	267.2	2241.6	8.95	13.4	8.4	15.47	21.24	8.30	.740	.455	9.66	
21	X 12 1/4	X 101.0	I-T	68.38	239.5	285.9	2848.7	9.35	11.9	10.0	20.11	21.36	12.29	.800	.500	10.68	

(50T) PLATE WEIGHT = 20.400 LBS. (.5000 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T															
(50T = 28.125 IN.) PLATE WEIGHT = 22.950 LBS. (.5625 IN.) EFFECTIVE PLATE AREA = 15.820 SQ. IN.															
NOMINAL SIZE			SECTION MODULUS					BEAM DIMENSIONS							
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
4	X 4	X 6.5 T	6.40	5.3	33.5	20.9	1.09	3.9	.6	1.88	4.00	4.00	.255	.230	.92
4	X 4	X 7.5 T	7.42	6.3	36.4	25.0	1.18	3.9	.7	2.18	4.06	4.02	.315	.245	.99
4	X 5 1/4	X 9.0 T	8.82	8.1	40.3	31.3	1.30	3.9	.8	2.59	4.07	5.25	.330	.230	.94
4	X 4	X 13.0 I-T	8.39	7.2	38.8	28.6	1.25	4.0	.7	2.47	4.16	4.06	.345	.280	1.16
5	X 4	X 6.0 T	5.88	5.7	41.9	27.7	1.26	4.8	.7	1.73	4.94	3.96	.210	.190	.94
5	X 4	X 7.5 T	7.37	7.2	46.3	34.7	1.39	4.8	.8	2.17	5.00	4.00	.270	.230	1.15
5	X 4	X 8.5 T	8.36	8.5	49.5	40.6	1.49	4.8	.8	2.46	5.06	4.01	.330	.240	1.21
5	X 4	X 9.5 T	9.42	9.8	52.5	46.9	1.59	4.8	.9	2.77	5.12	4.02	.395	.250	1.28
5	X 5	X 16.0 I-T	9.91	10.6	53.1	49.2	1.62	4.6	.9	2.92	5.01	5.00	.360	.240	1.20
5	X 5	X 19.0 I-T	11.69	12.7	57.0	59.4	1.76	4.7	1.0	3.44	5.15	5.03	.430	.270	1.39
6	X 4	X 7.0 T	6.94	7.7	55.5	43.9	1.57	5.7	.8	2.04	5.96	3.97	.225	.200	1.19
6	X 4	X 8.0 T	7.88	8.8	58.6	50.3	1.67	5.7	.9	2.32	6.00	3.99	.265	.220	1.32
6	X 4	X 9.0 I-T	6.17	7.0	53.6	39.9	1.50	5.7	.7	1.81	5.90	3.94	.215	.170	1.00
6	X 4	X 9.5 T	9.34	11.0	63.6	62.1	1.83	5.7	1.0	2.75	6.08	4.01	.350	.235	1.43
6	X 4	X 11.0 T	10.89	13.0	67.4	73.4	1.96	5.6	1.1	3.20	6.16	4.03	.425	.260	1.60
6	X 4	X 12.0 I-T	8.30	9.3	59.9	53.2	1.71	5.7	.9	2.44	6.33	4.00	.280	.230	1.39
6	X 6	X 15.0 I-T	9.78	11.9	64.8	65.8	1.88	5.5	1.0	2.88	5.99	5.99	.260	.230	1.38
6	X 4	X 16.0 I-T	10.74	12.9	68.4	74.3	1.98	5.8	1.1	3.16	6.28	4.03	.405	.260	1.63
6	X 6	X 20.0 I-T	12.63	16.2	72.3	89.6	2.14	5.5	1.2	3.71	6.20	6.02	.365	.260	1.61
7	X 5	X 11.0 T	10.81	14.6	77.4	91.1	2.19	6.3	1.2	3.18	6.87	5.00	.335	.230	1.58
7	X 5	X 13.0 T	12.85	17.8	81.9	109.8	2.37	6.2	1.3	3.70	6.96	5.03	.420	.255	1.77
7	X 6 3/4	X 15.0 T	14.81	21.1	84.9	126.7	2.51	6.0	1.5	4.36	6.92	6.73	.385	.270	1.87
7	X 6 3/4	X 17.0 T	16.77	24.4	88.0	144.4	2.64	5.9	1.6	4.93	6.99	6.75	.455	.285	1.99
7	X 6 3/4	X 19.0 T	18.74	27.4	90.2	160.1	2.74	5.8	1.8	5.51	7.05	6.77	.515	.310	2.19

(50T) PLATE WEIGHT = 22.950 LBS. (.5625 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																	
(50T = 28.125 IN.) PLATE WEIGHT = 22.950 LBS. (.5625 IN.) EFFECTIVE PLATE AREA = 15.820 SQ. IN.																	
NOMINAL SIZE					SECTION MODULUS								BEAM DIMENSIONS				
					WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2	
7	X	8	X	21.5 T	20.94	31.0	89.6	170.4	2.78	5.5	1.9	6.16	6.83	8.00	.530	.305	2.08
7	X	8	X	24.0 T	23.53	34.8	91.7	188.1	2.88	5.4	2.1	6.92	6.90	8.03	.595	.340	2.35
8	X	4	X	10.0 I-T	7.19	9.8	78.0	73.7	2.03	7.5	.9	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X	13.0 I-T	9.52	12.7	84.0	94.3	2.25	7.4	1.1	2.80	7.99	4.00	.255	.230	1.84
8	X	5 1/2	X	13.0 T	12.83	19.2	93.0	133.7	2.61	7.0	1.4	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X	15.0 I-T	10.79	15.0	89.1	111.4	2.42	7.4	1.2	3.17	8.11	4.02	.315	.245	1.99
8	X	5 1/2	X	15.5 T	15.28	23.5	97.9	161.3	2.82	6.9	1.6	4.49	7.94	5.53	.440	.275	2.18
8	X	5 1/4	X	18.0 I-T	12.00	18.4	95.5	134.5	2.64	7.3	1.4	3.53	8.14	5.25	.330	.230	1.87
8	X	7	X	18.0 T	17.73	28.2	101.4	187.3	2.98	6.6	1.8	5.22	7.93	6.99	.430	.295	2.34
8	X	7	X	20.0 T	19.79	32.3	104.6	211.3	3.12	6.6	2.0	5.82	8.01	7.00	.505	.305	2.44
8	X	5 1/4	X	21.0 I-T	13.87	21.9	100.5	159.3	2.83	7.3	1.6	4.08	8.28	5.27	.400	.250	2.07
8	X	7	X	22.5 T	22.32	36.1	106.8	232.8	3.23	6.5	2.2	6.56	8.07	7.04	.565	.345	2.78
8	X	6 1/2	X	24.0 I-T	15.11	24.5	99.4	166.7	2.87	6.8	1.7	4.44	7.93	6.50	.400	.245	1.94
8	X	7 1/8	X	25.0 T	24.83	40.0	108.8	254.4	3.32	6.4	2.3	7.30	8.13	7.07	.630	.380	3.09
8	X	6 1/2	X	28.0 I-T	17.69	28.7	103.2	193.4	3.03	6.7	1.9	5.20	8.06	6.54	.465	.285	2.30
8	X	7 1/8	X	28.5 T	28.28	45.3	111.5	283.0	3.42	6.2	2.5	8.32	8.22	7.12	.715	.430	3.53
8	X	8	X	31.0 I-T	19.16	31.9	104.8	209.4	3.12	6.6	2.0	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X	17.5 T	17.26	28.5	111.7	213.6	3.20	7.5	1.9	5.08	8.85	6.00	.425	.300	2.66
9	X	6	X	20.0 T	19.76	33.8	116.2	248.9	3.39	7.4	2.1	5.81	8.95	6.02	.525	.315	2.82
10	X	4	X	12.0 I-T	9.07	14.1	104.4	129.6	2.65	9.2	1.2	2.67	9.87	3.96	.210	.190	1.88
10	X	4	X	15.0 I-T	11.27	17.8	111.3	161.8	2.91	9.1	1.5	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X	17.0 I-T	12.48	20.6	116.7	186.5	3.09	9.1	1.6	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X	19.0 I-T	13.77	23.6	121.8	213.3	3.28	9.1	1.8	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0 I-T	15.04	27.9	127.0	245.7	3.48	8.8	1.9	4.42	10.17	5.75	.360	.240	2.44

(50T) PLATE WEIGHT = 22.950 LBS. (.5625 IN.)

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TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(50T = 28.125 IN.) PLATE WEIGHT = 22.950 LBS. (.5625 IN.) EFFECTIVE PLATE AREA = 15.820 SQ. IN.																		
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS										
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	LBS/FT		LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2		
10	X	5 3/4	X	26.0	I-T	17.37	33.3	132.8	290.0	3.72	8.7	2.2	5.11	10.33	5.77	.440	.260	2.69
10	X	5 3/4	X	30.0	I-T	20.23	38.8	137.2	333.6	3.91	8.6	2.4	5.95	10.47	5.81	.510	.300	3.14
10	X	8	X	33.0	I-T	20.94	40.2	130.2	316.1	3.79	7.9	2.4	6.16	9.73	7.96	.435	.290	2.82
10	X	8	X	39.0	I-T	24.45	48.3	135.8	373.3	4.03	7.7	2.7	7.19	9.92	7.99	.530	.315	3.12
10	X	8	X	45.0	I-T	28.19	56.3	140.6	428.7	4.22	7.6	3.0	8.29	10.10	8.02	.620	.350	3.54
12	X	4	X	14.0	I-T	10.98	19.5	132.5	211.9	3.34	10.9	1.6	3.23	11.91	3.97	.225	.200	2.38
12	X	4	X	16.0	I-T	12.37	22.3	137.2	240.9	3.52	10.8	1.8	3.64	11.99	3.99	.265	.220	2.64
12	X	4	X	19.0	I-T	14.20	27.1	145.4	290.8	3.81	10.7	2.0	4.18	12.16	4.01	.350	.235	2.86
12	X	4	X	22.0	I-T	16.33	32.0	151.5	339.7	4.06	10.6	2.2	4.80	12.31	4.03	.425	.260	3.20
12	X	6 1/2	X	26.0	I-T	17.64	39.5	159.9	404.5	4.39	10.3	2.5	5.19	12.22	6.49	.380	.230	2.81
12	X	6 1/2	X	30.0	I-T	20.27	45.5	164.4	460.2	4.60	10.1	2.8	5.96	12.34	6.52	.440	.260	3.21
12	X	6 1/2	X	35.0	I-T	23.82	53.7	169.8	533.1	4.83	9.9	3.1	7.01	12.50	6.56	.520	.300	3.75
12	X	8	X	40.0	I-T	25.48	58.6	165.8	541.0	4.82	9.2	3.3	7.49	11.94	8.01	.515	.295	3.52
12	X	8	X	45.0	I-T	28.81	65.8	169.4	598.1	4.96	9.1	3.5	8.47	12.06	8.05	.575	.335	4.04
12	X	8 1/8	X	50.0	I-T	32.11	73.3	173.2	656.9	5.10	9.0	3.8	9.44	12.19	8.08	.640	.370	4.51
12	X	10	X	53.0	I-T	33.01	78.6	173.8	683.1	5.17	8.7	3.9	9.71	12.06	10.00	.575	.345	4.16
12	X	10	X	58.0	I-T	35.92	86.7	177.5	743.0	5.31	8.6	4.2	10.56	12.19	10.01	.640	.360	4.39
14	X	5	X	22.0	I-T	16.18	35.6	171.6	421.2	4.52	11.8	2.5	4.76	13.74	5.00	.335	.230	3.16
14	X	5	X	26.0	I-T	18.87	42.8	179.1	500.2	4.84	11.7	2.8	5.55	13.91	5.03	.420	.255	3.55
14	X	6 3/4	X	30.0	I-T	21.16	49.8	183.7	564.5	5.06	11.3	3.1	6.22	13.84	6.73	.385	.270	3.74
14	X	6 3/4	X	34.0	I-T	23.54	57.1	189.4	638.1	5.30	11.2	3.4	6.92	13.98	6.75	.455	.285	3.98
14	X	6 3/4	X	38.0	I-T	26.17	64.1	193.8	705.9	5.48	11.0	3.6	7.70	14.10	6.77	.515	.310	4.37
14	X	8	X	43.0	I-T	28.02	70.8	192.1	735.4	5.53	10.4	3.8	8.24	13.66	8.00	.530	.305	4.17
14	X	8	X	48.0	I-T	31.50	79.5	196.3	811.8	5.69	10.2	4.1	9.26	13.79	8.03	.595	.340	4.69

(50T) PLATE WEIGHT = 22.950 LBS. (.5625 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(50T = 28.125 IN.) PLATE WEIGHT = 22.950 LBS. (.5625 IN.) EFFECTIVE PLATE AREA = 15.820 SQ. IN.																
NOMINAL SIZE			WT/FT	SECTION MODULUS				BEAM DIMENSIONS								
				FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
16	X 5 1/2	X 26.0	I-T	19.49	47.3	201.5	622.3	5.37	13.2	3.1	5.73	15.69	5.50	.345	.250	3.92
16	X 5 1/2	X 31.0	I-T	22.70	57.2	210.4	739.3	5.73	12.9	3.5	6.68	15.88	5.53	.440	.275	4.37
16	X 7	X 36.0	I-T	25.69	67.0	216.3	840.1	6.00	12.5	3.9	7.56	15.86	6.99	.430	.295	4.68
16	X 7	X 40.0	I-T	28.09	75.8	222.5	937.2	6.24	12.4	4.2	8.26	16.01	7.00	.505	.305	4.88
16	X 7	X 45.0	I-T	31.77	85.1	227.2	1033.6	6.41	12.1	4.5	9.34	16.13	7.04	.565	.345	5.56
16	X 7 1/8	X 50.0	I-T	35.34	94.6	232.1	1130.9	6.57	11.9	4.9	10.39	16.26	7.07	.630	.360	6.18
16	X 7 1/8	X 57.0	I-T	40.28	107.4	238.4	1258.0	6.74	11.7	5.3	11.85	16.43	7.12	.715	.430	7.06
16	X 10 1/4	X 67.0	I-T	44.18	130.5	245.1	1438.6	7.07	11.0	5.9	12.99	16.33	10.24	.665	.395	6.45
16	X 10 1/4	X 77.0	I-T	50.98	149.2	252.3	1601.8	7.21	10.7	6.3	15.00	16.52	10.30	.760	.455	7.52
16	X 10 3/8	X 89.0	I-T	59.17	171.7	260.9	1792.8	7.35	10.4	6.9	17.40	16.75	10.37	.875	.525	8.79
18	X 6	X 35.0	I-T	26.29	70.3	237.8	991.0	6.49	14.1	4.2	7.73	17.70	6.00	.425	.300	5.31
18	X 6	X 40.0	I-T	29.35	81.9	246.7	1135.7	6.82	13.9	4.6	8.63	17.90	6.02	.525	.315	5.64
18	X 7 1/2	X 50.0	I-T	35.55	103.6	257.7	1371.4	7.22	13.2	5.3	10.46	17.99	7.50	.570	.355	6.39
18	X 7 1/2	X 60.0	I-T	42.61	124.7	268.0	1600.3	7.51	12.8	6.0	12.53	18.24	7.56	.695	.415	7.57
18	X 7 5/8	X 71.0	I-T	50.75	146.1	277.7	1822.4	7.70	12.5	6.6	14.93	18.47	7.64	.810	.495	9.14
18	X 11 1/8	X 86.0	I-T	57.79	183.2	287.1	2119.2	8.04	11.6	7.4	17.00	18.39	11.09	.770	.480	8.83
18	X 11 1/8	X 97.0	I-T	65.20	205.9	295.5	2323.9	8.15	11.3	7.9	19.18	18.59	11.15	.870	.535	9.95
21	X 8 1/4	X 62.0	I-T	44.94	145.8	311.0	2139.2	8.58	14.7	6.9	13.22	20.99	8.24	.615	.400	8.40
21	X 8 1/4	X 68.0	I-T	49.15	160.3	317.8	2311.2	8.74	14.4	7.3	14.46	21.13	8.27	.685	.430	9.09
21	X 8 1/4	X 73.0	I-T	52.58	171.8	323.0	2445.5	8.84	14.2	7.6	15.47	21.24	8.30	.740	.455	9.66
21	X 8 3/8	X 83.0	I-T	59.78	193.5	332.7	2690.4	8.97	13.9	8.1	17.58	21.43	8.36	.835	.515	11.04
21	X 12 1/4	X 101.0	I-T	68.38	245.3	344.7	3141.9	9.35	12.8	9.1	20.11	21.36	12.29	.800	.500	10.68
21	X 12 3/8	X 111.0	I-T	75.30	267.7	352.8	3359.9	9.41	12.6	9.5	22.15	21.51	12.34	.875	.550	11.83

(50T) PLATE WEIGHT = 22.950 LBS. (.5625 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																			
(50T = 31.250 IN.) PLATE WEIGHT = 25.500 LBS. (.6250 IN.) EFFECTIVE PLATE AREA = 19.531 SQ. IN.																			
NOMINAL SIZE					SECTION MODULUS				BEAM DIMENSIONS										
					WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	LBS/FT			LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2			
4	X	4	X	7.5	T	7.42	6.5	40.1	26.1	1.10	4.0	.7	2.18	4.06	4.02	.315	.245	.99	
4	X	5	1/4	X	9.0	T	8.82	8.3	45.0	32.8	1.22	4.0	.7	2.59	4.07	5.25	.330	.230	.94
4	X	4	X	13.0	I-T	8.39	7.3	43.1	29.9	1.17	4.1	.7	2.47	4.16	4.06	.345	.280	1.16	
5	X	4	X	6.0	T	5.88	5.8	45.8	28.7	1.16	4.9	.6	1.73	4.94	3.96	.210	.190	.94	
5	X	4	X	7.5	T	7.37	7.3	51.2	36.1	1.29	4.9	.7	2.17	5.00	4.00	.270	.230	1.15	
5	X	4	X	8.5	T	8.36	8.6	55.4	42.3	1.39	4.9	.8	2.46	5.06	4.01	.330	.240	1.21	
5	X	4	X	9.5	T	9.42	9.9	59.2	48.9	1.48	4.9	.8	2.77	5.12	4.02	.395	.250	1.28	
5	X	5	X	16.0	I-T	9.91	10.8	60.0	51.4	1.51	4.8	.9	2.92	5.01	5.00	.360	.240	1.20	
5	X	5	X	19.0	I-T	11.69	12.9	65.2	62.2	1.65	4.8	1.0	3.44	5.15	5.03	.430	.270	1.39	
6	X	4	X	7.0	T	6.94	7.8	61.6	45.4	1.45	5.8	.7	2.04	5.96	3.97	.225	.200	1.19	
6	X	4	X	8.0	T	7.88	8.9	65.6	52.2	1.54	5.8	.8	2.32	6.00	3.99	.265	.220	1.32	
6	X	4	X	9.0	I-T	6.17	7.1	59.2	41.3	1.39	5.8	.7	1.81	5.90	3.94	.215	.170	1.00	
6	X	4	X	9.5	T	9.34	11.1	72.1	64.5	1.70	5.8	.9	2.75	6.08	4.01	.350	.235	1.43	
6	X	4	X	11.0	T	10.89	13.2	77.0	76.4	1.83	5.8	1.0	3.20	6.16	4.03	.425	.260	1.60	
6	X	4	X	12.0	I-T	8.30	9.5	67.2	55.1	1.58	5.8	.8	2.44	6.03	4.00	.280	.230	1.39	
6	X	6	X	15.0	I-T	9.78	12.0	73.7	68.4	1.75	5.7	.9	2.88	5.99	5.99	.260	.230	1.38	
6	X	4	X	16.0	I-T	10.74	13.1	78.1	77.4	1.85	5.9	1.0	3.16	6.28	4.03	.405	.260	1.63	
6	X	6	X	20.0	I-T	12.63	16.4	83.5	93.6	2.01	5.7	1.1	3.71	6.20	6.02	.365	.260	1.61	
7	X	5	X	11.0	T	10.81	14.7	88.8	94.8	2.04	6.4	1.1	3.18	6.87	5.00	.335	.230	1.58	
7	X	5	X	13.0	T	12.85	18.0	94.8	114.6	2.22	6.4	1.2	3.78	6.96	5.03	.420	.255	1.77	
7	X	6	3/4	X	15.0	T	14.81	21.4	99.0	132.7	2.36	6.2	1.3	4.36	6.92	6.73	.385	.270	1.87
7	X	6	3/4	X	17.0	T	16.77	24.7	103.1	151.9	2.49	6.1	1.5	4.93	6.99	6.75	.455	.285	1.99
7	X	6	3/4	X	19.0	T	18.74	27.8	106.2	168.9	2.60	6.1	1.6	5.51	7.05	6.77	.515	.310	2.19
7	X	8	X	21.5	T	20.94	31.4	105.9	180.7	2.65	5.7	1.7	6.16	6.83	8.00	.530	.305	2.08	

(50T) PLATE WEIGHT = 25.500 LBS. (.6250 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		

(50T = 31.250 IN.) PLATE WEIGHT = 25.500 LBS. (.6250 IN.) EFFECTIVE PLATE AREA = 19.531 SQ. IN.																		

NOMINAL SIZE			SECTION MODULUS				BEAM DIMENSIONS					ASH						
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D				WF	TF	TW	
IN X IN X LBS/FT			LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2			

7	X	8	X	24.0	T	23.93	35.2	108.7	200.2	2.75	5.7	1.8	6.92	6.90	8.03	.595	.340	2.35
8	X	4	X	10.0	I-T	7.19	9.9	87.8	76.0	1.87	7.6	.9	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X	13.0	I-T	9.52	12.9	95.8	97.6	2.09	7.6	1.0	2.80	7.99	4.00	.255	.230	1.84
8	X	5 1/2	X	13.0	T	12.83	19.4	108.0	139.3	2.45	7.2	1.3	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X	15.0	I-T	10.79	15.2	102.5	115.5	2.26	7.6	1.1	3.17	8.11	4.02	.315	.245	1.99
8	X	5 1/2	X	15.5	T	15.28	23.8	114.5	168.8	2.65	7.1	1.5	4.49	7.94	5.53	.440	.275	2.18
8	X	5 1/4	X	18.0	I-T	12.00	18.6	110.7	139.9	2.46	7.5	1.3	3.53	8.14	5.25	.330	.230	1.87
8	X	7	X	18.0	T	17.73	28.5	119.3	196.8	2.82	6.9	1.6	5.22	7.93	6.99	.430	.295	2.34
8	X	7	X	20.0	T	19.79	32.6	123.6	222.9	2.97	6.8	1.8	5.82	8.01	7.00	.505	.305	2.44
8	X	5 1/4	X	21.0	I-T	13.87	22.2	117.3	166.2	2.65	7.5	1.4	4.08	8.28	5.27	.400	.250	2.07
8	X	7	X	22.5	T	22.32	36.5	126.4	246.5	3.07	6.7	1.9	6.56	8.07	7.04	.565	.345	2.78
8	X	6 1/2	X	24.0	I-T	15.11	24.7	116.5	174.4	2.70	7.1	1.5	4.44	7.93	6.50	.400	.245	1.94
8	X	7 1/8	X	25.0	T	24.83	40.6	129.2	270.3	3.17	6.7	2.1	7.30	8.13	7.07	.630	.380	3.09
8	X	6 1/2	X	28.0	I-T	17.69	29.0	121.6	203.3	2.87	7.0	1.7	5.20	8.06	6.54	.465	.285	2.30
8	X	7 1/8	X	28.5	T	28.28	46.0	132.6	302.0	3.29	6.6	2.3	8.32	8.22	7.12	.715	.430	3.53
8	X	8	X	31.0	I-T	19.16	32.2	123.8	220.7	2.96	6.8	1.8	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X	17.5	T	17.26	28.8	131.4	223.9	3.02	7.8	1.7	5.08	8.85	6.00	.425	.300	2.66
9	X	6	X	20.0	T	19.76	34.2	137.4	262.0	3.22	7.7	1.9	5.81	8.95	6.02	.525	.315	2.82
10	X	4	X	12.0	I-T	9.07	14.2	119.8	133.6	2.45	9.4	1.1	2.67	9.87	3.96	.210	.190	1.88
10	X	4	X	15.0	I-T	11.27	18.0	128.9	167.5	2.71	9.3	1.3	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X	17.0	I-T	12.48	20.8	135.9	193.5	2.89	9.3	1.4	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X	19.0	I-T	13.77	23.8	142.5	221.8	3.07	9.3	1.6	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0	I-T	15.04	28.2	149.3	256.2	3.27	9.1	1.7	4.42	10.17	5.75	.360	.240	2.44
10	X	5 3/4	X	26.0	I-T	17.37	33.7	156.9	303.6	3.51	9.0	1.9	5.11	10.33	5.77	.440	.260	2.69

(50T) PLATE WEIGHT = 25.500 LBS. (.6250 IN.)																		

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TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(50T = 31.250 IN.) PLATE WEIGHT = 25.500 LBS. (.6250 IN.) EFFECTIVE PLATE AREA = 19.531 SQ. IN.																
NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS								
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
10	X 5 3/4	X 30.0	I-T	20.23	39.2	162.6	350.8	3.71	8.9	2.2	5.95	10.47	5.81	.510	.300	3.14
10	X 8	X 33.0	I-T	20.94	40.6	154.5	333.2	3.60	8.2	2.2	6.16	9.73	7.96	.435	.290	2.82
10	X 8	Y 39.0	I-T	24.45	48.8	161.7	395.5	3.85	8.1	2.4	7.19	9.92	7.99	.530	.315	3.12
10	X 8	Y 45.0	I-T	28.19	57.0	167.8	456.5	4.05	8.0	2.7	8.29	10.10	8.02	.620	.350	3.54
12	X 4	X 14.0	I-T	10.98	19.7	154.2	218.9	3.10	11.1	1.4	3.23	11.91	3.97	.225	.200	2.38
12	X 4	X 16.0	I-T	12.37	22.5	160.3	249.4	3.28	11.1	1.6	3.64	11.99	3.99	.265	.220	2.64
12	X 4	X 19.0	I-T	14.20	27.4	170.9	302.0	3.57	11.0	1.8	4.18	12.16	4.01	.350	.235	2.86
12	X 4	X 22.0	I-T	16.33	32.3	178.8	354.0	3.81	11.0	2.0	4.80	12.31	4.03	.425	.260	3.20
12	X 6 1/2	X 26.0	I-T	17.64	39.9	189.7	423.0	4.14	10.6	2.2	5.19	12.22	6.49	.380	.230	2.81
12	X 6 1/2	X 30.0	I-T	20.27	46.0	195.5	483.1	4.35	10.5	2.5	5.96	12.34	6.52	.440	.260	3.21
12	X 6 1/2	X 35.0	I-T	23.82	54.4	202.3	562.4	4.60	10.3	2.8	7.01	12.50	6.56	.520	.300	3.75
12	X 8	X 40.0	I-T	25.48	59.2	198.0	572.8	4.60	9.7	2.9	7.49	11.94	8.01	.515	.295	3.52
12	X 8	X 45.0	I-T	28.81	66.6	202.4	635.7	4.76	9.5	3.1	8.47	12.06	8.05	.575	.335	4.04
12	X 8 1/8	X 50.0	I-T	32.11	74.3	207.0	700.7	4.92	9.4	3.4	9.44	12.19	8.08	.640	.370	4.51
12	X 10	X 53.0	I-T	33.01	79.6	208.2	730.3	5.00	9.2	3.5	9.71	12.06	10.00	.575	.345	4.16
12	X 10	X 58.0	I-T	35.92	87.9	212.7	797.0	5.15	9.1	3.7	10.56	12.19	10.01	.640	.360	4.39
14	X 5	X 22.0	I-T	16.18	35.9	203.0	438.5	4.25	12.2	2.2	4.76	13.74	5.00	.335	.230	3.16
14	X 5	X 26.0	I-T	18.87	43.3	212.6	523.0	4.57	12.1	2.5	5.55	13.91	5.03	.420	.255	3.55
14	X 6 3/4	X 30.0	I-T	21.16	50.4	218.6	592.4	4.80	11.8	2.7	6.22	13.84	6.73	.385	.270	3.74
14	X 6 3/4	X 34.0	I-T	23.54	57.8	225.9	672.0	5.04	11.6	3.0	6.92	13.98	6.75	.455	.285	3.98
14	X 6 3/4	X 38.0	I-T	26.17	64.9	231.4	745.9	5.23	11.5	3.2	7.70	14.10	6.77	.515	.310	4.37
14	X 8	X 43.0	I-T	28.02	71.6	229.7	779.9	5.30	10.9	3.4	8.24	13.66	8.00	.530	.305	4.17
14	X 8	X 48.0	I-T	31.50	80.5	234.8	864.2	5.48	10.7	3.7	9.26	13.79	8.03	.595	.340	4.69
16	X 5 1/2	X 26.0	I-T	19.49	47.8	239.6	650.3	5.07	13.6	2.7	5.73	15.69	5.50	.345	.250	3.92

(50T) PLATE WEIGHT = 25.500 LBS. (.6250 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																	
(50T = 31.250 IN.) PLATE WEIGHT = 25.500 LBS. (.6250 IN.) EFFECTIVE PLATE AREA = 19.531 SQ. IN.																	
NOMINAL SIZE			WT/FT	SECTION MODULUS				BEAM DIMENSIONS									
				FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2			
16	X 5 1/2	X 31.0	I-T	22.70	57.9	250.8	776.2	5.44	13.4	3.1	6.68	15.88	5.53	.440	.275	4.37	
16	X 7	X 36.0	I-T	25.69	67.9	258.2	885.7	5.72	13.1	3.4	7.56	15.86	6.99	.430	.295	4.68	
16	X 7	X 40.0	I-T	28.09	76.8	265.9	991.2	5.97	12.9	3.7	8.26	16.01	7.00	.505	.305	4.88	
16	X 7	X 45.0	I-T	31.77	86.3	271.5	1097.3	6.16	12.7	4.0	9.34	16.13	7.04	.565	.345	5.56	
16	X 7 1/8	X 50.0	I-T	35.34	96.1	277.2	1204.6	6.34	12.5	4.3	10.39	16.26	7.07	.630	.380	6.18	
16	X 7 1/8	X 57.0	I-T	40.28	109.2	284.4	1345.3	6.55	12.3	4.7	11.85	16.43	7.12	.715	.430	7.06	
16	X 10 1/4	X 67.0	I-T	44.18	132.5	293.4	1547.5	6.90	11.7	5.3	12.99	16.33	10.24	.665	.395	6.45	
16	X 10 1/4	X 77.0	I-T	50.98	151.8	301.4	1730.6	7.08	11.4	5.7	15.00	16.52	10.30	.760	.455	7.52	
16	X 10 3/8	X 89.0	I-T	59.17	175.0	310.9	1945.3	7.26	11.1	6.3	17.40	16.75	10.37	.875	.525	8.79	
116	18	X 6	X 35.0	I-T	26.29	71.3	283.7	1043.7	6.19	14.6	3.7	7.73	17.70	6.00	.425	.300	5.31
	18	X 6	X 40.0	I-T	29.35	83.1	294.7	1200.7	6.53	14.5	4.1	8.63	17.90	6.02	.525	.315	5.64
	18	X 7 1/2	X 50.0	I-T	35.55	105.2	307.9	1459.6	6.98	13.9	4.7	10.46	17.99	7.50	.570	.355	6.39
	18	X 7 1/2	X 60.0	I-T	42.61	126.8	319.8	1712.9	7.31	13.5	5.4	12.53	18.24	7.56	.695	.415	7.57
	18	X 7 5/8	X 71.0	I-T	50.75	148.9	330.5	1960.0	7.54	13.2	5.9	14.93	18.47	7.64	.810	.495	9.14
18	X 11 1/8	X 86.0	I-T	57.79	186.5	342.2	2295.4	7.93	12.3	6.7	17.00	18.39	11.09	.770	.480	8.83	
18	X 11 1/8	X 97.0	I-T	65.20	209.9	351.5	2525.5	8.08	12.0	7.2	19.18	18.59	11.15	.870	.535	9.95	
18	X 11 1/4	X 106.0	I-T	71.48	227.6	358.5	2694.7	8.15	11.8	7.5	21.02	18.73	11.20	.940	.590	11.05	
21	X 8 1/4	X 62.0	I-T	44.94	148.3	370.8	2289.7	8.36	15.4	6.2	13.22	20.99	8.24	.615	.400	8.40	
21	X 8 1/4	X 68.0	I-T	49.15	163.2	378.5	2480.7	8.54	15.2	6.6	14.46	21.13	8.27	.685	.430	9.09	
21	X 8 1/4	X 73.0	I-T	52.58	175.1	384.3	2629.9	8.67	15.0	6.8	15.47	21.24	8.30	.740	.455	9.66	
21	X 8 3/8	X 83.0	I-T	59.78	197.4	394.8	2902.7	8.84	14.7	7.4	17.58	21.43	8.36	.835	.515	11.04	
21	X 8 3/8	X 93.0	I-T	67.42	220.3	405.4	3175.2	8.98	14.4	7.8	19.83	21.62	8.42	.930	.580	12.54	
21	X 12 1/4	X 101.0	I-T	68.38	250.1	409.6	3414.4	9.28	13.6	8.3	20.11	21.36	12.29	.800	.500	10.68	
21	X 12 3/8	X 111.0	I-T	75.30	273.3	418.3	3659.1	9.37	13.4	8.7	22.15	21.51	12.34	.875	.550	11.83	

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(50T) PLATE WEIGHT = 25.500 LBS. (.6250 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(50T = 34.375 IN.) PLATE WEIGHT = 26.050 LBS. (.6875 IN.) EFFECTIVE PLATE AREA = 23.633 SQ. IN.																		
NOMINAL SIZE								SECTION MODULUS					BEAM DIMENSIONS					
								WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF
IN X	IN X	LBS/FT						IN3	IN3	IN4	IN	IN	IN2	IN	IN	IN	IN	IN2
4	X	5 1/4	X	9.0	T	8.82	8.4	49.0	34.2	1.14	4.1	.7	2.59	4.07	5.25	.330	.230	.94
5	X	4	X	8.5	T	8.36	8.7	60.3	43.9	1.30	5.0	.7	2.46	5.06	4.01	.330	.240	1.21
5	X	4	X	9.5	T	9.42	10.1	65.0	50.8	1.39	5.0	.8	2.77	5.12	4.02	.395	.250	1.28
5	X	5	X	16.0	I-T	9.91	10.9	66.2	53.4	1.42	4.9	.8	2.92	5.01	5.00	.360	.240	1.20
5	X	5	X	19.0	I-T	11.69	13.1	72.5	64.8	1.55	4.9	.9	3.44	5.15	5.03	.430	.270	1.39
6	X	4	X	7.0	T	6.94	7.9	66.7	46.8	1.35	5.9	.7	2.04	5.96	3.97	.225	.200	1.19
6	X	4	X	8.0	T	7.88	9.1	71.5	53.9	1.44	5.9	.8	2.32	6.00	3.99	.265	.220	1.32
6	X	4	X	9.5	T	9.34	11.3	79.5	66.7	1.59	5.9	.8	2.75	6.08	4.01	.350	.235	1.43
6	X	4	X	11.0	T	10.89	13.4	85.7	79.2	1.72	5.9	.9	3.20	6.16	4.03	.425	.260	1.60
6	X	4	X	12.0	I-T	8.30	9.6	73.5	57.0	1.48	5.9	.8	2.44	6.03	4.00	.280	.230	1.39
6	X	6	X	15.0	I-T	9.78	12.2	81.6	70.8	1.63	5.8	.9	2.88	5.99	5.99	.260	.230	1.38
6	X	4	X	16.0	I-T	10.74	13.3	86.9	80.1	1.73	6.0	.9	3.16	6.28	4.03	.405	.260	1.63
6	X	6	X	20.0	I-T	12.63	16.6	93.9	97.2	1.89	5.9	1.0	3.71	6.20	6.02	.365	.260	1.61
7	X	5	X	11.0	T	10.81	14.9	99.3	98.0	1.91	6.6	1.0	3.18	6.87	5.00	.335	.230	1.58
7	X	5	X	13.0	T	12.85	18.2	107.0	118.8	2.08	6.5	1.1	3.78	6.96	5.03	.420	.255	1.77
7	X	6 3/4	X	15.0	T	14.81	21.6	112.6	138.0	2.22	6.4	1.2	4.36	6.92	6.73	.385	.270	1.87
7	X	6 3/4	X	17.0	T	16.77	25.0	118.0	158.4	2.35	6.3	1.3	4.93	6.99	6.75	.455	.285	1.99
7	X	6 3/4	X	19.0	T	18.74	28.1	121.9	176.6	2.46	6.3	1.4	5.51	7.05	6.77	.515	.310	2.19
7	X	8	X	21.5	T	20.94	31.8	122.2	189.6	2.52	6.0	1.6	6.16	6.83	8.00	.530	.305	2.08
7	X	8	X	24.0	T	23.53	35.6	125.8	210.7	2.63	5.9	1.7	6.92	6.90	8.03	.595	.340	2.35
8	X	4	X	10.0	I-T	7.19	10.0	96.2	78.0	1.74	7.8	.8	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X	13.0	I-T	9.52	13.0	106.5	100.5	1.95	7.7	.9	2.80	7.99	4.00	.255	.230	1.84
8	X	5 1/2	X	13.0	T	12.83	19.6	122.2	144.2	2.29	7.4	1.2	3.77	7.85	5.50	.345	.250	1.96

(50T) PLATE WEIGHT = 26.050 LBS. (.6875 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(50T = 34.375 IN.) PLATE WEIGHT = 28.050 LBS. (.6875 IN.) EFFECTIVE PLATE AREA = 23.633 SQ. IN.																
NOMINAL SIZE		WT/FT	SECTION MODULUS				BEAM DIMENSIONS									
			FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	LBS/FT	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2		
8	X 4	X 15.0	I-T	10.79	15.3	114.8	119.1	2.11	7.8	1.0	3.17	8.11	4.02	.315	.245	1.99
8	X 5 1/2	X 15.5	T	15.28	24.1	130.7	175.3	2.50	7.3	1.3	4.49	7.94	5.53	.440	.275	2.18
8	X 5 1/4	X 18.0	I-T	12.00	18.8	125.1	144.5	2.31	7.7	1.2	3.53	8.14	5.25	.330	.230	1.87
8	X 7	X 18.0	T	17.73	28.8	137.1	205.1	2.67	7.1	1.5	5.22	7.93	6.99	.430	.295	2.34
8	X 7	X 20.0	T	19.79	33.0	142.6	233.8	2.81	7.1	1.6	5.82	8.01	7.00	.505	.305	2.44
8	X 5 1/4	X 21.0	I-T	13.87	22.4	133.5	172.1	2.49	7.7	1.3	4.08	8.28	5.27	.400	.250	2.07
8	X 7	X 22.5	T	22.32	37.0	146.4	258.4	2.93	7.0	1.8	6.56	8.07	7.04	.565	.345	2.78
8	X 6 1/2	X 24.0	I-T	15.11	25.0	133.1	181.1	2.54	7.3	1.4	4.44	7.93	6.50	.400	.245	1.94
8	X 7 1/8	X 25.0	T	24.83	41.1	149.9	284.2	3.03	6.9	1.9	7.30	8.13	7.07	.630	.380	3.09
8	X 6 1/2	X 28.0	I-T	17.69	29.3	139.7	211.8	2.71	7.2	1.5	5.20	8.06	6.54	.465	.285	2.30
8	X 7 1/8	X 28.5	T	28.28	46.6	154.3	318.6	3.16	6.8	2.1	8.32	8.22	7.12	.715	.430	3.53
8	X 8	X 31.0	I-T	19.16	32.6	142.8	230.5	2.81	7.1	1.6	5.63	8.00	8.00	.435	.285	2.28
9	X 6	X 17.5	T	17.26	29.1	150.9	232.8	2.85	8.0	1.5	5.08	8.85	6.00	.425	.300	2.66
9	X 6	X 20.0	T	19.76	34.5	158.6	273.3	3.05	7.9	1.7	5.81	8.95	6.02	.525	.315	2.82
10	X 4	X 12.0	I-T	9.07	14.4	133.9	137.1	2.28	9.5	1.0	2.67	9.87	3.96	.210	.190	1.88
10	X 4	X 15.0	I-T	11.27	18.2	145.6	172.4	2.53	9.5	1.2	3.32	9.99	4.00	.270	.230	2.30
10	X 4	X 17.0	I-T	12.48	21.0	154.3	199.5	2.70	9.5	1.3	3.67	10.11	4.01	.330	.240	2.43
10	X 4	X 19.0	I-T	13.77	24.1	162.7	229.0	2.88	9.5	1.4	4.05	10.24	4.02	.395	.250	2.56
10	X 5 3/4	X 22.0	I-T	15.04	28.5	171.4	265.2	3.07	9.3	1.5	4.42	10.17	5.75	.360	.240	2.44
10	X 5 3/4	X 26.0	I-T	17.37	34.0	181.1	315.2	3.31	9.3	1.7	5.11	10.33	5.77	.440	.260	2.69
10	X 5 3/4	X 30.0	I-T	20.23	39.6	188.5	365.4	3.51	9.2	1.9	5.95	10.47	5.81	.510	.300	3.14
10	X 8	X 33.0	I-T	20.94	41.0	179.3	347.9	3.42	8.5	1.9	6.16	9.73	7.96	.435	.290	2.82
10	X 8	X 39.0	I-T	24.45	49.3	188.5	414.7	3.67	8.4	2.2	7.19	9.92	7.99	.530	.315	3.12
10	X 8	X 45.0	I-T	28.19	57.6	196.1	480.6	3.88	8.3	2.5	8.29	10.10	8.02	.620	.350	3.54

(50T) PLATE WEIGHT = 28.050 LBS. (.6875 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																			
(50T = 34.375 IN.) PLATE WEIGHT = 28.050 LBS. (.6875 IN.) EFFECTIVE PLATE AREA = 23.633 SQ. IN.																			
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS											
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2			
12	X	4	X	14.0	I-T	10.98	19.9	174.9	224.8	2.89	11.3	1.3	3.23	11.91	3.97	.225	.200	2.38	
12	X	4	X	16.0	I-T	12.37	22.8	182.8	256.6	3.07	11.3	1.4	3.64	11.99	3.99	.265	.220	2.64	
12	X	4	X	19.0	I-T	14.20	27.7	196.1	311.5	3.35	11.3	1.6	4.18	12.16	4.01	.350	.235	2.86	
12	X	4	X	22.0	I-T	16.33	32.6	206.2	366.2	3.59	11.2	1.8	4.80	12.31	4.03	.425	.260	3.20	
12	X	6	1/2	X	26.0	I-T	17.64	40.2	220.0	438.7	3.90	2.0	5.19	12.22	6.49	.380	.230	2.81	
12	X	6	1/2	X	30.0	I-T	20.27	46.5	227.5	502.6	4.12	2.2	5.96	12.34	6.52	.440	.260	3.21	
12	X	6	1/2	X	35.0	I-T	23.82	54.9	236.2	587.5	4.38	2.5	7.01	12.50	6.56	.520	.300	3.75	
12	X	8	X	40.0	I-T	25.48	59.8	231.5	600.2	4.39	10.0	2.6	7.49	11.94	8.01	.515	.295	3.52	
12	X	8	X	45.0	I-T	28.81	67.3	237.1	668.3	4.56	9.9	2.8	8.47	12.06	8.05	.575	.335	4.04	
12	X	8	1/8	X	50.0	I-T	32.11	75.1	242.8	738.9	4.73	3.0	9.44	12.19	8.08	.640	.370	4.51	
119	12	X	10	X	53.0	I-T	33.01	80.4	244.5	771.5	4.81	9.6	3.2	9.71	12.06	10.00	.575	.345	4.16
	12	X	10	X	58.0	I-T	35.92	88.9	250.1	844.3	4.97	9.5	3.4	10.56	12.19	10.01	.640	.360	4.39
14	X	5	X	22.0	I-T	16.18	36.3	234.8	453.1	4.00	12.5	1.9	4.76	13.74	5.00	.335	.230	3.16	
14	X	5	X	26.0	I-T	18.87	43.7	247.0	542.2	4.31	12.4	2.2	5.55	13.91	5.03	.420	.255	3.55	
14	X	6	3/4	X	30.0	I-T	21.16	50.9	254.8	616.1	4.54	2.4	6.22	13.84	6.73	.385	.270	3.74	
14	X	6	3/4	X	34.0	I-T	23.54	58.3	263.9	700.9	4.79	2.7	6.92	13.98	6.75	.455	.285	3.98	
14	X	6	3/4	X	38.0	I-T	26.17	65.5	270.7	780.1	4.99	2.9	7.70	14.10	6.77	.515	.310	4.37	
14	X	8	X	43.0	I-T	28.02	72.3	269.3	818.1	5.07	11.3	3.0	8.24	13.66	8.00	.530	.305	4.17	
14	X	8	X	48.0	I-T	31.50	81.4	275.6	909.5	5.26	11.2	3.3	9.26	13.79	8.03	.595	.340	4.69	
16	X	5	1/2	X	26.0	I-T	19.49	48.3	279.0	674.0	4.79	14.0	2.4	5.73	15.69	5.50	.345	.250	3.92
16	X	5	1/2	X	31.0	I-T	22.70	58.5	292.9	807.5	5.16	13.8	2.8	6.68	15.88	5.53	.440	.275	4.37
16	X	7	X	36.0	I-T	25.69	68.6	302.2	924.7	5.45	13.5	3.1	7.56	15.86	6.99	.430	.295	4.68	
16	X	7	X	40.0	I-T	28.09	77.6	311.8	1037.6	5.70	13.4	3.3	8.26	16.01	7.00	.505	.305	4.88	
16	X	7	X	45.0	I-T	31.77	87.3	318.5	1152.4	5.91	13.2	3.6	9.34	16.13	7.04	.565	.345	5.56	
16	X	7	1/8	X	50.0	I-T	35.34	97.2	325.3	1268.8	6.11	13.0	3.9	10.39	16.26	7.07	.630	.380	6.18

(50T) PLATE WEIGHT = 28.050 LBS. (.6875 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																	
(50T = 34.375 IN.) PLATE WEIGHT = 28.050 LBS. (.6875 IN.) EFFECTIVE PLATE AREA = 23.633 SQ. IN.																	
NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS									
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN X IN X LBS/FT		LBS	IN3	IN3	IN4	IN	IN	IN2	IN	IN	IN	IN	IN	IN2			
16	X 7 1/8 X	57.0	I-T	40.28	110.6	333.8	1422.2	6.33	12.9	4.3	11.85	16.43	7.12	.715	.430	7.06	
16	X 10 1/4 X	67.0	I-T	44.18	134.1	345.3	1644.0	6.70	12.3	4.8	12.99	16.33	10.24	.665	.395	6.45	
16	X 10 1/4 X	77.0	I-T	50.98	153.9	354.4	1846.2	6.91	12.0	5.2	15.00	16.52	10.30	.760	.455	7.52	
16	X 10 3/8 X	89.0	I-T	59.17	177.6	365.2	2083.9	7.13	11.7	5.7	17.40	16.75	10.37	.875	.525	8.79	
18	X 6 X	35.0	I-T	26.29	72.1	332.2	1088.7	5.89	15.1	3.3	7.73	17.70	6.00	.425	.300	5.31	
18	X 6 X	40.0	I-T	29.35	84.0	345.6	1256.5	6.24	15.0	3.6	8.63	17.90	6.02	.525	.315	5.64	
18	X 7 1/2 X	50.0	I-T	35.56	106.5	361.7	1536.4	6.71	14.4	4.2	10.46	17.99	7.50	.570	.355	6.39	
18	X 7 1/2 X	60.0	I-T	42.61	128.5	375.5	1812.4	7.08	14.1	4.8	12.53	18.24	7.56	.695	.415	7.57	
18	X 7 5/8 X	71.0	I-T	50.75	151.2	387.5	2083.4	7.35	13.8	5.4	14.93	18.47	7.64	.810	.495	9.14	
120	18	X 11 1/8 X	86.0	I-T	57.79	189.3	402.1	2454.9	7.77	13.0	6.1	17.00	18.39	11.09	.770	.480	8.83
	18	X 11 1/8 X	97.0	I-T	65.20	213.3	412.4	2710.2	7.96	12.7	6.6	19.18	18.59	11.15	.870	.535	9.95
	18	X 11 1/4 X	106.0	I-T	71.48	231.5	419.9	2898.0	8.06	12.5	6.9	21.02	18.73	11.20	.940	.590	11.05
	18	X 11 1/4 X	119.0	I-T	80.48	260.4	432.1	3193.6	8.22	12.3	7.4	23.67	18.97	11.27	1.060	.655	12.43
21	X 8 1/4 X	62.0	I-T	44.94	150.4	435.4	2423.0	8.11	16.1	5.6	13.22	20.99	8.24	.615	.400	8.40	
21	X 8 1/4 X	68.0	I-T	49.15	165.6	444.2	2631.8	8.31	15.9	5.9	14.46	21.13	8.27	.685	.430	9.09	
21	X 8 1/4 X	73.0	I-T	52.58	177.8	450.8	2795.5	8.46	15.7	6.2	15.47	21.24	8.30	.740	.455	9.66	
21	X 8 3/8 X	83.0	I-T	59.78	200.7	462.2	3095.5	8.67	15.4	6.7	17.58	21.43	8.36	.835	.515	11.04	
21	X 8 3/8 X	93.0	I-T	67.42	224.3	473.7	3395.6	8.84	15.1	7.2	19.83	21.62	8.42	.930	.580	12.54	
21	X 12 1/4 X	101.0	I-T	68.38	254.2	480.4	3664.6	9.15	14.4	7.6	20.11	21.36	12.29	.800	.500	10.68	
21	X 12 3/8 X	111.0	I-T	75.30	278.0	489.7	3936.4	9.27	14.2	8.0	22.15	21.51	12.34	.875	.550	11.83	

(50T) PLATE WEIGHT = 28.050 LBS. (.6875 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(50T = 37.500 IN.) PLATE WEIGHT = 30.600 LBS. (.7500 IN.) EFFECTIVE PLATE AREA = 28.125 SQ. IN.																		
NOMINAL SIZE			SECTION MODULUS					BEAM DIMENSIONS										
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2				
5	X	4	X	9.5	T	9.42	10.3	69.9	52.6	1.30	5.1	.8	2.77	5.12	4.02	.395	.250	1.28
5	X	5	X	16.0	I-T	9.91	11.1	71.5	55.3	1.33	5.0	.8	2.92	5.01	5.00	.360	.240	1.20
5	X	5	X	19.0	I-T	11.69	13.3	79.0	67.1	1.46	5.1	.8	3.44	5.15	5.03	.430	.270	1.39
6	X	4	X	9.5	T	9.34	11.4	85.9	68.8	1.49	6.0	.8	2.75	6.08	4.01	.350	.235	1.43
6	X	4	X	11.0	T	10.89	13.5	93.4	81.7	1.62	6.0	.9	3.20	6.16	4.03	.425	.260	1.60
6	X	6	X	15.0	I-T	9.78	12.3	88.4	73.0	1.53	5.9	.8	2.88	5.99	5.99	.260	.230	1.38
6	X	4	X	16.0	I-T	10.74	13.4	94.7	82.7	1.63	6.2	.9	3.16	6.28	4.03	.405	.260	1.63
6	X	6	X	20.0	I-T	12.63	16.8	103.3	100.5	1.78	6.0	1.0	3.71	6.20	6.02	.365	.260	1.61
7	X	5	X	11.0	T	10.81	15.1	108.7	100.9	1.80	6.7	.9	3.18	6.87	5.00	.335	.230	1.58
7	X	5	X	13.0	T	12.85	18.4	118.3	122.6	1.96	6.7	1.0	3.78	6.96	5.03	.420	.255	1.77
7	X	6 3/4	X	15.0	T	14.81	21.9	125.3	142.8	2.10	6.5	1.1	4.36	6.92	6.73	.385	.270	1.87
7	X	6 3/4	X	17.0	T	16.77	25.3	132.1	164.2	2.23	6.5	1.2	4.93	6.99	6.75	.455	.285	1.99
7	X	6 3/4	X	19.0	T	18.74	28.4	137.2	183.4	2.34	6.5	1.3	5.51	7.05	6.77	.515	.310	2.19
7	X	8	X	21.5	T	20.94	32.1	138.1	197.6	2.40	6.1	1.4	6.16	6.83	8.00	.530	.305	2.08
7	X	8	X	24.0	T	23.53	36.0	142.7	220.1	2.51	6.1	1.5	6.92	6.90	8.03	.595	.340	2.35
8	X	4	X	10.0	I-T	7.19	10.2	103.1	80.0	1.63	7.9	.8	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X	13.0	I-T	9.52	13.1	115.9	103.2	1.83	7.8	.9	2.80	7.99	4.00	.255	.230	1.84
8	X	5 1/2	X	13.0	T	12.83	19.8	135.4	148.5	2.16	7.5	1.1	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X	15.0	I-T	10.79	15.5	125.9	122.4	1.98	7.9	1.0	3.17	8.11	4.02	.315	.245	1.99
8	X	5 1/2	X	15.5	T	15.28	24.3	146.1	181.1	2.36	7.5	1.2	4.49	7.94	5.53	.440	.275	2.18
8	X	5 1/4	X	18.0	I-T	12.00	19.0	138.3	148.7	2.17	7.8	1.1	3.53	8.14	5.25	.330	.230	1.87
8	X	7	X	18.0	T	17.73	29.1	154.2	212.4	2.52	7.3	1.4	5.22	7.93	6.99	.430	.295	2.34
8	X	7	X	20.0	T	19.79	33.3	161.3	241.8	2.67	7.3	1.5	5.82	8.01	7.00	.505	.305	2.44
8	X	5 1/4	X	21.0	I-T	13.87	22.6	148.8	177.4	2.35	7.8	1.2	4.08	8.28	5.27	.400	.250	2.07
8	X	7	X	22.5	T	22.32	37.3	166.1	268.9	2.78	7.2	1.6	6.56	8.07	7.04	.565	.345	2.78

(50T) PLATE WEIGHT = 30.600 LBS. (.7500 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(50T = 37.500 IN.) PLATE WEIGHT = 30.600 LBS. (.7500 IN.) EFFECTIVE PLATE AREA = 28.125 SQ. IN.																		
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS										
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	LBS/FT		LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2			
8	X	6 1/2	X	24.0	I-T	15.11	25.2	148.9	187.1	2.40	7.4	1.3	4.44	7.93	6.50	.400	.245	1.94
8	X	7 1/8	X	25.0	T	24.83	41.5	170.7	296.4	2.89	7.1	1.7	7.30	8.13	7.07	.630	.380	3.09
8	X	6 1/2	X	28.0	I-T	17.69	29.6	157.3	219.3	2.57	7.4	1.4	5.20	8.06	6.54	.465	.285	2.30
8	X	7 1/8	X	28.5	T	28.28	47.1	176.2	333.3	3.02	7.1	1.9	8.32	8.22	7.12	.715	.430	3.53
8	X	8	X	31.0	I-T	19.16	32.9	161.4	239.1	2.66	7.3	1.5	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X	17.5	T	17.26	29.4	169.9	240.6	2.69	8.2	1.4	5.88	8.85	6.00	.425	.300	2.66
9	X	6	X	20.0	T	19.76	34.9	179.6	283.3	2.89	8.1	1.6	5.81	8.95	6.02	.525	.315	2.82
10	X	4	X	12.0	I-T	9.07	14.5	146.3	140.3	2.13	9.7	1.0	2.67	9.87	3.96	.210	.190	1.88
10	X	4	X	15.0	I-T	11.27	18.3	160.9	176.8	2.37	9.6	1.1	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X	17.0	I-T	12.48	21.2	171.6	204.8	2.54	9.7	1.2	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X	19.0	I-T	13.77	24.3	181.9	235.4	2.71	9.7	1.3	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0	I-T	15.04	28.7	192.8	273.0	2.90	9.5	1.4	4.42	10.17	5.75	.360	.240	2.44
10	X	5 3/4	X	26.0	I-T	17.37	34.3	204.9	325.3	3.13	9.5	1.6	5.11	10.33	5.77	.440	.260	2.69
10	X	5 3/4	X	30.0	I-T	20.23	40.0	214.2	378.2	3.33	9.5	1.8	5.95	10.47	5.81	.510	.300	3.14
10	X	8	X	33.0	I-T	20.94	41.4	204.0	360.7	3.24	8.7	1.8	6.16	9.73	7.96	.435	.290	2.82
10	X	8	X	39.0	I-T	24.45	49.8	215.6	431.5	3.50	8.7	2.0	7.19	9.92	7.99	.530	.315	3.12
10	X	8	X	45.0	I-T	28.19	58.2	225.1	501.7	3.71	8.6	2.2	8.29	10.10	8.02	.620	.350	3.54
12	X	4	X	14.0	I-T	10.98	20.0	194.1	230.0	2.71	11.5	1.2	3.23	11.91	3.97	.225	.200	2.38
12	X	4	X	16.0	I-T	12.37	23.0	204.0	262.9	2.88	11.5	1.3	3.64	11.99	3.99	.265	.220	2.64
12	X	4	X	19.0	I-T	14.20	27.9	220.4	319.8	3.15	11.5	1.5	4.18	12.16	4.01	.350	.235	2.86
12	X	4	X	22.0	I-T	16.33	32.9	233.0	376.7	3.38	11.4	1.6	4.80	12.31	4.03	.425	.260	3.20
12	X	6 1/2	X	26.0	I-T	17.64	40.5	250.1	452.2	3.68	11.2	1.8	5.19	12.22	6.49	.380	.230	2.81
12	X	6 1/2	X	30.0	I-T	20.27	46.8	259.6	519.5	3.90	11.1	2.0	5.96	12.34	6.52	.440	.260	3.21
12	X	6 1/2	X	35.0	I-T	23.82	55.4	270.6	609.2	4.16	11.0	2.3	7.01	12.50	6.56	.520	.300	3.75
12	X	8	X	40.0	I-T	25.48	60.3	265.9	623.9	4.19	10.3	2.3	7.49	11.94	8.01	.515	.295	3.52

(50T) PLATE WEIGHT = 30.600 LBS. (.7500 IN.)

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30 September 1980

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(50T = 37.500 IN.) PLATE WEIGHT = 30.600 LBS. (.7500 IN.) EFFECTIVE PLATE AREA = 28.125 SQ. IN.																
NOMINAL SIZE					SECTION MODULUS					BEAM DIMENSIONS						
					WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW
IN X	IN X	LBS/FT														
			LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
12	X 8	X 45.0	I-T	28.81	67.9	272.8	696.6	4.36	10.3	2.6	8.47	12.06	8.05	.575	.335	4.04
12	X 8 1/8	X 50.0	I-T	32.11	75.9	279.8	772.3	4.53	10.2	2.8	9.44	12.19	8.08	.640	.370	4.51
12	X 10	X 53.0	I-T	33.01	81.2	282.3	807.6	4.62	9.9	2.9	9.71	12.06	10.00	.575	.345	4.16
12	X 10	X 58.0	I-T	35.92	89.7	289.2	885.9	4.79	9.9	3.1	10.56	12.19	10.01	.640	.360	4.39
14	X 5	X 22.0	I-T	16.18	36.6	266.3	465.7	3.76	12.7	1.7	4.76	13.74	5.00	.335	.230	3.16
14	X 5	X 26.0	I-T	18.87	44.1	281.6	558.8	4.07	12.7	2.0	5.55	13.91	5.03	.420	.255	3.55
14	X 6 3/4	X 30.0	I-T	21.16	51.3	291.4	636.5	4.30	12.4	2.2	6.22	13.84	6.73	.385	.270	3.74
14	X 6 3/4	X 34.0	I-T	23.54	58.8	302.8	725.7	4.55	12.3	2.4	6.92	13.98	6.75	.455	.285	3.98
14	X 6 3/4	X 38.0	I-T	26.17	66.1	311.3	809.7	4.75	12.2	2.6	7.70	14.10	6.77	.515	.310	4.37
14	X 8	X 43.0	I-T	28.02	73.0	310.3	851.2	4.84	11.7	2.7	8.24	13.66	8.00	.530	.305	4.17
14	X 8	X 48.0	I-T	31.50	82.1	318.1	949.0	5.04	11.6	3.0	9.26	13.79	8.03	.595	.340	4.69
16	X 5 1/2	X 26.0	I-T	19.49	48.7	318.9	694.3	4.53	14.3	2.2	5.73	15.69	5.50	.345	.250	3.92
16	X 5 1/2	X 31.0	I-T	22.70	59.0	336.1	834.4	4.90	14.1	2.5	6.68	15.88	5.53	.440	.275	4.37
16	X 7	X 36.0	I-T	25.69	69.2	347.7	958.2	5.18	13.9	2.8	7.56	15.86	6.99	.430	.295	4.68
16	X 7	X 40.0	I-T	28.09	78.3	359.5	1077.6	5.44	13.8	3.0	8.26	16.01	7.00	.505	.305	4.88
16	X 7	X 45.0	I-T	31.77	88.2	367.6	1200.3	5.66	13.6	3.3	9.34	16.13	7.04	.565	.345	5.56
16	X 7 1/8	X 50.0	I-T	35.34	98.2	375.8	1324.9	5.86	13.5	3.5	10.39	16.26	7.07	.630	.380	6.18
16	X 7 1/8	X 57.0	I-T	40.28	111.9	385.8	1489.9	6.11	13.3	3.9	11.85	16.43	7.12	.715	.430	7.06
16	X 10 1/4	X 67.0	I-T	44.18	135.5	400.3	1729.4	6.49	12.8	4.3	12.99	16.33	10.24	.665	.395	6.45
16	X 10 1/4	X 77.0	I-T	50.98	155.6	410.9	1949.5	6.72	12.5	4.7	15.00	16.52	10.30	.760	.455	7.52
16	X 10 3/8	X 89.0	I-T	59.17	179.9	423.2	2209.3	6.97	12.3	5.2	17.40	16.75	10.37	.875	.525	8.79
18	X 6	X 35.0	I-T	26.29	72.7	382.5	1127.5	5.61	15.5	2.9	7.73	17.70	6.00	.425	.300	5.31
18	X 6	X 40.0	I-T	29.35	84.8	398.7	1304.7	5.96	15.4	3.3	8.63	17.90	6.02	.525	.315	5.64
18	X 7 1/2	X 50.0	I-T	35.55	107.6	418.3	1603.3	6.45	14.9	3.8	10.46	17.99	7.50	.570	.355	6.39
18	X 7 1/2	X 60.0	I-T	42.61	130.0	434.6	1900.1	6.84	14.6	4.4	12.53	18.24	7.56	.695	.415	7.57

(50T) PLATE WEIGHT = 30.600 LBS. (.7500 IN.)

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TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(50T = 37.500 IN.) PLATE WEIGHT = 30.600 LBS. (.7500 IN.) EFFECTIVE PLATE AREA = 28.125 SQ. IN.																
NOMINAL SIZE			WT/FT	SECTION MODULUS				BEAM DIMENSIONS								
				FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2		
18	X 7 5/8	X 71.0	I-T	50.75	153.1	448.3	2193.6	7.14	14.3	4.9	14.93	18.47	7.64	.810	.495	9.14
18	X 11 1/8	X 86.0	I-T	57.79	191.6	466.1	2598.7	7.59	13.6	5.6	17.00	18.39	11.09	.770	.480	8.83
18	X 11 1/8	X 97.0	I-T	65.20	216.2	477.8	2878.2	7.80	13.3	6.0	19.18	18.59	11.15	.870	.535	9.95
18	X 11 1/4	X 106.0	I-T	71.48	234.8	486.0	3084.3	7.92	13.1	6.3	21.02	18.73	11.20	.940	.590	11.05
18	X 11 1/4	X 119.0	I-T	80.48	264.4	499.5	3409.1	8.11	12.9	6.8	23.67	18.97	11.27	1.060	.655	12.43
21	X 8 1/4	X 62.0	I-T	44.94	152.1	504.3	2540.7	7.84	16.7	5.0	13.22	20.99	8.24	.615	.400	8.40
21	X 8 1/4	X 66.0	I-T	49.15	167.6	514.3	2766.2	8.06	16.5	5.4	14.46	21.13	8.27	.685	.430	9.09
21	X 8 1/4	X 73.0	I-T	52.58	180.0	521.9	2943.3	8.22	16.3	5.6	15.47	21.24	8.30	.740	.455	9.66
21	X 8 3/8	X 83.0	I-T	59.78	203.5	534.6	3269.5	8.46	16.1	6.1	17.58	21.43	8.36	.835	.515	11.04
21	X 8 3/8	X 93.0	I-T	67.42	227.7	547.2	3596.5	8.66	15.8	6.6	19.83	21.62	8.42	.930	.580	12.54
21	X 12 1/4	X 101.0	I-T	68.38	257.5	556.6	3892.8	8.98	15.1	7.0	20.11	21.36	12.29	.860	.500	10.68
21	X 12 3/8	X 111.0	I-T	75.30	282.0	566.7	4191.3	9.13	14.9	7.4	22.15	21.51	12.34	.875	.550	11.83

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(50T) PLATE WEIGHT = 30.600 LBS. (.7500 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																			
(50T = 43.750 IN.) PLATE WEIGHT = 35.700 LBS. (.8750 IN.) EFFECTIVE PLATE AREA = 38.281 SQ. IN.																			
NOMINAL SIZE						SECTION MODULUS				BEAM DIMENSIONS									
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN	X	IN	X	LBS/FT		LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2		
6	X	6	X	20.0	I-T	12.63	17.2	118.9	106.6	1.59	6.2	.9	3.71	6.20	6.02	.365	.260	1.61	
7	X	5	X	13.0	T	12.85	18.8	137.0	129.5	1.75	6.9	.9	3.78	6.96	5.03	.420	.255	1.77	
7	X	6 3/4	X	15.0	T	14.81	22.3	147.3	151.2	1.88	6.8	1.0	4.36	6.92	6.73	.385	.270	1.87	
7	X	6 3/4	X	17.0	T	16.77	25.8	157.3	174.3	2.01	6.8	1.1	4.93	6.99	6.75	.455	.285	1.99	
7	X	6 3/4	X	19.0	T	18.74	29.0	164.9	195.4	2.11	6.7	1.2	5.51	7.05	6.77	.515	.310	2.19	
7	X	8	X	21.5	T	20.94	32.8	167.7	211.3	2.18	6.4	1.3	6.16	6.83	8.00	.530	.305	2.08	
7	X	8	X	24.0	T	23.53	36.8	174.8	236.3	2.29	6.4	1.4	6.92	6.90	8.03	.595	.340	2.35	
125	8	X	5 1/2	X	13.0	T	12.83	20.2	157.8	156.3	1.93	7.7	1.0	3.77	7.85	5.50	.345	.250	1.96
	8	X	4	X	15.0	I-T	10.79	15.9	143.8	128.4	1.76	8.1	.9	3.17	8.11	4.02	.315	.245	1.99
	8	X	5 1/2	X	15.5	T	15.28	24.8	173.3	191.1	2.11	7.7	1.1	4.49	7.94	5.53	.440	.275	2.18
	8	X	5 1/4	X	18.0	I-T	12.00	19.4	160.5	156.1	1.93	8.0	1.0	3.53	8.14	5.25	.330	.230	1.87
	8	X	7	X	18.0	T	17.73	29.7	185.5	225.1	2.27	7.6	1.2	5.22	7.93	6.99	.430	.295	2.34
	8	X	7	X	20.0	T	19.79	33.9	196.0	257.0	2.41	7.6	1.3	5.82	8.01	7.00	.505	.305	2.44
	8	X	5 1/4	X	21.0	I-T	13.87	23.1	175.3	186.7	2.10	8.1	1.1	4.08	8.28	5.27	.400	.250	2.07
	8	X	7	X	22.5	T	22.32	38.1	203.6	286.8	2.53	7.5	1.4	6.56	8.07	7.04	.565	.345	2.78
	8	X	6 1/2	X	24.0	I-T	15.11	25.7	177.0	197.4	2.15	7.7	1.1	4.44	7.93	6.50	.400	.245	1.94
	8	X	7 1/8	X	25.0	T	24.83	42.3	210.7	317.3	2.64	7.5	1.5	7.30	8.13	7.07	.630	.380	3.09
	8	X	6 1/2	X	28.0	I-T	17.69	30.1	189.5	232.3	2.31	7.7	1.2	5.20	8.06	6.54	.465	.285	2.30
	8	X	7 1/8	X	28.5	T	28.28	48.0	219.3	358.4	2.77	7.5	1.6	8.32	8.22	7.12	.715	.430	3.53
8	X	8	X	31.0	I-T	19.16	33.5	195.9	253.8	2.40	7.6	1.3	5.63	8.00	8.00	.435	.285	2.28	
9	X	6	X	17.5	T	17.26	29.9	204.5	254.0	2.42	8.5	1.2	5.08	8.85	6.00	.425	.300	2.66	
9	X	6	X	20.0	T	19.76	35.5	218.9	300.1	2.61	8.5	1.4	5.81	8.95	6.02	.525	.315	2.82	

(50T) PLATE WEIGHT = 35.700 LBS. (.8750 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																			
(50T = 43.750 IN.) PLATE WEIGHT = 35.700 LBS. (.8750 IN.) EFFECTIVE PLATE AREA = 38.281 SQ. IN.																			
NOMINAL SIZE			WT/FT	SECTION MODULUS				BEAM DIMENSIONS											
				FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASN				
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2				
10	X	4	X	12.0	I-T	9.07	14.8	165.9	146.2	1.89	9.9	.9	2.67	9.37	3.36	.210	.190	1.88	
10	X	4	X	15.0	I-T	11.27	18.7	186.5	184.5	2.11	9.9	1.0	3.32	9.99	4.00	.270	.230	2.30	
10	X	4	X	17.0	I-T	12.48	21.6	201.3	214.0	2.26	9.9	1.1	3.67	10.11	4.01	.330	.240	2.43	
10	X	4	X	19.0	I-T	13.77	24.7	215.7	246.4	2.41	10.0	1.1	4.05	10.24	4.02	.395	.250	2.56	
10	X	5	3/4	X	22.0	I-T	15.04	29.2	231.4	286.3	2.59	9.8	1.2	4.42	10.17	5.75	.360	.240	2.44
10	X	5	3/4	X	26.0	I-T	17.37	34.8	249.2	342.4	2.81	9.8	1.4	5.11	10.33	5.77	.440	.260	2.69
10	X	5	3/4	X	30.0	I-T	20.23	40.7	263.4	399.6	3.01	9.8	1.5	5.95	10.47	5.81	.510	.300	3.14
10	X	8	X	33.0	I-T	20.94	42.1	251.3	382.2	2.93	9.1	1.5	6.16	9.73	7.96	.435	.290	2.82	
10	X	8	X	39.0	I-T	24.45	50.6	268.6	459.6	3.18	9.1	1.7	7.19	9.92	7.99	.530	.315	3.12	
10	X	8	X	45.0	I-T	28.19	59.2	282.9	537.1	3.40	9.1	1.9	8.29	10.16	8.02	.620	.350	3.54	
12	X	4	X	14.0	I-T	10.98	20.4	226.8	239.1	2.40	11.7	1.1	3.23	11.91	3.97	.225	.200	2.38	
12	X	4	X	16.0	I-T	12.37	23.3	241.2	273.8	2.56	11.7	1.1	3.64	11.99	3.99	.265	.220	2.64	
12	X	4	X	19.0	I-T	14.20	28.4	264.5	333.8	2.80	11.8	1.3	4.18	12.16	4.01	.350	.235	2.86	
12	X	4	X	22.0	I-T	16.33	33.4	283.0	394.4	3.03	11.8	1.4	4.80	12.31	4.33	.425	.260	3.20	
12	X	6	1/2	X	26.0	I-T	17.64	41.1	307.5	474.6	3.30	11.6	1.5	5.19	12.22	6.49	.380	.230	2.81
12	X	6	1/2	X	30.0	I-T	20.27	47.5	322.2	547.3	3.52	11.5	1.7	5.96	12.34	6.52	.440	.260	3.21
12	X	6	1/2	X	35.0	I-T	23.82	56.2	339.0	645.0	3.77	11.5	1.9	7.01	12.50	6.56	.520	.300	3.75
12	X	8	X	40.0	I-T	25.48	61.2	334.6	663.1	3.81	10.8	2.0	7.49	11.94	8.01	.515	.295	3.52	
12	X	8	X	45.0	I-T	28.81	69.0	345.2	743.7	3.99	10.8	2.2	8.47	12.06	8.05	.575	.335	4.04	
12	X	8	1/8	X	50.0	I-T	32.11	77.1	355.7	827.9	4.17	10.7	2.3	9.44	12.19	8.08	.640	.370	4.51
12	X	10	X	53.0	I-T	33.01	82.4	360.0	867.6	4.25	10.5	2.4	9.71	12.06	10.00	.575	.345	4.16	
12	X	10	X	58.0	I-T	35.92	91.1	370.2	955.4	4.42	10.5	2.6	10.56	12.19	10.01	.640	.360	4.39	
14	X	5	X	22.0	I-T	16.18	37.1	325.6	486.5	3.36	13.1	1.5	4.76	13.74	5.00	.335	.230	3.16	
14	X	5	X	26.0	I-T	18.87	44.7	348.4	586.0	3.66	13.1	1.7	5.55	13.91	5.03	.420	.255	3.55	
14	X	5	3/4	X	30.0	I-T	21.16	52.0	363.6	670.0	3.88	12.9	1.8	6.22	13.84	6.73	.385	.270	3.74
14	X	6	3/4	X	34.0	I-T	23.54	59.7	380.5	766.6	4.12	12.8	2.0	6.92	13.98	6.75	.455	.285	3.98

(50T) PLATE WEIGHT = 35.700 LBS. (.8750 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																	
(50T = 43.750 IN.) PLATE WEIGHT = 35.700 LBS. (.8750 IN.) EFFECTIVE PLATE AREA = 38.281 SQ. IN.																	
NOMINAL SIZE			SECTION MODULUS					BEAM DIMENSIONS									
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2			
14	X	6 3/4 X	38.0	I-T	26.17	67.1	393.3	858.4	4.32	12.8	2.2	7.70	14.10	6.77	.515	.310	4.37
14	X	8 X	43.0	I-T	28.02	74.0	393.8	905.8	4.41	12.2	2.3	8.24	13.66	8.00	.530	.305	4.17
14	X	8 X	48.0	I-T	31.50	83.4	405.6	1014.3	4.62	12.2	2.5	9.26	13.79	8.03	.595	.340	4.69
16	X	5 1/2 X	26.0	I-T	19.49	49.4	397.1	727.5	4.07	14.7	1.8	5.73	15.69	5.50	.345	.250	3.92
16	X	5 1/2 X	31.0	I-T	22.70	59.8	422.6	878.3	4.42	14.7	2.1	6.68	15.88	5.53	.440	.275	4.37
16	X	7 X	36.0	I-T	25.69	70.2	440.3	1013.0	4.70	14.4	2.3	7.56	15.86	6.99	.430	.295	4.68
16	X	7 X	40.0	I-T	28.09	79.5	457.5	1143.2	4.96	14.4	2.5	8.26	16.01	7.00	.505	.305	4.88
16	X	7 X	45.0	I-T	31.77	89.6	469.6	1279.0	5.18	14.3	2.7	9.34	16.13	7.04	.565	.345	5.56
16	X	7 1/8 X	50.0	I-T	35.34	99.9	481.6	1417.7	5.40	14.2	2.9	10.39	16.26	7.07	.630	.380	6.18
16	X	7 1/8 X	57.0	I-T	40.28	113.9	495.9	1602.8	5.65	14.1	3.2	11.85	16.43	7.12	.715	.430	7.06
16	X	10 1/4 X	67.0	I-T	44.18	137.8	517.7	1872.5	6.04	13.6	3.6	12.99	16.33	10.24	.665	.395	6.45
16	X	10 1/4 X	77.0	I-T	50.98	158.5	532.3	2124.6	6.31	13.4	4.0	15.00	16.52	10.30	.760	.455	7.52
16	X	10 3/8 X	89.0	I-T	59.17	183.6	548.6	2424.4	6.60	13.2	4.4	17.40	16.75	10.37	.875	.525	8.79
18	X	6 X	35.0	I-T	26.29	73.8	485.4	1190.6	5.09	16.1	2.5	7.73	17.70	6.00	.425	.300	5.31
18	X	6 X	40.0	I-T	29.35	86.2	508.9	1383.5	5.43	16.1	2.7	8.63	17.90	6.02	.525	.315	5.64
18	X	7 1/2 X	50.0	I-T	35.55	109.3	537.5	1713.7	5.93	15.7	3.2	10.46	17.99	7.50	.570	.355	6.39
18	X	7 1/2 X	60.0	I-T	42.61	132.3	560.5	2046.4	6.35	15.5	3.7	12.53	18.24	7.56	.695	.415	7.57
18	X	7 5/8 X	71.0	I-T	50.75	156.2	579.0	2388.1	6.69	15.2	4.1	14.93	18.47	7.64	.810	.495	9.14
18	X	11 1/8 X	86.0	I-T	57.79	195.3	605.0	2844.4	7.17	14.6	4.7	17.00	18.39	11.09	.770	.480	8.83
18	X	11 1/8 X	97.0	I-T	65.20	220.7	620.2	3168.5	7.43	14.4	5.1	19.18	18.59	11.15	.870	.535	9.95
18	X	11 1/4 X	106.0	I-T	71.46	240.2	630.4	3409.3	7.58	14.2	5.4	21.02	18.73	11.20	.940	.590	11.05
18	X	11 1/4 X	119.0	I-T	80.48	270.9	647.3	3789.4	7.82	14.0	5.9	23.67	18.97	11.27	1.060	.655	12.43
21	X	8 1/4 X	62.0	I-T	44.94	154.9	652.1	2737.1	7.29	17.7	4.2	13.22	20.99	8.24	.615	.400	8.40
21	X	8 1/4 X	68.0	I-T	49.15	170.9	665.7	2992.0	7.53	17.5	4.5	14.46	21.13	8.27	.685	.430	9.09
21	X	8 1/4 X	73.0	I-T	52.58	183.6	675.7	3193.3	7.71	17.4	4.7	15.47	21.24	8.30	.740	.455	9.66

(50T) PLATE WEIGHT = 35.700 LBS. (.8750 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T															

(50T = 43.750 IN.) PLATE WEIGHT = 35.700 LBS. (.8750 IN.) EFFECTIVE PLATE AREA = 38.281 SQ. IN.															
NOMINAL SIZE			SECTION MODULUS						BEAM DIMENSIONS						
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	
21	X 8 3/8 X	83.0 I-T	59.78	208.0	692.0	3567.0	7.99	17.2	5.2	17.50	21.43	8.36	.835	.515	11.04
21	X 8 3/8 X	93.0 I-T	67.42	233.1	707.6	3944.1	8.24	16.9	5.6	19.83	21.62	8.42	.930	.580	12.54
21	X 12 1/4 X	101.0 I-T	68.38	262.9	723.4	4287.8	8.57	16.3	5.9	20.11	21.36	12.29	.800	.500	10.68
21	X 12 3/8 X	111.0 I-T	75.30	288.3	735.9	4636.9	8.76	16.1	6.3	22.15	21.51	12.34	.875	.550	11.83

(50T) PLATE WEIGHT = 35.700 LBS. (.8750 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(50T = 50.000 IN.) PLATE WEIGHT = 40.800 LBS. (1.0000 IN.) EFFECTIVE PLATE AREA = 50.000 SQ. IN.																
NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS								
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
7	X 6 3/4	X 17.0	T	16.77	26.4	177.6	183.5	1.83	7.0	1.0	4.93	6.99	6.75	.455	.285	1.99
7	X 6 3/4	X 19.0	T	18.74	29.6	188.0	205.9	1.93	7.0	1.1	5.51	7.05	6.77	.515	.310	2.19
7	X 8	X 21.5	T	20.94	33.5	192.9	223.4	1.99	6.7	1.2	6.16	6.83	8.00	.530	.305	2.08
7	X 8	X 24.0	T	23.53	37.6	203.0	250.4	2.10	6.7	1.2	6.92	6.90	8.03	.595	.340	2.35
8	X 5 1/2	X 15.5	T	15.28	25.3	194.9	200.2	1.92	7.9	1.0	4.49	7.94	5.53	.440	.275	2.18
8	X 7	X 18.0	T	17.73	30.2	211.4	236.2	2.07	7.8	1.1	5.22	7.93	6.99	.430	.295	2.34
8	X 7	X 20.0	T	19.79	34.6	225.7	270.1	2.20	7.8	1.2	5.82	8.01	7.00	.505	.305	2.44
8	X 7	X 22.5	T	22.32	38.8	236.6	302.1	2.31	7.8	1.3	6.56	8.07	7.04	.565	.345	2.78
8	X 6 1/2	X 24.0	I-T	15.11	26.2	199.3	206.7	1.95	7.9	1.0	4.44	7.93	6.50	.400	.245	1.94
8	X 7 1/8	X 25.0	T	24.83	43.1	246.7	335.0	2.42	7.8	1.4	7.30	8.13	7.07	.630	.380	3.09
8	X 6 1/2	X 28.0	I-T	17.69	30.7	216.2	243.6	2.10	7.9	1.1	5.20	8.06	6.54	.465	.285	2.30
8	X 7 1/8	X 28.5	T	28.28	48.9	259.0	379.6	2.55	7.8	1.5	8.32	8.22	7.12	.715	.430	3.53
8	X 8	X 31.0	I-T	19.16	34.1	225.2	266.6	2.19	7.8	1.2	5.63	8.00	8.00	.435	.285	2.28
9	X 6	X 17.5	T	17.26	30.5	233.2	265.7	2.20	8.7	1.1	5.08	8.85	6.00	.425	.300	2.66
9	X 6	X 20.0	T	19.76	36.1	252.9	314.5	2.37	8.7	1.2	5.81	8.95	6.02	.525	.315	2.82
10	X 4	X 19.0	I-T	13.77	25.2	242.4	256.2	2.18	10.2	1.1	4.05	10.24	4.02	.395	.250	2.56
10	X 5 3/4	X 22.0	I-T	15.04	29.7	262.9	297.8	2.34	10.0	1.1	4.42	10.17	5.75	.368	.240	2.44
10	X 5 3/4	X 26.0	I-T	17.37	35.4	287.1	356.8	2.54	10.1	1.2	5.11	10.33	5.77	.440	.260	2.69
10	X 5 3/4	X 30.0	I-T	20.23	41.3	306.9	417.5	2.73	10.1	1.4	5.95	10.47	5.81	.510	.300	3.14
10	X 8	X 33.0	I-T	20.94	42.7	293.3	400.2	2.67	9.4	1.4	6.16	9.73	7.96	.435	.290	2.82
10	X 8	X 39.0	I-T	24.45	51.4	317.6	482.7	2.91	9.4	1.5	7.19	9.92	7.99	.530	.315	3.12
10	X 8	X 45.0	I-T	28.19	60.1	337.8	566.2	3.12	9.4	1.7	8.29	10.10	8.02	.620	.350	3.54
12	X 4	X 16.0	I-T	12.37	23.7	270.0	283.4	2.30	11.9	1.0	3.64	11.99	3.99	.265	.220	2.64

(50T) PLATE WEIGHT = 40.800 LBS. (1.0000 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(50T = 50.000 IN.) PLATE WEIGHT = 40.800 LBS. (1.0000 IN.) EFFECTIVE PLATE AREA = 50.000 SQ. IN.																		
NOMINAL SIZE				WT/FT	SECTION MODULUS				BEAM DIMENSIONS									
					FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	LBS/FT		LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2		
12	X	4	X	19.0	I-T	14.20	28.8	300.4	345.8	2.53	12.0	1.2	4.18	12.16	4.01	.350	.235	2.86
12	X	4	X	22.0	I-T	16.33	34.0	325.6	409.2	2.73	12.1	1.3	4.80	12.31	4.03	.425	.260	3.20
12	X	6	1/2 X	26.0	I-T	17.64	41.6	358.1	493.0	2.99	11.8	1.4	5.19	12.22	6.49	.380	.230	2.81
12	X	6	1/2 X	30.0	I-T	20.27	48.2	379.1	570.0	3.19	11.8	1.5	5.96	12.34	6.52	.440	.260	3.21
12	X	6	1/2 X	35.0	I-T	23.82	57.0	403.2	674.0	3.44	11.8	1.7	7.01	12.50	6.56	.520	.300	3.75
12	X	8	X	40.0	I-T	25.48	62.0	399.8	694.8	3.48	11.2	1.7	7.49	11.94	8.01	.515	.295	3.52
12	X	8	X	45.0	I-T	28.81	69.9	415.4	781.6	3.66	11.2	1.9	8.47	12.06	8.05	.575	.335	4.04
12	X	8	1/8 X	50.0	I-T	32.11	78.2	430.5	872.8	3.83	11.2	2.0	9.44	12.19	8.08	.640	.370	4.51
12	X	10	X	53.0	I-T	33.01	83.5	437.1	915.9	3.92	11.0	2.1	9.71	12.06	10.00	.575	.345	4.16
12	X	10	X	58.0	I-T	35.92	92.4	451.7	1011.4	4.09	11.0	2.2	10.56	12.19	10.01	.640	.360	4.39
14	X	5	X	22.0	I-T	16.18	37.6	377.0	503.7	3.03	13.4	1.3	4.76	13.74	5.00	.335	.230	3.16
14	X	5	X	26.0	I-T	18.87	45.3	408.7	608.2	3.31	13.4	1.5	5.55	13.91	5.03	.420	.255	3.55
14	X	6	3/4 X	30.0	I-T	21.16	52.7	430.5	697.0	3.52	13.2	1.6	6.22	13.84	6.73	.385	.270	3.74
14	X	6	3/4 X	34.0	I-T	23.54	60.5	454.1	799.3	3.75	13.2	1.8	6.92	13.98	6.75	.455	.285	3.98
14	X	6	3/4 X	38.0	I-T	26.17	68.0	472.5	897.3	3.94	13.2	1.9	7.70	14.10	6.77	.515	.310	4.37
14	X	8	X	43.0	I-T	28.02	75.0	475.4	949.3	4.04	12.7	2.0	8.24	13.66	8.00	.530	.305	4.17
14	X	8	X	48.0	I-T	31.50	84.5	492.5	1066.5	4.24	12.6	2.2	9.26	13.79	8.03	.595	.340	4.69
16	X	5	1/2 X	26.0	I-T	19.49	50.0	469.0	754.1	3.68	15.1	1.6	5.73	15.69	5.50	.345	.250	3.92
16	X	5	1/2 X	31.0	I-T	22.70	60.6	504.8	913.2	4.01	15.1	1.8	6.68	15.88	5.53	.440	.275	4.37
16	X	7	X	36.0	I-T	25.69	71.1	530.3	1056.5	4.28	14.9	2.0	7.56	15.86	6.99	.430	.295	4.68
16	X	7	X	40.0	I-T	28.09	80.4	554.4	1195.0	4.53	14.9	2.2	8.26	16.01	7.00	.505	.305	4.88
16	X	7	X	45.0	I-T	31.77	90.7	572.2	1341.4	4.75	14.8	2.3	9.34	16.13	7.04	.565	.345	5.56
16	X	7	1/8 X	50.0	I-T	35.34	101.3	589.4	1491.4	4.97	14.7	2.5	10.39	16.26	7.07	.630	.380	6.18
16	X	7	1/8 X	57.0	I-T	40.28	115.5	609.6	1692.9	5.23	14.7	2.8	11.85	16.43	7.12	.715	.430	7.06
16	X	10	1/4 X	67.0	I-T	44.18	139.6	640.7	1986.9	5.62	14.2	3.1	12.99	16.33	10.24	.665	.395	6.45
16	X	10	1/4 X	77.0	I-T	50.98	160.8	661.0	2265.9	5.90	14.1	3.4	15.00	16.52	10.30	.760	.455	7.52

(50T) PLATE WEIGHT = 40.800 LBS. (1.0000 IN.)

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TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(50T = 50.000 IN.) PLATE WEIGHT = 40.800 LBS. (1.0000 IN.) EFFECTIVE PLATE AREA = 50.000 SQ. IN.																
NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS								
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	LBS/FT	IN3	IN3	IN4	IN	IN	IN2	IN	IN	IN	IN	IN	IN2		
16	X 10 3/8 X	89.0 I-T	59.17	186.5	683.3	2600.2	6.21	13.9	3.8	17.40	16.75	10.37	.875	.525	8.79	
18	X 6 X	35.0 I-T	26.29	74.8	586.5	1240.3	4.64	16.6	2.1	7.73	17.70	6.00	.425	.300	5.31	
18	X 6 X	40.0 I-T	29.35	87.3	619.2	1445.4	4.97	16.6	2.3	8.63	17.90	6.02	.525	.315	5.64	
18	X 7 1/2 X	50.0 I-T	35.55	110.7	660.0	1800.9	5.46	16.3	2.7	10.46	17.99	7.50	.570	.355	6.39	
18	X 7 1/2 X	60.0 I-T	42.61	134.2	692.3	2162.8	5.88	16.1	3.1	12.53	18.24	7.56	.695	.415	7.97	
18	X 7 5/8 X	71.0 I-T	50.75	158.7	717.9	2530.2	6.24	15.9	3.5	14.93	18.47	7.64	.810	.495	9.14	
18	X 11 1/8 X	86.0 I-T	57.79	198.2	754.6	3043.9	6.74	15.4	4.0	17.00	18.39	11.09	.770	.480	8.83	
18	X 11 1/8 X	97.0 I-T	65.20	224.2	774.7	3406.9	7.02	15.2	4.4	19.18	18.59	11.15	.870	.535	9.95	
18	X 11 1/4 X	106.0 I-T	71.48	244.3	787.9	3678.8	7.20	15.1	4.7	21.02	18.73	11.20	.940	.590	11.05	
18	X 11 1/4 X	119.0 I-T	80.48	275.9	809.6	4108.8	7.47	14.9	5.1	23.67	18.97	11.27	1.060	.655	12.43	
21	X 8 1/4 X	62.0 I-T	44.94	157.1	809.0	2892.9	6.76	18.4	3.6	13.22	20.99	8.24	.615	.400	8.40	
21	X 8 1/4 X	68.0 I-T	49.15	173.4	827.5	3172.3	7.02	18.3	3.8	14.46	21.13	8.27	.685	.430	9.09	
21	X 8 1/4 X	73.0 I-T	52.58	186.4	841.1	3394.0	7.20	18.2	4.0	15.47	21.24	8.30	.740	.455	9.66	
21	X 8 3/8 X	83.0 I-T	59.78	211.4	862.6	3808.6	7.51	18.0	4.4	17.58	21.43	8.36	.835	.515	11.04	
21	X 8 3/8 X	93.0 I-T	67.42	237.3	882.7	4229.9	7.78	17.8	4.8	19.83	21.62	8.42	.930	.580	12.54	
21	X 12 1/4 X	101.0 I-T	68.38	267.1	906.1	4612.3	8.11	17.3	5.1	20.11	21.36	12.29	.800	.500	10.68	
21	X 12 3/8 X	111.0 I-T	75.30	293.1	922.0	5006.8	8.33	17.1	5.4	22.15	21.51	12.34	.875	.550	11.83	

(50T) PLATE WEIGHT = 40.800 LBS. (1.0000 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(50T = 56.250 IN.) PLATE WEIGHT = 45.900 LBS. (1.1250 IN.) EFFECTIVE PLATE AREA = 63.281 SQ. IN.																		
NOMINAL SIZE					SECTION MODULUS								BEAM DIMENSIONS					
					WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	YF	TW	ASH	
IN X	IN X	LBS/FT			LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2		
7	X	8	X	24.0	T	23.53	38.4	226.4	263.4	1.94	6.9	1.2	6.92	6.90	8.03	.595	.340	2.35
8	X	7	X	20.0	T	19.79	35.3	249.7	282.3	2.02	8.0	1.1	5.82	8.01	7.00	.505	.305	2.44
8	X	7	X	22.5	T	22.32	39.5	263.9	316.1	2.13	8.0	1.2	6.56	8.07	7.04	.565	.345	2.78
8	X	7 1/8	X	25.0	T	24.83	43.9	277.4	350.9	2.23	8.0	1.3	7.30	8.13	7.07	.630	.380	3.09
8	X	7 1/8	X	28.5	T	28.28	49.9	293.8	398.4	2.36	8.0	1.4	8.32	8.22	7.12	.715	.430	3.53
9	X	6	X	20.0	T	19.76	36.8	280.5	327.8	2.18	8.9	1.2	5.81	8.95	6.02	.525	.315	2.82
10	X	5 3/4	X	26.0	I-T	17.37	36.0	317.4	370.0	2.33	10.3	1.2	5.11	10.33	5.77	.440	.260	2.69
10	X	5 3/4	X	30.0	I-T	20.23	42.0	343.2	433.4	2.50	10.3	1.3	5.95	10.47	5.81	.510	.300	3.14
10	X	8	X	33.0	I-T	20.94	43.4	328.5	416.3	2.45	9.6	1.3	6.16	9.73	7.96	.435	.290	2.82
10	X	8	X	39.0	I-T	24.45	52.1	360.1	503.0	2.67	9.6	1.4	7.19	9.92	7.99	.530	.315	3.12
10	X	8	X	45.0	I-T	28.19	61.0	387.0	591.2	2.87	9.7	1.5	8.29	10.10	8.02	.620	.350	3.54
12	X	4	X	22.0	I-T	16.33	34.5	359.4	422.7	2.49	12.3	1.2	4.80	12.31	4.03	.425	.260	3.20
12	X	6 1/2	X	26.0	I-T	17.64	42.2	399.9	509.4	2.73	12.1	1.3	5.19	12.22	6.49	.380	.230	2.81
12	X	6 1/2	X	30.0	I-T	20.27	48.8	427.7	589.7	2.92	12.1	1.4	5.96	12.34	6.52	.440	.260	3.21
12	X	6 1/2	X	35.0	I-T	23.82	57.7	460.1	698.9	3.15	12.1	1.5	7.01	12.50	6.56	.520	.300	3.75
12	X	8	X	40.0	I-T	25.48	62.8	458.4	721.8	3.19	11.5	1.6	7.49	11.94	8.01	.515	.295	3.52
12	X	8	X	45.0	I-T	28.81	70.8	479.8	813.7	3.37	11.5	1.7	8.47	12.06	8.05	.575	.335	4.04
12	X	8 1/8	X	50.0	I-T	32.11	79.2	500.6	910.5	3.54	11.5	1.8	9.44	12.19	8.08	.640	.370	4.51
12	X	10	X	53.0	I-T	33.01	84.6	509.8	956.4	3.62	11.3	1.9	9.71	12.06	10.00	.575	.345	4.16
12	X	10	X	58.0	I-T	35.92	93.5	529.5	1058.2	3.79	11.3	2.0	10.56	12.19	10.01	.640	.360	4.39
14	X	5	X	22.0	I-T	16.18	38.1	418.7	519.0	2.76	13.6	1.2	4.76	13.74	5.00	.335	.230	3.16
14	X	5	X	26.0	I-T	18.87	45.9	459.7	627.5	3.02	13.7	1.4	5.55	13.91	5.03	.420	.255	3.55
					(50T)	PLATE WEIGHT = 45.900 LBS. (1.1250 IN.)												

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TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																			
(50T = 56.250 IN.) PLATE WEIGHT = 45.900 LBS. (1.1250 IN.) EFFECTIVE PLATE AREA = 63.261 SQ. IN.																			
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS											
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN2				
14	X	6	3/4	X	30.0	I-T	21.16	53.4	488.8	720.1	3.22	13.5	1.5	6.22	13.84	6.73	.385	.270	3.74
14	X	6	3/4	X	34.0	I-T	23.54	61.2	520.0	827.0	3.43	13.5	1.6	6.92	13.98	6.75	.455	.285	3.98
14	X	6	3/4	X	38.0	I-T	26.17	68.8	544.9	929.9	3.62	13.5	1.7	7.70	14.10	6.77	.515	.310	4.37
14	X	8		X	43.0	I-T	28.02	75.8	551.2	985.7	3.71	13.0	1.8	8.24	13.66	8.00	.530	.305	4.17
14	X	8		X	48.0	I-T	31.50	85.5	574.8	1109.9	3.91	13.0	1.9	9.26	13.79	8.03	.595	.340	4.69
16	X	5	1/2	X	26.0	I-T	19.49	50.6	531.2	776.9	3.36	15.4	1.5	5.73	15.69	5.50	.345	.250	3.92
16	X	5	1/2	X	31.0	I-T	22.70	61.3	578.6	942.5	3.67	15.4	1.6	6.68	15.88	5.53	.440	.275	4.37
16	X	7		X	36.0	I-T	25.69	71.9	613.3	1092.6	3.93	15.2	1.8	7.56	15.86	6.99	.430	.295	4.68
16	X	7		X	40.0	I-T	28.09	81.3	645.4	1237.9	4.16	15.2	1.9	8.26	16.01	7.00	.505	.305	4.88
16	X	7		X	45.0	I-T	31.77	91.8	670.4	1392.8	4.38	15.2	2.1	9.34	16.13	7.04	.565	.345	5.56
16	X	7	1/8	X	50.0	I-T	35.34	102.4	694.2	1552.0	4.59	15.1	2.2	10.39	16.26	7.07	.630	.380	6.18
16	X	7	1/8	X	57.0	I-T	40.28	117.0	722.1	1767.0	4.85	15.1	2.4	11.85	16.43	7.12	.715	.430	7.06
16	X	10	1/4	X	67.0	I-T	44.18	141.2	764.6	2080.6	5.22	14.7	2.7	12.99	16.33	10.24	.665	.395	6.45
16	X	10	1/4	X	77.0	I-T	50.98	162.7	792.6	2382.2	5.52	14.6	3.0	15.00	16.52	10.30	.760	.455	7.52
16	X	10	3/8	X	89.0	I-T	59.17	188.9	822.8	2745.8	5.83	14.5	3.3	17.40	16.75	10.37	.875	.525	8.79
18	X	6		X	35.0	I-T	26.29	75.6	680.8	1281.4	4.25	16.9	1.9	7.73	17.70	6.00	.425	.300	5.31
18	X	6		X	40.0	I-T	29.35	88.2	724.3	1496.2	4.56	17.0	2.1	8.63	17.90	6.02	.525	.315	5.64
18	X	7	1/2	X	50.0	I-T	35.55	112.0	780.5	1871.9	5.04	16.7	2.4	10.46	17.99	7.50	.570	.355	6.39
18	X	7	1/2	X	60.0	I-T	42.61	135.8	824.9	2257.9	5.46	16.6	2.7	12.53	18.24	7.56	.695	.415	7.57
18	X	7	5/8	X	71.0	I-T	50.75	160.7	860.0	2653.5	5.82	16.5	3.1	14.93	18.47	7.64	.810	.495	9.14
18	X	11	1/8	X	86.0	I-T	57.79	200.6	910.1	3208.3	6.32	16.0	3.5	17.00	18.39	11.09	.770	.480	8.83
18	X	11	1/8	X	97.0	I-T	65.20	227.2	937.0	3604.6	6.61	15.9	3.8	19.18	18.59	11.15	.870	.535	9.95
18	X	11	1/4	X	106.0	I-T	71.48	247.6	954.3	3903.7	6.80	15.8	4.1	21.02	18.73	11.20	.940	.590	11.05
18	X	11	1/4	X	119.0	I-T	80.48	279.9	982.4	4377.6	7.10	15.6	4.5	23.67	18.97	11.27	1.060	.655	12.43
21	X	8	1/4	X	62.0	I-T	44.94	158.9	969.3	3019.4	6.28	19.0	3.1	13.22	20.99	8.24	.615	.400	8.40

(50T) PLATE WEIGHT = 45.900 LBS. (1.1250 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																

(50T = 56.250 IN.) PLATE WEIGHT = 45.900 LBS. (1.1250 IN.) EFFECTIVE PLATE AREA = 63.281 SQ. IN.																
NOMINAL SIZE		WT/FT	SECTION MODULUS				BEAM DIMENSIONS									
			FLANGE	PLATE	I	R	YF	YP	A	O	WF	TF	TW	ASH		
IN X	IN X	LBS/FT	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2		

21	X 8 1/4	X 68.0	I-T	49.15	175.5	994.3	3319.1	6.53	18.9	3.3	14.46	21.13	8.27	.685	.430	9.09
21	X 8 1/4	X 73.0	I-T	52.58	188.7	1012.5	3557.8	6.72	18.9	3.5	15.47	21.24	8.30	.740	.455	9.66
21	X 8 3/8	X 83.0	I-T	59.78	214.2	1041.3	4007.2	7.04	18.7	3.8	17.58	21.43	8.36	.835	.515	11.04
21	X 8 3/8	X 93.0	I-T	67.42	240.6	1067.6	4466.6	7.33	18.6	4.2	19.83	21.62	8.42	.930	.580	12.54
21	X 12 1/4	X 101.0	I-T	68.38	270.4	1100.1	4880.6	7.65	18.0	4.4	20.11	21.36	12.29	.800	.500	10.68
21	X 12 3/8	X 111.0	I-T	75.30	297.0	1120.7	5315.0	7.89	17.9	4.7	22.15	21.51	12.34	.875	.550	11.83

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(50T) PLATE WEIGHT = 45.900 LBS. (1.1250 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																			
(50T = 62.500 IN.) PLATE WEIGHT = 51.000 LBS. (1.2500 IN.) EFFECTIVE PLATE AREA = 78.125 SQ. IN.																			
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS											
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2		
8	X	7 1/8	X	28.5	T	28.28	50.9	323.0	416.1	2.19	8.2	1.3	8.32	8.22	7.12	.715	.430	3.53	
10	X	8	X	39.0	I-T	24.45	53.0	395.5	521.8	2.47	9.9	1.3	7.19	9.92	7.99	.530	.315	3.12	
10	X	8	X	45.0	I-T	28.19	61.9	429.3	614.0	2.67	9.9	1.4	8.29	10.10	8.02	.620	.350	3.54	
12	X	6 1/2	X	30.0	I-T	20.27	49.5	467.0	608.0	2.69	12.3	1.3	5.96	12.34	6.52	.440	.260	3.21	
12	X	6 1/2	X	35.0	I-T	23.82	58.5	508.0	721.3	2.91	12.3	1.4	7.01	12.50	6.56	.520	.300	3.75	
12	X	8	X	40.0	I-T	25.48	63.6	508.5	746.0	2.95	11.7	1.5	7.49	11.94	8.01	.515	.295	3.52	
12	X	8	X	45.0	I-T	28.81	71.7	536.4	842.2	3.12	11.7	1.6	8.47	12.06	8.05	.575	.335	4.04	
12	X	8 1/8	X	58.0	I-T	32.11	80.2	563.3	943.7	3.28	11.8	1.7	9.44	12.19	8.08	.640	.370	4.51	
135	12	X	10	X	53.0	I-T	33.01	85.6	575.5	991.9	3.36	11.6	1.7	9.71	12.06	10.00	.575	.345	4.16
135	12	X	10	X	58.0	I-T	35.92	94.6	601.3	1098.9	3.52	11.6	1.8	10.56	12.19	10.01	.640	.360	4.39
14	X	5	X	26.0	I-T	18.87	46.5	500.6	645.4	2.78	13.9	1.3	5.55	13.91	5.03	.420	.255	3.55	
14	X	6 3/4	X	30.0	I-T	21.16	54.1	537.0	741.1	2.96	13.7	1.4	6.22	13.84	6.73	.385	.270	3.74	
14	X	6 3/4	X	34.0	I-T	23.54	61.9	576.1	851.8	3.16	13.8	1.5	6.92	13.98	6.75	.455	.285	3.98	
14	X	6 3/4	X	38.0	I-T	26.17	69.6	608.1	958.8	3.34	13.8	1.6	7.70	14.10	6.77	.515	.310	4.37	
14	X	8	X	43.0	I-T	28.02	76.7	618.2	1017.7	3.43	13.3	1.6	8.24	13.66	8.00	.530	.305	4.17	
14	X	8	X	48.0	I-T	31.50	86.5	649.2	1147.6	3.62	13.3	1.8	9.26	13.79	8.03	.595	.340	4.69	
16	X	5 1/2	X	26.0	I-T	19.49	51.2	582.2	797.5	3.08	15.6	1.4	5.73	15.69	5.50	.345	.250	3.92	
16	X	5 1/2	X	31.0	I-T	22.70	62.0	641.6	968.6	3.38	15.6	1.5	6.68	15.88	5.53	.440	.275	4.37	
16	X	7	X	36.0	I-T	25.69	72.7	686.2	1124.2	3.62	15.5	1.6	7.56	15.86	6.99	.430	.295	4.68	
16	X	7	X	40.0	I-T	28.09	82.2	727.1	1274.9	3.84	15.5	1.8	8.26	16.01	7.00	.505	.305	4.88	
16	X	7	X	45.0	I-T	31.77	92.8	760.4	1436.9	4.05	15.5	1.9	9.34	16.13	7.04	.565	.345	5.56	
16	X	7 1/8	X	50.0	I-T	35.34	103.6	791.9	1603.7	4.26	15.5	2.0	10.39	16.26	7.07	.630	.380	6.18	

(50T) PLATE WEIGHT = 51.000 LBS. (1.2500 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(50T = 62.500 IN.) PLATE WEIGHT = 51.000 LBS. (1.2500 IN.) EFFECTIVE PLATE AREA = 78.125 SQ. IN.																
NOMINAL SIZE		WT/FT	SECTION MODULUS				BEAM DIMENSIONS									
			FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X IN X LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2		
16	X 7 1/8 X	57.0	I-T	40.28	118.3	829.2	1829.9	4.51	15.5	2.2	11.85	16.43	7.12	.715	.430	7.06
16	X 10 1/4 X	67.0	I-T	44.18	142.7	884.8	2159.7	4.87	15.1	2.4	12.99	16.33	10.24	.665	.395	6.45
16	X 10 1/4 X	77.0	I-T	50.98	164.5	922.5	2480.2	5.16	15.1	2.7	15.00	16.52	10.30	.760	.455	7.52
16	X 10 3/8 X	89.0	I-T	59.17	191.0	962.7	2868.8	5.48	15.0	3.0	17.40	16.75	10.37	.875	.525	8.79
18	X 6 X	35.0	I-T	26.29	76.4	764.8	1316.9	3.92	17.2	1.7	7.73	17.70	6.00	.425	.300	5.31
18	X 6 X	40.0	I-T	29.35	89.1	820.2	1539.7	4.21	17.3	1.9	8.63	17.90	6.02	.525	.315	5.64
18	X 7 1/2 X	50.0	I-T	35.55	113.1	894.2	1932.0	4.67	17.1	2.2	10.46	17.99	7.50	.570	.355	6.39
18	X 7 1/2 X	60.0	I-T	42.61	137.2	953.4	2337.9	5.08	17.0	2.5	12.53	18.24	7.56	.695	.415	7.57
18	X 7 5/8 X	71.0	I-T	50.75	162.5	1000.6	2757.1	5.44	17.0	2.8	14.93	18.47	7.64	.810	.495	9.14
18	X 11 1/8 X	86.0	I-T	57.79	202.8	1066.9	3346.2	5.93	16.5	3.1	17.00	18.39	11.09	.770	.480	8.83
18	X 11 1/8 X	97.0	I-T	65.20	229.7	1102.5	3771.0	6.23	16.4	3.4	19.18	18.59	11.15	.870	.535	9.95
18	X 11 1/4 X	106.0	I-T	71.48	250.5	1125.2	4093.6	6.43	16.3	3.6	21.02	18.73	11.20	.940	.590	11.05
18	X 11 1/4 X	119.0	I-T	80.48	283.4	1161.5	4605.9	6.73	16.3	4.0	23.67	18.97	11.27	1.060	.655	12.43
21	X 8 1/4 X	62.0	I-T	44.94	160.5	1127.3	3124.8	5.85	19.5	2.8	13.22	20.99	8.24	.615	.400	8.40
21	X 8 1/4 X	68.0	I-T	49.15	177.3	1160.6	3441.4	6.10	19.4	3.0	14.46	21.13	8.27	.685	.430	9.09
21	X 8 1/4 X	73.0	I-T	52.58	190.7	1184.6	3694.4	6.28	19.4	3.1	15.47	21.24	8.30	.740	.455	9.66
21	X 8 3/8 X	83.0	I-T	59.78	216.6	1222.9	4173.3	6.60	19.3	3.4	17.58	21.43	8.36	.835	.515	11.04
21	X 8 3/8 X	93.0	I-T	67.42	243.5	1257.5	4665.3	6.90	19.2	3.7	19.83	21.62	8.42	.930	.580	12.54
21	X 12 1/4 X	101.0	I-T	68.38	273.3	1300.2	5105.4	7.21	18.7	3.9	20.11	21.36	12.29	.800	.500	10.68
21	X 12 3/8 X	111.0	I-T	75.30	300.3	1327.2	5574.3	7.46	18.6	4.2	22.15	21.51	12.34	.875	.550	11.83

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(50T) PLATE WEIGHT = 51.000 LBS. (1.2500 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(50T = 68.750 IN.) PLATE WEIGHT = 56.100 LBS. (1.3750 IN.) EFFECTIVE PLATE AREA = 94.531 SQ. IN.																		
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS										
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2				
12	X	8	X	40.0	I-T	25.48	64.5	549.7	768.9	2.75	11.9	1.4	7.49	11.94	8.01	.515	.295	3.52
12	X	8	X	45.0	I-T	28.81	72.7	584.1	868.7	2.90	11.9	1.5	8.47	12.06	8.05	.575	.335	4.04
12	X	8 1/8	X	50.0	I-T	32.11	81.3	617.4	974.1	3.06	12.0	1.6	9.44	12.19	8.08	.640	.370	4.51
12	X	10	X	53.0	I-T	33.81	86.7	632.7	1024.3	3.13	11.8	1.6	9.71	12.06	10.00	.575	.345	4.16
12	X	10	X	58.0	I-T	35.92	95.8	664.6	1135.6	3.29	11.9	1.7	10.56	12.19	10.01	.640	.360	4.39
14	X	6 3/4	X	34.0	I-T	23.54	62.7	621.7	875.0	2.94	13.9	1.4	6.92	13.98	6.75	.455	.285	3.98
14	X	6 3/4	X	38.0	I-T	26.17	70.5	660.8	985.4	3.10	14.0	1.5	7.70	14.10	6.77	.515	.310	4.37
14	X	8	X	43.0	I-T	28.02	77.6	675.1	1046.9	3.19	13.5	1.6	8.24	13.66	8.00	.530	.305	4.17
14	X	8	X	48.0	I-T	31.50	87.5	714.0	1181.7	3.37	13.5	1.7	9.26	13.79	8.03	.595	.340	4.69
16	X	5 1/2	X	31.0	I-T	22.70	62.8	692.9	992.8	3.13	15.8	1.4	6.68	15.88	5.53	.440	.275	4.37
16	X	7	X	36.0	I-T	25.69	73.5	747.5	1153.2	3.36	15.7	1.5	7.56	15.86	6.99	.430	.295	4.68
16	X	7	X	40.0	I-T	28.09	83.1	797.4	1308.5	3.57	15.7	1.6	8.26	16.01	7.00	.505	.305	4.88
16	X	7	X	45.0	I-T	31.77	93.8	839.7	1476.3	3.77	15.7	1.8	9.34	16.13	7.04	.565	.345	5.56
16	X	7 1/8	X	50.0	I-T	35.34	104.7	879.9	1649.6	3.97	15.8	1.9	10.39	16.26	7.07	.630	.380	6.18
16	X	7 1/8	X	57.0	I-T	40.28	119.5	927.6	1885.2	4.21	15.8	2.0	11.85	16.43	7.12	.715	.430	7.06
16	X	10 1/4	X	67.0	I-T	44.18	144.0	997.6	2228.5	4.55	15.5	2.2	12.99	16.33	10.24	.665	.395	6.45
16	X	10 1/4	X	77.0	I-T	50.98	166.1	1046.8	2565.1	4.84	15.4	2.5	15.00	16.52	10.30	.760	.455	7.52
16	X	10 3/8	X	89.0	I-T	59.17	193.0	1099.0	2975.0	5.16	15.4	2.7	17.40	16.75	10.37	.875	.525	8.79
18	X	6	X	35.0	I-T	26.29	77.3	836.3	1349.2	3.63	17.5	1.6	7.73	17.70	6.00	.425	.300	5.31
18	X	6	X	40.0	I-T	29.35	90.1	904.2	1578.6	3.91	17.5	1.7	8.63	17.90	6.02	.525	.315	5.64
18	X	7 1/2	X	50.0	I-T	35.55	114.2	997.6	1984.8	4.35	17.4	2.0	10.46	17.99	7.50	.570	.355	6.39
18	X	7 1/2	X	60.0	I-T	42.61	138.6	1073.7	2407.4	4.74	17.4	2.2	12.53	18.24	7.56	.695	.415	7.57
18	X	7 5/8	X	71.0	I-T	50.75	164.2	1135.4	2846.6	5.10	17.3	2.5	14.93	18.47	7.64	.810	.495	9.14
18	X	11 1/8	X	86.0	I-T	57.79	204.7	1220.3	3464.5	5.57	16.9	2.8	17.00	18.39	11.09	.770	.480	8.83
18	X	11 1/8	X	97.0	I-T	65.20	231.9	1266.5	3913.8	5.87	16.9	3.1	19.18	18.59	11.15	.870	.535	9.95

(50T) PLATE WEIGHT = 56.100 LBS. (1.3750 IN.)

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TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T															

(50T = 68.750 IN.) PLATE WEIGHT = 56.100 LBS. (1.3750 IN.) EFFECTIVE PLATE AREA = 94.531 SQ. IN.															
NOMINAL SIZE		WT/FT	SECTION MODULUS				BEAM DIMENSIONS								
			FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X IN X LBS/FT		LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	

18	X 11 1/4 X 106.0	I-T	71.48	253.1	1296.2	4256.8	6.07	16.8	3.3	21.02	18.73	11.20	.940	.590	11.05
18	X 11 1/4 X 119.0	I-T	80.48	286.4	1342.7	4802.3	6.37	16.8	3.6	23.67	18.97	11.27	1.060	.655	12.43
21	X 8 1/4 X 62.0	I-T	44.94	162.0	1278.3	3215.2	5.46	19.8	2.5	13.22	20.99	8.24	.615	.400	8.40
21	X 8 1/4 X 68.0	I-T	49.15	178.9	1321.3	3546.0	5.70	19.8	2.7	14.46	21.13	8.27	.685	.430	9.09
21	X 8 1/4 X 73.0	I-T	52.58	192.5	1352.4	3811.0	5.89	19.8	2.8	15.47	21.24	8.30	.740	.455	9.66
21	X 8 3/8 X 83.0	I-T	59.78	218.7	1402.3	4315.0	6.20	19.7	3.1	17.58	21.43	8.36	.835	.515	11.04
21	X 8 3/8 X 93.0	I-T	67.42	246.0	1447.3	4835.0	6.50	19.7	3.3	19.83	21.62	8.42	.930	.580	12.54
21	X 12 1/4 X 101.0	I-T	68.38	275.8	1501.6	5296.8	6.80	19.2	3.5	20.11	21.36	12.29	.800	.500	10.68
21	X 12 3/8 X 111.0	I-T	75.30	303.2	1536.6	5795.6	7.05	19.1	3.8	22.15	21.51	12.34	.875	.550	11.83

(50T) PLATE WEIGHT = 56.100 LBS. (1.3750 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(50T = 75.000 IN.) PLATE WEIGHT = 61.200 LBS. (1.5000 IN.) EFFECTIVE PLATE AREA = 112.900 SQ. IN.																
NOMINAL SIZE			SECTION MODULUS					BEAM DIMENSIONS								
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2		
12	X 8 1/8	X 50.0	I-T	32.11	82.4	662.7	1003.2	2.87	12.2	1.5	9.44	12.19	8.00	.640	.370	4.51
12	X 10	X 53.0	I-T	33.01	87.8	680.9	1055.0	2.94	12.0	1.5	9.71	12.06	10.00	.575	.345	4.16
12	X 10	X 58.0	I-T	35.92	97.0	719.0	1170.1	3.08	12.1	1.6	10.56	12.19	10.01	.640	.360	4.39
14	X 8	X 48.0	I-T	31.50	88.5	768.5	1213.9	3.16	13.7	1.6	9.26	13.79	8.03	.595	.340	4.69
16	X 7	X 40.0	I-T	28.09	84.0	855.8	1340.0	3.33	15.9	1.6	8.26	16.01	7.00	.505	.305	4.88
16	X 7	X 45.0	I-T	31.77	94.8	907.3	1513.0	3.52	16.0	1.7	9.34	16.13	7.04	.565	.345	5.56
16	X 7 1/8	X 50.0	I-T	35.34	105.8	956.3	1691.7	3.71	16.0	1.8	10.39	16.26	7.07	.630	.380	6.18
16	X 7 1/8	X 57.0	I-T	40.28	120.8	1015.2	1935.4	3.95	16.0	1.9	11.85	16.43	7.12	.715	.430	7.06
16	X 10 1/4	X 67.0	I-T	44.18	145.4	1100.3	2290.2	4.27	15.7	2.1	12.99	16.33	10.24	.665	.395	6.45
16	X 10 1/4	X 77.0	I-T	50.98	167.7	1162.3	2640.7	4.55	15.7	2.3	15.00	16.52	10.30	.760	.455	7.52
16	X 10 3/8	X 89.0	I-T	59.17	194.8	1228.2	3068.9	4.86	15.8	2.5	17.40	16.75	10.37	.875	.525	8.79
18	X 6	X 35.0	I-T	26.29	78.1	895.0	1379.6	3.39	17.7	1.5	7.73	17.70	6.00	.425	.300	5.31
18	X 6	X 40.0	I-T	29.35	91.0	975.1	1614.6	3.65	17.7	1.7	8.63	17.90	6.02	.525	.315	5.64
18	X 7 1/2	X 50.0	I-T	35.55	115.3	1088.7	2032.6	4.07	17.6	1.9	10.46	17.99	7.50	.570	.355	6.39
18	X 7 1/2	X 60.0	I-T	42.61	139.9	1183.0	2469.5	4.44	17.7	2.1	12.53	18.24	7.56	.695	.415	7.57
18	X 7 5/8	X 71.0	I-T	50.75	165.8	1261.0	2926.0	4.79	17.6	2.3	14.93	18.47	7.64	.810	.495	9.14
18	X 11 1/8	X 86.0	I-T	57.79	206.5	1366.6	3568.5	5.25	17.3	2.6	17.00	18.39	11.09	.770	.480	8.83
18	X 11 1/8	X 97.0	I-T	65.20	234.1	1425.1	4038.8	5.54	17.3	2.8	19.18	18.59	11.15	.870	.535	9.95
18	X 11 1/4	X 106.0	I-T	71.48	255.4	1463.1	4399.5	5.74	17.2	3.0	21.02	18.73	11.20	.940	.590	11.05
18	X 11 1/4	X 119.0	I-T	80.48	289.2	1521.7	4974.1	6.04	17.2	3.3	23.67	18.97	11.27	1.060	.655	12.43
21	X 8 1/4	X 62.0	I-T	44.94	163.4	1418.4	3294.9	5.12	20.2	2.3	13.22	20.99	8.24	.615	.400	8.40
21	X 8 1/4	X 68.0	I-T	49.15	180.5	1472.3	3637.8	5.35	20.2	2.5	14.46	21.13	8.27	.685	.430	9.09
21	X 8 1/4	X 73.0	I-T	52.58	194.2	1511.5	3913.1	5.53	20.2	2.6	15.47	21.24	8.30	.740	.455	9.66

(50T) PLATE WEIGHT = 61.200 LBS. (1.5000 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(50T = 75.000 IN.) PLATE HEIGHT = 61.200 LBS. (1.5000 IN.) EFFECTIVE PLATE AREA = 112.500 SQ. IN.																
NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS								
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2		
21	X 8 3/8 X	83.0	I-T	59.78	220.7	1575.2	4438.7	5.84	20.1	2.8	17.58	21.43	8.36	.835	.515	11.04
21	X 8 3/8 X	93.0	I-T	67.42	248.3	1632.5	4982.8	6.14	20.1	3.1	19.83	21.62	8.42	.930	.580	12.54
21	X 12 1/4 X	101.0	I-T	68.38	278.1	1699.4	5462.9	6.42	19.6	3.2	20.11	21.36	12.29	.800	.500	10.68
21	X 12 3/8 X	111.0	I-T	75.30	305.8	1744.2	5987.5	6.67	19.6	3.4	22.15	21.51	12.34	.875	.550	11.83

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(50T) PLATE HEIGHT = 61.200 LBS. (1.5000 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T															
(50T = 87.500 IN.) PLATE WEIGHT = 71.400 LBS. (1.7500 IN.) EFFECTIVE PLATE AREA = 153.125 SQ. IN.															
NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS							
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2	
16	X 7 1/8 X	57.0 I-T	40.28	123.5	1155.1	2027.9	3.51	16.4	1.8	11.85	16.43	7.12	.715	.430	7.06
16	X 10 1/4 X	67.0 I-T	44.18	148.3	1270.1	2401.3	3.80	16.2	1.9	12.99	16.33	10.24	.665	.395	6.45
16	X 10 1/4 X	77.0 I-T	50.98	170.9	1359.8	2774.4	4.06	16.2	2.0	15.00	16.52	10.30	.760	.455	7.52
16	X 10 3/8 X	89.0 I-T	59.17	198.6	1456.3	3232.7	4.35	16.3	2.2	17.40	16.75	10.37	.875	.525	8.79
18	X 7 1/2 X	60.0 I-T	42.61	142.6	1362.9	2581.2	3.95	18.1	1.9	12.53	18.24	7.56	.695	.415	7.57
18	X 7 5/8 X	71.0 I-T	50.75	169.0	1476.1	3065.7	4.27	18.1	2.1	14.93	18.47	7.64	.810	.495	9.14
18	X 11 1/8 X	86.0 I-T	57.79	210.1	1626.6	3748.0	4.69	17.8	2.3	17.00	18.39	11.09	.770	.480	8.83
18	X 11 1/8 X	97.0 I-T	65.20	238.1	1713.8	4252.9	4.97	17.9	2.5	19.18	18.59	11.15	.870	.535	9.95
18	X 11 1/4 X	106.0 I-T	71.48	260.0	1771.6	4642.7	5.16	17.9	2.6	21.02	18.73	11.20	.940	.590	11.05
18	X 11 1/4 X	119.0 I-T	80.48	294.3	1859.3	5265.2	5.46	17.9	2.8	23.67	18.97	11.27	1.060	.655	12.43
21	X 8 1/4 X	62.0 I-T	44.94	166.2	1656.2	3434.6	4.54	20.7	2.1	13.22	20.99	8.24	.615	.400	8.40
21	X 8 1/4 X	68.0 I-T	49.15	183.5	1734.2	3797.0	4.76	20.7	2.2	14.46	21.13	8.27	.685	.430	9.09
21	X 8 1/4 X	73.0 I-T	52.58	197.5	1791.7	4089.0	4.92	20.7	2.3	15.47	21.24	8.30	.740	.455	9.66
21	X 8 3/8 X	83.0 I-T	59.78	224.4	1887.3	4649.6	5.22	20.7	2.5	17.58	21.43	8.36	.835	.515	11.04
21	X 8 3/8 X	93.0 I-T	67.42	252.6	1974.2	5233.3	5.50	20.7	2.7	19.83	21.62	8.42	.930	.580	12.54
21	X 12 1/4 X	101.0 I-T	68.38	282.4	2068.4	5742.3	5.76	20.3	2.8	20.11	21.36	12.29	.800	.500	10.68
21	X 12 3/8 X	111.0 I-T	75.30	310.7	2137.5	6309.3	6.00	20.3	3.0	22.15	21.51	12.34	.875	.550	11.83

(50T) PLATE WEIGHT = 71.400 LBS. (1.7500 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T															
(50T = 100.000 IN.) PLATE WEIGHT = 81.600 LBS. (2.0000 IN.) EFFECTIVE PLATE AREA = 200.000 SQ. IN.															
NOMINAL SIZE			SECTION MODULUS					BEAM DIMENSIONS							
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
16	X 10 3/8 X	89.0 I-T	59.17	202.6	1636.8	3379.8	3.94	16.7	2.1	17.40	16.75	10.37	.875	.525	8.79
18	X 11 1/8 X	86.0 I-T	57.79	214.0	1834.0	3906.9	4.24	18.3	2.1	17.00	18.39	11.09	.770	.480	8.83
18	X 11 1/8 X	97.0 I-T	65.20	242.4	1952.2	4439.0	4.50	18.3	2.3	19.18	18.59	11.15	.870	.535	9.95
18	X 11 1/4 X	106.0 I-T	71.48	264.5	2032.4	4851.9	4.69	18.3	2.4	21.02	18.73	11.20	.940	.590	11.05
18	X 11 1/4 X	119.0 I-T	80.48	299.4	2153.3	5512.3	4.96	18.4	2.6	23.67	18.97	11.27	1.060	.655	12.43
21	X 8 1/4 X	68.0 I-T	49.15	186.8	1935.3	3939.5	4.29	21.1	2.0	14.46	21.13	8.27	.685	.430	9.09
21	X 8 1/4 X	73.0 I-T	52.58	200.9	2011.6	4244.5	4.44	21.1	2.1	15.47	21.24	8.30	.740	.455	9.66
21	X 8 3/8 X	83.0 I-T	59.78	228.2	2141.6	4832.6	4.71	21.2	2.3	17.58	21.43	8.36	.835	.515	11.04
21	X 8 3/8 X	93.0 I-T	67.42	256.8	2261.7	5447.3	4.98	21.2	2.4	19.83	21.62	8.42	.930	.580	12.54
21	X 12 1/4 X	101.0 I-T	68.38	286.7	2384.0	5978.4	5.21	20.9	2.5	20.11	21.36	12.29	.800	.500	10.68
21	X 12 3/8 X	111.0 I-T	75.30	315.4	2481.5	6578.7	5.44	20.9	2.7	22.15	21.51	12.34	.875	.550	11.83

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(50T) PLATE WEIGHT = 81.600 LBS. (2.0000 IN.)

TABLE IX. Properties of combined beam and plate, I-T and T (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		

(50T = 112.500 IN.) PLATE WEIGHT = 91.800 LBS. (2.2500 IN.) EFFECTIVE PLATE AREA = 253.125 SQ. IN.																		

NOMINAL SIZE			SECTION MODULUS					BEAM DIMENSIONS										
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN X IN X LBS/FT			LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2				

18	X	11 1/4	X	106.0	I-T	71.48	269.4	2239.4	5045.5	4.29	18.7	2.3	21.02	18.73	11.20	.940	.590	11.05
18	X	11 1/4	X	119.0	I-T	80.48	304.8	2394.2	5737.0	4.55	18.8	2.4	23.67	18.97	11.27	1.060	.655	12.43
21	X	8 3/8	X	93.0	I-T	67.42	261.3	2488.2	5644.4	4.55	21.6	2.3	19.83	21.62	8.42	.930	.580	12.54
21	X	12 1/4	X	101.0	I-T	68.38	291.3	2636.6	6192.9	4.76	21.3	2.3	20.11	21.36	12.29	.800	.500	10.68
21	X	12 3/8	X	111.0	I-T	75.30	320.3	2764.1	6820.3	4.98	21.3	2.5	22.15	21.51	12.34	.875	.550	11.83

(50T) PLATE WEIGHT = 91.800 LBS. (2.2500 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t).

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(38T = 4.750 IN.) PLATE WEIGHT = 5.100 LBS. (.1250 IN.) EFFECTIVE PLATE AREA = .594 SQ. IN.																		
NOMINAL SIZE						SECTION MODULUS						BEAM DIMENSIONS						
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	YF	TW	ASH
IN	X	IN	X	LBS/FT		LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
4	X	4	X	5.0	T	4.91	3.2	2.7	6.0	1.72	1.9	2.2	1.44	3.95	3.94	.205	.170	.67
5	X	4	X	6.0	T	5.88	4.4	3.7	10.1	2.08	2.3	2.8	1.73	4.94	3.96	.210	.190	.94
6	X	4	X	7.0	T	6.94	5.8	4.7	15.9	2.45	2.7	3.3	2.04	5.96	3.97	.225	.200	1.19
6	X	4	X	9.0	I-T	6.17	5.4	4.5	14.7	2.47	2.7	3.3	1.81	5.90	3.94	.215	.170	1.00
8	X	4	X	10.0	I-T	7.19	7.5	6.5	27.8	3.20	3.7	4.3	2.11	7.89	3.94	.205	.170	1.34
10	X	4	X	12.0	I-T	9.07	10.3	9.1	48.3	3.85	4.7	5.3	2.67	9.87	3.96	.210	.190	1.88
12	X	4	X	14.0	I-T	10.98	14.0	12.1	78.1	4.52	5.6	6.4	3.23	11.91	3.97	.225	.200	2.38

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(38T) PLATE WEIGHT = 5.100 LBS. (.1250 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(38T = 5.938 IN.) PLATE WEIGHT = 6.375 LBS. (.1563 IN.) EFFECTIVE PLATE AREA = .928 SQ. IN.																		
NOMINAL SIZE							SECTION MODULUS				BEAM DIMENSIONS							
							WT/FT	FLANGE	PLATE	I	R	YF	VP	A	D	WF	TF	TW
IN X IN X LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN	IN	IN2				
4 X 4 X 5.0 T	4.91	3.4	3.8	7.4	1.77	2.2	1.9	1.44	3.95	3.94	.205	.170	.67					
5 X 4 X 6.0 T	5.88	4.6	5.0	12.3	2.15	2.7	2.4	1.73	4.94	3.96	.210	.190	.94					
6 X 4 X 7.0 T	6.94	6.1	6.4	19.1	2.54	3.1	3.0	2.04	5.96	3.97	.225	.200	1.19					
6 X 4 X 9.0 I-T	6.17	5.7	6.1	17.9	2.55	3.1	2.9	1.81	5.90	3.94	.215	.170	1.00					
8 X 4 X 10.0 I-T	7.19	7.9	8.6	33.2	3.30	4.2	3.9	2.11	7.89	3.94	.205	.170	1.34					
10 X 4 X 12.0 I-T	9.07	11.0	11.7	56.8	3.98	5.2	4.9	2.67	9.87	3.96	.210	.190	1.88					
12 X 4 X 14.0 I-T	10.98	14.9	15.2	90.8	4.67	6.1	6.0	3.23	11.91	3.97	.225	.200	2.38					

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(38T) PLATE WEIGHT = 6.375 LBS. (.1563 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(38T = 7.125 IN.) PLATE WEIGHT = 7.650 LBS. (.1875 IN.) EFFECTIVE PLATE AREA = 1.336 SQ. IN.																		
NOMINAL SIZE		WT/FT	SECTION MODULUS				BEAM DIMENSIONS											
			FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH				
IN X	IN X	LBS/FT	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN	IN2		
4	X 4	X 5.0 T	4.91	3.5	5.1	8.7	1.77	2.4	1.7	1.44	3.95	3.94	.205	.170	.67			
5	X 4	X 6.0 T	5.88	4.8	6.7	14.3	2.16	3.0	2.2	1.73	4.94	3.96	.210	.190	.94			
6	X 4	X 7.0 T	6.94	6.4	8.3	22.3	2.57	3.5	2.7	2.04	5.96	3.97	.225	.200	1.19			
6	X 4	X 9.0 I-T	6.17	5.9	8.1	20.9	2.57	3.5	2.6	1.81	5.90	3.94	.215	.170	1.00			
8	X 4	X 10.0 I-T	7.19	8.3	11.2	38.5	3.34	4.6	3.4	2.11	7.89	3.94	.205	.170	1.34			
10	X 4	X 12.0 I-T	9.07	11.6	14.9	65.4	4.04	5.7	4.4	2.67	9.87	3.96	.210	.190	1.88			
12	X 4	X 14.0 I-T	10.98	15.6	19.0	103.9	4.77	6.6	5.5	3.23	11.91	3.97	.225	.200	2.38			

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(38T) PLATE WEIGHT = 7.650 LBS. (.1875 IN.)

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TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(38T = 8.313 IN.) PLATE WEIGHT = 8.925 LBS. (.2188 IN.) EFFECTIVE PLATE AREA = 1.818 SQ. IN.																		
NOMINAL SIZE					SECTION MODULUS								BEAM DIMENSIONS					
					WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	IN X	LBS/FT		LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
4	X	4	X	5.0	T	4.91	3.6	6.6	9.8	1.73	2.7	1.5	1.44	3.95	3.94	.205	.170	.67
5	X	4	X	6.0	T	5.88	5.0	8.6	16.2	2.14	3.3	1.9	1.73	4.94	3.96	.210	.190	.94
6	X	4	X	7.0	T	6.94	6.6	10.6	25.2	2.56	3.8	2.4	2.04	5.96	3.97	.225	.200	1.19
6	X	4	X	9.0	I-T	6.17	6.1	10.4	23.6	2.55	3.8	2.3	1.81	5.90	3.94	.215	.170	1.00
8	X	4	X	10.0	I-T	7.19	8.6	14.2	43.3	3.32	5.1	3.0	2.11	7.89	3.94	.205	.170	1.34
10	X	4	X	12.0	I-T	9.07	12.0	18.6	73.6	4.05	6.1	4.0	2.67	9.87	3.96	.210	.190	1.88
12	X	4	X	14.0	I-T	10.98	16.3	23.5	116.7	4.81	7.2	5.0	3.23	11.91	3.97	.225	.200	2.38

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(38T) PLATE WEIGHT = 8.925 LBS. (.2188 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																			
(38T = 9.500 IN.) PLATE WEIGHT = 10.200 LBS. (.2500 IN.) EFFECTIVE PLATE AREA = 2.375 SQ. IN.																			
NOMINAL SIZE		SECTION MODULUS		BEAM DIMENSIONS															
IN X IN X LBS/FT		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH					
IN X IN X LBS/FT		LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN	IN2					
4	X	4	X	5.0	T	4.91	3.7	8.3	10.8	1.68	2.9	1.3	1.44	3.95	3.94	.205	.170	.67	
4	X	4	X	6.5	T	6.40	4.7	8.6	12.9	1.74	2.8	1.5	1.88	4.00	4.00	.255	.230	.92	
4	X	4	X	7.5	T	7.42	5.5	9.0	14.7	1.80	2.7	1.6	2.18	4.06	4.02	.315	.245	.99	
4	X	5	1/4	X	9.0	T	8.62	7.1	9.3	17.4	1.87	2.4	1.9	2.59	4.07	5.25	.330	.230	.94
5	X	4	X	6.0	T	5.88	5.1	10.7	17.9	2.09	3.5	1.7	1.73	4.94	3.96	.210	.190	.94	
5	X	4	X	7.5	T	7.37	6.4	11.1	21.2	2.16	3.3	1.9	2.17	5.00	4.00	.270	.230	1.15	
5	X	4	X	8.5	T	8.36	7.4	11.5	24.0	2.23	3.2	2.1	2.46	5.06	4.01	.330	.240	1.21	
5	X	4	X	9.5	T	9.42	8.6	11.8	26.7	2.28	3.1	2.3	2.77	5.12	4.02	.395	.250	1.28	
5	X	5	X	16.0	I-T	9.91	9.3	11.7	27.3	2.27	2.9	2.3	2.92	5.01	5.00	.360	.240	1.20	
6	X	4	X	7.0	T	6.94	6.8	13.2	27.9	2.51	4.1	2.1	2.04	5.96	3.97	.225	.200	1.19	
6	X	4	X	8.0	T	7.88	7.8	13.6	31.0	2.57	4.0	2.3	2.32	6.00	3.99	.265	.220	1.32	
6	X	4	X	9.0	I-T	6.17	6.3	12.9	26.0	2.49	4.1	2.0	1.81	5.90	3.94	.215	.170	1.00	
6	X	4	X	9.5	T	9.34	9.6	14.2	36.3	2.66	3.8	2.6	2.75	6.08	4.01	.350	.235	1.43	
6	X	4	X	12.0	I-T	8.30	8.2	13.8	32.3	2.59	3.9	2.3	2.44	6.03	4.00	.280	.230	1.39	
6	X	6	X	15.0	I-T	9.78	10.5	14.2	37.7	2.68	3.6	2.7	2.88	5.99	5.99	.260	.230	1.38	
7	X	5	X	11.0	T	10.81	12.8	16.6	51.5	3.05	4.0	3.1	3.18	6.87	5.00	.335	.230	1.58	
8	X	4	X	10.0	I-T	7.19	8.8	17.7	47.7	3.26	5.4	2.7	2.11	7.89	3.94	.205	.170	1.34	
8	X	4	X	13.0	I-T	9.52	11.1	18.7	57.4	3.33	5.2	3.1	2.80	7.99	4.00	.255	.230	1.84	
8	X	5	1/2	X	13.0	T	12.83	16.7	19.7	73.3	3.45	4.4	3.7	7.85	5.50	.345	.250	1.96	
8	X	4	X	15.0	I-T	10.79	13.1	19.5	65.4	3.43	5.0	3.4	3.17	8.11	4.02	.315	.245	1.99	
8	X	5	1/4	X	18.0	I-T	12.00	16.2	20.2	75.4	3.57	4.7	3.7	8.14	5.25	.330	.230	1.87	
8	X	5	1/4	X	21.0	I-T	13.87	19.1	21.1	85.5	3.64	4.5	4.0	8.08	5.27	.400	.250	2.07	
8	X	6	1/2	X	24.0	I-T	15.11	21.3	20.5	85.4	3.54	4.0	4.2	8.44	6.50	.400	.245	1.94	

(38T) PLATE WEIGHT = 10.200 LBS. (.2500 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(38T = 9.500 IN.) PLATE WEIGHT = 10.200 LBS. (.2500 IN.) EFFECTIVE PLATE AREA = 2.375 SQ. IN.																		
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS										
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	LBS/FT		LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2		
10	X	4	X	12.0	I-T	9.07	12.4	22.8	81.2	4.01	6.6	3.6	2.67	9.87	3.96	.210	.190	1.88
10	X	4	X	15.0	I-T	11.27	15.4	24.2	96.3	4.11	6.3	4.0	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X	17.0	I-T	12.48	17.7	25.2	107.8	4.22	6.1	4.3	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X	19.0	I-T	13.77	20.2	26.2	119.7	4.32	5.9	4.6	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0	I-T	15.04	24.2	26.7	132.2	4.41	5.5	4.9	4.42	10.17	5.75	.360	.240	2.44
12	X	4	X	14.0	I-T	10.98	16.9	28.6	128.9	4.79	7.6	4.5	3.23	11.91	3.97	.225	.200	2.38
12	X	4	X	16.0	I-T	12.37	19.1	29.7	142.4	4.87	7.4	4.8	3.64	11.99	3.99	.265	.220	2.64
12	X	4	X	19.0	I-T	14.20	23.2	31.4	165.3	5.02	7.1	5.3	4.18	12.16	4.01	.350	.235	2.86
12	X	6 1/2	X	26.0	I-T	17.64	33.9	33.6	210.6	5.28	6.2	6.3	5.19	12.22	6.49	.380	.230	2.81
14	X	5	X	22.0	I-T	16.18	30.3	37.0	232.9	5.71	7.7	6.3	4.76	13.74	5.00	.335	.230	3.16
16	X	5 1/2	X	26.0	I-T	19.49	39.6	44.8	334.9	6.43	8.5	7.5	5.73	15.69	5.50	.345	.250	3.92

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(38T) PLATE WEIGHT = 10.200 LBS. (.2500 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																			
(38T = 10.688 IN.) PLATE WEIGHT = 11.475 LBS. (.2813 IN.) EFFECTIVE PLATE AREA = 3.006 SQ. IN.																			
NOMINAL SIZE						SECTION MODULUS						BEAM DIMENSIONS							
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X IN X LBS/FT						LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2		
4	X	4	X	5.0	T	4.91	3.8	10.1	11.6	1.62	3.1	1.2	1.44	3.35	3.94	.205	.170	.67	
4	X	4	X	6.5	T	6.40	4.7	10.5	14.0	1.69	2.9	1.3	1.88	4.00	4.00	.255	.230	.92	
4	X	4	X	7.5	T	7.42	5.7	10.9	16.2	1.76	2.9	1.5	2.18	4.06	4.02	.315	.245	.99	
4	X	5	1/4	X	9.0	T	8.82	7.3	11.3	19.2	1.85	2.6	1.7	2.59	4.07	5.25	.330	.230	.94
4	X	4	X	13.0	I-T	8.39	6.4	11.3	18.1	1.82	2.8	1.6	2.47	4.16	4.06	.345	.280	1.16	
150																			
5	X	4	X	6.0	T	5.88	5.2	13.0	19.3	2.02	3.7	1.5	1.73	4.94	3.96	.210	.190	.94	
5	X	4	X	7.5	T	7.37	6.5	13.5	23.2	2.12	3.6	1.7	2.17	5.00	4.00	.270	.230	1.15	
5	X	4	X	8.5	T	8.36	7.6	14.0	26.3	2.19	3.5	1.9	2.46	5.06	4.01	.330	.240	1.21	
5	X	4	X	9.5	T	9.42	8.8	14.4	29.4	2.26	3.4	2.0	2.77	5.12	4.02	.395	.250	1.28	
5	X	5	X	16.0	I-T	9.91	9.5	14.3	30.2	2.26	3.2	2.1	2.92	5.01	5.00	.360	.240	1.20	
5	X	5	X	19.0	I-T	11.69	11.3	14.9	35.0	2.33	3.1	2.3	3.44	5.15	5.03	.430	.270	1.39	
6	X	4	X	7.0	T	6.94	6.9	16.0	30.2	2.45	4.4	1.9	2.04	5.96	3.97	.225	.200	1.19	
6	X	4	X	8.0	T	7.88	8.0	16.5	33.7	2.52	4.2	2.0	2.32	6.00	3.99	.265	.220	1.32	
6	X	4	X	9.0	I-T	6.17	6.4	15.8	28.1	2.41	4.4	1.8	1.81	5.90	3.94	.215	.170	1.00	
6	X	4	X	9.5	T	9.34	9.9	17.2	39.9	2.63	4.0	2.3	2.75	6.08	4.01	.350	.235	1.43	
6	X	4	X	11.0	T	10.89	11.6	17.8	45.3	2.70	3.9	2.5	3.20	6.16	4.03	.425	.260	1.60	
6	X	4	X	12.0	I-T	8.30	8.4	16.7	35.2	2.54	4.2	2.1	2.44	6.03	4.00	.280	.230	1.39	
6	X	6	X	15.0	I-T	9.78	10.7	17.3	41.5	2.66	3.9	2.4	2.88	5.99	5.99	.260	.230	1.38	
6	X	4	X	16.0	I-T	10.74	11.5	18.1	46.2	2.74	4.0	2.5	3.16	6.28	4.03	.405	.260	1.63	
6	X	6	X	20.0	I-T	12.63	14.5	18.5	52.7	2.80	3.6	2.8	3.71	6.20	6.02	.365	.260	1.61	
7	X	5	X	11.0	T	10.81	13.1	20.1	56.8	3.03	4.3	2.8	3.18	6.87	5.00	.335	.230	1.58	
7	X	5	X	13.0	T	12.85	15.8	20.9	65.3	3.10	4.1	3.1	3.78	6.96	5.03	.420	.255	1.77	
7	X	6	3/4	X	15.0	T	14.81	18.8	21.3	72.0	3.13	3.8	3.4	4.36	6.92	6.73	.385	.270	1.87

(38T) PLATE WEIGHT = 11.475 LBS. (.2813 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																			
(38T = 10.688 IN.) PLATE WEIGHT = 11.475 LBS. (.2813 IN.) EFFECTIVE PLATE AREA = 3.006 SQ. IN.																			
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS											
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN X	IN X	LBS/FT		LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2				
8	X	4	X	10.0	I-T	7.19	9.0	21.4	51.6	3.18	5.8	2.4	2.11	7.89	3.94	.205	.170	1.34	
8	X	4	X	13.0	I-T	9.52	11.4	22.5	62.5	3.28	5.5	2.8	2.80	7.99	4.00	.255	.230	1.84	
8	X	5 1/2	X	13.0	T	12.03	17.1	23.8	81.0	3.46	4.7	3.4	3.77	7.05	5.50	.345	.250	1.96	
8	X	4	X	15.0	I-T	10.79	13.4	23.5	71.6	3.40	5.3	3.0	3.17	8.11	4.02	.315	.245	1.99	
8	X	5 1/2	X	15.5	T	15.28	20.8	24.7	93.0	3.52	4.5	3.8	4.49	7.94	5.53	.440	.275	2.18	
8	X	5 1/4	X	18.0	I-T	12.00	16.6	24.4	83.1	3.57	5.0	3.4	3.53	8.14	5.25	.330	.230	1.87	
8	X	5 1/4	X	21.0	I-T	13.87	19.6	25.4	94.7	3.66	4.8	3.7	4.08	8.28	5.27	.400	.250	2.07	
8	X	6 1/2	X	24.0	I-T	15.11	21.8	24.7	95.2	3.57	4.4	3.9	4.44	7.93	6.50	.400	.245	1.94	
ISI	10	X	4	X	12.0	I-T	9.07	12.7	27.5	88.1	3.94	7.0	3.2	2.67	9.87	3.96	.210	.190	1.88
	10	X	4	X	15.0	I-T	11.27	15.8	29.0	105.0	4.08	6.7	3.6	3.32	9.99	4.00	.270	.230	2.30
	10	X	4	X	17.0	I-T	12.40	18.2	30.2	118.0	4.20	6.5	3.9	3.67	10.11	4.01	.330	.240	2.43
	10	X	4	X	19.0	I-T	13.77	20.8	31.3	131.5	4.32	6.3	4.2	4.05	10.24	4.02	.395	.250	2.56
	10	X	5 3/4	X	22.0	I-T	15.04	24.8	32.0	146.1	4.43	5.9	4.6	4.42	10.17	5.75	.360	.240	2.44
	10	X	5 3/4	X	26.0	I-T	17.37	29.3	33.5	165.9	4.52	5.7	5.0	5.11	10.33	5.77	.440	.260	2.69
	12	X	4	X	14.0	I-T	10.98	17.3	34.2	140.2	4.74	8.1	4.1	3.23	11.91	3.97	.225	.200	2.38
	12	X	4	X	16.0	I-T	12.37	19.7	35.4	155.3	4.83	7.9	4.4	3.64	11.99	3.99	.265	.220	2.64
	12	X	4	X	19.0	I-T	14.20	23.8	37.4	181.0	5.02	7.6	4.8	4.18	12.16	4.01	.350	.235	2.86
	12	X	4	X	22.0	I-T	16.33	27.8	39.2	204.9	5.12	7.4	5.2	4.80	12.31	4.03	.425	.260	3.20
12	X	6 1/2	X	26.0	I-T	17.64	34.9	40.1	233.1	5.33	6.7	5.8	5.19	12.22	6.49	.380	.230	2.81	
12	X	6 1/2	X	30.0	I-T	20.27	39.8	41.7	257.3	5.36	6.5	6.2	5.96	12.34	6.52	.440	.260	3.21	
14	X	5	X	22.0	I-T	16.18	31.1	43.9	255.4	5.74	8.2	5.8	4.76	13.74	5.00	.335	.230	3.16	
14	X	5	X	26.0	I-T	18.87	37.2	46.3	292.6	5.85	7.9	6.3	5.55	13.91	5.03	.420	.255	3.55	
14	X	6 3/4	X	30.0	I-T	21.16	43.2	47.6	319.9	5.89	7.4	6.7	6.22	13.84	6.73	.385	.270	3.74	

(38T) PLATE WEIGHT = 11.475 LBS. (.2813 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(38T = 10.688 IN.) PLATE WEIGHT = 11.475 LBS. (.2813 IN.) EFFECTIVE PLATE AREA = 3.006 SQ. IN.																
NOMINAL SIZE		WT/FT LBS	SECTION MODULUS				BEAM DIMENSIONS									
IN X	IN X		FLANGE IN3	PLATE IN3	I IN4	R IN	YF IN	YP IN	A IN2	D IN	WF IN	TF IN	TW IN	ASH IN2		
IN X	IN X	LBS/FT														
16	X 5 1/2 X	26.0	I-T	19.49	40.8	52.7	367.1	6.48	9.0	7.0	5.73	15.69	5.50	.345	.250	3.92
16	X 5 1/2 X	31.0	I-T	22.70	49.0	55.8	421.5	6.60	8.6	7.6	6.68	15.88	5.53	.440	.275	4.37

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(38T) PLATE WEIGHT = 11.475 LBS. (.2813 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(38T = 11.875 IN.) PLATE WEIGHT = 12.750 LBS. (.3125 IN.) EFFECTIVE PLATE AREA = 3.711 SQ. IN.																		
NOMINAL SIZE						SECTION MODULUS							BEAM DIMENSIONS					
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2		
4	X	4	X	5.0	T	4.91	3.8	12.0	12.4	1.55	3.2	1.0	1.44	3.95	3.94	.205	.170	.67
4	X	4	X	6.5	T	6.40	4.8	12.5	15.0	1.64	3.1	1.2	1.88	4.00	4.00	.255	.230	.92
4	X	4	X	7.5	T	7.42	5.8	13.0	17.4	1.72	3.0	1.3	2.18	4.06	4.02	.315	.245	.99
4	X	5 1/4	X	9.0	T	8.82	7.4	13.5	20.9	1.82	2.8	1.5	2.59	4.07	5.25	.330	.230	.94
4	X	4	X	13.0	I-T	8.39	6.5	13.5	19.6	1.78	3.0	1.5	2.47	4.16	4.06	.345	.280	1.16
5	X	4	X	6.0	T	5.88	5.3	15.4	20.6	1.94	3.9	1.3	1.73	4.94	3.96	.210	.190	.94
5	X	4	X	7.5	T	7.37	6.6	16.1	24.9	2.06	3.8	1.5	2.17	5.00	4.00	.270	.230	1.15
5	X	4	X	8.5	T	8.36	7.7	16.7	28.4	2.14	3.7	1.7	2.46	5.06	4.01	.330	.240	1.21
5	X	4	X	9.5	T	9.42	8.9	17.1	31.9	2.22	3.6	1.9	2.77	5.12	4.02	.395	.250	1.28
5	X	5	X	16.0	I-T	9.91	9.7	17.0	32.9	2.23	3.4	1.9	2.92	5.01	5.00	.360	.240	1.20
5	X	5	X	19.0	I-T	11.69	11.5	17.8	38.3	2.31	3.3	2.1	3.44	5.15	5.03	.430	.270	1.39
6	X	4	X	7.0	T	6.94	7.1	19.1	32.3	2.37	4.6	1.7	2.04	5.96	3.97	.225	.200	1.19
6	X	4	X	8.0	T	7.88	8.1	19.6	36.2	2.45	4.5	1.8	2.32	6.00	3.99	.265	.220	1.32
6	X	4	X	9.0	I-T	6.17	6.5	18.8	29.9	2.33	4.6	1.6	1.81	5.90	3.94	.215	.170	1.00
6	X	4	X	9.5	T	9.34	10.0	20.5	43.1	2.58	4.3	2.1	2.75	6.08	4.01	.350	.235	1.43
6	X	4	X	11.0	T	10.89	11.9	21.2	49.2	2.67	4.2	2.3	3.20	6.16	4.03	.425	.260	1.60
6	X	4	X	12.0	I-T	8.30	8.5	19.9	37.9	2.48	4.4	1.9	2.44	6.03	4.00	.280	.230	1.39
6	X	6	X	15.0	I-T	9.78	10.9	20.6	45.0	2.61	4.1	2.2	2.88	5.99	5.99	.260	.230	1.38
6	X	4	X	16.0	I-T	10.74	11.8	21.6	50.2	2.70	4.3	2.3	3.16	6.28	4.03	.405	.260	1.63
6	X	6	X	20.0	I-T	12.63	14.8	22.1	57.7	2.79	3.9	2.6	3.71	6.20	6.02	.365	.260	1.61
7	X	5	X	11.0	T	10.81	13.4	24.0	61.6	2.99	4.6	2.6	3.18	6.87	5.00	.335	.230	1.58
7	X	5	X	13.0	T	12.85	16.2	24.9	71.3	3.09	4.4	2.9	3.78	6.96	5.03	.420	.255	1.77
7	X	6 3/4	X	15.0	T	14.81	19.2	25.4	79.1	3.13	4.1	3.1	4.36	6.92	6.73	.385	.270	1.87
7	X	6 3/4	X	17.0	T	16.77	22.1	26.0	87.2	3.18	4.0	3.4	4.93	6.99	6.75	.455	.285	1.99
7	X	6 3/4	X	19.0	T	18.74	24.6	26.6	94.1	3.19	3.8	3.5	5.51	7.05	6.77	.515	.310	2.19

(38T) PLATE WEIGHT = 12.750 LBS. (.3125 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(38T = 11.875 IN.) PLATE WEIGHT = 12.750 LBS. (.3125 IN.) EFFECTIVE PLATE AREA = 3.711 SQ. IN.																		
NOMINAL SIZE						SECTION MODULUS							BEAM DIMENSIONS					
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN	X	IN	X	LBS/FT		IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
7	X	8	X	21.5	T	20.94	27.8	26.0	96.0	3.12	3.5	3.7	6.16	6.83	8.00	.530	.305	2.08
8	X	4	X	10.0	I-T	7.19	9.1	25.6	55.1	3.07	6.0	2.2	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X	13.0	I-T	9.52	11.6	26.7	67.2	3.21	5.8	2.5	2.80	7.99	4.00	.255	.230	1.84
8	X	5 1/2	X	13.0	T	12.83	17.5	28.2	88.1	3.43	5.0	3.1	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X	15.0	I-T	10.79	13.7	27.9	77.2	3.35	5.7	2.8	3.17	8.11	4.02	.315	.245	1.99
8	X	5 1/2	X	19.5	T	15.28	21.3	29.3	101.8	3.52	4.8	3.5	4.49	7.94	5.53	.440	.275	2.18
8	X	5 1/4	X	18.0	I-T	12.00	16.9	29.0	90.2	3.53	5.3	3.1	3.53	8.14	5.25	.330	.230	1.87
8	X	7	X	18.0	T	17.73	25.4	30.1	113.5	3.57	4.5	3.8	5.22	7.93	6.99	.430	.295	2.34
8	X	7	X	20.0	T	19.79	28.9	30.8	124.2	3.61	4.3	4.0	5.82	8.01	7.00	.505	.305	2.44
8	X	5 1/4	X	21.0	I-T	13.87	20.0	30.2	103.3	3.64	5.2	3.4	4.08	8.28	5.27	.400	.250	2.07
8	X	6 1/2	X	24.0	I-T	15.11	22.3	29.4	104.5	3.58	4.7	3.6	4.44	7.93	6.50	.400	.245	1.94
8	X	6 1/2	X	28.0	I-T	17.69	25.8	30.5	117.2	3.63	4.5	3.8	5.20	8.06	6.54	.465	.285	2.30
8	X	8	X	31.0	I-T	19.6	28.8	30.7	123.5	3.64	4.3	4.0	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X	17.5	T	17.26	25.6	33.6	133.0	3.89	5.2	4.0	5.08	8.85	6.00	.425	.300	2.66
10	X	4	X	12.0	I-T	9.07	12.9	32.7	94.3	3.85	7.3	2.9	2.67	9.87	3.96	.210	.190	1.88
10	X	4	X	15.0	I-T	11.27	16.1	34.4	113.1	4.01	7.0	3.3	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X	17.0	I-T	12.48	18.6	35.7	127.4	4.16	6.9	3.6	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X	19.0	I-T	13.77	21.3	37.0	142.5	4.28	6.7	3.9	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0	I-T	15.04	25.3	37.9	159.1	4.42	6.3	4.2	4.42	10.17	5.75	.360	.240	2.44
10	X	5 3/4	X	26.0	I-T	17.37	30.0	39.5	181.5	4.54	6.0	4.6	5.11	10.33	5.77	.440	.260	2.69
10	X	5 3/4	X	30.0	I-T	20.23	34.6	41.1	202.6	4.58	5.9	4.9	5.95	10.47	5.81	.510	.300	3.14
10	X	8	X	33.0	I-T	20.94	36.1	38.5	187.0	4.35	5.2	4.9	6.16	9.73	7.96	.435	.290	2.82

(38T) PLATE WEIGHT = 12.750 LBS. (.3125 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																			
(38T = 11.875 IN.) PLATE WEIGHT = 12.750 LBS. (.3125 IN.) EFFECTIVE PLATE AREA = 3.711 SQ. IN.																			
NOMINAL SIZE						SECTION MODULUS				BEAM DIMENSIONS									
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2			
12	X	4	X	14.0	I-T	10.98	17.7	40.5	150.5	4.66	8.5	3.7	3.23	11.91	3.97	.225	.200	2.38	
12	X	4	X	16.0	I-T	12.37	20.1	41.8	167.2	4.77	8.3	4.0	3.64	11.99	3.99	.265	.220	2.64	
12	X	4	X	19.0	I-T	14.20	24.4	44.0	195.7	4.98	8.0	4.4	4.18	12.16	4.01	.350	.235	2.86	
12	X	4	X	22.0	I-T	16.33	28.5	46.0	222.2	5.11	7.8	4.8	4.80	12.31	4.03	.425	.260	3.20	
12	X	6	1/2	X	26.0	I-T	17.64	35.7	254.7	5.35	7.1	5.4	5.19	12.22	6.49	.380	.230	2.81	
12	X	6	1/2	X	30.0	I-T	20.27	40.8	49.0	281.6	5.40	6.9	5.7	5.96	12.34	6.52	.440	.260	3.21
12	X	6	1/2	X	35.0	I-T	23.82	47.6	51.3	316.3	5.43	6.6	6.2	7.01	12.50	6.56	.520	.300	3.75
12	X	8	X	40.0	I-T	25.48	52.0	49.5	310.8	5.27	6.0	6.3	7.49	11.94	8.01	.515	.295	3.52	
14	X	5	X	22.0	I-T	16.18	31.9	51.6	276.9	5.72	8.7	5.4	4.76	13.74	5.00	.335	.230	3.16	
14	X	5	X	26.0	I-T	18.87	38.1	54.1	318.2	5.86	8.3	5.9	5.55	13.91	5.03	.420	.255	3.55	
14	X	6	3/4	X	30.0	I-T	21.16	44.3	55.6	349.0	5.93	7.9	6.3	6.22	13.84	6.73	.385	.270	3.74
14	X	6	3/4	X	34.0	I-T	23.54	50.5	57.6	384.8	6.01	7.6	6.7	6.92	13.98	6.75	.455	.285	3.98
14	X	6	3/4	X	38.0	I-T	26.17	56.3	59.6	417.2	6.05	7.4	7.0	7.70	14.10	6.77	.515	.310	4.37
14	X	8	X	43.0	I-T	28.02	62.4	58.5	421.6	5.94	6.8	7.2	8.24	13.66	8.00	.530	.305	4.17	
16	X	5	1/2	X	26.0	I-T	19.49	41.8	61.4	398.3	6.49	9.5	6.5	5.73	15.69	5.90	.345	.250	3.92
16	X	5	1/2	X	31.0	I-T	22.70	50.3	64.8	458.4	6.64	9.1	7.1	6.68	15.88	5.53	.440	.275	4.37
16	X	7	X	36.0	I-T	25.69	58.7	67.1	506.6	6.71	8.6	7.5	7.56	15.86	6.99	.430	.295	4.68	
16	X	7	X	40.0	I-T	28.09	66.3	69.4	553.2	6.80	8.3	8.0	8.26	16.01	7.00	.505	.305	4.88	
18	X	6	X	35.0	I-T	26.29	61.0	75.2	606.8	7.28	9.9	8.1	7.73	17.70	6.00	.425	.300	5.31	

(38T) PLATE WEIGHT = 12.750 LBS. (.3125 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(38T = 13.063 IN.) PLATE WEIGHT = 14.025 LBS. (.3438 IN.) EFFECTIVE PLATE AREA = 4.490 SQ. IN.																		
NOMINAL SIZE					SECTION MODULUS				BEAM DIMENSIONS									
					WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2		
4	X	4	X	5.0	T	4.91	3.9	13.9	13.0	1.48	3.4	.9	1.44	3.95	3.94	.205	.170	.67
4	X	4	X	6.5	T	6.40	4.9	14.5	15.9	1.58	3.2	1.1	1.88	4.00	4.00	.255	.230	.92
4	X	4	X	7.5	T	7.42	5.8	15.1	18.6	1.67	3.2	1.2	2.18	4.06	4.02	.315	.245	.99
4	X	5	1/4	9.0	T	8.82	7.5	15.9	22.5	1.78	3.0	1.4	2.59	4.07	5.25	.330	.230	.94
4	X	4	X	13.0	I-T	8.39	6.6	15.7	20.9	1.73	3.2	1.3	2.47	4.16	4.06	.345	.280	1.16
5	X	4	X	6.0	T	5.88	5.3	18.0	21.7	1.87	4.1	1.2	1.73	4.94	3.96	.210	.190	.94
5	X	4	X	7.5	T	7.37	6.7	18.8	26.4	1.99	3.9	1.4	2.17	5.00	4.00	.270	.230	1.15
5	X	4	X	8.5	T	8.36	7.8	19.5	30.2	2.09	3.9	1.6	2.46	5.06	4.01	.330	.240	1.21
5	X	4	X	9.5	T	9.42	9.1	20.1	34.1	2.17	3.8	1.7	2.77	5.12	4.02	.395	.250	1.28
5	X	5	X	16.0	I-T	9.91	9.8	20.0	35.3	2.18	3.6	1.8	2.92	5.01	5.00	.360	.240	1.20
5	X	5	X	19.0	I-T	11.69	11.7	21.0	41.3	2.28	3.5	2.0	3.44	5.15	5.03	.430	.270	1.39
6	X	4	X	7.0	T	6.94	7.1	22.3	34.1	2.29	4.8	1.5	2.04	5.96	3.97	.225	.200	1.19
6	X	4	X	8.0	T	7.88	8.2	22.9	38.4	2.37	4.7	1.7	2.32	6.00	3.99	.265	.220	1.32
6	X	4	X	9.0	I-T	6.17	6.6	21.9	31.5	2.24	4.8	1.4	1.81	5.90	3.94	.215	.170	1.00
6	X	4	X	9.5	T	9.34	10.2	24.0	46.0	2.52	4.5	1.9	2.75	6.08	4.01	.350	.235	1.43
6	X	4	X	11.0	T	10.89	12.0	24.9	52.8	2.62	4.4	2.1	3.20	6.16	4.03	.425	.260	1.60
6	X	4	X	12.0	I-T	8.30	8.7	23.2	40.2	2.41	4.6	1.7	2.44	6.03	4.00	.280	.230	1.39
6	X	6	X	15.0	I-T	9.78	11.1	24.2	48.1	2.56	4.3	2.0	2.88	5.99	5.99	.260	.230	1.38
6	X	4	X	16.0	I-T	10.74	12.0	25.3	53.8	2.65	4.5	2.1	3.16	6.28	4.03	.405	.260	1.63
6	X	6	X	20.0	I-T	12.63	15.0	25.9	62.3	2.75	4.1	2.4	3.71	6.20	6.02	.365	.260	1.61
7	X	5	X	11.0	T	10.81	13.6	28.1	66.0	2.93	4.9	2.3	3.18	6.87	5.00	.335	.230	1.58
7	X	5	X	13.0	T	12.85	16.4	29.2	76.8	3.05	4.7	2.6	3.78	6.96	5.03	.420	.255	1.77
7	X	6	3/4	15.0	T	14.81	19.6	29.8	85.7	3.11	4.4	2.9	4.36	6.92	6.73	.385	.270	1.87
7	X	6	3/4	17.0	T	16.77	22.5	30.5	95.0	3.17	4.2	3.1	4.93	6.99	6.75	.455	.285	1.99
7	X	6	3/4	19.0	T	18.74	25.1	31.2	102.8	3.21	4.1	3.3	5.51	7.05	6.77	.515	.310	2.19

(38T) PLATE WEIGHT = 14.025 LBS. (.3438 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(38T = 13.063 IN.) PLATE WEIGHT = 14.025 LBS. (.3438 IN.) EFFECTIVE PLATE AREA = 4.490 SQ. IN.																		
NOMINAL SIZE					SECTION MODULUS								BEAM DIMENSIONS					
					WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X TN X LBS/FT					LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2		
7	X	8	X	21.5	T	20.94	28.3	30.5	105.4	3.15	3.7	3.5	6.16	6.83	8.00	.530	.305	2.08
7	X	8	X	24.0	T	23.53	31.4	31.3	113.6	3.15	3.6	3.6	6.92	6.90	8.03	.595	.340	2.35
8	X	4	X	10.0	I-T	7.19	9.2	29.9	58.1	2.97	6.3	1.9	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X	13.0	I-T	9.52	11.8	31.3	71.3	3.13	6.1	2.3	2.80	7.99	4.00	.255	.230	1.84
8	X	5 1/2	X	13.0	T	12.83	17.8	33.1	94.7	3.39	5.3	2.9	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X	15.0	I-T	10.79	13.9	32.6	82.3	3.28	5.9	2.5	3.17	8.11	4.02	.315	.245	1.99
8	X	5 1/2	X	15.5	T	15.28	21.7	34.3	110.1	3.50	5.1	3.2	4.49	7.94	5.53	.440	.275	2.18
8	X	5 1/4	X	18.0	I-T	12.00	17.2	34.0	96.7	3.47	5.6	2.8	3.53	8.14	5.25	.330	.230	1.87
8	X	7	X	18.0	T	17.73	25.9	35.2	123.4	3.57	4.8	3.5	5.22	7.93	6.99	.430	.295	2.34
8	X	7	X	20.0	T	19.79	29.5	36.0	135.5	3.63	4.6	3.8	5.82	8.01	7.00	.505	.305	2.44
8	X	5 1/4	X	21.0	I-T	13.87	20.3	35.3	111.3	3.60	5.5	3.1	4.08	8.28	5.27	.400	.250	2.07
8	X	6 1/2	X	24.0	I-T	15.11	22.7	34.5	113.1	3.56	5.0	3.3	4.44	7.93	6.50	.400	.245	1.94
8	X	6 1/2	X	28.0	I-T	17.69	26.3	35.7	127.4	3.63	4.8	3.6	5.20	8.06	6.54	.465	.285	2.30
8	X	8	X	31.0	I-T	19.16	29.3	36.0	134.8	3.65	4.6	3.7	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X	17.5	T	17.26	26.1	39.1	143.9	3.88	5.5	3.7	5.08	8.85	6.00	.425	.300	2.66
9	X	6	X	20.0	T	19.76	30.8	40.4	162.4	3.97	5.3	4.0	5.81	8.95	6.02	.525	.315	2.82
10	X	4	X	12.0	I-T	9.07	13.1	38.3	99.8	3.73	7.6	2.6	2.67	9.87	3.96	.210	.190	1.88
10	X	4	X	15.0	I-T	11.27	16.4	40.1	120.4	3.93	7.3	3.0	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X	17.0	I-T	12.48	18.9	41.6	136.1	4.08	7.2	3.3	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X	19.0	I-T	13.77	21.7	43.1	152.6	4.23	7.0	3.5	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0	I-T	15.04	25.8	44.2	171.3	4.38	6.6	3.9	4.42	10.17	5.75	.360	.240	2.44
10	X	5 3/4	X	26.0	I-T	17.37	30.6	46.0	196.2	4.52	6.4	4.3	5.11	10.33	5.77	.440	.260	2.69
10	X	5 3/4	X	30.0	I-T	20.23	35.3	47.8	219.6	4.59	6.2	4.6	5.95	10.47	5.81	.510	.300	3.14
10	X	8	X	33.0	I-T	20.94	36.8	44.8	203.6	4.37	5.5	4.5	6.16	9.73	7.96	.435	.290	2.82

(38T) PLATE WEIGHT = 14.025 LBS. (.3438 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(38T = 13.063 IN.) PLATE WEIGHT = 14.025 LBS. (.3438 IN.) EFFECTIVE PLATE AREA = 4.490 SQ. IN.																
NOMINAL SIZE			WT/FT LBS	SECTION MODULUS				BEAM DIMENSIONS								
IN	X	IN X LBS/FT		FLANGE IN3	PLATE IN3	I IN4	R IN	YF IN	YP IN	A IN2	D IN	WF IN	TF IN	TW IN	ASH IN2	
10	X	8 X 39.0 I-T	24.45	43.8	46.8	232.3	4.46	5.3	5.0	7.19	9.92	7.99	.530	.315	3.12	
12	X	4 X 14.0 I-T	10.96	18.0	47.3	159.8	4.55	8.9	3.4	3.23	11.91	3.97	.225	.200	2.36	
12	X	4 X 16.0 I-T	12.37	20.5	48.8	178.1	4.68	8.7	3.7	3.64	11.99	3.99	.265	.220	2.64	
12	X	4 X 19.0 I-T	14.20	24.9	51.3	209.3	4.91	8.4	4.1	4.18	12.16	4.01	.350	.235	2.86	
12	X	4 X 22.0 I-T	16.33	29.1	53.4	238.4	5.07	8.2	4.5	4.80	12.31	4.03	.425	.260	3.20	
12	X	6 1/2 X 26.0 I-T	17.64	36.3	55.1	275.0	5.33	7.6	5.0	5.19	12.22	6.49	.380	.230	2.81	
12	X	6 1/2 X 30.0 I-T	20.27	41.6	56.9	304.9	5.40	7.3	5.4	5.96	12.34	6.52	.440	.260	3.21	
12	X	6 1/2 X 35.0 I-T	23.82	48.6	59.4	343.3	5.47	7.1	5.8	7.01	12.50	6.56	.520	.300	3.75	
12	X	8 X 40.0 I-T	25.48	53.1	57.4	338.9	5.32	6.4	5.9	7.49	11.94	8.01	.515	.295	3.52	
12	X	8 X 45.0 I-T	28.81	59.2	59.4	367.6	5.33	6.2	6.2	8.47	12.06	8.05	.575	.335	4.04	
14	X	5 X 22.0 I-T	16.18	32.5	60.0	297.0	5.67	9.1	5.0	4.76	13.74	5.00	.335	.230	3.16	
14	X	5 X 26.0 I-T	18.87	38.9	62.7	342.4	5.84	8.8	5.5	5.55	13.91	5.03	.420	.255	3.55	
14	X	6 3/4 X 30.0 I-T	21.16	45.2	64.4	376.8	5.93	8.3	5.9	6.22	13.84	6.73	.385	.270	3.74	
14	X	6 3/4 X 34.0 I-T	23.54	51.6	66.6	416.5	6.04	8.1	6.3	6.92	13.98	6.75	.455	.285	3.98	
14	X	6 3/4 X 38.0 I-T	26.17	57.6	68.7	452.3	6.09	7.9	6.6	7.70	14.10	6.77	.515	.310	4.37	
14	X	8 X 43.0 I-T	28.02	63.8	67.4	459.0	6.00	7.2	6.8	8.24	13.66	8.00	.530	.305	4.17	
14	X	8 X 48.0 I-T	31.50	71.0	69.8	497.7	6.02	7.0	7.1	9.26	13.79	8.03	.595	.340	4.69	
16	X	5 1/2 X 26.0 I-T	19.49	42.8	71.0	428.0	6.47	10.0	6.0	5.73	15.69	5.50	.345	.250	3.92	
16	X	5 1/2 X 31.0 I-T	22.70	51.4	74.6	494.0	6.65	9.6	6.6	6.68	15.88	5.53	.440	.275	4.37	
16	X	7 X 36.0 I-T	25.69	60.1	77.1	547.4	6.74	9.1	7.1	7.56	15.86	6.99	.430	.295	4.68	
16	X	7 X 40.0 I-T	28.09	67.8	79.6	599.0	6.85	8.8	7.5	8.26	16.01	7.00	.505	.305	4.88	
18	X	6 X 35.0 I-T	26.29	62.5	86.1	653.5	7.31	10.5	7.6	7.73	17.70	6.00	.425	.300	5.31	
18	X	6 X 40.0 I-T	29.35	72.7	89.9	733.1	7.47	10.1	8.2	8.63	17.90	6.02	.525	.315	5.64	

(38T) PLATE WEIGHT = 14.025 LBS. (.3438 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T															
(38T = 14.250 IN.) PLATE WEIGHT = 15.300 LBS. (.3750 IN.) EFFECTIVE PLATE AREA = 5.344 SQ. IN.															
NOMINAL SIZE			SECTION MODULUS								BEAM DIMENSIONS				
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
4	X 4	X 5.0 T	4.91	3.9	15.8	13.6	1.41	3.5	.9	1.44	3.95	3.94	.205	.170	.67
4	X 4	X 6.5 T	6.40	5.0	16.6	16.7	1.52	3.4	1.0	1.68	4.00	4.00	.255	.230	.92
4	X 4	X 7.5 T	7.42	5.9	17.4	19.6	1.61	3.3	1.1	2.18	4.06	4.02	.315	.245	.99
4	X 5 1/4	X 9.0 T	8.82	7.6	18.3	23.8	1.73	3.1	1.3	2.59	4.07	5.25	.330	.230	.94
4	X 4	X 13.0 I-T	8.39	6.7	18.1	22.1	1.68	3.3	1.2	2.47	4.16	4.06	.345	.280	1.16
5	X 4	X 6.0 T	5.88	5.4	20.6	22.7	1.79	4.2	1.1	1.73	4.94	3.96	.210	.190	.94
5	X 4	X 7.5 T	7.37	6.8	21.6	27.7	1.92	4.1	1.3	2.17	5.00	4.00	.270	.230	1.15
5	X 4	X 8.5 T	8.36	7.9	22.5	31.9	2.02	4.0	1.4	2.46	5.06	4.01	.330	.240	1.21
5	X 4	X 9.5 T	9.42	9.2	23.2	36.2	2.11	3.9	1.6	2.77	5.12	4.02	.395	.250	1.26
5	X 5	X 16.0 I-T	9.91	10.0	23.1	37.5	2.13	3.8	1.6	2.92	5.01	5.00	.360	.240	1.20
5	X 5	X 19.0 I-T	11.69	11.9	24.3	44.1	2.24	3.7	1.8	3.44	5.15	5.03	.430	.270	1.39
6	X 4	X 7.0 T	6.94	7.2	25.7	35.7	2.20	4.9	1.4	2.04	5.96	3.97	.225	.200	1.19
6	X 4	X 8.0 T	7.88	8.3	26.4	40.3	2.29	4.8	1.5	2.32	6.00	3.99	.265	.220	1.32
6	X 4	X 9.0 I-T	6.17	6.6	25.2	32.9	2.14	5.0	1.3	1.81	5.90	3.94	.215	.170	1.00
6	X 4	X 9.5 T	9.34	10.3	27.7	48.6	2.45	4.7	1.8	2.75	6.08	4.01	.350	.235	1.43
6	X 4	X 11.0 T	10.89	12.2	28.7	56.0	2.56	4.6	1.9	3.20	6.16	4.03	.425	.260	1.66
6	X 4	X 12.0 I-T	8.30	8.8	26.8	42.3	2.33	4.8	1.6	2.44	6.03	4.00	.280	.230	1.39
6	X 6	X 15.0 I-T	9.78	11.2	27.9	50.9	2.49	4.5	1.8	2.88	5.99	5.99	.260	.230	1.38
6	X 4	X 16.0 I-T	10.74	12.1	29.2	57.0	2.59	4.7	2.0	3.16	6.28	4.03	.405	.260	1.63
6	X 6	X 20.0 I-T	12.63	15.2	30.0	66.5	2.71	4.4	2.2	3.71	6.20	6.02	.365	.260	1.61
7	X 5	X 11.0 T	10.81	13.7	32.6	70.0	2.87	5.1	2.2	3.18	6.87	5.00	.335	.230	1.58
7	X 5	X 13.0 T	12.85	16.7	33.8	81.9	3.00	4.9	2.4	3.78	6.96	5.03	.420	.255	1.77
7	X 6 3/4	X 15.0 T	14.81	19.8	34.5	91.9	3.08	4.6	2.7	4.36	6.92	6.73	.385	.270	1.87
7	X 6 3/4	X 17.0 T	16.77	22.8	35.4	102.2	3.15	4.5	2.9	4.93	6.99	6.75	.455	.285	1.99
7	X 6 3/4	X 19.0 T	18.74	25.5	36.1	111.0	3.20	4.4	3.1	5.51	7.05	6.77	.515	.310	2.19

(38T) PLATE WEIGHT = 15.300 LBS. (.3750 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

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PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(38T = 14.250 IN.) PLATE WEIGHT = 15.300 LBS. (.3750 IN.) EFFECTIVE PLATE AREA = 5.344 SQ. IN.																		
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS										
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2		
7	X	8	X	21.5	T	20.94	28.8	35.4	114.5	3.15	4.0	3.2	6.16	6.83	8.00	.530	.305	2.08
7	X	8	X	24.0	T	23.53	32.0	36.2	123.6	3.17	3.9	3.4	6.92	6.90	8.03	.595	.340	2.35
8	X	4	X	10.0	I-T	7.19	9.3	34.5	60.7	2.85	6.5	1.8	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X	13.0	I-T	9.52	11.9	36.1	75.1	3.04	6.3	2.1	2.80	7.99	4.00	.255	.230	1.84
8	X	5 1/2	X	13.0	T	12.83	18.0	38.2	100.8	3.32	5.6	2.6	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X	15.0	I-T	10.79	14.1	37.6	87.0	3.20	6.2	2.3	3.17	8.11	4.02	.315	.245	1.99
8	X	5 1/2	X	15.5	T	15.28	22.0	39.7	117.7	3.46	5.3	3.0	4.49	7.94	5.53	.440	.275	2.18
8	X	5 1/4	X	18.0	I-T	12.00	17.4	39.3	102.7	3.40	5.9	2.6	3.53	8.14	5.25	.330	.230	1.87
8	X	7	X	18.0	T	17.73	26.3	40.7	132.7	3.54	5.0	3.3	5.22	7.93	6.99	.430	.295	2.34
8	X	7	X	20.0	T	19.79	30.0	41.7	146.2	3.62	4.9	3.5	5.82	8.01	7.00	.505	.305	2.44
8	X	5 1/4	X	21.0	I-T	13.87	20.6	40.9	118.6	3.55	5.8	2.9	4.08	8.28	5.27	.400	.250	2.07
8	X	7	X	22.5	T	22.32	33.3	42.6	157.9	3.64	4.7	3.7	6.56	8.07	7.04	.565	.345	2.78
8	X	6 1/2	X	24.0	I-T	15.11	23.0	39.9	121.2	3.52	5.3	3.0	4.44	7.93	6.50	.400	.245	1.94
8	X	6 1/2	X	28.0	I-T	17.69	26.8	41.3	137.0	3.60	5.1	3.3	5.20	8.06	6.54	.465	.285	2.30
8	X	8	X	31.0	I-T	19.16	29.8	41.6	145.4	3.64	4.9	3.5	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X	17.5	T	17.26	26.5	45.1	154.1	3.85	5.8	3.4	5.08	8.85	6.00	.425	.300	2.66
9	X	6	X	20.0	T	19.76	31.3	46.6	174.6	3.96	5.6	3.7	5.81	8.95	6.02	.525	.315	2.82
10	X	4	X	12.0	I-T	9.07	13.3	44.2	104.7	3.62	7.9	2.4	2.67	9.87	3.96	.210	.190	1.88
10	X	4	X	15.0	I-T	11.27	16.7	46.3	127.0	3.83	7.6	2.7	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X	17.0	I-T	12.48	19.2	48.0	144.0	4.00	7.5	3.0	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X	19.0	I-T	13.77	22.0	49.7	162.0	4.15	7.4	3.3	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0	I-T	15.04	26.2	51.1	182.6	4.32	7.0	3.6	4.42	10.17	5.75	.360	.240	2.44
10	X	5 3/4	X	26.0	I-T	17.37	31.1	53.1	210.0	4.48	6.8	4.0	5.11	10.33	5.77	.440	.260	2.69
10	X	5 3/4	X	30.0	I-T	20.23	35.9	55.0	235.8	4.57	6.6	4.3	5.95	10.47	5.81	.510	.300	3.14

(38T) PLATE WEIGHT = 15.300 LBS. (.3750 IN.)

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TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																	
(38T = 14.250 IN.) PLATE WEIGHT = 15.300 LBS. (.3750 IN.) EFFECTIVE PLATE AREA = 5.344 SQ. IN.																	
NOMINAL SIZE			SECTION MODULUS								BEAM DIMENSIONS						
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2	
10	X	8	X	33.0 I-T	20.94	37.4	51.7	219.4	4.37	5.9	4.2	6.16	9.73	7.96	.435	.290	2.82
10	X	8	X	39.0 I-T	24.45	44.6	53.9	251.3	4.48	5.6	4.7	7.19	9.92	7.99	.530	.315	3.12
10	X	8	X	45.0 I-T	28.19	51.7	56.0	281.5	4.54	5.4	5.0	8.29	10.10	8.02	.620	.350	3.54
12	X	4	X	14.0 I-T	10.90	18.3	54.6	168.2	4.43	9.2	3.1	3.23	11.91	3.97	.225	.200	2.38
12	X	4	X	16.0 I-T	12.37	20.8	56.2	188.0	4.58	9.0	3.3	3.64	11.99	3.99	.265	.220	2.64
12	X	4	X	19.0 I-T	14.20	25.3	59.1	221.8	4.83	8.8	3.8	4.18	12.16	4.01	.350	.235	2.86
12	X	4	X	22.0 I-T	16.33	29.6	61.4	253.5	5.00	8.6	4.1	4.80	12.31	4.03	.425	.260	3.20
12	X	6 1/2	X	26.0 I-T	17.64	36.9	63.5	294.0	5.28	8.0	4.6	5.19	12.22	6.49	.380	.230	2.81
12	X	6 1/2	X	30.0 I-T	20.27	42.3	65.5	327.0	5.38	7.7	5.0	5.96	12.34	6.52	.440	.260	3.21
12	X	6 1/2	X	35.0 I-T	23.82	49.5	68.1	369.2	5.47	7.5	5.4	7.01	12.50	6.56	.520	.300	3.75
12	X	8	X	40.0 I-T	25.48	54.1	66.0	366.0	5.34	6.8	5.5	7.49	11.94	8.01	.515	.295	3.52
12	X	8	X	45.0 I-T	28.81	60.3	68.0	397.6	5.36	6.6	5.8	8.47	12.06	8.05	.575	.335	4.04
12	X	8 1/8	X	50.0 I-T	32.11	66.8	70.2	429.8	5.39	6.4	6.1	9.44	12.19	8.08	.640	.370	4.51
12	X	10	X	53.0 I-T	33.01	71.9	69.7	440.1	5.41	6.1	6.3	9.71	12.06	10.00	.575	.345	4.16
12	X	10	X	58.0 I-T	35.92	79.0	71.4	471.2	5.44	6.0	6.6	10.56	12.19	10.01	.640	.360	4.39
14	X	5	X	22.0 I-T	16.18	33.1	69.0	315.6	5.59	9.5	4.6	4.76	13.74	5.00	.335	.230	3.16
14	X	5	X	26.0 I-T	18.87	39.6	72.1	365.2	5.79	9.2	5.1	5.55	13.91	5.03	.420	.255	3.55
14	X	6 3/4	X	30.0 I-T	21.16	46.0	73.9	403.2	5.90	8.8	5.5	6.22	13.84	6.73	.385	.270	3.74
14	X	6 3/4	X	34.0 I-T	23.54	52.6	76.3	446.9	6.04	8.5	5.9	6.92	13.98	6.75	.455	.285	3.98
14	X	6 3/4	X	38.0 I-T	26.17	58.7	78.5	486.1	6.11	8.3	6.2	7.70	14.10	6.77	.515	.310	4.37
14	X	8	X	43.0 I-T	28.02	65.0	77.2	495.3	6.04	7.6	6.4	8.24	13.66	8.00	.530	.305	4.17
14	X	8	X	48.0 I-T	31.50	72.5	79.7	537.7	6.07	7.4	6.7	9.26	13.79	8.03	.595	.340	4.69
16	X	5 1/2	X	26.0 I-T	19.49	43.6	81.4	455.9	6.42	10.5	5.6	5.73	15.69	5.50	.345	.250	3.92
16	X	5 1/2	X	31.0 I-T	22.70	52.4	85.4	528.0	6.63	10.1	6.2	6.68	15.88	5.53	.440	.275	4.37

(38T) PLATE WEIGHT = 15.300 LBS. (.3750 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T															
(38T = 14.250 IN.) PLATE WEIGHT = 15.300 LBS. (.3750 IN.) EFFECTIVE PLATE AREA = 5.344 SQ. IN.															
NOMINAL SIZE		WT/FT	SECTION MODULUS				BEAM DIMENSIONS								
			FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
16	X 7	X 36.0 I-T	25.69	61.3	88.1	586.7	6.74	9.6	6.7	7.56	15.86	6.99	.430	.295	4.68
16	X 7	X 40.0 I-T	28.09	69.2	90.8	643.4	6.88	9.3	7.1	8.26	16.01	7.00	.505	.305	4.88
16	X 7	X 45.0 I-T	31.77	77.1	93.9	699.0	6.90	9.1	7.4	9.34	16.13	7.04	.565	.345	5.56
18	X 6	X 35.0 I-T	26.29	63.8	98.0	698.6	7.31	10.9	7.1	7.73	17.70	6.00	.425	.300	5.31
18	X 6	X 40.0 I-T	29.35	74.2	102.1	785.4	7.50	10.6	7.7	8.63	17.90	6.02	.525	.315	5.64
18	X 7 1/2	X 58.0 I-T	35.55	93.3	108.1	920.0	7.63	9.9	8.5	10.46	17.99	7.50	.570	.355	6.39

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(38T) PLATE WEIGHT = 15.300 LBS. (.3750 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(38T = 16.625 IN.) PLATE WEIGHT = 17.850 LBS. (.4375 IN.) EFFECTIVE PLATE AREA = 7.273 SQ. IN.																		
NOMINAL SIZE						SECTION MODULUS				BEAM DIMENSIONS								
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2			
4	X	4	X	5.0	T	4.91	4.0	19.5	14.6	1.29	3.6	.7	1.44	3.95	3.94	.205	.170	.67
4	X	4	X	6.5	T	6.40	5.1	20.7	18.1	1.40	3.6	.9	1.88	4.00	4.00	.255	.230	.92
4	X	4	X	7.5	T	7.42	6.0	21.9	21.3	1.50	3.5	1.0	2.18	4.06	4.02	.315	.245	.99
4	X	5 1/4	X	9.0	T	8.82	7.8	23.3	26.2	1.63	3.4	1.1	2.59	4.07	5.25	.330	.230	.94
4	X	4	X	13.0	I-T	8.39	6.8	22.9	24.2	1.58	3.5	1.1	2.47	4.16	4.06	.345	.280	1.16
5	X	4	X	6.0	T	5.88	5.5	25.8	24.3	1.64	4.4	.9	1.73	4.94	3.96	.210	.190	.94
5	X	4	X	7.5	T	7.37	6.9	27.3	30.0	1.78	4.3	1.1	2.17	5.00	4.00	.270	.230	1.15
5	X	4	X	8.5	T	8.36	8.1	28.6	34.8	1.89	4.3	1.2	2.46	5.06	4.01	.330	.240	1.21
5	X	4	X	9.5	T	9.42	9.4	29.7	39.7	1.99	4.2	1.3	2.77	5.12	4.02	.395	.250	1.28
5	X	5	X	16.0	I-T	9.91	10.2	29.7	41.3	2.01	4.1	1.4	2.92	5.01	5.00	.360	.240	1.20
5	X	5	X	19.0	I-T	11.69	12.2	31.3	49.0	2.14	4.0	1.6	3.44	5.15	5.03	.430	.270	1.39
6	X	4	X	7.0	T	6.94	7.4	32.6	38.4	2.03	5.2	1.2	2.04	5.96	3.97	.225	.200	1.19
6	X	4	X	8.0	T	7.88	8.5	33.7	43.6	2.13	5.1	1.3	2.32	6.00	3.99	.265	.220	1.32
6	X	4	X	9.0	I-T	6.17	6.7	31.9	35.3	1.97	5.2	1.1	1.81	5.90	3.94	.215	.170	1.00
6	X	4	X	9.5	T	9.34	10.5	35.6	53.0	2.30	5.0	1.5	2.75	6.08	4.01	.350	.235	1.43
6	X	4	X	11.0	T	10.89	12.5	37.0	61.6	2.42	4.9	1.7	3.20	6.16	4.03	.425	.260	1.60
6	X	4	X	12.0	I-T	8.30	9.0	34.2	45.9	2.17	5.1	1.3	2.44	6.03	4.00	.280	.230	1.39
6	X	6	X	15.0	I-T	9.78	11.4	35.9	55.8	2.34	4.9	1.6	2.88	5.99	5.99	.260	.230	1.38
6	X	4	X	16.0	I-T	10.74	12.4	37.6	62.6	2.45	5.1	1.7	3.16	6.28	4.03	.405	.260	1.63
6	X	6	X	20.0	I-T	12.63	15.6	38.9	73.8	2.59	4.7	1.9	3.71	6.20	6.02	.365	.260	1.61
7	X	5	X	11.0	T	10.81	14.0	42.0	76.9	2.71	5.5	1.8	3.18	6.87	5.00	.335	.230	1.58
7	X	5	X	13.0	T	12.85	17.1	43.7	90.8	2.87	5.3	2.1	3.78	6.96	5.03	.420	.255	1.77
7	X	6 3/4	X	15.0	T	14.81	20.3	44.8	102.7	2.97	5.1	2.3	4.36	6.92	6.73	.385	.270	1.87
7	X	6 3/4	X	17.0	T	16.77	23.4	45.9	115.1	3.07	4.9	2.5	4.93	6.99	6.75	.455	.285	1.99
7	X	6 3/4	X	19.0	T	18.74	26.2	46.9	125.8	3.14	4.8	2.7	5.51	7.05	6.77	.515	.310	2.19

(38T) PLATE WEIGHT = 17.850 LBS. (.4375 IN.)

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TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																	
(38T = 16.625 IN.) PLATE WEIGHT = 17.850 LBS. (.4375 IN.) EFFECTIVE PLATE AREA = 7.273 SQ. IN.																	
NOMINAL SIZE					WT/FT	SECTION MODULUS				BEAM DIMENSIONS							
						FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN	X	IN	X	LBS/FT	LBS	IN ³	IN ³	IN ⁴	IN	IN	IN	IN	IN ²	IN	IN	IN ²	
7	X	8	X	21.5 T	20.94	29.6	46.1	131.0	3.12	4.4	2.8	6.16	6.83	8.00	.530	.305	2.08
7	X	8	X	24.0 T	23.53	33.0	47.1	142.3	3.17	4.3	3.0	6.92	6.90	8.03	.595	.340	2.35
8	X	4	X	10.0 I-T	7.19	9.5	44.2	65.1	2.63	6.9	1.5	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X	13.0 I-T	9.52	12.2	46.3	81.4	2.84	6.7	1.8	2.80	7.99	4.00	.255	.230	1.84
8	X	5 1/2	X	13.0 T	12.83	18.4	49.5	111.3	3.17	6.0	2.2	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X	15.0 I-T	10.79	14.4	48.4	94.9	3.01	6.6	2.0	3.17	8.11	4.02	.315	.245	1.99
8	X	5 1/2	X	15.5 T	15.28	22.6	51.4	131.3	3.34	5.8	2.6	4.49	7.94	5.53	.440	.275	2.18
8	X	5 1/4	X	18.0 I-T	12.00	17.8	50.9	112.9	3.23	6.4	2.2	3.53	8.14	5.25	.330	.230	1.87
8	X	7	X	18.0 T	17.73	27.0	52.8	149.3	3.46	5.5	2.8	5.22	7.93	6.99	.430	.295	2.34
8	X	7	X	20.0 T	19.79	30.6	54.1	165.7	3.56	5.4	3.1	5.82	8.01	7.00	.505	.305	2.44
8	X	5 1/4	X	21.0 I-T	13.87	21.1	53.0	131.5	3.40	6.2	2.5	4.08	8.28	5.27	.400	.250	2.07
8	X	7	X	22.5 T	22.32	34.3	55.1	179.9	3.61	5.2	3.3	6.56	8.07	7.04	.565	.345	2.78
8	X	6 1/2	X	24.0 I-T	15.11	23.5	51.9	135.4	3.40	5.8	2.6	4.44	7.93	6.50	.400	.245	1.94
8	X	7 1/8	X	25.0 T	24.83	37.9	56.2	193.8	3.65	5.1	3.4	7.30	8.13	7.07	.630	.380	3.09
8	X	6 1/2	X	28.0 I-T	17.69	27.4	53.6	154.2	3.52	5.6	2.9	5.20	8.06	6.54	.465	.285	2.30
8	X	7 1/8	X	28.5 T	28.28	42.6	57.7	212.1	3.69	5.0	3.7	8.32	8.22	7.12	.715	.430	3.53
8	X	8	X	31.0 I-T	19.16	30.5	54.1	164.7	3.57	5.4	3.0	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X	17.5 T	17.26	27.2	58.3	172.3	3.74	6.3	3.0	5.08	8.85	6.00	.425	.300	2.66
9	X	6	X	20.0 T	19.76	32.2	60.3	196.9	3.88	6.1	3.3	5.81	8.95	6.02	.525	.315	2.82
10	X	4	X	12.0 I-T	9.07	13.6	56.9	113.0	3.37	8.3	2.0	2.67	9.87	3.96	.210	.190	1.88
10	X	4	X	15.0 I-T	11.27	17.1	59.7	138.3	3.61	8.1	2.3	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X	17.0 I-T	12.48	19.7	62.0	157.7	3.80	8.0	2.5	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X	19.0 I-T	13.77	22.6	64.2	178.3	3.97	7.9	2.8	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0 I-T	15.04	26.8	66.2	202.4	4.16	7.6	3.1	4.42	10.17	5.75	.360	.240	2.44

(38T) PLATE WEIGHT = 17.850 LBS. (.4375 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(38T = 16.625 IN.) PLATE WEIGHT = 17.850 LBS. (.4375 IN.) EFFECTIVE PLATE AREA = 7.273 SQ. IN.																		
NOMINAL SIZE			SECTION MODULUS						BEAM DIMENSIONS									
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN X	IN X	LBS/FT	LBS	IN ³	IN ³	IN ⁴	IN	IN	IN	IN	IN ²	IN	IN	IN	IN ²			
10	X	5 3/4	X	26.0	I-T	17.37	31.9	68.8	234.5	4.35	7.4	3.4	5.11	10.33	5.77	.440	.260	2.69
10	X	5 3/4	X	30.0	I-T	20.23	36.9	71.0	265.1	4.48	7.2	3.7	5.95	10.47	5.81	.510	.300	3.14
10	X	8	X	33.0	I-T	20.94	38.4	67.0	248.2	4.30	6.5	3.7	6.16	9.73	7.96	.435	.290	2.82
10	X	8	X	39.0	I-T	24.45	45.9	69.7	286.6	4.45	6.2	4.1	7.19	9.92	7.99	.530	.315	3.12
10	X	8	X	45.0	I-T	28.19	53.3	72.2	323.1	4.56	6.1	4.5	8.29	10.10	8.02	.620	.350	3.54
12	X	4	X	14.0	I-T	10.98	18.7	70.5	182.5	4.17	9.8	2.6	3.23	11.91	3.97	.225	.200	2.38
12	X	4	X	16.0	I-T	12.37	21.4	72.5	205.1	4.34	9.6	2.8	3.64	11.99	3.99	.265	.220	2.64
12	X	4	X	19.0	I-T	14.20	25.9	76.2	243.7	4.61	9.4	3.2	4.18	12.16	4.01	.350	.235	2.86
12	X	4	X	22.0	I-T	16.33	30.4	79.1	280.2	4.82	9.2	3.5	4.80	12.31	4.03	.425	.260	3.20
12	X	6 1/2	X	26.0	I-T	17.64	37.8	82.3	327.9	5.13	8.7	4.0	5.19	12.22	6.49	.380	.230	2.81
12	X	6 1/2	X	30.0	I-T	20.27	43.5	84.6	366.9	5.26	8.4	4.3	5.96	12.34	6.52	.440	.260	3.21
12	X	6 1/2	X	35.0	I-T	23.82	51.0	87.6	417.0	5.40	8.2	4.8	7.01	12.50	6.56	.520	.300	3.75
12	X	8	X	40.0	I-T	25.48	55.7	85.1	416.4	5.31	7.5	4.9	7.49	11.94	8.01	.515	.295	3.52
12	X	8	X	45.0	I-T	28.81	62.2	87.3	454.0	5.37	7.3	5.2	8.47	12.06	8.05	.575	.335	4.04
12	X	8 1/8	X	50.0	I-T	32.11	69.0	89.7	492.5	5.43	7.1	5.5	9.44	12.19	8.08	.640	.370	4.51
12	X	10	X	53.0	I-T	33.01	74.2	89.4	506.8	5.46	6.8	5.7	9.71	12.06	10.00	.575	.345	4.16
12	X	10	X	58.0	I-T	35.92	81.7	91.4	544.7	5.53	6.7	6.0	10.56	12.19	10.01	.640	.360	4.39
14	X	5	X	22.0	I-T	16.18	33.9	89.1	348.4	5.38	10.3	3.9	4.76	13.74	5.00	.335	.230	3.16
14	X	5	X	26.0	I-T	18.87	40.7	92.8	406.2	5.63	10.0	4.4	5.55	13.91	5.03	.420	.255	3.55
14	X	6 3/4	X	30.0	I-T	21.16	47.4	95.0	451.3	5.78	9.5	4.8	6.22	13.84	6.73	.385	.270	3.74
14	X	6 3/4	X	34.0	I-T	23.54	54.2	97.9	502.8	5.95	9.3	5.1	6.92	13.98	6.75	.455	.285	3.98
14	X	6 3/4	X	38.0	I-T	26.17	60.5	100.5	549.2	6.06	9.1	5.5	7.70	14.10	6.77	.515	.310	4.37
14	X	8	X	43.0	I-T	28.02	67.0	99.0	563.3	6.03	8.4	5.7	8.24	13.66	8.00	.530	.305	4.17
14	X	8	X	48.0	I-T	31.50	74.9	101.8	613.7	6.09	8.2	6.0	9.26	13.79	8.03	.595	.340	4.69

(38T) PLATE WEIGHT = 17.850 LBS. (.4375 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																	
(38T = 16.625 IN.) PLATE WEIGHT = 17.850 LBS. (.4375 IN.) EFFECTIVE PLATE AREA = 7.273 SQ. IN.																	
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS									
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2		
16	X	5 1/2	X 26.0 I-T	19.49	44.9	104.5	506.2	6.24	11.3	4.8	5.73	15.69	5.50	.345	.250	3.92	
15	X	5 1/2	X 31.0 I-T	22.70	54.1	109.3	590.2	6.50	10.9	5.4	6.68	15.88	5.53	.440	.275	4.37	
16	X	7	X 36.0 I-T	25.69	63.3	112.4	659.7	6.67	10.4	5.9	7.56	15.86	6.99	.430	.295	4.68	
16	X	7	X 40.0 I-T	28.09	71.5	115.7	726.7	6.84	10.2	6.3	8.26	16.01	7.00	.505	.305	4.88	
16	X	7	X 45.0 I-T	31.77	79.8	119.1	791.7	6.90	9.9	6.6	9.34	16.13	7.04	.565	.345	5.56	
16	X	7 1/8	X 50.0 I-T	35.34	88.3	122.5	857.1	6.97	9.7	7.0	10.39	16.26	7.07	.630	.380	6.18	
16	X	7 1/8	X 57.0 I-T	40.28	99.6	127.2	942.4	7.02	9.5	7.4	11.85	16.43	7.12	.715	.430	7.06	
16	X	10 1/4	X 67.0 I-T	44.18	121.7	129.5	1051.7	7.20	8.6	8.1	12.99	16.33	10.24	.665	.395	6.45	
166	18	X	6	X 35.0 I-T	26.29	66.0	124.5	782.5	7.22	11.9	6.3	7.73	17.70	6.00	.425	.300	5.31
	18	X	6	X 40.0 I-T	29.35	76.8	129.4	883.9	7.46	11.5	6.8	8.63	17.90	6.02	.525	.315	5.64
	18	X	7 1/2	X 50.0 I-T	35.55	96.7	136.2	1042.5	7.67	10.8	7.7	10.46	17.99	7.50	.570	.355	6.39
	18	X	7 1/2	X 60.0 I-T	42.61	115.6	143.7	1196.4	7.77	10.4	8.3	12.53	18.24	7.56	.695	.415	7.57
21	X	8 1/4	X 62.0 I-T	44.94	134.7	168.3	1603.3	8.85	11.9	9.5	13.22	20.99	8.24	.615	.400	8.40	
21	X	8 1/4	X 68.0 I-T	49.15	147.7	173.4	1719.9	8.90	11.6	9.9	14.46	21.13	8.27	.685	.430	9.09	

(38T) PLATE WEIGHT = 17.850 LBS. (.4375 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																			
(38T = 19.000 IN.) PLATE WEIGHT = 20.400 LBS. (.5000 IN.) EFFECTIVE PLATE AREA = 9.500 SQ. IN.																			
NOMINAL SIZE						SECTION MODULUS						BEAM DIMENSIONS							
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2			
4	X	4	X	5.0	T	4.91	4.1	22.8	15.4	1.19	3.8	.7	1.44	3.95	3.94	.205	.170	.67	
4	X	4	X	6.5	T	6.40	5.2	24.6	19.2	1.30	3.7	.8	1.88	4.00	4.00	.255	.230	.92	
4	X	4	X	7.5	T	7.42	6.2	25.3	22.8	1.40	3.7	.9	2.18	4.06	4.02	.315	.245	.99	
4	X	5	1/4	X	9.0	T	8.82	7.9	28.4	28.3	1.53	3.6	1.0	2.59	4.07	5.25	.330	.230	.94
4	X	4	X	13.0	I-T	8.39	7.0	27.7	26.0	1.47	3.7	.9	2.47	4.16	4.06	.345	.280	1.16	
5	X	4	X	6.0	T	5.88	5.6	30.7	25.7	1.51	4.6	.8	1.73	4.94	3.96	.210	.190	.94	
5	X	4	X	7.5	T	7.37	7.0	33.0	31.9	1.65	4.5	1.0	2.17	5.00	4.00	.270	.230	1.15	
5	X	4	X	8.5	T	8.36	8.3	34.8	37.1	1.76	4.5	1.1	2.46	5.06	4.01	.330	.240	1.21	
5	X	4	X	9.5	T	9.42	9.6	36.3	42.6	1.86	4.4	1.2	2.77	5.12	4.02	.395	.250	1.28	
5	X	5	X	16.0	I-T	9.91	10.4	36.5	44.4	1.89	4.3	1.2	2.92	5.01	5.00	.360	.240	1.20	
5	X	5	X	19.0	I-T	11.69	12.4	38.6	53.1	2.03	4.3	1.4	3.44	5.15	5.03	.430	.270	1.39	
6	X	4	X	7.0	T	6.94	7.5	39.4	40.6	1.88	5.4	1.0	2.04	5.96	3.97	.225	.200	1.19	
6	X	4	X	8.0	T	7.88	8.6	41.0	46.3	1.98	5.4	1.1	2.32	6.00	3.99	.265	.220	1.32	
6	X	4	X	9.0	I-T	8.17	8.8	38.5	37.2	1.81	5.4	1.0	1.81	5.90	3.94	.215	.170	1.00	
6	X	4	X	9.5	T	9.34	10.7	43.7	56.6	2.15	5.3	1.3	2.75	6.08	4.01	.350	.235	1.43	
6	X	4	X	11.0	T	10.89	12.7	45.6	66.2	2.28	5.2	1.5	3.20	6.16	4.03	.425	.260	1.60	
6	X	4	X	12.0	I-T	8.30	9.1	41.7	48.8	2.02	5.4	1.2	2.44	6.03	4.00	.280	.230	1.39	
6	X	6	X	15.0	I-T	9.78	11.6	44.2	59.7	2.20	5.1	1.4	2.88	5.99	5.99	.260	.230	1.38	
6	X	4	X	16.0	I-T	10.74	12.6	46.4	67.2	2.30	5.3	1.5	3.16	6.28	4.03	.405	.260	1.63	
6	X	6	X	20.0	I-T	12.63	15.8	48.3	79.9	2.46	5.0	1.7	3.71	6.20	6.02	.365	.260	1.61	
7	X	5	X	11.0	T	10.81	14.3	52.0	82.5	2.55	5.8	1.6	3.18	6.87	5.00	.335	.230	1.58	
7	X	5	X	13.0	T	12.85	17.4	54.4	98.2	2.72	5.7	1.8	3.78	6.96	5.03	.420	.255	1.77	
7	X	6	3/4	X	15.0	T	14.81	20.7	55.9	111.9	2.84	5.4	2.0	4.36	6.32	6.73	.385	.270	1.87
7	X	6	3/4	X	17.0	T	16.77	23.8	57.5	126.2	2.96	5.3	2.2	4.93	6.99	6.75	.455	.285	1.99
7	X	6	3/4	X	19.0	T	18.74	26.7	58.7	138.6	3.04	5.2	2.4	5.51	7.05	6.77	.515	.310	2.19
(38T)						PLATE WEIGHT = 20.400 LBS. (.5000 IN.)													

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(38T = 19.000 IN.) PLATE WEIGHT = 20.400 LBS. (.5000 IN.) EFFECTIVE PLATE AREA = 9.500 SQ. IN.																		
NOMINAL SIZE						SECTION MODULUS				BEAM DIMENSIONS								
IN X IN X LBS/FT						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
						LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN	IN	IN	IN2	
7	X	8	X	21.5	T	20.94	30.2	58.0	145.6	3.05	4.8	2.5	6.16	6.83	8.00	.530	.305	2.08
7	X	8	X	24.0	T	23.53	33.7	59.2	159.0	3.11	4.7	2.7	6.92	6.90	8.03	.595	.340	2.35
8	X	4	X	10.0	I-T	7.19	9.6	54.1	58.6	2.43	7.1	1.3	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X	13.0	I-T	9.52	12.4	57.0	86.6	2.65	7.0	1.5	2.80	7.99	4.00	.255	.230	1.84
8	X	5 1/2	X	13.0	T	12.83	18.7	61.6	120.0	3.01	6.4	1.9	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X	15.0	I-T	10.79	14.7	59.9	101.4	2.83	6.9	1.7	3.17	8.11	4.02	.315	.245	1.99
8	X	5 1/2	X	15.5	T	15.28	23.0	64.2	142.8	3.19	6.2	2.2	4.49	7.94	5.53	.440	.275	2.18
8	X	5 1/4	X	18.0	I-T	12.00	18.1	63.3	121.4	3.05	6.7	1.9	3.53	8.14	5.25	.330	.230	1.87
8	X	7	X	18.0	T	17.73	27.5	66.0	163.6	3.33	6.0	2.5	5.22	7.93	6.99	.430	.295	2.34
8	X	7	X	20.0	T	19.79	31.4	67.8	182.7	3.45	5.8	2.7	5.82	8.01	7.00	.505	.305	2.44
8	X	5 1/4	X	21.0	I-T	13.87	21.5	66.1	142.2	3.24	6.6	2.2	4.08	8.28	5.27	.400	.250	2.07
8	X	7	X	22.5	T	22.32	35.0	69.1	199.3	3.52	5.7	2.9	6.56	8.07	7.04	.565	.345	2.78
8	X	6 1/2	X	24.0	I-T	15.11	23.9	65.0	147.3	3.25	6.2	2.3	4.44	7.93	6.50	.400	.245	1.94
8	X	7 1/8	X	25.0	T	24.83	38.8	70.4	215.8	3.58	5.6	3.1	7.30	8.13	7.07	.630	.380	3.09
8	X	6 1/2	X	28.0	I-T	17.69	27.9	67.2	168.9	3.39	6.0	2.5	5.20	8.06	6.54	.465	.285	2.30
8	X	7 1/8	X	28.5	T	28.28	43.7	72.1	237.3	3.65	5.4	3.3	8.32	8.22	7.12	.715	.430	3.53
8	X	8	X	31.0	I-T	19.16	31.1	67.9	181.3	3.46	5.8	2.7	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X	17.5	T	17.26	27.7	72.9	187.9	3.59	6.8	2.6	5.08	8.85	6.00	.425	.300	2.66
9	X	6	X	20.0	T	19.76	32.8	75.4	216.2	3.76	6.6	2.9	5.81	8.95	6.02	.525	.315	2.82
10	X	4	X	12.0	I-T	9.07	13.8	70.3	119.6	3.14	8.7	1.7	2.67	9.87	3.96	.210	.190	1.88
10	X	4	X	15.0	I-T	11.27	17.4	74.0	147.5	3.39	8.5	2.0	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X	17.0	I-T	12.48	20.1	77.1	168.9	3.58	8.4	2.2	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X	19.0	I-T	13.77	23.0	80.0	191.8	3.76	8.3	2.4	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0	I-T	15.04	27.3	82.8	218.9	3.97	8.0	2.6	4.42	10.17	5.75	.360	.240	2.44

(38T) PLATE WEIGHT = 20.400 LBS. (.5000 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(38T = 19.000 IN.) PLATE WEIGHT = 20.400 LBS. (.5000 IN.) EFFECTIVE PLATE AREA = 9.500 SQ. IN.																		
NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS										
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH				
IN	X IN	X IN	X LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2			
10	X	5 3/4	X 26.0	I-T	17.37	32.5	86.2	255.4	4.18	7.9	3.0	5.11	10.33	5.77	.440	.260	2.69	
10	X	5 3/4	X 30.0	I-T	20.23	37.7	88.9	290.4	4.34	7.7	3.3	5.95	10.47	5.81	.510	.300	3.14	
10	X	8	X 33.0	I-T	20.94	39.2	84.0	273.2	4.18	7.0	3.3	6.16	9.73	7.96	.435	.290	2.82	
10	X	8	X 39.0	I-T	24.45	46.9	87.4	318.0	4.36	6.8	3.6	7.19	9.92	7.99	.530	.315	3.12	
10	X	8	X 45.0	I-T	28.19	54.5	90.5	360.6	4.50	6.6	4.0	8.29	10.10	8.02	.620	.350	3.54	
	12	X	4	X 14.0	I-T	10.98	19.0	87.7	194.1	3.90	10.2	2.2	3.23	11.91	3.37	.225	.200	2.38
	12	X	4	X 16.0	I-T	12.37	21.8	90.3	219.0	4.08	10.1	2.4	3.64	11.99	3.99	.265	.220	2.64
	12	X	4	X 19.0	I-T	14.20	26.4	95.1	261.8	4.37	9.9	2.8	4.18	12.16	4.01	.350	.235	2.86
	12	X	4	X 22.0	I-T	16.33	31.1	98.7	302.8	4.60	9.7	3.1	4.80	12.31	4.03	.425	.260	3.20
	12	X	6 1/2	X 26.0	I-T	17.64	38.5	103.2	356.7	4.93	9.3	3.5	5.19	12.22	6.49	.380	.230	2.81
169	12	X	6 1/2	X 30.0	I-T	20.27	44.3	106.0	401.4	5.09	9.1	3.8	5.96	12.34	6.52	.440	.260	3.21
	12	X	6 1/2	X 35.0	I-T	23.82	52.1	109.6	459.1	5.27	8.8	4.2	7.01	12.50	6.56	.520	.300	3.75
	12	X	8	X 40.0	I-T	25.48	56.9	106.6	461.2	5.21	8.1	4.3	7.49	11.94	8.01	.515	.295	3.52
	12	X	8	X 45.0	I-T	28.81	63.7	109.2	505.1	5.30	7.9	4.6	8.47	12.06	8.05	.575	.335	4.04
	12	X	8 1/8	X 50.0	I-T	32.11	70.8	111.8	549.9	5.39	7.8	4.9	9.44	12.19	8.08	.640	.370	4.51
	12	X	10	X 53.0	I-T	33.01	76.0	111.8	568.2	5.44	7.5	5.1	9.71	12.06	10.00	.575	.345	4.16
	12	X	10	X 58.0	I-T	35.92	83.7	114.2	613.0	5.53	7.3	5.4	10.56	12.19	10.01	.640	.360	4.39
	14	X	5	X 22.0	I-T	16.18	34.6	111.3	376.0	5.14	10.9	3.4	4.76	13.74	5.00	.335	.230	3.16
	14	X	5	X 26.0	I-T	18.87	41.6	116.0	441.2	5.41	10.6	3.8	5.55	13.91	5.03	.420	.255	3.55
	14	X	6 3/4	X 30.0	I-T	21.16	48.4	118.7	492.9	5.60	10.2	4.2	6.22	13.84	6.73	.385	.270	3.74
	14	X	6 3/4	X 34.0	I-T	23.54	55.4	122.3	551.9	5.80	10.0	4.5	6.92	13.98	6.75	.455	.285	3.98
	14	X	6 3/4	X 38.0	I-T	26.17	62.0	125.3	605.3	5.93	9.8	4.8	7.70	14.10	6.77	.515	.310	4.37
	14	X	8	X 43.0	I-T	28.02	68.5	123.7	624.5	5.93	9.1	5.0	8.24	13.66	8.00	.530	.305	4.17
	14	X	8	X 48.0	I-T	31.50	76.7	126.8	683.1	6.03	8.9	5.4	9.26	13.79	8.03	.595	.340	4.69

(38T) PLATE WEIGHT = 20.400 LBS. (.5000 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(38T = 19.000 IN.) PLATE WEIGHT = 20.400 LBS. (.5000 IN.) EFFECTIVE PLATE AREA = 9.500 SQ. IN.																
NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS								
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X IN X LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2		
16	X 5 1/2 X	26.0	I-T	19.49	45.8	130.5	549.2	6.00	12.0	4.2	5.73	15.69	5.50	.345	.250	3.92
16	X 5 1/2 X	31.0	I-T	22.70	55.3	136.2	644.6	6.31	11.6	4.7	6.68	15.88	5.53	.440	.275	4.37
16	X 7 X	36.0	I-T	25.69	64.8	140.0	724.5	6.52	11.2	5.2	7.56	15.86	6.99	.430	.295	4.68
16	X 7 X	40.0	I-T	28.09	73.2	144.0	801.4	6.72	10.9	5.6	8.26	16.01	7.00	.505	.305	4.88
16	X 7 X	45.0	I-T	31.77	81.9	147.7	876.3	6.82	10.7	5.9	9.34	16.13	7.04	.565	.345	5.56
16	X 7 1/8 X	50.0	I-T	35.34	90.8	151.4	951.5	6.92	10.5	6.3	10.39	16.26	7.07	.630	.380	6.18
16	X 7 1/8 X	57.0	I-T	40.28	102.7	156.4	1049.5	7.01	10.2	6.7	11.85	16.43	7.12	.715	.430	7.06
16	X 10 1/4 X	67.0	I-T	44.18	125.1	159.9	1181.3	7.25	9.4	7.4	12.99	16.33	10.24	.665	.395	6.45
16	X 10 1/4 X	77.0	I-T	50.98	142.5	165.8	1304.3	7.30	9.2	7.9	15.00	16.52	10.30	.760	.455	7.52
170	18 X 6 X	35.0	I-T	26.29	67.7	154.5	857.1	7.05	12.7	5.5	7.73	17.70	6.00	.425	.300	5.31
18	X 6 X	40.0	I-T	29.35	78.9	160.4	972.8	7.32	12.3	6.1	8.63	17.90	6.02	.525	.315	5.64
18	X 7 1/2 X	50.0	I-T	35.55	99.5	168.2	1155.8	7.61	11.6	6.9	10.46	17.99	7.50	.570	.355	6.39
18	X 7 1/2 X	60.0	I-T	42.61	119.1	176.3	1332.3	7.78	11.2	7.6	12.53	18.24	7.56	.695	.415	7.57
18	X 7 5/8 X	71.0	I-T	50.75	138.8	184.8	1503.6	7.85	10.8	8.1	14.93	18.47	7.64	.810	.495	9.14
18	X 11 1/8 X	86.0	I-T	57.79	174.3	190.5	1719.1	8.05	9.9	9.0	17.00	18.39	11.09	.770	.480	8.83
21	X 8 1/4 X	62.0	I-T	44.94	139.0	205.7	1782.4	8.86	12.8	8.7	13.22	20.99	8.24	.615	.400	8.40
21	X 8 1/4 X	68.0	I-T	49.15	152.5	211.2	1915.3	8.94	12.6	9.1	14.46	21.13	8.27	.685	.430	9.09
21	X 8 1/4 X	73.0	I-T	52.58	163.2	215.6	2019.0	8.99	12.4	9.4	15.47	21.24	8.30	.740	.455	9.66
21	X 12 1/4 X	101.0	I-T	68.38	232.5	231.7	2536.8	9.26	10.9	10.9	20.11	21.36	12.29	.800	.500	10.68

(38T) PLATE WEIGHT = 20.400 LBS. (.5000 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(38T = 21.375 IN.) PLATE WEIGHT = 22.950 LBS. (.5625 IN.) EFFECTIVE PLATE AREA = 12.023 SQ. IN.																		
NOMINAL SIZE						SECTION MODULUS						BEAM DIMENSIONS						
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2		
4	X	4	X	5.0	T	4.91	4.2	25.6	16.1	1.09	3.9	.6	1.44	3.95	3.94	.205	.170	.67
4	X	4	X	6.5	T	6.40	5.3	28.2	20.3	1.21	3.8	.7	1.88	4.00	4.00	.255	.230	.92
4	X	4	X	7.5	T	7.42	6.3	30.4	24.1	1.30	3.8	.8	2.18	4.06	4.02	.315	.245	.99
4	X	5 1/4	X	9.0	T	8.82	8.0	33.2	30.0	1.43	3.7	.9	2.59	4.07	5.25	.330	.230	.94
4	X	4	X	13.0	I-T	8.39	7.1	32.2	27.5	1.38	3.9	.9	2.47	4.16	4.06	.345	.280	1.16
5	X	4	X	6.0	T	5.88	5.7	35.2	26.9	1.40	4.7	.8	1.73	4.94	3.96	.210	.190	.94
5	X	4	X	7.5	T	7.37	7.2	38.3	33.6	1.54	4.7	.9	2.17	5.00	4.00	.270	.230	1.15
5	X	4	X	8.5	T	8.36	8.4	40.7	39.1	1.64	4.7	1.0	2.46	5.06	4.01	.330	.240	1.21
5	X	4	X	9.5	T	9.42	9.7	42.8	45.0	1.74	4.6	1.1	2.77	5.12	4.02	.395	.250	1.28
5	X	5	X	16.0	I-T	9.91	10.5	43.2	47.1	1.78	4.5	1.1	2.92	5.01	5.00	.360	.240	1.20
5	X	5	X	19.0	I-T	11.69	12.6	46.0	56.6	1.91	4.5	1.2	3.44	5.15	5.03	.430	.270	1.39
6	X	4	X	7.0	T	6.94	7.6	45.9	42.5	1.74	5.6	.9	2.04	5.96	3.97	.225	.200	1.19
6	X	4	X	8.0	T	7.88	8.8	48.1	48.6	1.84	5.6	1.0	2.32	6.00	3.99	.265	.220	1.32
6	X	4	X	9.0	I-T	6.17	6.9	44.5	38.8	1.67	5.6	.9	1.81	5.90	3.94	.215	.170	1.00
6	X	4	X	9.5	T	9.34	10.9	51.7	59.7	2.01	5.5	1.2	2.75	6.08	4.01	.350	.235	1.43
6	X	4	X	11.0	T	10.89	12.9	54.4	70.2	2.15	5.4	1.3	3.20	6.16	4.03	.425	.260	1.60
6	X	4	X	12.0	I-T	8.30	9.3	49.0	51.3	1.88	5.5	1.0	2.44	6.03	4.00	.280	.230	1.39
6	X	6	X	15.0	I-T	9.78	11.8	52.5	63.1	2.06	5.4	1.2	2.88	5.99	5.99	.260	.230	1.38
6	X	4	X	16.0	I-T	10.74	12.8	55.2	71.1	2.16	5.6	1.3	3.16	6.28	4.03	.405	.260	1.63
6	X	6	X	20.0	I-T	12.63	16.1	58.0	85.1	2.33	5.3	1.5	3.71	6.20	6.02	.365	.260	1.61
7	X	5	X	11.0	T	10.81	14.5	62.2	87.2	2.40	6.0	1.4	3.18	6.87	5.00	.335	.230	1.58
7	X	5	X	13.0	T	12.85	17.6	65.4	104.4	2.57	5.9	1.6	3.78	6.96	5.03	.420	.255	1.77
7	X	6 3/4	X	15.0	T	14.81	21.0	67.5	119.7	2.70	5.7	1.8	4.36	6.92	6.73	.385	.270	1.87
7	X	6 3/4	X	17.0	T	16.77	24.2	69.7	135.7	2.83	5.6	1.9	4.93	6.99	6.75	.455	.285	1.99
7	X	6 3/4	X	19.0	T	18.74	27.1	71.4	149.7	2.92	5.5	2.1	5.51	7.15	6.77	.515	.310	2.19

(38T) PLATE WEIGHT = 22.950 LBS. (.5625 IN.)

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TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																	
(38T = 21.375 IN.) PLATE WEIGHT = 22.950 LBS. (.5625 IN.) EFFECTIVE PLATE AREA = 12.023 SQ. IN.																	
NOMINAL SIZE				SECTION MODULUS								BEAM DIMENSIONS					
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
7	X	8	X 21.5	T	20.94	30.7	70.7	158.3	2.95	5.2	2.2	6.16	6.83	8.00	.530	.305	2.08
7	X	8	X 24.0	T	23.53	34.4	72.2	173.7	3.03	5.1	2.4	6.92	6.90	8.03	.595	.340	2.35
8	X	4	X 10.0	I-T	7.19	9.8	63.7	71.5	2.25	7.3	1.1	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X 13.0	I-T	9.52	12.6	67.8	90.9	2.48	7.2	1.3	2.80	7.99	4.00	.255	.230	1.84
8	X	5 1/2	X 13.0	T	12.83	19.0	74.2	127.3	2.84	6.7	1.7	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X 15.0	I-T	10.79	14.9	71.6	106.8	2.65	7.2	1.5	3.17	8.11	4.02	.315	.245	1.99
8	X	5 1/2	X 15.5	T	15.28	23.3	77.7	152.5	3.04	6.5	2.0	4.49	7.94	5.53	.440	.275	2.18
8	X	5 1/4	X 18.0	I-T	12.00	18.3	76.2	128.4	2.87	7.0	1.7	3.53	8.14	5.25	.330	.230	1.87
8	X	7	X 18.0	T	17.73	27.9	80.2	175.8	3.19	6.3	2.2	5.22	7.93	6.99	.430	.295	2.34
8	X	7	X 20.0	T	19.79	31.9	82.6	197.3	3.33	6.2	2.4	5.82	8.01	7.00	.505	.305	2.44
8	X	5 1/4	X 21.0	I-T	13.87	21.8	79.9	151.2	3.06	7.0	1.9	4.08	8.28	5.27	.400	.250	2.07
8	X	7	X 22.5	T	22.32	35.7	84.2	216.2	3.41	6.1	2.6	6.56	8.07	7.04	.565	.345	2.78
8	X	6 1/2	X 24.0	I-T	15.11	24.2	78.8	157.5	3.09	6.5	2.0	4.44	7.93	6.50	.400	.245	1.94
8	X	7 1/8	X 25.0	T	24.83	39.5	85.8	235.1	3.49	6.0	2.7	7.30	8.13	7.07	.630	.380	3.09
8	X	6 1/2	X 28.0	I-T	17.69	28.4	81.6	181.6	3.25	6.4	2.2	5.20	8.06	6.54	.465	.285	2.30
8	X	7 1/8	X 28.5	T	28.28	44.6	87.8	259.9	3.57	5.8	3.0	8.32	8.22	7.12	.715	.430	3.53
8	X	8	X 31.0	I-T	19.16	31.6	82.7	195.7	3.33	6.2	2.4	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X 17.5	T	17.26	28.2	88.4	201.2	3.43	7.1	2.3	5.08	8.85	6.00	.425	.300	2.66
9	X	6	X 20.0	T	19.76	33.4	91.8	232.9	3.61	7.0	2.5	5.81	8.95	6.02	.525	.315	2.82
10	X	4	X 12.0	I-T	9.07	14.0	84.0	125.1	2.92	8.9	1.5	2.67	9.87	3.96	.210	.190	1.88
10	X	4	X 15.0	I-T	11.27	17.6	88.9	155.1	3.18	8.8	1.7	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X 17.0	I-T	12.48	20.4	93.0	178.2	3.37	8.8	1.9	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X 19.0	I-T	13.77	23.3	96.8	203.1	3.55	8.7	2.1	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X 22.0	I-T	15.04	27.7	100.5	232.8	3.76	8.4	2.3	4.42	10.17	5.75	.360	.240	2.44

(38T) PLATE WEIGHT = 22.950 LBS. (.5625 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(38T = 21.375 IN.) PLATE WEIGHT = 22.950 LBS. (.5625 IN.) EFFECTIVE PLATE AREA = 12.023 SQ. IN.																		
NOMINAL SIZE				WT/FT LBS	SECTION MODULUS				BEAM DIMENSIONS									
IN	X	IN	X		FLANGE IN3	PLATE IN3	I IN4	R IN	YF IN	YP IN	A IN2	D IN	WF IN	TF IN	TW IN	ASH IN2		
10	X	5 3/4	X	26.0	I-T	17.37	33.0	104.8	273.1	3.99	8.3	2.6	5.11	10.33	5.77	.440	.260	2.69
10	X	5 3/4	X	30.0	I-T	20.23	38.3	108.2	312.3	4.17	8.1	2.9	5.95	10.47	5.81	.510	.300	3.14
10	X	8	X	33.0	I-T	20.94	39.8	102.5	294.9	4.03	7.4	2.9	6.16	9.73	7.96	.435	.290	2.82
10	X	8	X	39.0	I-T	24.45	47.7	106.8	345.5	4.24	7.2	3.2	7.19	9.92	7.99	.530	.315	3.12
10	X	8	X	45.0	I-T	28.19	55.5	110.5	394.1	4.40	7.1	3.6	8.29	10.10	8.02	.620	.350	3.54
12	X	4	X	14.0	I-T	10.98	19.3	105.7	203.6	3.65	10.5	1.9	3.23	11.91	3.97	.225	.200	2.30
12	X	4	X	16.0	I-T	12.37	22.1	109.1	230.5	3.84	10.4	2.1	3.64	11.99	3.99	.265	.220	2.64
12	X	4	X	19.0	I-T	14.20	26.8	115.2	276.8	4.13	10.3	2.4	4.18	12.16	4.01	.350	.235	2.86
12	X	4	X	22.0	I-T	16.33	31.6	119.8	321.7	4.37	10.2	2.7	4.80	12.31	4.03	.425	.260	3.20
12	X	6 1/2	X	26.0	I-T	17.64	39.0	125.9	381.0	4.70	9.8	3.0	5.19	12.22	6.49	.380	.230	2.81
12	X	6 1/2	X	30.0	I-T	20.27	45.0	129.4	430.9	4.89	9.6	3.3	5.96	12.34	6.52	.440	.260	3.21
12	X	6 1/2	X	35.0	I-T	23.82	53.0	133.6	495.8	5.10	9.4	3.7	7.01	12.50	6.56	.520	.300	3.75
12	X	8	X	40.0	I-T	25.48	57.8	130.2	500.6	5.06	8.7	3.8	7.49	11.94	8.01	.515	.295	3.52
12	X	8	X	45.0	I-T	28.81	64.8	133.2	550.5	5.18	8.5	4.1	8.47	12.06	8.05	.575	.335	4.04
12	X	8 1/8	X	50.0	I-T	32.11	72.2	136.3	601.7	5.29	8.3	4.4	9.44	12.19	8.08	.640	.370	4.51
12	X	10	X	53.0	I-T	33.01	77.4	136.6	623.6	5.36	8.1	4.6	9.71	12.06	10.00	.575	.345	4.16
12	X	10	X	58.0	I-T	35.92	85.4	139.4	675.3	5.47	7.9	4.8	10.56	12.19	10.01	.640	.360	4.39
14	X	5	X	22.0	I-T	16.18	35.1	135.4	399.1	4.88	11.4	2.9	4.76	13.74	5.00	.335	.230	3.16
14	X	5	X	26.0	I-T	18.87	42.3	141.2	470.9	5.18	11.1	3.3	5.55	13.91	5.03	.420	.255	3.55
14	X	6 3/4	X	30.0	I-T	21.16	49.2	144.7	528.7	5.38	10.7	3.7	6.22	13.84	6.73	.385	.270	3.74
14	X	6 3/4	X	34.0	I-T	23.54	56.3	149.1	594.6	5.60	10.6	4.0	6.92	13.98	6.75	.455	.285	3.98
14	X	6 3/4	X	38.0	I-T	26.17	63.1	152.6	654.7	5.76	10.4	4.3	7.70	14.10	6.77	.515	.310	4.37
14	X	8	X	43.0	I-T	28.02	69.8	151.0	678.6	5.79	9.7	4.5	8.24	13.66	8.00	.530	.305	4.17
14	X	8	X	48.0	I-T	31.50	78.2	154.5	745.3	5.92	9.5	4.8	9.26	13.79	8.03	.595	.340	4.69

(38T) PLATE WEIGHT = 22.950 LBS. (.5625 IN.)

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TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(38T = 21.375 IN.) PLATE WEIGHT = 22.950 LBS. (.5625 IN.) EFFECTIVE PLATE AREA = 12.023 SQ. IN.																		
NOMINAL SIZE			SECTION MODULUS						BEAM DIMENSIONS									
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN	IN2			
16	X	5 1/2	X	26.0	I-T	19.49	46.6	158.9	585.9	5.74	12.6	3.7	5.73	15.69	5.50	.345	.250	3.92
16	X	5 1/2	X	31.0	I-T	22.70	56.3	165.8	691.5	6.08	12.3	4.2	6.68	15.88	5.53	.440	.275	4.37
16	X	7	X	36.0	I-T	25.69	66.0	170.4	781.2	6.32	11.8	4.6	7.56	15.86	6.99	.430	.295	4.68
16	X	7	X	40.0	I-T	28.09	74.6	175.3	867.4	6.54	11.6	4.9	8.26	16.01	7.00	.505	.305	4.88
16	X	7	X	45.0	I-T	31.77	83.6	179.4	952.1	6.68	11.4	5.3	9.34	16.13	7.04	.565	.345	5.56
16	X	7 1/8	X	50.0	I-T	35.34	92.8	183.6	1037.2	6.80	11.2	5.7	10.39	16.26	7.07	.630	.380	6.18
16	X	7 1/8	X	57.0	I-T	40.28	105.1	189.1	1148.1	6.93	10.9	6.1	11.85	16.43	7.12	.715	.430	7.06
16	X	10 1/4	X	67.0	I-T	44.18	127.9	193.8	1301.9	7.21	10.2	6.7	12.99	16.33	10.24	.665	.395	6.45
16	X	10 1/4	X	77.0	I-T	50.98	146.0	200.2	1442.2	7.31	9.9	7.2	15.00	16.52	10.30	.760	.455	7.52
16	X	10 3/8	X	89.0	I-T	59.17	167.5	208.0	1606.5	7.39	9.6	7.7	17.40	16.75	10.37	.875	.525	8.79
18	X	6	X	35.0	I-T	26.29	69.1	187.7	922.5	6.83	13.3	4.9	7.73	17.70	6.00	.425	.300	5.31
18	X	6	X	40.0	I-T	29.35	80.5	194.8	1051.6	7.14	13.1	5.4	8.63	17.90	6.02	.525	.315	5.64
18	X	7 1/2	X	50.0	I-T	35.55	101.7	203.9	1258.5	7.48	12.4	6.2	10.46	17.99	7.50	.570	.355	6.39
18	X	7 1/2	X	60.0	I-T	42.61	122.0	212.8	1458.2	7.71	12.0	6.9	12.53	18.24	7.56	.695	.415	7.57
18	X	7 5/8	X	71.0	I-T	50.75	142.5	221.8	1651.4	7.83	11.6	7.4	14.93	18.47	7.64	.810	.495	9.14
18	X	11 1/8	X	86.0	I-T	57.79	178.8	228.9	1902.6	8.10	10.6	8.3	17.00	18.39	11.09	.770	.480	8.83
18	X	11 1/8	X	97.0	I-T	65.20	200.6	236.5	2078.9	8.16	10.4	8.8	19.18	18.59	11.15	.870	.535	9.95
21	X	8 1/4	X	62.0	I-T	44.94	142.4	247.6	1949.0	8.79	13.7	7.9	13.22	20.99	8.24	.615	.400	8.40
21	X	8 1/4	X	68.0	I-T	49.15	156.4	253.6	2098.9	8.90	13.4	8.3	14.46	21.13	8.27	.685	.430	9.09
21	X	8 1/4	X	73.0	I-T	52.58	167.5	258.3	2215.8	8.98	13.2	8.6	15.47	21.24	8.30	.740	.455	9.66
21	X	8 3/8	X	83.0	I-T	59.78	188.3	267.3	2429.2	9.06	12.9	9.1	17.58	21.43	8.36	.835	.515	11.04
21	X	12 1/4	X	101.0	I-T	68.38	238.9	276.7	2810.5	9.35	11.8	10.2	20.11	21.36	12.29	.800	.500	10.68
21	X	12 3/8	X	111.0	I-T	75.30	260.3	284.3	2999.6	9.37	11.5	10.5	22.15	21.51	12.34	.875	.550	11.83

(38T) PLATE WEIGHT = 22.950 LBS. (.5625 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(38T = 23.750 IN.) PLATE WEIGHT = 25.500 LBS. (.6250 IN.) EFFECTIVE PLATE AREA = 14.844 SQ. IN.																		
SECTION MODULUS							BEAM DIMENSIONS											
NOMINAL SIZE			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN	X	IN	X	LBS/FT	LBS	IN ³	IN ³	IN ⁴	IN	IN	IN	IN	IN	IN	IN ²			
4	X	4	X	6.5	T	6.40	5.4	31.2	21.2	1.13	3.9	.7	1.88	4.00	4.00	.255	.230	.92
4	X	4	X	7.5	T	7.42	6.4	34.0	25.3	1.22	3.9	.7	2.18	4.06	4.02	.315	.245	.99
4	X	5 1/4	X	9.0	T	8.82	8.2	37.6	31.6	1.35	3.9	.8	2.59	4.07	5.25	.330	.230	.94
4	X	4	X	13.0	I-T	8.39	7.2	36.2	28.9	1.29	4.0	.8	2.47	4.16	4.06	.345	.280	1.16
5	X	4	X	6.0	T	5.88	5.8	39.0	27.9	1.30	4.8	.7	1.73	4.94	3.96	.210	.190	.94
5	X	4	X	7.5	T	7.37	7.3	43.1	35.0	1.43	4.8	.8	2.17	5.00	4.00	.270	.230	1.15
5	X	4	X	8.5	T	8.36	8.5	46.2	40.9	1.54	4.8	.9	2.46	5.06	4.01	.330	.240	1.21
5	X	4	X	9.5	T	9.42	9.9	49.0	47.2	1.64	4.8	1.0	2.77	5.12	4.02	.395	.250	1.28
5	X	5	X	16.0	I-T	9.91	10.7	49.5	49.5	1.67	4.6	1.0	2.92	5.01	5.00	.360	.240	1.20
5	X	5	X	19.0	I-T	11.69	12.8	53.3	59.6	1.81	4.7	1.1	3.44	5.15	5.03	.430	.270	1.39
6	X	4	X	7.0	T	6.94	7.7	51.7	44.2	1.62	5.7	.9	2.04	5.96	3.97	.225	.200	1.19
6	X	4	X	8.0	T	7.88	8.9	54.6	50.6	1.72	5.7	.9	2.32	6.00	3.99	.265	.220	1.32
6	X	4	X	9.0	I-T	6.17	7.0	49.9	40.2	1.55	5.7	.8	1.81	5.90	3.94	.215	.170	1.00
6	X	4	X	9.5	T	9.34	11.0	59.3	62.4	1.88	5.7	1.1	2.75	6.08	4.01	.350	.235	1.43
6	X	4	X	11.0	T	10.59	13.1	62.9	73.5	2.02	5.6	1.2	3.20	6.16	4.03	.425	.260	1.60
6	X	4	X	12.0	I-T	8.30	9.4	55.8	53.5	1.76	5.7	1.0	2.44	6.03	4.00	.280	.230	1.39
6	X	6	X	15.0	I-T	9.78	11.9	60.5	66.0	1.93	5.5	1.1	2.88	5.99	5.99	.260	.230	1.38
6	X	4	X	16.0	I-T	10.74	13.0	63.8	74.5	2.03	5.7	1.2	3.16	6.28	4.03	.405	.260	1.63
6	X	6	X	20.0	I-T	12.63	16.3	67.6	89.6	2.20	5.5	1.3	3.71	6.20	6.02	.365	.260	1.61
7	X	5	X	11.0	T	10.81	14.6	72.2	91.3	2.25	6.2	1.3	3.18	6.87	5.00	.335	.230	1.58
7	X	5	X	13.0	T	12.85	17.8	76.5	109.7	2.43	6.2	1.4	3.78	6.96	5.03	.420	.255	1.77
7	X	6 3/4	X	15.0	T	14.81	21.2	79.4	126.4	2.57	6.0	1.6	4.36	6.92	6.73	.385	.270	1.87
7	X	6 3/4	X	17.0	T	16.77	24.5	82.4	143.9	2.70	5.9	1.7	4.93	6.99	6.75	.455	.285	1.99
7	X	6 3/4	X	19.0	T	18.74	27.5	84.5	159.4	2.80	5.8	1.9	5.51	7.05	6.77	.515	.310	2.19
(38T)			PLATE WEIGHT = 25.500 LBS. (.6250 IN.)															

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TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(38T = 23.750 IN.) PLATE WEIGHT = 25.500 LBS. (.6250 IN.) EFFECTIVE PLATE AREA = 14.844 SQ. IN.																		
NOMINAL SIZE				WT/FT	SECTION MODULUS				BEAM DIMENSIONS									
					FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2		
7	X	8	X	21.5	T	20.94	31.1	84.0	169.4	2.84	5.4	2.0	6.16	6.83	8.00	.530	.305	2.08
7	X	8	X	24.0	T	23.53	34.9	86.0	186.7	2.93	5.4	2.2	6.92	6.90	8.03	.595	.340	2.35
8	X	4	X	10.0	I-T	7.19	9.9	72.7	74.0	2.09	7.5	1.0	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X	13.0	I-T	9.52	12.8	78.3	94.5	2.31	7.4	1.2	2.80	7.99	4.00	.255	.230	1.84
8	X	5 1/2	X	13.0	T	12.83	19.2	86.9	133.6	2.68	6.9	1.5	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X	15.0	I-T	10.79	15.1	83.2	111.4	2.49	7.4	1.3	3.17	8.11	4.02	.315	.245	1.99
8	X	5 1/2	X	15.5	T	15.28	23.6	91.6	160.8	2.88	6.8	1.8	4.49	7.94	5.53	.440	.275	2.18
8	X	5 1/4	X	18.0	I-T	12.00	18.5	89.2	134.4	2.70	7.3	1.5	3.53	8.14	5.25	.330	.230	1.87
8	X	7	X	18.0	T	17.73	28.3	95.0	186.4	3.05	6.6	2.0	5.22	7.93	6.99	.430	.295	2.34
8	X	7	X	20.0	T	19.79	32.3	98.0	210.0	3.19	6.5	2.1	5.82	8.01	7.00	.505	.305	2.44
8	X	5 1/4	X	21.0	I-T	13.87	22.0	94.0	158.9	2.90	7.2	1.7	4.08	8.28	5.27	.400	.250	2.07
8	X	7	X	22.5	T	22.32	36.2	100.1	231.1	3.29	6.4	2.3	6.56	8.07	7.04	.565	.345	2.78
8	X	6 1/2	X	24.0	I-T	15.11	24.5	93.0	166.1	2.93	6.8	1.8	4.44	7.93	6.50	.400	.245	1.94
8	X	7 1/8	X	25.0	T	24.83	40.1	102.1	252.2	3.37	6.3	2.5	7.30	8.13	7.07	.630	.380	3.09
8	X	6 1/2	X	28.0	I-T	17.69	28.7	96.7	192.4	3.10	6.7	2.0	5.20	8.06	6.54	.465	.285	2.30
8	X	7 1/8	X	28.5	T	28.28	45.4	104.7	280.0	3.48	6.2	2.7	8.32	8.22	7.12	.715	.430	3.53
8	X	8	X	31.0	I-T	19.16	32.0	98.2	208.1	3.19	6.5	2.1	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X	17.5	T	17.26	28.6	104.6	212.6	3.27	7.4	2.0	5.08	8.85	6.00	.425	.300	2.66
9	X	6	X	20.0	T	19.76	33.8	108.9	247.2	3.46	7.3	2.3	5.81	8.95	6.02	.525	.315	2.82
10	X	4	X	12.0	I-T	9.07	14.1	97.4	129.6	2.72	9.2	1.3	2.67	9.87	3.96	.210	.190	1.88
10	X	4	X	15.0	I-T	11.27	17.8	104.0	161.6	2.98	9.1	1.6	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X	17.0	I-T	12.48	20.6	109.1	186.1	3.17	9.0	1.7	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X	19.0	I-T	13.77	23.6	114.0	212.6	3.35	9.0	1.9	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0	I-T	15.04	28.0	118.9	244.6	3.56	8.7	2.1	4.42	10.17	5.75	.360	.240	2.44

(38T) PLATE WEIGHT = 25.500 LBS. (.6250 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(38T = 23.750 IN.) PLATE WEIGHT = 25.500 LBS. (.6250 IN.) EFFECTIVE PLATE AREA = 14.844 SQ. IN.																		
NOMINAL SIZE			SECTION MODULUS					BEAM DIMENSIONS										
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2			
10	X	5 3/4	X	26.0	I-T	17.37	33.4	124.5	288.2	3.80	8.6	2.3	5.11	10.33	5.77	.440	.260	2.69
10	X	5 3/4	X	30.0	I-T	20.23	38.8	128.7	331.1	3.99	8.5	2.6	5.95	10.47	5.81	.510	.300	3.14
10	X	8	X	33.0	I-T	20.94	40.3	122.1	313.6	3.86	7.8	2.6	6.16	9.73	7.96	.435	.290	2.82
10	X	8	X	39.0	I-T	24.45	48.3	127.5	369.5	4.10	7.6	2.9	7.19	9.92	7.99	.530	.315	3.12
10	X	8	X	45.0	I-T	28.19	56.4	132.0	423.6	4.28	7.5	3.2	8.29	10.10	8.02	.620	.350	3.54
12	X	4	X	14.0	I-T	10.98	19.5	123.9	211.5	3.42	10.8	1.7	3.23	11.91	3.97	.225	.200	2.38
12	X	4	X	16.0	I-T	12.37	22.3	128.4	240.1	3.60	10.7	1.9	3.64	11.99	3.99	.265	.220	2.64
12	X	4	X	19.0	I-T	14.20	27.2	136.2	289.5	3.90	10.7	2.1	4.18	12.16	4.01	.350	.235	2.86
12	X	4	X	22.0	I-T	16.33	32.0	142.0	337.7	4.15	10.6	2.4	4.80	12.31	4.03	.425	.260	3.20
12	X	6 1/2	X	26.0	I-T	17.64	39.5	149.9	401.6	4.48	10.2	2.7	5.19	12.22	6.49	.380	.230	2.81
12	X	6 1/2	X	30.0	I-T	20.27	45.6	154.2	456.2	4.68	10.0	3.0	5.96	12.34	6.52	.440	.260	3.21
12	X	6 1/2	X	35.0	I-T	23.82	53.7	159.4	527.6	4.91	9.8	3.3	7.01	12.50	6.56	.520	.300	3.75
12	X	8	X	40.0	I-T	25.48	58.6	155.7	534.9	4.89	9.1	3.4	7.49	11.94	8.01	.515	.295	3.52
12	X	8	X	45.0	I-T	28.81	65.8	159.2	590.5	5.03	9.0	3.7	8.47	12.06	8.05	.575	.335	4.04
12	X	8 1/8	X	50.0	I-T	32.11	73.3	162.9	647.8	5.16	8.8	4.0	9.44	12.19	8.08	.640	.370	4.51
12	X	10	X	53.0	I-T	33.01	78.6	163.5	673.2	5.24	8.6	4.1	9.71	12.06	10.00	.575	.345	4.16
12	X	10	X	58.0	I-T	35.92	86.7	167.0	731.4	5.37	8.4	4.4	10.56	12.19	10.01	.640	.360	4.39
14	X	5	X	22.0	I-T	16.18	35.6	160.8	418.5	4.62	11.8	2.6	4.76	13.74	5.00	.335	.230	3.16
14	X	5	X	26.0	I-T	18.87	42.8	168.0	496.2	4.93	11.6	3.0	5.55	13.91	5.03	.420	.255	3.55
14	X	6 3/4	X	30.0	I-T	21.16	49.8	172.5	559.3	5.15	11.2	3.2	6.22	13.84	6.73	.385	.270	3.74
14	X	6 3/4	X	34.0	I-T	23.54	57.1	177.9	631.4	5.39	11.1	3.5	6.92	13.98	6.75	.455	.285	3.98
14	X	6 3/4	X	38.0	I-T	26.17	64.0	182.2	697.7	5.56	10.9	3.8	7.70	14.10	6.77	.515	.310	4.37
14	X	8	X	43.0	I-T	28.02	70.7	180.6	726.1	5.61	10.3	4.0	8.24	13.66	8.00	.530	.305	4.17
14	X	8	X	48.0	I-T	31.50	79.4	184.7	800.5	5.76	10.1	4.3	9.26	13.79	8.03	.595	.340	4.69
(38T)			PLATE WEIGHT = 25.500 LBS. (.6250 IN.)															

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TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(38T = 23.750 IN.) PLATE WEIGHT = 25.500 LBS. (.6250 IN.) EFFECTIVE PLATE AREA = 14.844 SQ. IN.																		
NOMINAL SIZE			WT/FT	SECTION MODULUS				BEAM DIMENSIONS										
				FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2		
16	X	5 1/2	X	26.0	I-T	19.49	47.3	189.2	617.0	5.48	13.1	3.3	5.73	15.69	5.50	.345	.250	3.92
16	X	5 1/2	X	31.0	I-T	22.70	57.2	197.7	731.8	5.83	12.8	3.7	6.68	15.88	5.53	.440	.275	4.37
16	X	7	X	36.0	I-T	25.69	67.0	203.4	830.5	6.09	12.4	4.1	7.56	15.86	6.99	.430	.295	4.68
16	X	7	X	40.0	I-T	28.09	75.8	209.3	925.3	6.33	12.2	4.4	8.26	16.01	7.00	.505	.305	4.88
16	X	7	X	45.0	I-T	31.77	85.0	213.9	1019.3	6.49	12.0	4.8	9.34	16.13	7.04	.565	.345	5.56
16	X	7 1/8	X	50.0	I-T	35.34	94.5	218.7	1114.0	6.64	11.8	5.1	10.39	16.26	7.07	.630	.380	6.18
16	X	7 1/8	X	57.0	I-T	40.28	107.2	224.8	1237.6	6.81	11.5	5.5	11.85	16.43	7.12	.715	.430	7.06
16	X	10 1/4	X	67.0	I-T	44.18	130.2	231.1	1412.5	7.12	10.8	6.1	12.99	16.33	10.24	.665	.395	6.45
16	X	10 1/4	X	77.0	I-T	50.98	148.9	238.1	1570.6	7.26	10.5	6.6	15.00	16.52	10.30	.760	.455	7.52
16	X	10 3/8	X	89.0	I-T	59.17	171.2	246.5	1755.5	7.38	10.3	7.1	17.40	16.75	10.37	.875	.525	8.79
18	X	6	X	35.0	I-T	26.29	70.2	223.7	979.4	6.59	13.9	4.4	7.73	17.70	6.00	.425	.300	5.31
18	X	6	X	40.0	I-T	29.35	81.8	232.3	1120.9	6.91	13.7	4.8	8.63	17.90	6.02	.525	.315	5.64
18	X	7 1/2	X	50.0	I-T	35.55	103.5	242.9	1350.5	7.31	13.1	5.6	10.46	17.99	7.50	.570	.355	6.39
18	X	7 1/2	X	60.0	I-T	42.61	124.4	252.9	1573.1	7.58	12.6	6.2	12.53	18.24	7.56	.695	.415	7.57
18	X	7 5/8	X	71.0	I-T	50.75	145.7	262.5	1788.7	7.75	12.3	6.8	14.93	18.47	7.64	.810	.495	9.14
18	X	11 1/8	X	86.0	I-T	57.79	182.6	271.4	2075.3	8.07	11.4	7.6	17.00	18.39	11.09	.770	.480	8.83
18	X	11 1/8	X	97.0	I-T	65.20	205.1	279.6	2273.5	8.17	11.1	8.1	19.18	18.59	11.15	.870	.535	9.95
18	X	11 1/4	X	106.0	I-T	71.48	222.0	286.0	2419.4	8.21	10.9	8.5	21.02	18.73	11.20	.940	.590	11.05
21	X	8 1/4	X	62.0	I-T	44.94	145.3	293.8	2101.6	8.65	14.5	7.2	13.22	20.99	8.24	.615	.400	8.46
21	X	8 1/4	X	68.0	I-T	49.15	159.7	300.4	2268.7	8.80	14.2	7.6	14.46	21.13	8.27	.685	.430	9.09
21	X	8 1/4	X	73.0	I-T	52.58	171.2	305.5	2399.0	8.90	14.0	7.9	15.47	21.24	8.30	.740	.455	9.66
21	X	8 3/8	X	83.0	I-T	59.78	192.7	315.0	2636.6	9.02	13.7	8.4	17.58	21.43	8.36	.835	.515	11.04
21	X	8 3/8	X	93.0	I-T	67.42	214.6	324.8	2874.2	9.10	13.4	8.8	19.83	21.62	8.42	.930	.580	12.54
21	X	12 1/4	X	101.0	I-T	68.38	244.3	326.4	3072.0	9.37	12.6	9.4	20.11	21.36	12.29	.800	.500	10.68
21	X	12 3/8	X	111.0	I-T	75.30	266.5	334.5	3283.2	9.42	12.3	9.8	22.15	21.51	12.34	.875	.550	11.83

(38T) PLATE WEIGHT = 25.500 LBS. (.6250 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																			
(38T = 26.125 IN.) PLATE WEIGHT = 28.050 LBS. (.6875 IN.) EFFECTIVE PLATE AREA = 17.961 SQ. IN.																			
NOMINAL SIZE					SECTION MODULUS				BEAM DIMENSIONS										
					WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2			
4	X	4	X	7.5	T	7.42	6.5	37.1	26.4	1.14	4.0	.7	2.18	4.06	4.02	.315	.245	.99	
4	X	5 1/4	X	9.0	T	8.82	8.3	41.6	33.0	1.27	4.0	.8	2.59	4.07	5.25	.330	.230	.94	
4	X	4	X	13.0	I-T	8.39	7.4	39.8	30.2	1.22	4.1	.8	2.47	4.16	4.06	.345	.280	1.16	
5	X	4	X	7.5	T	7.37	7.4	47.3	36.4	1.34	4.9	.8	2.17	5.00	4.00	.270	.230	1.15	
5	X	4	X	8.5	T	8.36	8.7	51.1	42.6	1.44	4.9	.8	2.46	5.06	4.01	.330	.240	1.21	
5	X	4	X	9.5	T	9.42	10.0	54.6	49.2	1.54	4.9	.9	2.77	5.12	4.02	.395	.250	1.28	
5	X	5	X	16.0	I-T	9.91	10.8	55.4	51.6	1.57	4.8	.9	2.92	5.01	5.00	.360	.240	1.20	
5	X	5	X	19.0	I-T	11.69	13.0	60.1	62.4	1.71	4.8	1.0	3.44	5.15	5.03	.430	.270	1.39	
179	6	X	4	X	7.0	T	6.94	7.8	56.8	45.7	1.51	5.8	.8	2.04	5.96	3.97	.225	.200	1.19
	6	X	4	X	8.0	T	7.88	9.0	60.4	52.4	1.61	5.8	.9	2.32	6.00	3.99	.265	.220	1.32
	6	X	4	X	9.0	I-T	6.17	7.1	54.5	41.6	1.45	5.8	.8	1.81	5.90	3.94	.215	.170	1.00
	6	X	4	X	9.5	T	9.34	11.2	66.4	64.7	1.77	5.8	1.0	2.75	6.08	4.01	.350	.235	1.43
	6	X	4	X	11.0	T	10.89	13.3	70.9	76.5	1.90	5.8	1.1	3.20	6.16	4.03	.425	.260	1.60
	6	X	4	X	12.0	I-T	8.30	9.5	61.9	55.4	1.65	5.8	.9	2.44	6.03	4.00	.280	.230	1.39
	6	X	6	X	15.0	I-T	9.78	12.1	67.9	68.6	1.81	5.7	1.0	2.88	5.99	5.99	.260	.230	1.38
	6	X	4	X	16.0	I-T	10.74	13.2	71.9	77.5	1.92	5.9	1.1	3.16	6.28	4.03	.405	.260	1.63
	6	X	6	X	20.0	I-T	12.63	16.5	76.9	93.6	2.08	5.7	1.2	3.71	6.20	6.02	.365	.260	1.61
	7	X	5	X	11.0	T	10.81	14.8	81.8	94.8	2.12	6.4	1.2	3.18	6.87	5.00	.335	.230	1.58
7	X	5	X	13.0	T	12.85	18.0	87.3	114.4	2.29	6.3	1.3	3.78	6.96	5.03	.420	.255	1.77	
7	X	6 3/4	X	15.0	T	14.81	21.5	91.2	132.3	2.43	6.2	1.5	4.36	6.92	6.73	.385	.270	1.87	
7	X	6 3/4	X	17.0	T	16.77	24.8	95.0	151.1	2.57	6.1	1.6	4.93	6.99	6.75	.455	.285	1.99	
7	X	6 3/4	X	19.0	T	18.74	27.9	97.8	167.8	2.67	6.0	1.7	5.51	7.05	6.77	.515	.310	2.19	
7	X	8	X	21.5	T	20.94	31.5	97.6	179.2	2.73	5.7	1.8	6.16	6.83	8.00	.530	.305	2.08	
7	X	8	X	24.0	T	23.53	35.3	100.1	198.2	2.82	5.6	2.0	6.92	6.90	8.03	.595	.340	2.35	

(38T) PLATE WEIGHT = 28.050 LBS. (.6875 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																	
(38T = 26.125 IN.) PLATE WEIGHT = 28.050 LBS. (.6875 IN.) EFFECTIVE PLATE AREA = 17.961 SQ. IN.																	
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS									
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	O	WF	TF	TW	ASH	
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN2		
8	X	4	X	10.0 I-T	7.19	10.0	80.8	76.2	1.95	7.6	.9	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X	13.0 I-T	9.52	12.9	88.2	97.7	2.17	7.6	1.1	2.80	7.99	4.00	.255	.230	1.84
8	X	5 1/2	X	13.0 T	12.83	19.5	99.4	139.0	2.53	7.1	1.4	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X	15.0 I-T	10.79	15.2	94.4	115.4	2.34	7.6	1.2	3.17	8.11	4.02	.315	.245	1.99
8	X	5 1/2	X	15.5 T	15.28	23.9	105.5	168.0	2.74	7.0	1.6	4.49	7.94	5.53	.440	.275	2.18
8	X	5 1/4	X	18.0 I-T	12.00	18.7	101.9	139.6	2.55	7.5	1.4	3.53	8.14	5.25	.330	.230	1.87
8	X	7	X	18.0 T	17.73	28.6	109.9	195.5	2.90	6.8	1.8	5.22	7.93	6.99	.430	.295	2.34
8	X	7	X	20.0 T	19.79	32.7	113.9	221.1	3.05	6.8	1.9	5.82	8.01	7.00	.505	.305	2.44
8	X	5 1/4	X	21.0 I-T	13.87	22.3	108.0	165.5	2.74	7.4	1.5	4.08	8.28	5.27	.400	.250	2.07
8	X	7	X	22.5 T	22.32	36.6	116.6	244.1	3.15	6.7	2.1	6.56	8.07	7.04	.565	.345	2.78
8	X	6 1/2	X	24.0 I-T	15.11	24.8	107.2	173.6	2.78	7.0	1.6	4.44	7.93	6.50	.400	.245	1.94
8	X	7 1/8	X	25.0 T	24.83	40.7	119.1	267.2	3.25	6.6	2.2	7.30	8.13	7.07	.630	.380	3.09
8	X	6 1/2	X	28.0 I-T	17.69	29.1	112.0	201.9	2.95	6.9	1.8	5.20	8.06	6.54	.465	.285	2.30
8	X	7 1/8	X	28.5 T	28.28	46.0	122.3	298.0	3.37	6.5	2.4	8.32	8.22	7.12	.715	.430	3.53
8	X	8	X	31.0 I-T	19.16	32.3	114.1	218.9	3.05	6.8	1.9	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X	17.5 T	17.26	28.9	121.0	222.4	3.11	7.7	1.8	5.08	8.85	6.00	.425	.300	2.66
9	X	6	X	20.0 T	19.76	34.2	126.6	259.8	3.31	7.6	2.1	5.81	8.95	6.02	.525	.315	2.82
10	X	4	X	12.0 I-T	9.07	14.3	110.2	133.6	2.54	9.3	1.2	2.67	9.87	3.96	.210	.190	1.88
10	X	4	X	15.0 I-T	11.27	18.0	118.6	167.1	2.80	9.3	1.4	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X	17.0 I-T	12.48	20.8	125.1	192.8	2.99	9.3	1.5	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X	19.0 I-T	13.77	23.9	131.2	220.7	3.17	9.2	1.7	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0 I-T	15.04	28.3	137.5	254.6	3.37	9.0	1.9	4.42	10.17	5.75	.360	.240	2.44
10	X	5 3/4	X	26.0 I-T	17.37	33.7	144.6	301.2	3.61	8.9	2.1	5.11	10.33	5.77	.440	.260	2.69
10	X	5 3/4	X	30.0 I-T	20.23	39.3	149.9	347.4	3.81	8.8	2.3	5.95	10.47	5.81	.510	.300	3.14
10	X	8	X	33.0 I-T	20.94	40.7	142.4	329.8	3.70	8.1	2.3	6.16	9.73	7.96	.435	.290	2.82
10	X	8	X	39.0 I-T	24.45	48.9	149.1	390.6	3.94	8.0	2.6	7.19	9.92	7.99	.530	.315	3.12

(38T) PLATE WEIGHT = 28.050 LBS. (.6875 IN.)

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TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T															
(38T = 26.125 IN.) PLATE WEIGHT = 28.050 LBS. (.6875 IN.) EFFECTIVE PLATE AREA = 17.961 SQ. IN.															
NOMINAL SIZE			SECTION MODULUS					BEAM DIMENSIONS							
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
10	X 8	X 45.0 I-T	28.19	57.1	154.8	449.8	4.14	7.9	2.9	8.29	10.10	8.02	.620	.350	3.54
12	X 4	X 14.0 I-T	10.98	19.7	141.9	218.2	3.21	11.1	1.5	3.23	11.91	3.97	.225	.200	2.38
12	X 4	X 16.0 I-T	12.37	22.6	147.6	248.3	3.39	11.0	1.7	3.64	11.99	3.99	.265	.220	2.64
12	X 4	X 19.0 I-T	14.20	27.4	157.4	300.3	3.68	10.9	1.9	4.18	12.16	4.01	.350	.235	2.86
12	X 4	X 22.0 I-T	16.33	32.3	164.7	351.4	3.93	10.9	2.1	4.80	12.31	4.03	.425	.260	3.20
12	X 6 1/2	X 26.0 I-T	17.64	39.9	174.8	419.2	4.26	10.5	2.4	5.19	12.22	6.49	.380	.230	2.81
12	X 6 1/2	X 30.0 I-T	20.27	46.1	180.2	478.8	4.47	10.4	2.7	5.96	12.34	6.52	.440	.260	3.21
12	X 6 1/2	X 35.0 I-T	23.82	54.4	186.7	555.3	4.72	10.2	3.0	7.01	12.50	6.56	.520	.300	3.75
12	X 8	X 40.0 I-T	25.48	59.2	182.6	564.9	4.71	9.5	3.1	7.49	11.94	8.01	.515	.295	3.52
12	X 8	X 45.0 I-T	28.81	66.6	186.8	625.9	4.87	9.4	3.3	8.47	12.06	8.05	.575	.335	4.04
12	X 8 1/8	X 50.0 I-T	32.11	74.3	191.2	688.8	5.01	9.3	3.6	9.44	12.19	8.08	.640	.370	4.51
12	X 10	X 53.0 I-T	33.01	79.6	192.2	717.3	5.09	9.0	3.7	9.71	12.06	10.00	.575	.345	4.16
12	X 10	X 58.0 I-T	35.92	87.8	196.4	781.6	5.23	8.9	4.0	10.56	12.19	10.01	.640	.360	4.39
14	X 5	X 22.0 I-T	16.18	36.0	187.1	435.1	4.38	12.1	2.3	4.76	13.74	5.00	.335	.230	3.16
14	X 5	X 26.0 I-T	18.87	43.3	196.1	517.9	4.69	12.0	2.6	5.55	13.91	5.03	.420	.255	3.55
14	X 6 3/4	X 30.0 I-T	21.16	50.4	201.6	585.8	4.92	11.6	2.9	6.22	13.84	6.73	.385	.270	3.74
14	X 6 3/4	X 34.0 I-T	23.54	57.8	208.4	663.4	5.16	11.5	3.2	6.92	13.98	6.75	.455	.285	3.98
14	X 6 3/4	X 38.0 I-T	26.17	64.8	213.6	735.3	5.35	11.3	3.4	7.70	14.10	6.77	.515	.310	4.37
14	X 8	X 43.0 I-T	28.02	71.6	212.0	767.8	5.41	10.7	3.6	8.24	13.66	8.00	.530	.305	4.17
14	X 8	X 48.0 I-T	31.50	80.4	216.9	849.4	5.59	10.6	3.9	9.26	13.79	8.03	.595	.340	4.69
16	X 5 1/2	X 26.0 I-T	19.49	47.8	221.0	643.6	5.21	13.5	2.9	5.73	15.69	5.50	.345	.250	3.92
16	X 5 1/2	X 31.0 I-T	22.70	57.8	231.4	766.7	5.58	13.3	3.3	6.68	15.88	5.53	.440	.275	4.37
16	X 7	X 36.0 I-T	25.69	67.8	238.4	873.3	5.85	12.9	3.7	7.56	15.86	6.99	.430	.295	4.68
16	X 7	X 40.0 I-T	28.09	76.7	245.6	975.9	6.10	12.7	4.0	8.26	16.01	7.00	.505	.305	4.88
(38T)			PLATE WEIGHT = 28.050 LBS. (.6875 IN.)												

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(38T = 26.125 IN.) PLATE WEIGHT = 28.050 LBS. (.6875 IN.) EFFECTIVE PLATE AREA = 17.961 SQ. IN.																
NOMINAL SIZE			WT/FT	SECTION MODULUS				BEAM DIMENSIONS								
				FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
16	X 7	X 45.0	I-T	31.77	86.2	250.9	1078.7	6.29	12.5	4.3	9.34	16.13	7.04	.565	.345	5.56
16	X 7 1/8	X 50.0	I-T	35.34	95.9	256.4	1182.5	6.46	12.3	4.6	10.39	16.26	7.07	.630	.380	6.18
16	X 7 1/8	X 57.0	I-T	40.28	108.9	263.3	1318.4	6.65	12.1	5.0	11.85	16.43	7.12	.715	.430	7.06
16	X 10 1/4	X 67.0	I-T	44.18	132.2	271.5	1512.8	6.99	11.4	5.6	12.99	16.33	10.24	.665	.395	6.45
16	X 10 1/4	X 77.0	I-T	50.98	151.3	279.3	1688.6	7.16	11.2	6.0	15.00	16.52	10.30	.760	.455	7.52
16	X 10 3/8	X 89.0	I-T	59.17	174.3	288.5	1894.4	7.32	10.9	6.6	17.40	16.75	10.37	.875	.525	8.79
18	X 6	X 35.0	I-T	26.29	71.1	262.1	1028.9	6.33	14.5	3.9	7.73	17.70	6.00	.425	.300	5.31
18	X 6	X 40.0	I-T	29.35	82.9	272.4	1181.7	6.67	14.2	4.3	8.63	17.90	6.02	.525	.315	5.64
18	X 7 1/2	X 50.0	I-T	35.55	104.9	284.9	1432.4	7.10	13.7	5.0	10.46	17.99	7.50	.570	.355	6.39
18	X 7 1/2	X 60.0	I-T	42.61	126.4	296.2	1676.9	7.42	13.3	5.7	12.53	18.24	7.56	.695	.415	7.57
18	X 7 5/8	X 71.0	I-T	50.75	148.3	306.7	1914.8	7.63	12.9	6.2	14.93	18.47	7.64	.810	.495	9.14
18	X 11 1/8	X 86.0	I-T	57.79	185.7	317.6	2235.9	8.00	12.0	7.0	17.00	18.39	11.09	.770	.480	8.83
18	X 11 1/8	X 97.0	I-T	65.20	209.0	326.5	2456.4	8.13	11.8	7.5	19.18	18.59	11.15	.870	.535	9.95
18	X 11 1/4	X 106.0	I-T	71.48	226.5	333.3	2618.4	8.20	11.6	7.9	21.02	18.73	11.20	.940	.590	11.05
18	X 11 1/4	X 119.0	I-T	80.48	254.1	344.1	2873.3	8.31	11.3	8.4	23.67	18.97	11.27	1.060	.655	12.43
21	X 8 1/4	X 62.0	I-T	44.94	147.7	343.9	2240.0	8.48	15.2	6.5	13.22	20.99	8.24	.615	.400	8.40
21	X 8 1/4	X 68.0	I-T	49.15	162.5	351.2	2424.0	8.65	14.9	6.9	14.46	21.13	8.27	.685	.430	9.09
21	X 8 1/4	X 73.0	I-T	52.58	174.3	356.8	2567.6	8.76	14.7	7.2	15.47	21.24	8.30	.740	.455	9.66
21	X 8 3/8	X 83.0	I-T	59.78	196.4	367.0	2829.8	8.92	14.4	7.7	17.58	21.43	8.36	.835	.515	11.04
21	X 8 3/8	X 93.0	I-T	67.42	219.0	377.4	3091.6	9.04	14.1	8.2	19.83	21.62	8.42	.930	.580	12.54
21	X 12 1/4	X 101.0	I-T	68.38	248.9	380.8	3318.6	9.34	13.3	8.7	20.11	21.36	12.29	.800	.500	10.68
21	X 12 3/8	X 111.0	I-T	75.30	271.8	389.3	3552.9	9.41	13.1	9.1	22.15	21.51	12.34	.875	.550	11.83

(38T) PLATE WEIGHT = 28.050 LBS. (.6875 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(38T = 28.500 IN.) PLATE WEIGHT = 30.600 LBS. (.7500 IN.) EFFECTIVE PLATE AREA = 21.375 SQ. IN.																
NOMINAL SIZE							SECTION MODULUS				BEAM DIMENSIONS					
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN	IN2	
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN	IN2	
4	X 5 1/4	X 9.0 T	8.82	8.5	45.0	34.4	1.20	4.1	.8	2.59	4.07	5.25	.330	.230	.94	
5	X 4	X 8.5 T	8.36	8.8	55.3	44.1	1.36	5.0	.8	2.46	5.06	4.01	.330	.240	1.21	
5	X 4	X 9.5 T	9.42	10.2	59.5	51.0	1.45	5.0	.9	2.77	5.12	4.02	.395	.250	1.28	
5	X 5	X 16.0 I-T	9.91	11.0	60.6	53.6	1.49	4.9	.9	2.92	5.01	5.00	.360	.240	1.20	
5	X 5	X 19.0 I-T	11.69	13.2	66.3	64.9	1.62	4.9	1.0	3.44	5.15	5.03	.430	.270	1.39	
6	X 4	X 7.0 T	6.94	7.9	61.1	47.1	1.42	5.9	.8	2.04	5.96	3.97	.225	.200	1.19	
6	X 4	X 8.0 T	7.88	9.1	65.5	54.1	1.51	5.9	.8	2.32	6.00	3.99	.265	.220	1.32	
6	X 4	X 9.5 T	9.34	11.3	72.7	66.9	1.67	5.9	.9	2.75	6.08	4.01	.350	.235	1.43	
6	X 4	X 11.0 T	10.89	13.4	78.3	79.3	1.88	5.9	1.0	3.20	6.16	4.03	.425	.260	1.60	
6	X 4	X 12.0 I-T	8.30	9.6	67.3	57.2	1.55	5.9	.9	2.44	6.03	4.00	.280	.230	1.39	
6	X 6	X 15.0 I-T	9.78	12.3	74.6	70.9	1.71	5.8	1.0	2.88	5.99	5.99	.260	.230	1.38	
6	X 4	X 16.0 I-T	10.74	13.3	79.4	80.2	1.81	6.0	1.0	3.16	6.28	4.03	.405	.260	1.63	
6	X 6	X 20.0 I-T	12.63	16.7	85.6	97.1	1.97	5.8	1.1	3.71	6.20	6.02	.365	.260	1.61	
7	X 5	X 11.0 T	10.81	15.0	90.7	98.0	2.00	6.5	1.1	3.18	6.87	5.00	.335	.230	1.58	
7	X 5	X 13.0 T	12.85	18.3	97.6	118.5	2.17	6.5	1.2	3.78	6.96	5.03	.420	.255	1.77	
7	X 6 3/4	X 15.0 T	14.81	21.7	102.6	137.5	2.31	6.3	1.3	4.36	6.92	6.73	.385	.270	1.87	
7	X 6 3/4	X 17.0 T	16.77	25.1	107.4	157.5	2.45	6.3	1.5	4.93	6.99	6.75	.455	.285	1.99	
7	X 6 3/4	X 19.0 T	18.74	28.2	111.0	175.3	2.55	6.2	1.6	5.51	7.05	6.77	.515	.310	2.19	
7	X 8	X 21.5 T	20.94	31.9	111.2	187.9	2.61	5.9	1.7	6.16	6.83	8.00	.530	.305	2.08	
7	X 8	X 24.0 T	23.53	35.8	114.5	208.4	2.71	5.8	1.8	6.92	6.90	8.03	.595	.340	2.35	
8	X 4	X 10.0 I-T	7.19	10.1	87.9	78.3	1.83	7.7	.9	2.11	7.89	3.94	.205	.170	1.34	
8	X 4	X 13.0 I-T	9.52	13.1	97.2	100.6	2.04	7.7	1.0	2.80	7.99	4.00	.255	.230	1.84	
8	X 5 1/2	X 13.0 T	12.83	19.7	111.4	143.8	2.39	7.3	1.3	3.77	7.85	5.50	.345	.250	1.96	
(38T)			PLATE WEIGHT = 30.600 LBS. (.7500 IN.)													

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TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(38T = 28.500 IN.) PLATE WEIGHT = 30.600 LBS. (.7500 IN.) EFFECTIVE PLATE AREA = 21.375 SQ. IN.																
NOMINAL SIZE			SECTION MODULUS						BEAM DIMENSIONS							
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2		
8	X 4	X 15.0	I-T	10.79	15.4	104.7	119.0	2.20	7.7	1.1	3.17	8.11	4.02	.315	.245	1.99
8	X 5 1/2	X 15.5	T	15.28	24.1	119.1	174.4	2.60	7.2	1.5	4.49	7.94	5.53	.440	.275	2.18
8	X 5 1/4	X 18.0	I-T	12.80	18.9	114.0	144.1	2.41	7.6	1.3	3.53	8.14	5.25	.330	.230	1.87
8	X 7	X 18.0	T	17.73	28.9	124.8	203.6	2.77	7.0	1.6	5.22	7.93	6.99	.430	.295	2.34
8	X 7	X 20.0	T	19.79	33.1	129.8	230.9	2.91	7.0	1.8	5.82	8.01	7.00	.505	.305	2.44
8	X 5 1/4	X 21.0	I-T	13.87	22.5	121.6	171.4	2.59	7.6	1.4	4.08	8.28	5.27	.400	.250	2.07
8	X 7	X 22.5	T	22.32	37.0	133.2	255.6	3.02	6.9	1.9	6.56	8.07	7.04	.565	.345	2.78
8	X 6 1/2	X 24.0	I-T	15.11	25.0	121.2	180.1	2.64	7.2	1.5	4.44	7.33	6.50	.400	.245	1.94
8	X 7 1/8	X 25.0	T	24.83	41.1	136.4	280.6	3.13	6.8	2.1	7.30	8.13	7.07	.630	.380	3.09
8	X 6 1/2	X 28.0	I-T	17.69	29.4	127.2	210.2	2.81	7.2	1.7	5.20	8.06	6.54	.465	.285	2.30
8	X 7 1/8	X 28.5	T	28.28	46.6	140.4	314.0	3.25	6.7	2.2	8.32	8.22	7.12	.715	.430	3.53
8	X 8	X 31.0	I-T	19.16	32.7	130.0	228.4	2.91	7.0	1.8	5.63	8.00	8.00	.435	.285	2.28
9	X 6	X 17.5	T	17.26	29.2	137.4	231.1	2.96	7.9	1.7	5.08	8.85	6.00	.425	.300	2.66
9	X 6	X 20.0	T	19.76	34.6	144.4	270.8	3.16	7.8	1.9	5.81	8.95	6.02	.525	.315	2.82
10	X 4	X 12.0	I-T	9.07	14.4	122.0	137.1	2.39	9.5	1.1	2.67	9.87	3.96	.210	.190	1.88
10	X 4	X 15.0	I-T	11.27	18.2	132.6	171.9	2.64	9.4	1.3	3.32	9.99	4.00	.270	.230	2.30
10	X 4	X 17.0	I-T	12.48	21.0	140.6	198.7	2.82	9.4	1.4	3.67	10.11	4.01	.330	.240	2.43
10	X 4	X 19.0	I-T	13.77	24.1	148.1	227.9	2.99	9.5	1.5	4.05	10.24	4.02	.395	.250	2.56
10	X 5 3/4	X 22.0	I-T	15.04	28.5	156.0	263.4	3.20	9.2	1.7	4.42	10.17	5.75	.360	.240	2.44
10	X 5 3/4	X 26.0	I-T	17.37	34.0	164.8	312.6	3.44	9.2	1.9	5.11	10.33	5.77	.440	.260	2.69
10	X 5 3/4	X 30.0	I-T	20.23	39.7	171.5	361.6	3.64	9.1	2.1	5.95	10.47	5.81	.510	.300	3.14
10	X 8	X 33.0	I-T	20.94	41.1	163.1	344.1	3.54	8.4	2.1	6.16	9.73	7.96	.435	.290	2.82
10	X 8	X 39.0	I-T	24.45	49.4	171.5	409.1	3.78	8.3	2.4	7.19	9.92	7.99	.530	.315	3.12
10	X 8	X 45.0	I-T	28.19	57.7	178.4	472.9	3.99	8.2	2.7	8.29	10.10	8.02	.620	.350	3.54

(38T) PLATE WEIGHT = 30.600 LBS. (.7500 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																			
(38T = 28.500 IN.) PLATE WEIGHT = 30.600 LBS. (.7500 IN.) EFFECTIVE PLATE AREA = 21.375 SQ. IN.																			
NOMINAL SIZE			SECTION MODULUS						BEAM DIMENSIONS										
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TH	ASH				
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN	IN2				
12	X	4	X	14.0	I-T	10.98	19.9	159.2	224.1	3.02	11.3	1.4	3.23	11.91	3.97	.225	.200	2.38	
12	X	4	X	16.0	I-T	12.37	22.8	166.4	255.5	3.20	11.2	1.5	3.64	11.99	3.99	.265	.220	2.64	
12	X	4	X	19.0	I-T	14.20	27.7	178.4	309.6	3.48	11.2	1.7	4.18	12.16	4.01	.350	.235	2.86	
12	X	4	X	22.0	I-T	16.33	32.7	187.6	363.3	3.73	11.1	1.9	4.80	12.31	4.03	.425	.260	3.20	
12	X	6	1/2	X	26.0	I-T	17.64	40.2	200.0	434.5	4.04	10.8	2.2	5.19	12.22	6.49	.380	.230	2.81
12	X	6	1/2	X	30.0	I-T	20.27	46.5	206.9	496.9	4.26	10.7	2.4	5.96	12.34	6.52	.440	.260	3.21
12	X	6	1/2	X	35.0	I-T	23.82	54.9	214.8	579.5	4.52	10.6	2.7	7.01	12.50	6.56	.520	.300	3.75
12	X	8	X	40.0	I-T	25.48	59.8	210.6	591.2	4.53	9.9	2.8	7.49	11.94	8.01	.515	.295	3.52	
12	X	8	X	45.0	I-T	28.81	67.3	215.7	657.0	4.69	9.8	3.0	8.47	12.06	8.05	.575	.335	4.04	
12	X	8	1/8	X	50.0	I-T	32.11	75.1	220.9	725.2	4.85	9.7	3.3	9.44	12.19	8.08	.640	.370	4.51
185	12	X	10	X	53.0	I-T	33.01	80.4	222.4	756.5	4.93	9.4	3.4	9.71	12.06	10.00	.575	.345	4.16
185	12	X	10	X	58.0	I-T	35.92	88.8	227.6	826.5	5.09	9.3	3.6	10.56	12.19	10.01	.640	.360	4.39
14	X	5	X	22.0	I-T	16.18	36.3	213.6	449.3	4.15	12.4	2.1	4.76	13.74	5.00	.335	.230	3.16	
14	X	5	X	26.0	I-T	18.87	43.7	224.7	536.6	4.46	12.3	2.4	5.55	13.91	5.03	.420	.255	3.55	
14	X	6	3/4	X	30.0	I-T	21.16	50.9	231.8	608.7	4.70	12.0	2.6	6.22	13.84	6.73	.385	.270	3.74
14	X	6	3/4	X	34.0	I-T	23.54	58.3	240.1	691.2	4.94	11.9	2.9	6.92	13.98	6.75	.455	.285	3.98
14	X	6	3/4	X	38.0	I-T	26.17	65.5	246.3	768.2	5.14	11.7	3.1	7.70	14.10	6.77	.515	.310	4.37
14	X	8	X	43.0	I-T	28.02	72.3	245.0	804.4	5.21	11.1	3.3	8.24	13.66	8.00	.530	.305	4.17	
14	X	8	X	48.0	I-T	31.50	81.3	250.9	892.7	5.40	11.0	3.6	9.26	13.79	8.03	.595	.340	4.69	
16	X	5	1/2	X	26.0	I-T	19.49	48.3	253.8	666.6	4.96	13.8	2.6	5.73	15.69	5.50	.345	.250	3.92
16	X	5	1/2	X	31.0	I-T	22.70	58.4	266.5	796.9	5.33	13.6	3.0	6.68	15.88	5.53	.440	.275	4.37
16	X	7	X	36.0	I-T	25.69	68.5	275.1	910.7	5.61	13.3	3.3	7.56	15.86	6.99	.430	.295	4.68	
16	X	7	X	40.0	I-T	28.09	77.5	283.8	1020.3	5.87	13.2	3.6	8.26	16.01	7.00	.505	.305	4.88	
16	X	7	X	45.0	I-T	31.77	87.1	290.1	1131.2	6.07	13.0	3.9	9.34	16.13	7.04	.565	.345	5.56	
16	X	7	1/8	X	50.0	I-T	35.34	97.0	296.4	1243.4	6.26	12.8	4.2	10.39	16.26	7.07	.630	.380	6.18

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(38T) PLATE WEIGHT = 30.600 LBS. (.7500 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																	
(38T = 28.500 IN.) PLATE WEIGHT = 30.600 LBS. (.7500 IN.) EFFECTIVE PLATE AREA = 21.375 SQ. IN.																	
NOMINAL SIZE			SECTION MODULUS					BEAM DIMENSIONS									
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN2			
16	X 7 1/8	X 57.0	I-T	40.28	110.3	304.4	1390.9	6.47	12.6	4.6	11.85	16.43	7.12	.715	.430	7.06	
16	X 10 1/4	X 67.0	I-T	44.18	133.8	314.7	1603.4	6.83	12.0	5.1	12.99	16.33	10.24	.665	.395	6.45	
16	X 10 1/4	X 77.0	I-T	50.98	153.3	323.4	1796.4	7.03	11.7	5.6	15.00	16.52	10.30	.760	.455	7.52	
16	X 10 3/8	X 89.0	I-T	59.17	176.9	333.6	2022.9	7.22	11.4	6.1	17.40	16.75	10.37	.875	.525	8.79	
18	X 6	X 35.0	I-T	26.29	71.9	302.5	1072.1	6.07	14.9	3.5	7.73	17.70	6.00	.425	.300	5.31	
18	X 6	X 40.0	I-T	29.35	83.9	314.7	1235.0	6.42	14.7	3.9	8.63	17.90	6.02	.525	.315	5.64	
18	X 7 1/2	X 50.0	I-T	35.55	106.2	329.6	1505.2	6.88	14.2	4.6	10.46	17.99	7.50	.570	.355	6.39	
18	X 7 1/2	X 60.0	I-T	42.61	128.1	342.6	1770.4	7.23	13.8	5.2	12.53	18.24	7.56	.695	.415	7.57	
18	X 7 5/8	X 71.0	I-T	50.75	150.5	354.1	2029.9	7.48	13.5	5.7	14.93	18.47	7.64	.810	.495	9.14	
186	18	X 11 1/8	X 86.0	I-T	57.79	188.4	367.3	2383.8	7.88	12.7	6.5	17.00	18.39	11.09	.770	.480	8.83
	18	X 11 1/8	X 97.0	I-T	65.20	212.2	377.1	2626.6	8.05	12.4	7.0	19.18	18.59	11.15	.870	.535	9.95
	18	X 11 1/4	X 106.0	I-T	71.48	230.2	384.4	2805.0	8.13	12.2	7.3	21.02	18.73	11.20	.940	.590	11.05
	18	X 11 1/4	X 119.0	I-T	80.48	258.7	396.0	3085.8	8.28	11.9	7.8	23.67	18.97	11.27	1.060	.655	12.43
21	X 8 1/4	X 62.0	I-T	44.94	149.8	397.6	2364.9	8.27	15.8	5.9	13.22	20.99	8.24	.615	.400	8.40	
21	X 8 1/4	X 68.0	I-T	49.15	164.9	405.8	2565.1	8.46	15.6	6.3	14.46	21.13	8.27	.685	.430	9.09	
21	X 8 1/4	X 73.0	I-T	52.58	176.9	412.1	2721.6	8.60	15.4	6.6	15.47	21.24	8.30	.740	.455	9.66	
21	X 8 3/8	X 83.0	I-T	59.78	199.6	423.0	3008.1	8.79	15.1	7.1	17.58	21.43	8.36	.835	.515	11.04	
21	X 8 3/8	X 93.0	I-T	67.42	222.9	434.1	3294.4	8.94	14.8	7.6	19.83	21.62	8.42	.930	.580	12.54	
21	X 12 1/4	X 101.0	I-T	68.38	252.8	439.7	3548.6	9.25	14.0	8.1	20.11	21.36	12.29	.800	.500	10.68	
21	X 12 3/8	X 111.0	I-T	75.30	276.3	448.7	3806.7	9.35	13.8	8.5	22.15	21.51	12.34	.875	.550	11.83	

(38T) PLATE WEIGHT = 30.600 LBS. (.7500 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(38T = 33.250 IN.) PLATE WEIGHT = 35.700 LBS. (.8750 IN.) EFFECTIVE PLATE AREA = 29.094 SQ. IN.																
NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS								
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
5	X 5	X 19.0	I-T	11.69	13.6	76.9	69.6	1.46	5.1	.9	3.44	5.15	5.03	.430	.270	1.39
6	X 4	X 11.0	T	10.89	13.8	90.8	84.3	1.62	6.1	.9	3.20	6.16	4.03	.425	.260	1.60
6	X 6	X 15.0	I-T	9.78	12.6	85.6	75.3	1.54	6.0	.9	2.88	5.99	5.99	.260	.230	1.38
6	X 4	X 16.0	I-T	10.74	13.7	91.9	85.2	1.63	6.2	.9	3.16	6.28	4.03	.405	.260	1.63
6	X 6	X 20.0	I-T	12.63	17.1	101.0	103.5	1.78	6.1	1.0	3.71	6.20	6.02	.365	.260	1.61
7	X 5	X 11.0	T	10.81	15.3	105.8	103.7	1.79	6.8	1.0	3.18	6.87	5.00	.335	.230	1.58
7	X 5	X 13.0	T	12.85	18.7	115.8	125.9	1.96	6.7	1.1	3.78	6.96	5.03	.420	.255	1.77
7	X 6 3/4	X 15.0	T	14.81	22.2	123.4	146.6	2.09	6.6	1.2	4.36	6.92	6.73	.385	.270	1.87
7	X 6 3/4	X 17.0	T	16.77	25.6	130.6	168.5	2.23	6.6	1.3	4.93	6.99	6.75	.455	.285	1.99
7	X 6 3/4	X 19.0	T	18.74	28.8	136.2	188.3	2.33	6.5	1.4	5.51	7.05	6.77	.515	.310	2.19
7	X 8	X 21.5	T	20.94	32.6	137.6	202.9	2.40	6.2	1.5	6.16	6.83	8.00	.530	.305	2.08
7	X 8	X 24.0	T	23.53	36.5	142.6	226.1	2.51	6.2	1.6	6.92	6.90	8.03	.595	.340	2.35
8	X 4	X 13.0	I-T	9.52	13.4	112.2	105.8	1.82	7.9	.9	2.80	7.99	4.00	.255	.230	1.84
8	X 5 1/2	X 13.0	T	12.83	20.1	132.8	152.1	2.15	7.6	1.1	3.77	7.85	5.50	.345	.250	1.96
8	X 4	X 15.0	I-T	10.79	15.7	122.6	125.4	1.97	8.0	1.0	3.17	8.11	4.02	.315	.245	1.99
8	X 5 1/2	X 15.5	T	15.28	24.6	144.3	185.4	2.35	7.5	1.3	4.49	7.94	5.53	.440	.275	2.18
8	X 5 1/4	X 18.0	I-T	12.00	19.3	135.4	152.1	2.16	7.9	1.1	3.53	8.14	5.25	.330	.230	1.87
8	X 7	X 18.0	T	17.73	29.5	153.0	217.5	2.52	7.4	1.4	5.22	7.93	6.99	.430	.295	2.34
8	X 7	X 20.0	T	19.79	33.7	160.6	247.6	2.66	7.3	1.5	5.82	8.01	7.00	.505	.305	2.44
8	X 5 1/4	X 21.0	I-T	13.87	22.9	146.5	181.5	2.34	7.9	1.2	4.08	8.28	5.27	.400	.250	2.07
8	X 7	X 22.5	T	22.32	37.8	166.0	275.3	2.78	7.3	1.7	6.56	8.07	7.04	.565	.345	2.78
8	X 6 1/2	X 24.0	I-T	15.11	25.5	147.1	191.5	2.39	7.5	1.3	4.44	7.93	6.50	.400	.245	1.94
8	X 7 1/8	X 25.0	T	24.83	42.0	171.0	303.5	2.89	7.2	1.8	7.30	8.13	7.07	.630	.380	3.09
8	X 6 1/2	X 28.0	I-T	17.69	29.9	156.2	224.4	2.56	7.5	1.4	5.20	8.06	6.54	.465	.285	2.30
(38T)				PLATE WEIGHT = 35.700 LBS. (.8750 IN.)												

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TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		

(38T = 33.250 IN.) PLATE WEIGHT = 35.700 LBS. (.8750 IN.) EFFECTIVE PLATE AREA = 29.094 SQ. IN.																		

NOMINAL SIZE			WT/FY	SECTION MODULUS				BEAM DIMENSIONS										
IN X IN X LBS/FT			LBS	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN X IN X LBS/FT			LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2			

8	X	7 1/8	X	28.5	T	28.28	47.6	177.1	341.4	3.02	7.2	1.9	8.32	8.22	7.12	.715	.430	3.53
8	X	8	X	31.0	I-T	19.16	33.3	160.7	244.7	2.65	7.4	1.5	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X	17.5	T	17.26	29.7	168.6	245.9	2.68	8.3	1.5	5.08	8.85	6.00	.425	.300	2.66
9	X	6	X	20.0	T	19.76	35.3	179.0	289.4	2.88	8.2	1.6	5.81	8.95	6.02	.525	.315	2.82
10	X	4	X	12.0	I-T	9.07	14.7	142.0	143.2	2.12	9.7	1.0	2.67	9.87	3.96	.210	.190	1.88
10	X	4	X	15.0	I-T	11.27	18.6	157.4	180.3	2.36	9.7	1.1	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X	17.0	I-T	12.48	21.4	168.6	208.8	2.52	9.7	1.2	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X	19.0	I-T	13.77	24.5	179.4	240.0	2.69	9.8	1.3	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0	I-T	15.04	29.0	191.0	278.2	2.88	9.6	1.5	4.42	10.17	5.75	.360	.240	2.44
10	X	5 3/4	X	26.0	I-T	17.37	34.6	204.0	331.6	3.11	9.6	1.6	5.11	10.33	5.77	.440	.260	2.69
10	X	5 3/4	X	30.0	I-T	20.23	40.4	214.2	385.5	3.32	9.5	1.8	5.95	10.47	5.81	.510	.300	3.14
10	X	8	X	33.0	I-T	20.94	41.8	204.0	368.0	3.23	8.8	1.8	6.16	9.73	7.96	.435	.290	2.82
10	X	8	X	39.0	I-T	24.45	50.3	216.6	440.3	3.48	8.8	2.0	7.19	9.92	7.99	.530	.315	3.12
10	X	8	X	45.0	I-T	28.19	58.7	226.9	512.1	3.70	8.7	2.3	8.29	10.10	8.02	.620	.350	3.54
12	X	4	X	14.0	I-T	10.98	20.3	190.3	234.1	2.69	11.6	1.2	3.23	11.91	3.97	.225	.200	2.38
12	X	4	X	16.0	I-T	12.37	23.2	200.9	267.5	2.86	11.5	1.3	3.64	11.99	3.99	.265	.220	2.64
12	X	4	X	19.0	I-T	14.20	28.2	218.3	325.2	3.13	11.5	1.5	4.18	12.16	4.01	.350	.235	2.86
12	X	4	X	22.0	I-T	16.33	33.2	231.8	383.1	3.36	11.5	1.7	4.80	12.31	4.03	.425	.260	3.20
12	X	6 1/2	X	26.0	I-T	17.64	40.8	249.9	459.7	3.66	11.3	1.8	5.19	12.22	6.49	.380	.230	2.81
12	X	6 1/2	X	30.0	I-T	20.27	47.2	260.4	528.3	3.88	11.2	2.0	5.96	12.34	6.52	.440	.260	3.21
12	X	6 1/2	X	35.0	I-T	23.82	55.8	272.4	619.7	4.14	11.1	2.3	7.01	12.50	6.56	.520	.300	3.75
12	X	8	X	40.0	I-T	25.48	60.8	268.0	635.1	4.17	10.4	2.4	7.49	11.94	8.01	.515	.295	3.52
12	X	8	X	45.0	I-T	28.81	68.5	275.6	709.4	4.35	10.4	2.6	8.47	12.06	8.05	.575	.335	4.04
12	X	8 1/8	X	50.0	I-T	32.11	76.5	283.2	786.7	4.52	10.3	2.8	9.44	12.19	8.08	.640	.370	4.51

(38T) PLATE WEIGHT = 35.700 LBS. (.8750 IN.)																		

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T															
(38T = 33.250 IN.) PLATE WEIGHT = 35.700 LBS. (.8750 IN.) EFFECTIVE PLATE AREA = 29.094 SQ. IN.															
NOMINAL SIZE			SECTION MODULUS								BEAM DIMENSIONS				
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TH	ASH
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
12	X 10	X 53.0 I-T	33.01	81.8	286.0	822.8	4.60	10.1	2.9	9.71	12.06	10.00	.575	.345	4.16
12	X 10	X 58.0 I-T	35.92	90.4	293.4	902.9	4.77	10.0	3.1	10.56	12.19	10.01	.640	.360	4.39
14	X 5	X 22.0 I-T	16.18	36.8	265.5	472.9	3.74	12.8	1.8	4.76	13.74	5.00	.335	.230	3.16
14	X 5	X 26.0 I-T	18.87	44.4	282.0	567.5	4.05	12.8	2.0	5.55	13.91	5.03	.420	.255	3.55
14	X 6 3/4	X 30.0 I-T	21.16	51.7	292.8	646.5	4.28	12.5	2.2	6.22	13.84	6.73	.385	.270	3.74
14	X 6 3/4	X 34.0 I-T	23.54	59.3	305.0	737.3	4.52	12.4	2.4	6.92	13.98	6.75	.455	.285	3.98
14	X 6 3/4	X 38.0 I-T	26.17	66.6	314.3	822.8	4.73	12.4	2.6	7.70	14.10	6.77	.515	.310	4.37
14	X 8	X 43.0 I-T	28.02	73.5	313.8	865.5	4.81	11.8	2.8	8.24	13.66	8.00	.530	.305	4.17
14	X 8	X 48.0 I-T	31.50	82.7	322.2	965.3	5.02	11.7	3.0	9.26	13.79	8.03	.595	.340	4.69
16	X 5 1/2	X 26.0 I-T	19.49	49.0	320.1	704.3	4.50	14.4	2.2	5.73	15.69	5.50	.345	.250	3.92
16	X 5 1/2	X 31.0 I-T	22.70	59.4	338.7	846.6	4.86	14.3	2.5	6.68	15.88	5.53	.440	.275	4.37
16	X 7	X 36.0 I-T	25.69	69.6	351.3	972.5	5.15	14.0	2.8	7.56	15.86	6.99	.430	.295	4.68
16	X 7	X 40.0 I-T	28.09	78.8	364.0	1094.0	5.41	13.9	3.0	8.26	16.01	7.00	.505	.305	4.88
16	X 7	X 45.0 I-T	31.77	88.7	372.8	1219.0	5.63	13.7	3.3	9.34	16.13	7.04	.565	.345	5.56
16	X 7 1/8	X 50.0 I-T	35.34	98.9	381.7	1346.0	5.84	13.6	3.5	10.39	16.26	7.07	.630	.380	6.18
16	X 7 1/8	X 57.0 I-T	40.28	112.6	392.4	1514.3	6.08	13.4	3.9	11.85	16.43	7.12	.715	.430	7.06
16	X 10 1/4	X 67.0 I-T	44.18	136.4	408.0	1758.7	6.46	12.9	4.3	12.99	16.33	10.24	.665	.395	6.45
16	X 10 1/4	X 77.0 I-T	50.98	156.7	419.2	1983.7	6.71	12.7	4.7	15.00	16.52	10.30	.760	.455	7.52
16	X 10 3/8	X 89.0 I-T	59.17	181.1	432.1	2249.4	6.96	12.4	5.2	17.40	16.75	10.37	.875	.525	8.79
18	X 6	X 35.0 I-T	26.29	73.2	386.8	1143.4	5.57	15.6	3.0	7.73	17.70	6.00	.425	.300	5.31
18	X 6	X 40.0 I-T	29.35	85.4	404.2	1323.4	5.92	15.5	3.3	8.63	17.90	6.02	.525	.315	5.64
18	X 7 1/2	X 50.0 I-T	35.55	108.2	425.2	1627.5	6.41	15.0	3.8	10.46	17.99	7.50	.570	.355	6.39
18	X 7 1/2	X 60.0 I-T	42.61	130.8	442.6	1930.0	6.81	14.8	4.4	12.53	18.24	7.56	.695	.415	7.57
18	X 7 5/8	X 71.0 I-T	50.75	154.1	457.1	2229.6	7.12	14.5	4.9	14.93	18.47	7.64	.810	.495	9.14

(38T) PLATE WEIGHT = 35.700 LBS. (.8750 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T															

(38T = 33.250 IN.) PLATE WEIGHT = 35.700 LBS. (.8750 IN.) EFFECTIVE PLATE AREA = 29.094 SQ. IN.															
NOMINAL SIZE		WT/FT	SECTION MODULUS				BEAM DIMENSIONS								
			FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X IN X LBS/FT		LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
18	X 11 1/8 X 86.0	I-T	57.79	192.8	476.2	2643.5	7.57	13.7	5.6	17.00	18.39	11.09	.770	.400	8.83
18	X 11 1/8 X 97.0	I-T	65.20	217.5	488.3	2929.2	7.79	13.5	6.0	19.18	18.59	11.15	.870	.535	9.95
18	X 11 1/4 X 106.0	I-T	71.48	236.4	496.9	3140.1	7.92	13.3	6.3	21.02	18.73	11.20	.940	.590	11.05
18	X 11 1/4 X 119.0	I-T	80.48	266.1	510.8	3472.3	8.11	13.0	6.8	23.67	18.97	11.27	1.060	.655	12.43
21	X 8 1/4 X 62.0	I-T	44.94	153.0	514.3	2578.4	7.81	16.9	5.0	13.22	20.99	8.24	.615	.400	8.40
21	X 8 1/4 X 68.0	I-T	49.15	168.6	524.9	2808.3	8.03	16.7	5.4	14.46	21.13	8.27	.685	.430	9.09
21	X 8 1/4 X 73.0	I-T	52.58	181.1	532.8	2988.9	8.19	16.5	5.6	15.47	21.24	8.30	.740	.455	9.66
21	X 8 3/8 X 83.0	I-T	59.78	204.8	546.1	3321.7	8.44	16.2	6.1	17.58	21.43	8.36	.835	.515	11.04
21	X 8 3/8 X 93.0	I-T	67.42	229.1	559.1	3655.7	8.64	16.0	6.5	19.83	21.62	8.42	.930	.580	12.54
21	X 12 1/4 X 101.0	I-T	68.38	259.0	569.4	3958.6	8.97	15.3	7.0	20.11	21.36	12.29	.800	.500	10.68
21	X 12 3/8 X 111.0	I-T	75.30	283.6	579.9	4263.8	9.12	15.0	7.4	22.15	21.51	12.34	.875	.550	11.83

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(38T) PLATE WEIGHT = 35.700 LBS. (.8750 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																			
(38T = 38.000 IN.) PLATE WEIGHT = 40.800 LBS. (1.0000 IN.) EFFECTIVE PLATE AREA = 38.000 SQ. IN.																			
NOMINAL SIZE			SECTION MODULUS					BEAM DIMENSIONS											
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH				
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN	IN	IN	IN	IN2				
7	X	5	X	13.0	T	12.85	19.1	130.4	132.6	1.78	6.9	1.0	3.78	6.96	5.03	.420	.255	1.77	
7	X	6	3/4	X	15.0	T	14.81	22.7	140.7	154.7	1.91	6.8	1.1	4.36	6.92	6.73	.385	.270	1.87
7	X	6	3/4	X	17.0	T	16.77	26.2	150.6	178.1	2.04	6.8	1.2	4.93	6.99	6.75	.455	.285	1.99
7	X	6	3/4	X	19.0	T	18.74	29.4	158.4	199.5	2.14	6.8	1.3	5.51	7.05	6.77	.515	.310	2.19
7	X	8	X	21.5	T	20.94	33.2	161.4	215.8	2.21	6.5	1.3	6.16	6.83	8.00	.530	.305	2.08	
7	X	8	X	24.0	T	23.53	37.3	168.7	241.2	2.32	6.5	1.4	6.92	6.90	8.03	.595	.340	2.35	
8	X	5	1/2	X	13.0	T	12.83	20.5	150.2	159.6	1.95	7.8	1.1	3.77	7.85	5.50	.345	.250	1.96
8	X	5	1/2	X	15.5	T	15.28	25.1	165.7	194.9	2.14	7.8	1.2	4.49	7.94	5.53	.440	.275	2.18
8	X	5	1/4	X	18.0	I-T	12.00	19.7	152.6	159.3	1.96	8.1	1.0	3.53	8.14	5.25	.330	.230	1.87
8	X	7	X	18.0	T	17.73	30.0	178.0	229.4	2.30	7.6	1.3	5.22	7.93	6.99	.430	.295	2.34	
8	X	7	X	20.0	T	19.79	34.3	188.6	261.7	2.44	7.6	1.4	5.82	8.01	7.00	.505	.305	2.44	
8	X	5	1/4	X	21.0	I-T	13.87	23.4	167.3	190.3	2.13	8.1	1.1	4.08	8.28	5.27	.400	.250	2.07
8	X	7	X	22.5	T	22.32	38.5	196.4	291.9	2.56	7.6	1.5	6.56	8.07	7.04	.565	.345	2.78	
8	X	6	1/2	X	24.0	I-T	15.11	26.0	169.3	201.3	2.18	7.7	1.2	4.44	7.93	6.50	.400	.245	1.94
8	X	7	1/8	X	25.0	T	24.83	42.8	203.7	322.8	2.67	7.5	1.6	7.30	8.13	7.07	.630	.380	3.09
8	X	6	1/2	X	28.0	I-T	17.69	30.5	181.9	236.6	2.34	7.8	1.3	5.20	8.06	6.54	.465	.285	2.30
8	X	7	1/8	X	28.5	T	28.28	48.6	212.5	364.5	2.81	7.5	1.7	8.32	8.22	7.12	.715	.430	3.53
8	X	8	X	31.0	I-T	19.16	33.9	188.4	258.5	2.43	7.6	1.4	5.63	8.00	8.00	.435	.285	2.28	
9	X	6	X	17.5	T	17.26	30.3	196.2	258.4	2.45	8.5	1.3	5.08	8.85	6.00	.425	.300	2.66	
9	X	6	X	20.0	T	19.76	35.9	210.7	305.1	2.64	8.5	1.4	5.81	8.95	6.02	.525	.315	2.82	
10	X	4	X	15.0	I-T	11.27	18.9	177.1	187.8	2.13	9.9	1.1	3.32	9.99	4.00	.270	.230	2.30	
10	X	4	X	17.0	I-T	12.48	21.8	191.7	217.6	2.29	10.0	1.1	3.67	10.11	4.01	.330	.240	2.43	
10	X	4	X	19.0	I-T	13.77	25.0	206.0	250.4	2.44	10.0	1.2	4.05	10.24	4.02	.395	.250	2.56	
10	X	5	3/4	X	22.0	I-T	15.04	29.5	221.6	290.7	2.62	9.9	1.3	4.42	10.17	5.75	.360	.240	2.44

(38T) PLATE WEIGHT = 40.800 LBS. (1.0000 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																	
(38T = 38.000 IN.) PLATE WEIGHT = 40.800 LBS. (1.0000 IN.) EFFECTIVE PLATE AREA = 38.000 SQ. IN.																	
NOMINAL SIZE				WT/FT	SECTION MODULUS				BEAM DIMENSIONS								
					FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	IN X	LBS/FT	LBS	IN ³	IN ³	IN ⁴	IN	IN	IN	IN	IN ²	IN	IN	IN	IN ²	
10	X	5 3/4	X 26.0	I-T	17.37	35.2	239.6	347.3	2.84	9.9	1.4	5.11	10.33	5.77	.440	.260	2.69
10	X	5 3/4	X 30.0	I-T	20.23	41.0	254.0	405.2	3.04	9.9	1.6	5.95	10.47	5.81	.510	.300	3.14
10	X	8	X 33.0	I-T	20.94	42.5	242.5	387.8	2.96	9.1	1.6	6.16	9.73	7.96	.435	.290	2.82
10	X	8	X 39.0	I-T	24.45	51.0	260.1	465.9	3.21	9.1	1.8	7.19	9.92	7.99	.530	.315	3.12
10	X	8	X 45.0	I-T	28.19	59.7	274.7	544.3	3.43	9.1	2.0	8.29	10.10	8.02	.620	.350	3.54
12	X	4	X 14.0	I-T	10.98	20.6	215.6	242.7	2.43	11.8	1.1	3.23	11.91	3.97	.225	.200	2.38
12	X	4	X 16.0	I-T	12.37	23.6	229.9	277.7	2.58	11.8	1.2	3.64	11.99	3.99	.265	.220	2.64
12	X	4	X 19.0	I-T	14.20	28.6	253.1	338.3	2.83	11.8	1.3	4.18	12.16	4.01	.350	.235	2.86
12	X	4	X 22.0	I-T	16.33	33.7	271.9	399.4	3.05	11.8	1.5	4.80	12.31	4.03	.425	.260	3.20
12	X	6 1/2	X 26.0	I-T	17.64	41.4	296.4	480.2	3.33	11.6	1.6	5.19	12.22	6.49	.380	.230	2.81
12	X	6 1/2	X 30.0	I-T	20.27	47.9	311.5	553.6	3.55	11.6	1.8	5.96	12.34	6.52	.440	.260	3.21
12	X	6 1/2	X 35.0	I-T	23.82	56.6	328.7	652.2	3.81	11.5	2.0	7.01	12.50	6.56	.520	.300	3.75
12	X	8	X 40.0	I-T	25.48	61.7	324.8	670.5	3.84	10.9	2.1	7.49	11.94	8.01	.515	.295	3.52
12	X	8	X 45.0	I-T	28.81	69.5	335.9	751.8	4.02	10.8	2.2	8.47	12.06	8.05	.575	.335	4.04
12	X	8 1/8	X 50.0	I-T	32.11	77.6	346.7	836.7	4.20	10.8	2.4	9.44	12.19	8.08	.640	.370	4.51
12	X	10	X 53.0	I-T	33.01	83.0	351.1	876.7	4.29	10.6	2.5	9.71	12.06	10.00	.575	.345	4.16
12	X	10	X 58.0	I-T	35.92	91.7	361.6	965.1	4.46	10.5	2.7	10.56	12.19	10.01	.640	.360	4.39
14	X	5	X 22.0	I-T	16.18	37.4	313.2	492.0	3.39	13.2	1.6	4.76	13.74	5.00	.335	.230	3.16
14	X	5	X 26.0	I-T	18.87	45.0	336.5	592.3	3.69	13.1	1.8	5.55	13.91	5.03	.420	.255	3.55
14	X	6 3/4	X 30.0	I-T	21.16	52.4	352.1	676.9	3.91	12.9	1.9	6.22	13.84	6.73	.385	.270	3.74
14	X	6 3/4	X 34.0	I-T	23.54	60.1	369.2	774.2	4.15	12.9	2.1	6.92	13.98	6.75	.455	.285	3.98
14	X	6 3/4	X 38.0	I-T	26.17	67.5	382.4	866.6	4.35	12.8	2.3	7.70	14.10	6.77	.515	.310	4.37
14	X	8	X 43.0	I-T	28.02	74.5	383.4	914.5	4.45	12.3	2.4	8.24	13.66	8.00	.530	.305	4.17
14	X	8	X 48.0	I-T	31.50	83.9	395.6	1023.8	4.65	12.2	2.6	9.26	13.79	8.03	.595	.340	4.69

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MIL-HDBK-264 (SH)
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(38T) PLATE WEIGHT = 40.800 LBS. (1.0000 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																	
(38T = 38.000 IN.) PLATE WEIGHT = 40.800 LBS. (1.0000 IN.) EFFECTIVE PLATE AREA = 38.000 SQ. IN.																	
NOMINAL SIZE			SECTION MODULUS					BEAM DIMENSIONS									
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X IN X LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2			
16	X	5 1/2 X	26.0	I-T	19.49	49.7	384.1	734.3	4.10	14.8	1.9	5.73	15.69	5.50	.345	.250	3.92
16	X	5 1/2 X	31.0	I-T	22.70	60.2	410.1	886.1	4.45	14.7	2.2	6.68	15.88	5.53	.440	.275	4.37
16	X	7 X	36.0	I-T	25.69	70.6	428.3	1021.7	4.74	14.5	2.4	7.56	15.86	6.99	.430	.295	4.68
16	X	7 X	40.0	I-T	28.09	79.9	445.9	1152.6	4.99	14.4	2.6	8.26	16.01	7.00	.535	.305	4.88
16	X	7 X	45.0	I-T	31.77	90.0	458.5	1289.2	5.22	14.3	2.8	9.34	16.13	7.04	.565	.345	5.56
16	X	7 1/8 X	50.0	I-T	35.34	100.4	470.9	1428.7	5.43	14.2	3.0	10.39	16.26	7.07	.630	.380	6.18
16	X	7 1/8 X	57.0	I-T	40.28	114.5	485.6	1614.7	5.69	14.1	3.3	11.85	16.43	7.12	.715	.430	7.06
16	X	10 1/4 X	67.0	I-T	44.18	138.5	507.8	1885.6	6.08	13.6	3.7	12.99	16.33	10.24	.665	.395	6.45
16	X	10 1/4 X	77.0	I-T	50.98	159.3	522.8	2138.7	6.35	13.4	4.1	15.00	16.52	10.30	.760	.455	7.52
16	X	10 3/8 X	89.0	I-T	59.17	184.4	539.6	2439.7	6.64	13.2	4.5	17.40	16.75	10.37	.875	.525	8.79
18	X	6 X	35.0	I-T	26.29	74.2	472.7	1199.8	5.12	16.2	2.5	7.73	17.70	6.00	.425	.300	5.31
18	X	6 X	40.0	I-T	29.35	86.6	496.6	1393.7	5.47	16.1	2.8	8.63	17.90	6.02	.525	.315	5.64
18	X	7 1/2 X	50.0	I-T	35.55	109.8	526.0	1725.5	5.97	15.7	3.3	10.46	17.99	7.50	.570	.355	6.39
18	X	7 1/2 X	60.0	I-T	42.61	132.9	549.6	2059.6	6.38	15.5	3.7	12.53	18.24	7.56	.695	.415	7.57
18	X	7 5/8 X	71.0	I-T	50.75	156.9	568.7	2394.5	6.73	15.3	4.2	14.93	18.47	7.64	.810	.495	9.14
18	X	11 1/8 X	86.0	I-T	57.79	196.1	595.3	2860.4	7.21	14.6	4.8	17.00	18.39	11.09	.770	.480	8.83
18	X	11 1/8 X	97.0	I-T	65.20	221.6	610.7	3185.4	7.46	14.4	5.2	19.18	18.59	11.15	.870	.535	9.95
18	X	11 1/4 X	106.0	I-T	71.48	241.1	621.2	3426.8	7.62	14.2	5.5	21.02	18.73	11.20	.940	.590	11.05
18	X	11 1/4 X	119.0	I-T	80.48	271.9	638.3	3807.7	7.86	14.0	6.0	23.67	18.97	11.27	1.060	.655	12.43
21	X	8 1/4 X	62.0	I-T	44.94	155.5	640.5	2751.8	7.33	17.7	4.3	13.22	20.99	8.24	.615	.400	8.40
21	X	8 1/4 X	68.0	I-T	49.15	171.5	654.4	3007.4	7.57	17.5	4.6	14.46	21.13	8.27	.685	.430	9.09
21	X	8 1/4 X	73.0	I-T	52.58	184.3	664.6	3209.3	7.75	17.4	4.8	15.47	21.24	8.30	.740	.455	9.66
21	X	8 3/8 X	83.0	I-T	59.76	208.7	681.3	3584.0	8.03	17.2	5.3	17.58	21.43	8.36	.835	.515	11.04
21	X	8 3/8 X	93.0	I-T	67.42	233.9	697.2	3962.0	8.28	16.9	5.7	19.83	21.62	8.42	.930	.580	12.54
21	X	12 1/4 X	101.0	I-T	68.38	263.8	713.2	4306.2	8.61	16.3	6.0	20.11	21.36	12.29	.800	.500	10.68
21	X	12 3/8 X	111.0	I-T	75.30	289.3	725.9	4655.9	8.80	16.1	6.4	22.15	21.51	12.34	.875	.550	11.83

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MIL-HDBK-264 (SH)
30 September 1980

(38T) PLATE WEIGHT = 40.800 LBS. (1.0000 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		

(38T = 42.750 IN.) PLATE WEIGHT = 45.900 LBS. (1.1250 IN.) EFFECTIVE PLATE AREA = 48.094 SQ. IN.																		

NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS										
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH				
IN X IN X LBS/FT		LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2			

7	X	6 3/4	X	19.0	T	18.74	30.0	177.0	209.9	1.98	7.0	1.2	5.51	7.05	6.77	.515	.310	2.19
7	X	8	X	21.5	T	20.94	33.9	182.0	227.6	2.05	6.7	1.3	6.16	6.83	8.00	.530	.305	2.08
7	X	8	X	24.0	T	23.53	38.1	191.7	254.8	2.15	6.7	1.3	6.92	6.90	8.03	.595	.340	2.35
8	X	7	X	18.0	T	17.73	30.6	198.9	240.2	2.12	7.8	1.2	5.22	7.93	6.99	.430	.295	2.34
8	X	7	X	20.0	T	19.79	35.0	212.6	274.4	2.26	7.8	1.3	5.82	8.01	7.00	.505	.305	2.44
8	X	7	X	22.5	T	22.32	39.2	223.2	306.7	2.37	7.8	1.4	6.56	8.07	7.04	.565	.345	2.78
8	X	7 1/8	X	25.0	T	24.83	43.6	233.0	339.8	2.48	7.8	1.5	7.30	8.13	7.07	.630	.380	3.09
8	X	6 1/2	X	28.0	I-T	17.69	31.1	203.4	247.7	2.16	8.0	1.2	5.20	8.06	6.54	.465	.285	2.30
8	X	7 1/8	X	28.5	T	28.28	49.5	245.1	384.7	2.61	7.8	1.6	8.32	8.22	7.12	.715	.430	3.53
8	X	8	X	31.0	I-T	19.16	34.5	212.1	270.9	2.25	7.8	1.3	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X	17.5	T	17.26	30.9	219.2	269.8	2.25	8.7	1.2	5.08	8.85	6.00	.425	.300	2.66
9	X	6	X	20.0	T	19.76	36.5	238.2	319.0	2.43	8.7	1.3	5.81	8.95	6.02	.525	.315	2.82
10	X	4	X	19.0	I-T	13.77	25.4	227.2	260.0	2.23	10.2	1.1	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0	I-T	15.04	30.0	246.8	301.9	2.40	10.1	1.2	4.42	10.17	5.75	.360	.240	2.44
10	X	5 3/4	X	26.0	I-T	17.37	35.7	270.0	361.3	2.61	10.1	1.3	5.11	10.33	5.77	.440	.260	2.69
10	X	5 3/4	X	30.0	I-T	20.23	41.7	289.3	422.3	2.80	10.1	1.5	5.95	10.47	5.81	.510	.300	3.14
10	X	8	X	33.0	I-T	20.94	43.1	276.6	405.0	2.73	9.4	1.5	6.16	9.73	7.96	.435	.290	2.82
10	X	8	X	39.0	I-T	24.45	51.8	300.1	488.0	2.97	9.4	1.6	7.19	9.92	7.99	.530	.315	3.12
10	X	8	X	45.0	I-T	28.19	60.6	319.8	571.7	3.18	9.4	1.8	8.29	10.10	8.02	.620	.350	3.54
12	X	4	X	16.0	I-T	12.37	24.0	252.6	287.2	2.36	12.0	1.1	3.64	11.99	3.99	.265	.220	2.64
12	X	4	X	19.0	I-T	14.20	29.1	281.7	350.0	2.59	12.0	1.2	4.18	12.16	4.01	.350	.235	2.86
12	X	4	X	22.0	I-T	16.33	34.2	305.9	413.7	2.80	12.1	1.4	4.80	12.31	4.03	.425	.260	3.20
12	X	6 1/2	X	26.0	I-T	17.64	42.0	337.2	497.9	3.06	11.9	1.5	5.19	12.22	6.49	.380	.230	2.81

(38T) PLATE WEIGHT = 45.900 LBS. (1.1250 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(38T = 42.750 IN.) PLATE WEIGHT = 45.900 LBS. (1.1250 IN.) EFFECTIVE PLATE AREA = 48.094 SQ. IN.																		
NOMINAL SIZE		SECTION MODULUS								BEAM DIMENSIONS								
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH				
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2			
12	X	6 1/2	X	30.0	I-T	20.27	48.5	357.6	575.2	3.26	11.9	1.6	5.96	12.34	6.52	.440	.260	3.21
12	X	6 1/2	X	35.0	I-T	23.82	57.4	381.2	679.5	3.51	11.8	1.8	7.01	12.50	6.56	.520	.300	3.75
12	X	8	X	40.0	I-T	25.48	62.5	378.4	700.4	3.55	11.2	1.9	7.49	11.94	8.01	.515	.295	3.52
12	X	8	X	45.0	I-T	28.81	70.4	393.7	787.4	3.73	11.2	2.0	8.47	12.06	8.05	.575	.335	4.04
12	X	8 1/8	X	50.0	I-T	32.11	78.7	408.5	878.6	3.91	11.2	2.2	9.44	12.19	8.08	.640	.370	4.51
12	X	10	X	53.0	I-T	33.01	84.1	415.0	921.7	3.99	11.0	2.2	9.71	12.06	10.00	.575	.345	4.16
12	X	10	X	58.0	I-T	35.92	92.9	429.3	1017.2	4.16	10.9	2.4	10.56	12.19	10.01	.640	.360	4.39
14	X	5	X	22.0	I-T	16.18	37.9	354.5	508.5	3.10	13.4	1.4	4.76	13.74	5.00	.335	.230	3.16
14	X	5	X	26.0	I-T	18.87	45.6	385.2	613.4	3.38	13.4	1.6	5.55	13.91	5.03	.420	.255	3.55
14	X	6 3/4	X	30.0	I-T	21.16	53.1	406.5	702.4	3.60	13.2	1.7	6.22	13.84	6.73	.385	.270	3.74
14	X	6 3/4	X	34.0	I-T	23.54	60.8	429.5	804.9	3.82	13.2	1.9	6.92	13.98	6.75	.455	.285	3.98
14	X	6 3/4	X	38.0	I-T	26.17	68.4	447.5	903.0	4.02	13.2	2.0	7.70	14.10	6.77	.515	.310	4.37
14	X	8	X	43.0	I-T	28.02	75.4	450.8	955.1	4.12	12.7	2.1	8.24	13.66	8.00	.530	.305	4.17
14	X	8	X	48.0	I-T	31.50	85.0	467.6	1072.3	4.32	12.6	2.3	9.26	13.79	8.03	.595	.340	4.69
16	X	5 1/2	X	26.0	I-T	19.49	50.3	442.5	759.5	3.76	15.1	1.7	5.73	15.69	5.50	.345	.250	3.92
16	X	5 1/2	X	31.0	I-T	22.70	60.9	477.4	918.9	4.10	15.1	1.9	6.68	15.88	5.53	.440	.275	4.37
16	X	7	X	36.0	I-T	25.69	71.4	502.4	1062.3	4.37	14.9	2.1	7.56	15.86	6.99	.430	.295	4.68
16	X	7	X	40.0	I-T	28.09	80.9	525.9	1200.8	4.62	14.9	2.3	8.26	16.01	7.00	.505	.305	4.88
16	X	7	X	45.0	I-T	31.77	91.2	543.6	1347.1	4.84	14.8	2.5	9.34	16.13	7.04	.565	.345	5.56
16	X	7 1/8	X	50.0	I-T	35.34	101.7	560.5	1496.8	5.06	14.7	2.7	10.39	16.26	7.07	.630	.380	6.18
16	X	7 1/8	X	57.0	I-T	40.28	116.0	580.5	1697.8	5.32	14.6	2.9	11.85	16.43	7.12	.715	.430	7.06
16	X	10 1/4	X	67.0	I-T	44.18	140.2	611.0	1990.6	5.71	14.2	3.3	12.99	16.33	10.24	.665	.395	6.45
16	X	10 1/4	X	77.0	I-T	50.98	161.4	631.2	2268.1	6.00	14.1	3.6	15.00	16.52	10.30	.760	.455	7.52
16	X	10 3/8	X	89.0	I-T	59.17	187.1	653.2	2600.2	6.30	13.9	4.0	17.40	16.75	10.37	.875	.525	8.79

(38T) PLATE WEIGHT = 45.900 LBS. (1.1250 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(38T = 42.750 IN.) PLATE WEIGHT = 45.900 LBS. (1.1250 IN.) EFFECTIVE PLATE AREA = 48.094 SQ. IN.																
NOMINAL SIZE		WT/FT	SECTION MODULUS				BEAM DIMENSIONS									
			FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TM	ASH		
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
18	X 6	X 35.0	I-T	26.29	75.1	556.1	1246.1	4.72	16.6	2.2	7.73	17.70	6.00	.425	.300	5.31
18	X 6	X 40.0	I-T	29.35	87.6	587.9	1451.1	5.06	16.6	2.5	8.63	17.90	6.02	.525	.315	5.64
18	X 7 1/2	X 50.0	I-T	35.55	111.2	628.2	1805.9	5.55	16.2	2.9	10.46	17.99	7.50	.570	.355	6.39
18	X 7 1/2	X 60.0	I-T	42.61	134.7	660.1	2166.5	5.98	16.1	3.3	12.53	18.24	7.56	.695	.415	7.57
18	X 7 5/8	X 71.0	I-T	50.75	159.2	685.5	2531.9	6.34	15.9	3.7	14.93	18.47	7.64	.810	.495	9.14
18	X 11 1/8	X 86.0	I-T	57.79	198.9	721.6	3042.3	6.84	15.3	4.2	17.00	18.39	11.09	.770	.480	8.83
18	X 11 1/8	X 97.0	I-T	65.20	224.9	741.5	3402.2	7.11	15.1	4.6	19.18	18.59	11.15	.870	.535	9.95
18	X 11 1/4	X 106.0	I-T	71.48	244.9	754.6	3671.5	7.29	15.0	4.9	21.02	18.73	11.20	.940	.590	11.05
18	X 11 1/4	X 119.0	I-T	80.48	276.5	776.0	4097.0	7.56	14.8	5.3	23.67	18.97	11.27	1.060	.655	12.43
196	X 8 1/4	X 62.0	I-T	44.94	157.6	772.3	2894.3	6.87	18.4	3.7	13.22	20.99	8.24	.615	.400	8.40
21	X 8 1/4	X 68.0	I-T	49.15	173.9	790.7	3172.1	7.12	18.2	4.0	14.46	21.13	8.27	.685	.430	9.09
21	X 8 1/4	X 73.0	I-T	52.58	186.9	804.0	3392.3	7.31	18.1	4.2	15.47	21.24	8.30	.740	.455	9.66
21	X 8 3/8	X 83.0	I-T	59.78	211.9	825.4	3803.8	7.61	17.9	4.6	17.58	21.43	8.36	.835	.515	11.04
21	X 8 3/8	X 93.0	I-T	67.42	237.8	845.4	4221.3	7.88	17.8	5.0	19.83	21.62	8.42	.930	.580	12.54
21	X 12 1/4	X 101.0	I-T	68.38	267.7	868.1	4600.3	8.21	17.2	5.3	20.11	21.36	12.29	.800	.500	10.68
21	X 12 3/8	X 111.0	I-T	75.30	293.8	883.9	4990.6	8.43	17.0	5.6	22.15	21.51	12.34	.875	.550	11.83

(38T) PLATE WEIGHT = 45.900 LBS. (1.1250 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(38T = 47.500 IN.) PLATE WEIGHT = 51.000 LBS. (1.2500 IN.) EFFECTIVE PLATE AREA = 59.375 SQ. IN.																
NOMINAL SIZE						SECTION MODULUS						BEAM DIMENSIONS				
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF
IN X	IN X	LBS/FT														
IN X	IN X	LBS/FT	T	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
7	X 8	X 24.0	T	23.53	38.9	211.1	267.7	2.01	6.9	1.3	6.92	6.90	8.03	.595	.340	2.35
8	X 7	X 22.5	T	22.32	40.0	245.8	320.5	2.20	8.0	1.3	6.56	8.07	7.04	.565	.345	2.78
8	X 7 1/8	X 25.0	T	24.83	44.4	258.4	355.5	2.31	8.0	1.4	7.30	8.13	7.07	.630	.380	3.09
8	X 7 1/8	X 28.5	T	28.28	50.4	273.8	403.1	2.44	8.0	1.5	8.32	8.22	7.12	.715	.430	3.53
9	X 6	X 20.0	T	19.76	37.2	260.9	332.1	2.26	8.9	1.3	5.81	8.95	6.02	.525	.315	2.82
10	X 5 3/4	X 26.0	I-T	17.37	36.3	294.8	374.3	2.41	10.3	1.3	5.11	10.33	5.77	.440	.260	2.69
10	X 5 3/4	X 30.0	I-T	20.23	42.3	319.0	438.0	2.59	10.3	1.4	5.95	10.47	5.81	.510	.300	3.14
10	X 8	X 33.0	I-T	20.94	43.8	305.5	420.9	2.53	9.6	1.4	6.16	9.73	7.96	.435	.290	2.82
10	X 8	X 39.0	I-T	24.45	52.6	335.2	507.8	2.76	9.7	1.5	7.19	9.92	7.99	.530	.315	3.12
10	X 8	X 45.0	I-T	28.19	61.5	360.5	596.0	2.97	9.7	1.7	8.29	10.10	8.02	.620	.350	3.54
12	X 4	X 22.0	I-T	16.33	34.8	333.4	427.0	2.58	12.3	1.3	4.80	12.31	4.03	.425	.260	3.20
12	X 6 1/2	X 26.0	I-T	17.64	42.5	371.2	513.9	2.82	12.1	1.4	5.19	12.22	6.49	.380	.230	2.81
12	X 6 1/2	X 30.0	I-T	20.27	49.2	397.4	594.5	3.02	12.1	1.5	5.96	12.34	6.52	.440	.260	3.21
12	X 6 1/2	X 35.0	I-T	23.82	58.1	428.0	703.7	3.26	12.1	1.6	7.01	12.50	6.56	.520	.300	3.75
12	X 8	X 40.0	I-T	25.48	63.3	426.6	726.6	3.30	11.5	1.7	7.49	11.94	8.01	.515	.295	3.52
12	X 8	X 45.0	I-T	28.81	71.3	446.9	818.4	3.47	11.5	1.8	8.47	12.06	8.05	.575	.335	4.04
12	X 8 1/8	X 50.0	I-T	32.11	79.7	466.5	914.9	3.65	11.5	2.0	9.44	12.19	8.08	.640	.370	4.51
12	X 10	X 53.0	I-T	33.01	85.1	475.2	960.7	3.73	11.3	2.0	9.71	12.06	10.00	.575	.345	4.16
12	X 10	X 58.0	I-T	35.92	94.1	494.0	1062.0	3.90	11.3	2.2	10.56	12.19	10.01	.640	.360	4.39
14	X 5	X 22.0	I-T	16.18	38.4	388.4	523.6	2.86	13.6	1.3	4.76	13.74	5.00	.335	.230	3.16
14	X 5	X 26.0	I-T	18.87	46.2	426.9	632.3	3.12	13.7	1.5	5.55	13.91	5.03	.420	.255	3.55
14	X 6 3/4	X 30.0	I-T	21.16	53.7	454.2	724.9	3.32	13.5	1.6	6.22	13.84	6.73	.385	.270	3.74
(38T)				PLATE WEIGHT = 51.000 LBS. (1.2500 IN.)												

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TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(38T = 47.500 IN.) PLATE WEIGHT = 51.000 LBS. (1.2500 IN.) EFFECTIVE PLATE AREA = 59.375 SQ. IN.																
NOMINAL SIZE		WT/FT	SECTION MODULUS				BEAM DIMENSIONS									
			FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	LBS/FT	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2	
14	X 6 3/4	X 34.0	I-T	23.54	61.6	483.6	831.8	3.54	13.5	1.7	6.92	13.98	6.75	.455	.285	3.98
14	X 6 3/4	X 38.0	I-T	26.17	69.2	507.2	934.6	3.73	13.5	1.8	7.70	14.10	6.77	.515	.310	4.37
14	X 8	X 43.0	I-T	28.02	76.3	513.2	990.2	3.83	13.0	1.9	8.24	13.66	6.00	.530	.305	4.17
14	X 8	X 48.0	I-T	31.50	86.0	535.6	1114.0	4.03	13.0	2.1	9.26	13.79	6.03	.595	.340	4.69
16	X 5 1/2	X 26.0	I-T	19.49	50.9	493.4	781.7	3.46	15.4	1.6	5.73	15.69	5.50	.345	.250	3.92
16	X 5 1/2	X 31.0	I-T	22.70	61.6	538.0	947.3	3.79	15.4	1.8	6.68	15.88	5.53	.440	.275	4.37
16	X 7	X 36.0	I-T	25.69	72.2	570.7	1097.1	4.05	15.2	1.9	7.56	15.86	6.99	.430	.295	4.68
16	X 7	X 40.0	I-T	28.09	81.7	601.1	1242.0	4.29	15.2	2.1	8.26	16.01	7.00	.505	.305	4.88
16	X 7	X 45.0	I-T	31.77	92.2	624.8	1396.3	4.51	15.1	2.2	9.34	16.13	7.04	.565	.345	5.56
16	X 7 1/8	X 50.0	I-T	35.34	102.9	647.4	1554.7	4.72	15.1	2.4	10.39	16.26	7.07	.630	.380	6.18
16	X 7 1/8	X 57.0	I-T	40.28	117.4	674.0	1768.2	4.98	15.1	2.6	11.85	16.43	7.12	.715	.430	7.06
16	X 10 1/4	X 67.0	I-T	44.18	141.8	714.2	2079.4	5.36	14.7	2.9	12.99	16.33	10.24	.665	.395	6.45
16	X 10 1/4	X 77.0	I-T	50.98	163.3	741.0	2377.8	5.65	14.6	3.2	15.00	16.52	10.30	.760	.455	7.52
16	X 10 3/8	X 89.0	I-T	59.17	189.5	769.9	2737.8	5.97	14.4	3.6	17.40	16.75	10.37	.875	.525	8.79
18	X 6	X 35.0	I-T	26.29	76.0	633.8	1285.6	4.38	16.9	2.0	7.73	17.70	6.00	.425	.300	5.31
18	X 6	X 40.0	I-T	29.35	88.6	674.8	1499.8	4.70	16.9	2.2	8.63	17.90	6.02	.525	.315	5.64
18	X 7 1/2	X 50.0	I-T	35.55	112.4	728.1	1873.5	5.18	16.7	2.6	10.46	17.99	7.50	.570	.355	6.39
18	X 7 1/2	X 60.0	I-T	42.61	136.3	770.5	2256.6	5.60	16.6	2.9	12.53	18.24	7.56	.695	.415	7.57
18	X 7 5/8	X 71.0	I-T	50.75	161.2	804.2	2648.1	5.97	16.4	3.3	14.93	18.47	7.64	.810	.495	9.14
18	X 11 1/8	X 86.0	I-T	57.79	201.2	851.7	3196.4	6.47	15.9	3.8	17.00	18.39	11.09	.770	.480	8.83
18	X 11 1/8	X 97.0	I-T	65.20	227.7	877.5	3587.1	6.76	15.8	4.1	19.18	18.59	11.15	.870	.535	9.95
18	X 11 1/4	X 106.0	I-T	71.48	248.2	894.1	3881.3	6.95	15.6	4.3	21.02	18.73	11.20	.940	.590	11.05
18	X 11 1/4	X 119.0	I-T	80.48	280.4	921.1	4347.0	7.23	15.5	4.7	23.67	18.97	11.27	1.060	.655	12.43
21	X 8 1/4	X 62.0	I-T	44.94	159.3	906.0	3013.7	6.44	18.9	3.3	13.22	20.99	8.24	.615	.400	8.40
21	X 8 1/4	X 68.0	I-T	49.15	175.9	929.9	3310.2	6.70	18.8	3.6	14.46	21.13	8.27	.685	.430	9.09

(38T) PLATE WEIGHT = 51.000 LBS. (1.2500 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																			

(38T = 47.500 IN.) PLATE WEIGHT = 51.000 LBS. (1.2500 IN.) EFFECTIVE PLATE AREA = 59.375 SQ. IN.																			
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS											
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN X IN X LBS/FT				LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN	IN2			

21	X	8	1/4	X	73.0	I-T	52.58	189.2	947.3	3546.1	6.88	18.7	3.7	15.47	21.24	8.30	.740	.455	9.66
21	X	8	3/8	X	83.0	I-T	59.78	214.6	975.0	3989.7	7.20	18.6	4.1	17.58	21.43	8.36	.835	.515	11.04
21	X	8	3/8	X	93.0	I-T	67.42	241.0	1000.4	4442.1	7.49	18.4	4.4	19.83	21.62	8.42	.930	.580	12.54
21	X	12	1/4	X	101.0	I-T	68.38	270.9	1030.8	4850.4	7.81	17.9	4.7	20.11	21.36	12.29	.800	.500	10.68
21	X	12	3/8	X	111.0	I-T	75.30	297.5	1050.7	5277.1	8.05	17.7	5.0	22.15	21.51	12.34	.875	.550	11.83

(38T) PLATE WEIGHT = 51.000 LBS. (1.2500 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(38T = 52.250 IN.) PLATE WEIGHT = 56.100 LBS. (1.3750 IN.) EFFECTIVE PLATE AREA = 71.844 SQ. IN.																
NOMINAL SIZE		WT/FT	SECTION MODULUS				BEAM DIMENSIONS									
			FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	LBS/FT	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN	IN2
8	X 7 1/8	X 26.5	T	26.28	51.4	298.5	420.7	2.29	8.2	1.4	8.32	8.22	7.12	.715	.430	3.53
10	X 8	X 39.0	I-T	24.45	53.4	364.9	526.5	2.58	9.9	1.4	7.19	9.92	7.99	.530	.315	3.12
10	X 8	X 45.0	I-T	28.19	62.4	395.9	618.6	2.78	9.9	1.6	8.29	10.10	8.02	.620	.350	3.54
12	X 6 1/2	X 30.0	I-T	20.27	49.8	430.3	612.6	2.81	12.3	1.4	5.96	12.34	6.52	.440	.260	3.21
12	X 6 1/2	X 35.0	I-T	23.82	58.9	468.0	725.9	3.03	12.3	1.6	7.01	12.50	6.56	.520	.300	3.75
12	X 8	X 40.0	I-T	25.48	64.1	468.5	750.6	3.08	11.7	1.6	7.49	11.94	8.01	.515	.295	3.52
12	X 8	X 45.0	I-T	28.81	72.2	494.1	846.5	3.25	11.7	1.7	8.47	12.06	8.05	.575	.335	4.04
12	X 8 1/8	X 50.0	I-T	32.11	80.7	518.9	947.5	3.41	11.7	1.8	9.44	12.19	8.08	.640	.370	4.51
12	X 10	X 53.0	I-T	33.01	86.1	530.1	995.5	3.49	11.6	1.9	9.71	12.06	10.00	.575	.345	4.16
12	X 10	X 58.0	I-T	35.92	95.2	553.8	1101.9	3.66	11.6	2.0	10.56	12.19	10.01	.640	.360	4.39
14	X 5	X 26.0	I-T	18.87	46.8	460.9	650.0	2.90	13.9	1.4	5.55	13.91	5.03	.420	.255	3.55
14	X 6 3/4	X 30.0	I-T	21.16	54.4	494.4	745.7	3.09	13.7	1.5	6.22	13.84	6.73	.385	.270	3.74
14	X 6 3/4	X 34.0	I-T	23.54	62.3	530.3	856.3	3.30	13.7	1.6	6.92	13.98	6.75	.455	.285	3.98
14	X 6 3/4	X 38.0	I-T	26.17	70.0	559.8	963.0	3.48	13.8	1.7	7.70	14.10	6.77	.515	.310	4.37
14	X 8	X 43.0	I-T	28.02	77.2	569.1	1021.7	3.57	13.2	1.8	8.24	13.66	8.00	.530	.305	4.17
14	X 8	X 48.0	I-T	31.50	86.9	597.7	1151.0	3.77	13.2	1.9	9.26	13.79	8.03	.595	.340	4.69
16	X 5 1/2	X 26.0	I-T	19.49	51.5	535.7	802.1	3.22	15.6	1.5	5.73	15.69	5.50	.345	.250	3.92
16	X 5 1/2	X 31.0	I-T	22.70	62.3	590.3	973.0	3.52	15.6	1.6	6.68	15.88	5.53	.440	.275	4.37
16	X 7	X 36.8	I-T	25.69	73.0	631.4	1128.3	3.77	15.4	1.8	7.56	15.86	6.99	.430	.295	4.68
16	X 7	X 40.0	I-T	28.09	82.6	669.0	1278.4	3.99	15.5	1.9	8.26	16.01	7.00	.505	.305	4.88
16	X 7	X 45.0	I-T	31.77	93.2	699.7	1439.5	4.21	15.4	2.1	9.34	16.13	7.04	.565	.345	5.56
16	X 7 1/8	X 50.0	I-T	35.34	104.0	728.8	1605.2	4.42	15.4	2.2	10.39	16.26	7.07	.630	.380	6.18

(38T) PLATE WEIGHT = 56.100 LBS. (1.3750 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(38T = 52.250 IN.) PLATE WEIGHT = 56.100 LBS. (1.3750 IN.) EFFECTIVE PLATE AREA = 71.844 SQ. IN.																		
NOMINAL SIZE			SECTION MODULUS					BEAM DIMENSIONS										
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN X IN X LBS/FT			LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN2				
16	X	7 1/8	X	57.0	I-T	40.28	118.7	763.3	1829.5	4.68	15.4	2.4	11.85	16.43	7.12	.715	.430	7.06
16	X	10 1/4	X	67.0	I-T	44.18	143.2	814.4	2156.2	5.04	15.1	2.6	12.99	16.33	10.24	.665	.395	6.45
16	X	10 1/4	X	77.0	I-T	50.98	165.0	849.4	2472.6	5.34	15.0	2.9	15.00	16.52	10.30	.760	.455	7.52
16	X	10 3/8	X	89.0	I-T	59.17	191.6	886.6	2855.4	5.66	14.9	3.2	17.40	16.75	10.37	.875	.525	8.79
18	X	6	X	35.0	I-T	26.29	76.8	703.5	1320.6	4.07	17.2	1.9	7.73	17.70	6.00	.425	.300	5.31
18	X	6	X	40.0	I-T	29.35	89.5	754.5	1542.4	4.38	17.2	2.0	8.63	17.90	6.02	.525	.315	5.64
18	X	7 1/2	X	50.0	I-T	35.55	113.5	822.7	1932.1	4.85	17.0	2.3	10.46	17.99	7.50	.570	.355	6.39
18	X	7 1/2	X	60.0	I-T	42.61	137.7	877.5	2334.2	5.26	17.0	2.7	12.53	18.24	7.56	.695	.415	7.57
18	X	7 5/8	X	71.0	I-T	50.75	163.0	921.3	2748.3	5.63	16.9	3.0	14.93	18.47	7.64	.810	.495	9.14
18	X	11 1/8	X	86.0	I-T	57.79	203.3	982.5	3329.1	6.12	16.4	3.4	17.00	18.39	11.09	.770	.480	8.83
18	X	11 1/8	X	97.0	I-T	65.20	230.2	1015.6	3746.6	6.42	16.3	3.7	19.18	18.59	11.15	.870	.535	9.95
18	X	11 1/4	X	106.0	I-T	71.48	251.0	1036.8	4062.9	6.61	16.2	3.9	21.02	18.73	11.20	.940	.590	11.05
18	X	11 1/4	X	119.0	I-T	80.48	283.8	1070.7	4564.4	6.91	16.1	4.3	23.67	18.97	11.27	1.060	.655	12.43
21	X	8 1/4	X	62.0	I-T	44.94	160.9	1037.6	3115.6	6.05	19.4	3.0	13.22	20.99	8.24	.615	.400	8.40
21	X	8 1/4	X	68.0	I-T	49.15	177.7	1068.5	3428.2	6.30	19.3	3.2	14.46	21.13	8.27	.685	.430	9.09
21	X	8 1/4	X	73.0	I-T	52.58	191.1	1090.8	3677.7	6.49	19.2	3.4	15.47	21.24	8.30	.740	.455	9.66
21	X	8 3/8	X	83.0	I-T	59.78	217.0	1126.5	4149.1	6.81	19.1	3.7	17.58	21.43	8.36	.835	.515	11.04
21	X	8 3/8	X	93.0	I-T	67.42	243.8	1158.8	4632.2	7.11	19.0	4.0	19.83	21.62	8.42	.930	.580	12.54
21	X	12 1/4	X	101.0	I-T	68.38	273.7	1198.0	5065.1	7.42	18.5	4.2	20.11	21.36	12.29	.800	.500	10.68
21	X	12 3/8	X	111.0	I-T	75.30	300.7	1223.2	5524.1	7.67	18.4	4.5	22.15	21.51	12.34	.875	.550	11.83

(38T) PLATE WEIGHT = 56.100 LBS. (1.3750 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(38T = 57.000 IN.) PLATE WEIGHT = 61.200 LBS. (1.5000 IN.) EFFECTIVE PLATE AREA = 85.500 SQ. IN.																
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS								
IN X IN X LBS/FT				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
				LBS	IN3	IN3	IN4	IN	IN	IN2	IN	IN	IN	IN	IN2	
10	X	8	X 45.0 I-T	28.19	63.4	426.0	640.3	2.61	10.1	1.5	8.29	10.10	8.02	.620	.350	3.54
12	X	8	X 40.0 I-T	25.48	65.0	503.7	773.4	2.88	11.9	1.5	7.49	11.94	8.01	.515	.295	3.52
12	X	8	X 45.0 I-T	28.81	73.2	534.6	872.9	3.05	11.9	1.6	8.47	12.06	8.05	.575	.335	4.04
12	X	8 1/8	X 50.0 I-T	32.11	81.8	564.9	977.9	3.21	12.0	1.7	9.44	12.19	8.08	.640	.370	4.51
12	X	10	X 53.0 I-T	33.01	87.2	578.7	1027.7	3.29	11.8	1.8	9.71	12.06	10.00	.575	.345	4.16
12	X	10	X 58.0 I-T	35.92	96.3	607.5	1138.4	3.44	11.8	1.9	10.56	12.19	10.01	.640	.360	4.39
14	X	6 3/4	X 34.0 I-T	23.54	63.1	569.3	879.5	3.08	13.9	1.5	6.92	13.98	6.75	.455	.285	3.98
14	X	6 3/4	X 38.0 I-T	26.17	70.9	604.6	989.6	3.26	14.0	1.6	7.70	14.10	6.77	.515	.310	4.37
14	X	8	X 43.0 I-T	28.02	78.1	617.4	1050.8	3.35	13.5	1.7	8.24	13.66	8.00	.530	.305	4.17
14	X	8	X 48.0 I-T	31.50	87.9	652.5	1155.0	3.54	13.5	1.8	9.26	13.79	8.03	.595	.340	4.69
16	X	5 1/2	X 31.0 I-T	22.70	63.1	634.0	997.2	3.29	15.8	1.6	6.68	15.88	5.53	.440	.275	4.37
16	X	7	X 36.0 I-T	25.69	73.9	683.4	1157.1	3.53	15.7	1.7	7.56	15.86	6.99	.430	.295	4.68
16	X	7	X 40.0 I-T	28.09	83.5	728.5	1311.8	3.74	15.7	1.8	8.26	16.01	7.00	.505	.305	4.88
16	X	7	X 45.0 I-T	31.77	94.2	766.7	1478.7	3.95	15.7	1.9	9.34	16.13	7.04	.565	.345	5.56
16	X	7 1/8	X 50.0 I-T	35.34	105.1	802.9	1650.7	4.15	15.7	2.1	10.39	16.26	7.07	.630	.380	6.18
16	X	7 1/8	X 57.0 I-T	40.28	120.0	846.0	1884.2	4.40	15.7	2.2	11.85	16.43	7.12	.715	.430	7.06
16	X	10 1/4	X 67.0 I-T	44.18	144.6	909.1	2224.1	4.75	15.4	2.4	12.99	16.33	10.24	.665	.395	6.45
16	X	10 1/4	X 77.0 I-T	50.98	166.6	953.6	2556.3	5.04	15.3	2.7	15.00	16.52	10.30	.760	.455	7.52
16	X	10 3/8	X 89.0 I-T	59.17	193.5	1000.7	2959.6	5.36	15.3	3.0	17.40	16.75	10.37	.875	.525	8.79
18	X	6	X 35.0 I-T	26.29	77.6	764.0	1352.7	3.81	17.4	1.8	7.73	17.70	6.00	.425	.300	5.31
18	X	6	X 40.0 I-T	29.35	90.4	825.4	1581.1	4.10	17.5	1.9	8.63	17.90	6.02	.525	.315	5.64
18	X	7 1/2	X 50.0 I-T	35.55	114.6	909.7	1984.4	4.55	17.3	2.2	10.46	17.99	7.50	.570	.355	6.39
18	X	7 1/2	X 60.0 I-T	42.61	139.0	978.5	2402.9	4.95	17.3	2.5	12.53	18.24	7.56	.695	.415	7.57
18	X	7 5/8	X 71.0 I-T	50.75	164.6	1034.2	2836.4	5.31	17.2	2.7	14.93	18.47	7.64	.810	.495	9.14

(38T) PLATE WEIGHT = 61.200 LBS. (1.5000 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T														
(38T = 57.000 IN.) PLATE WEIGHT = 61.200 LBS. (1.5000 IN.) EFFECTIVE PLATE AREA = 85.500 SQ. IN.														
NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS						
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
18	X 11 1/8 X 86.0 I-T	57.79	205.2	1110.9	3445.2	5.80	16.8	3.1	17.00	18.39	11.09	.770	.480	8.83
18	X 11 1/8 X 97.0 I-T	65.20	232.5	1152.7	3886.2	6.09	16.7	3.4	19.18	18.59	11.15	.870	.535	9.95
18	X 11 1/4 X 106.0 I-T	71.48	253.6	1179.6	4222.0	6.30	16.7	3.6	21.02	18.73	11.20	.940	.590	11.05
18	X 11 1/4 X 119.0 I-T	80.48	286.8	1221.9	4755.3	6.60	16.6	3.9	23.67	18.97	11.27	1.060	.655	12.43
21	X 8 1/4 X 62.0 I-T	44.94	162.4	1164.0	3204.8	5.70	19.7	2.8	13.22	20.99	8.24	.615	.400	8.40
21	X 8 1/4 X 68.0 I-T	49.15	179.3	1202.9	3531.2	5.94	19.7	2.9	14.46	21.13	8.27	.685	.430	9.09
21	X 8 1/4 X 73.0 I-T	52.58	192.9	1231.0	3792.4	6.13	19.7	3.1	15.47	21.24	8.30	.740	.455	9.66
21	X 8 3/8 X 83.0 I-T	59.78	219.1	1275.3	4287.9	6.45	19.6	3.4	17.58	21.43	8.36	.835	.515	11.04
21	X 8 3/8 X 93.0 I-T	67.42	246.3	1317.2	4798.0	6.75	19.5	3.6	19.83	21.62	8.42	.930	.580	12.54
21	X 12 1/4 X 101.0 I-T	68.38	276.2	1366.0	5251.9	7.05	19.0	3.8	20.11	21.36	12.29	.800	.500	10.68
21	X 12 3/8 X 111.0 I-T	75.30	303.6	1397.9	5739.4	7.30	18.9	4.1	22.15	21.51	12.34	.875	.550	11.83

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(38T) PLATE WEIGHT = 61.200 LBS. (1.5000 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(38T = 66.500 IN.) PLATE WEIGHT = 71.400 LBS. (1.7500 IN.) EFFECTIVE PLATE AREA = 116.375 SQ. IN.																
NOMINAL SIZE			SECTION MODULUS					BEAM DIMENSIONS								
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2		
16	X 7	X 45.0	I-T	31.77	96.3	874.4	1550.7	3.51	16.1	1.8	9.34	16.13	7.04	.565	.345	5.56
16	X 7 1/8	X 50.0	I-T	35.34	107.4	925.2	1733.1	3.70	16.1	1.9	10.39	16.26	7.07	.630	.380	6.18
16	X 7 1/8	X 57.0	I-T	40.28	122.5	986.9	1981.8	3.93	16.2	2.0	11.85	16.43	7.12	.715	.430	7.06
16	X 10 1/4	X 67.0	I-T	44.18	147.4	1075.3	2343.2	4.26	15.9	2.2	12.99	16.33	10.24	.665	.395	6.45
16	X 10 1/4	X 77.0	I-T	50.98	169.8	1141.5	2701.2	4.53	15.9	2.4	15.00	16.52	10.30	.760	.455	7.52
16	X 10 3/8	X 83.0	I-T	59.17	197.3	1212.2	3138.6	4.84	15.9	2.6	17.40	16.75	10.37	.875	.525	8.79
18	X 6	X 40.0	I-T	29.35	92.3	937.9	1652.0	3.64	17.9	1.8	8.63	17.90	6.02	.525	.315	5.64
18	X 7 1/2	X 50.0	I-T	35.55	116.9	1055.6	2077.6	4.05	17.8	2.0	10.46	17.99	7.50	.570	.355	6.39
18	X 7 1/2	X 60.0	I-T	42.61	141.7	1154.9	2522.8	4.42	17.8	2.2	12.53	18.24	7.56	.695	.415	7.57
18	X 7 5/8	X 71.0	I-T	50.75	167.8	1238.3	2988.4	4.77	17.8	2.4	14.93	18.47	7.64	.810	.495	9.14
18	X 11 1/8	X 86.0	I-T	57.79	208.9	1350.2	3642.9	5.23	17.4	2.7	17.00	18.39	11.09	.770	.480	8.83
18	X 11 1/8	X 97.0	I-T	65.20	236.6	1413.4	4122.9	5.52	17.4	2.9	19.18	18.59	11.15	.870	.535	9.95
18	X 11 1/4	X 106.0	I-T	71.48	258.2	1454.7	4491.4	5.72	17.4	3.1	21.02	18.73	11.20	.940	.590	11.05
18	X 11 1/4	X 119.0	I-T	80.48	292.3	1518.0	5078.1	6.02	17.4	3.3	23.67	18.97	11.27	1.060	.655	12.43
21	X 8 1/4	X 62.0	I-T	44.94	165.2	1391.0	3357.4	5.09	20.3	2.4	13.22	20.99	8.24	.615	.400	8.40
21	X 8 1/4	X 68.0	I-T	49.15	182.4	1448.5	3706.3	5.32	20.3	2.6	14.46	21.13	8.27	.685	.430	9.09
21	X 8 1/4	X 73.0	I-T	52.58	196.2	1490.6	3986.6	5.50	20.3	2.7	15.47	21.24	8.30	.740	.455	9.66
21	X 8 3/8	X 83.0	I-T	59.78	223.0	1559.6	4522.1	5.81	20.3	2.9	17.58	21.43	8.36	.835	.515	11.04
21	X 8 3/8	X 93.0	I-T	67.42	250.8	1621.9	5076.7	6.11	20.2	3.1	19.83	21.62	8.42	.930	.580	12.54
21	X 12 1/4	X 101.0	I-T	68.38	280.7	1692.3	5564.3	6.39	19.8	3.3	20.11	21.36	12.29	.800	.500	10.68
21	X 12 3/8	X 111.0	I-T	75.30	308.7	1741.3	6099.4	6.64	19.8	3.5	22.15	21.51	12.34	.875	.550	11.83

(38T) PLATE WEIGHT = 71.400 LBS. (1.7500 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(38T = 76.000 IN.) PLATE WEIGHT = 81.600 LBS. (2.0000 IN.) EFFECTIVE PLATE AREA = 152.000 SQ. IN.																
NOMINAL SIZE			WT/FT	SECTION MODULUS				BEAM DIMENSIONS								
				FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2		
16	X 10 1/4 X	67.0	I-T	44.18	150.4	1205.8	2450.7	3.85	16.3	2.0	12.99	16.33	10.24	.665	.395	6.45
16	X 10 1/4 X	77.0	I-T	50.98	173.2	1295.2	2829.3	4.12	16.3	2.2	15.00	16.52	10.30	.760	.455	7.52
16	X 10 3/8 X	89.0	I-T	59.17	201.1	1391.9	3294.0	4.41	16.4	2.4	17.40	16.75	10.37	.875	.525	8.79
18	X 7 1/2 X	60.0	I-T	42.61	144.5	1292.5	2630.8	4.00	18.2	2.0	12.53	18.24	7.56	.695	.415	7.57
18	X 7 5/8 X	71.0	I-T	50.75	171.1	1405.5	3121.8	4.32	18.2	2.2	14.93	18.47	7.64	.810	.495	9.14
18	X 11 1/8 X	86.0	I-T	57.79	212.5	1555.2	3812.2	4.75	17.9	2.5	17.00	18.39	11.09	.770	.400	8.83
18	X 11 1/8 X	97.0	I-T	65.20	240.7	1643.1	4323.2	5.03	18.0	2.6	19.18	18.59	11.15	.870	.535	9.95
18	X 11 1/4 X	106.0	I-T	71.48	262.7	1701.9	4717.9	5.22	18.0	2.8	21.02	18.73	11.20	.940	.590	11.05
18	X 11 1/4 X	119.0	I-T	80.48	297.4	1790.8	5347.6	5.52	18.0	3.0	23.67	18.97	11.27	1.060	.655	12.43
21	X 8 1/4 X	62.0	I-T	44.94	168.0	1574.5	3490.6	4.60	20.8	2.2	13.22	20.99	8.24	.615	.400	8.40
21	X 8 1/4 X	68.0	I-T	49.15	185.5	1652.5	3857.2	4.81	20.8	2.3	14.46	21.13	8.27	.685	.430	9.09
21	X 8 1/4 X	73.0	I-T	52.58	199.5	1710.1	4152.4	4.98	20.8	2.4	15.47	21.24	8.30	.740	.455	9.66
21	X 8 3/8 X	83.0	I-T	59.78	226.7	1806.7	4719.4	5.28	20.8	2.6	17.58	21.43	8.36	.835	.515	11.04
21	X 8 3/8 X	93.0	I-T	67.42	255.0	1894.9	5309.5	5.56	20.8	2.8	19.83	21.62	8.42	.930	.580	12.54
21	X 12 1/4 X	101.0	I-T	68.38	285.0	1988.5	5822.8	5.82	20.4	2.9	20.11	21.36	12.29	.800	.500	10.68
21	X 12 3/8 X	111.0	I-T	75.30	313.5	2059.1	6395.8	6.06	20.4	3.1	22.15	21.51	12.34	.875	.550	11.83

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(38T) PLATE WEIGHT = 81.600 LBS. (2.0000 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T															
(38T = 85.500 IN.) PLATE WEIGHT = 91.800 LBS. (2.2500 IN.) EFFECTIVE PLATE AREA = 192.375 SQ. IN.															
NOMINAL SIZE		HT/FT	SECTION MODULUS				BEAM DIMENSIONS								
			FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
18	X 11 1/8 X	86.0 I-T	57.79	216.4	1720.3	3967.9	4.35	18.3	2.3	17.00	18.39	11.09	.770	.480	8.83
18	X 11 1/8 X	97.0 I-T	65.20	245.0	1833.9	4504.4	4.61	18.4	2.5	19.18	18.59	11.15	.870	.535	9.95
18	X 11 1/4 X	106.0 I-T	71.48	267.3	1911.5	4920.6	4.80	18.4	2.6	21.02	18.73	11.20	.940	.590	11.05
18	X 11 1/4 X	119.0 I-T	80.48	302.5	2028.4	5585.6	5.08	18.5	2.8	23.67	18.97	11.27	1.060	.655	12.43
21	X 8 1/4 X	73.0 I-T	52.58	203.0	1883.9	4304.9	4.55	21.2	2.3	15.47	21.24	8.30	.740	.455	9.66
21	X 8 3/8 X	83.0 I-T	59.78	230.6	2009.1	4897.5	4.83	21.2	2.4	17.58	21.43	8.36	.835	.515	11.04
21	X 8 3/8 X	93.0 I-T	67.42	259.3	2125.2	5516.6	5.10	21.3	2.6	19.83	21.62	8.42	.930	.580	12.54
21	X 12 1/4 X	101.0 I-T	68.38	289.3	2242.0	6050.3	5.34	20.9	2.7	20.11	21.36	12.29	.800	.500	10.68
21	X 12 3/8 X	111.0 I-T	75.30	318.2	2336.7	6654.2	5.57	20.9	2.8	22.15	21.51	12.34	.875	.550	11.83

(38T) PLATE WEIGHT = 91.800 LBS. (2.2500 IN.)

TABLE X. Properties of combined beam and plate, I-T and T (38t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T														
(38T = 95.000 IN.) PLATE WEIGHT = 102.000 LBS. (2.5000 IN.) EFFECTIVE PLATE AREA = 237.500 SQ. IN.														
NOMINAL SIZE		WT/FT	SECTION MODULUS					BEAM DIMENSIONS						
			FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	LBS/FT	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
18	X 11 1/4 X	119.0 I-T	80.48	307.9	2226.3	5807.5	4.72	18.9	2.6	23.67	18.97	11.27	1.060	.655 12.43
21	X 12 1/4 X	101.0 I-T	68.38	294.0	2448.4	6262.4	4.93	21.3	2.6	20.11	21.36	12.29	.800	.500 10.68
21	X 12 3/8 X	111.0 I-T	75.30	323.2	2568.0	6892.2	5.15	21.3	2.7	22.15	21.51	12.34	.875	.550 11.83

(38T) PLATE WEIGHT = 102.000 LBS. (2.5000 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t).

PROPERTIES OF COMBINED BEAM AND PLATE T-T AND T																	
(35T = 4.375 IN.) PLATE WEIGHT = 5.100 LBS. (.1250 IN.) EFFECTIVE PLATE AREA = .547 SQ. IN.																	
NOMINAL SIZE			WT/FT	SECTION MODULUS				BEAM DIMENSIONS									
				FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN	IN2
4	X 4	X 5.0 T	4.91	3.2	2.6	5.8	1.71	1.8	2.3	1.44	3.95	3.94	.205	.170	.67		
5	X 4	X 6.0 T	5.88	4.3	3.5	9.7	2.07	2.3	2.8	1.73	4.94	3.96	.210	.190	.94		
6	X 4	X 7.0 T	6.94	5.7	4.5	15.3	2.44	2.7	3.4	2.04	5.96	3.97	.225	.200	1.19		
6	X 4	X 9.0 I-T	6.17	5.3	4.2	14.2	2.46	2.7	3.4	1.81	5.90	3.94	.215	.170	1.00		
8	X 4	X 10.0 I-T	7.19	7.4	6.2	26.9	3.18	3.7	4.4	2.11	7.89	3.94	.205	.170	1.34		
10	X 4	X 12.0 I-T	9.07	10.2	8.7	47.0	3.82	4.6	5.4	2.67	9.87	3.96	.210	.190	1.88		
12	X 4	X 14.0 I-T	10.98	13.8	11.7	76.2	4.49	5.5	6.5	3.23	11.91	3.97	.225	.200	2.38		

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(35T) PLATE WEIGHT = 5.100 LBS. (.1250 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
0 (35T = 5.469 IN.) PLATE WEIGHT = 6.375 LBS. (.1563 IN.) EFFECTIVE PLATE AREA = .854 SQ. IN.																		
NOMINAL SIZE						SECTION MODULUS				BEAM DIMENSIONS								
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN	X	IN	X	LBS/FT	T	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
4	X	4	X	5.0	T	4.91	3.4	3.6	7.1	1.76	2.1	2.0	1.44	3.95	3.94	.205	.170	.67
5	X	4	X	6.0	T	5.88	4.6	4.7	11.9	2.14	2.6	2.5	1.73	4.94	3.96	.210	.190	.94
6	X	4	X	7.0	T	6.94	6.1	6.0	18.5	2.53	3.0	3.1	2.04	5.96	3.97	.225	.200	1.19
6	X	4	X	9.0	I-T	6.17	5.7	5.8	17.3	2.54	3.1	3.0	1.81	5.90	3.94	.215	.170	1.00
8	X	4	X	10.0	I-T	7.19	7.8	8.1	32.1	3.29	4.1	3.9	2.11	7.89	3.94	.205	.170	1.34
10	X	4	X	12.0	I-T	9.07	10.9	11.1	55.1	3.96	5.1	5.0	2.67	9.87	3.96	.210	.190	1.88
12	X	4	X	14.0	I-T	10.98	14.7	14.6	88.2	4.65	6.0	6.1	3.23	11.91	3.97	.225	.200	2.38

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(35T) PLATE WEIGHT = 6.375 LBS. (.1563 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE T-T AND T																		
(35T = 6.563 IN.) PLATE WEIGHT = 7.650 LBS. (.1875 IN.) EFFECTIVE PLATE AREA = 1.230 SQ. IN.																		
NOMINAL SIZE						SECTION MODULUS						BEAM DIMENSIONS						
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	O	WF	TF	TW	ASH
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	TN	IN2	IN	IN	IN	IN	TN	IN2	
4	X	4	X	5.0	T	4.91	3.5	4.8	8.4	1.77	2.4	1.8	1.44	3.95	3.94	.205	.170	.67
5	X	4	X	6.0	T	5.88	4.8	6.2	13.9	2.16	2.9	2.2	1.73	4.94	3.96	.210	.190	.94
6	X	4	X	7.0	T	6.94	6.4	7.8	21.6	2.57	3.4	2.8	2.04	5.96	3.97	.225	.200	1.19
6	X	4	X	9.0	I-T	6.17	5.9	7.6	20.2	2.57	3.4	2.7	1.81	5.90	3.94	.215	.170	1.00
8	X	4	X	10.0	I-T	7.19	8.2	10.5	37.3	3.34	4.5	3.5	2.11	7.89	3.94	.205	.170	1.34
10	X	4	X	12.0	I-T	9.07	11.4	14.0	63.4	4.03	5.5	4.5	2.67	9.87	3.96	.210	.190	1.88
12	X	4	X	14.0	I-T	10.98	15.5	18.0	100.8	4.75	6.5	5.6	3.23	11.91	3.97	.225	.200	2.38

(35T) PLATE WEIGHT = 7.650 LBS. (.1875 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(35T = 7.656 IN.) PLATE WEIGHT = 8.925 LBS. (.2188 IN.) EFFECTIVE PLATE AREA = 1.675 SQ. IN.																		
NOMINAL SIZE						SECTION MODULUS							BEAM DIMENSIONS					
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TM	ASH
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN	IN2	
4	X 4	X 5.0 T	4.91	3.6	6.2	9.5	1.75	2.6	1.5	1.44	3.95	3.94	.205	.170	.67			
5	X 4	X 6.0 T	5.88	4.9	8.0	15.7	2.15	3.2	2.0	1.73	4.94	3.96	.210	.190	.94			
6	X 4	X 7.0 T	6.94	6.6	9.9	24.5	2.57	3.7	2.5	2.04	5.96	3.97	.225	.200	1.19			
6	X 4	X 9.0 I-T	6.17	6.1	9.7	22.9	2.56	3.8	2.4	1.81	5.90	3.94	.215	.170	1.00			
8	X 4	X 10.0 I-T	7.19	8.5	13.3	42.1	3.33	5.0	3.2	2.11	7.89	3.94	.205	.170	1.34			
10	X 4	X 12.0 I-T	9.07	11.9	17.5	71.4	4.06	6.0	4.1	2.67	9.87	3.96	.210	.190	1.88			
12	X 4	X 14.0 I-T	10.98	16.1	22.1	113.2	4.80	7.0	5.1	3.23	11.91	3.97	.225	.200	2.38			

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(35T) PLATE WEIGHT = 8.925 LBS. (.2188 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(35T = 8.750 IN.) PLATE WEIGHT = 10.200 LBS. (.2500 IN.) EFFECTIVE PLATE AREA = 2.188 SQ. IN.																		
NOMINAL SIZE						SECTION MODULUS							BEAM DIMENSIONS					
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2		
4	X	4	X	5.0	T	4.91	3.7	7.7	10.5	1.70	2.8	1.4	1.44	3.95	3.94	.205	.170	.67
4	X	4	X	6.5	T	6.40	4.6	8.1	12.5	1.75	2.7	1.5	1.88	4.00	4.00	.255	.230	.92
4	X	4	X	7.5	T	7.42	5.5	8.4	14.3	1.81	2.6	1.7	2.18	4.06	4.02	.315	.245	.99
4	X	5	1/4 X	9.0	T	8.82	7.1	8.6	16.8	1.87	2.4	1.9	2.59	4.07	5.25	.330	.230	.94
5	X	4	X	6.0	T	5.88	5.1	9.9	17.4	2.11	3.4	1.7	1.73	4.94	3.96	.210	.190	.94
5	X	4	X	7.5	T	7.37	6.3	10.4	20.6	2.18	3.3	2.0	2.17	5.00	4.00	.270	.230	1.15
5	X	4	X	8.5	T	8.36	7.4	10.7	23.2	2.24	3.1	2.2	2.46	5.06	4.01	.330	.240	1.21
5	X	4	X	9.5	T	9.42	8.5	11.0	25.8	2.28	3.0	2.3	2.77	5.12	4.02	.395	.250	1.28
5	X	5	X	16.0	I-T	9.91	9.2	10.9	26.3	2.27	2.9	2.4	2.92	5.01	5.00	.360	.240	1.20
6	X	4	X	7.0	T	6.94	6.8	12.3	27.1	2.53	4.0	2.2	2.04	5.96	3.97	.225	.200	1.19
6	X	4	X	8.0	T	7.88	7.7	12.7	30.1	2.58	3.9	2.4	2.32	6.00	3.99	.265	.220	1.32
6	X	4	X	9.0	I-T	6.17	6.2	12.1	25.3	2.51	4.1	2.1	1.81	5.90	3.94	.215	.170	1.00
6	X	4	X	9.5	T	9.34	9.6	13.3	35.2	2.67	3.7	2.7	2.75	6.08	4.01	.350	.235	1.43
6	X	4	X	12.0	I-T	8.30	8.2	12.9	31.3	2.60	3.8	2.4	2.44	6.03	4.00	.280	.230	1.39
6	X	6	X	15.0	I-T	9.78	10.4	13.3	36.5	2.68	3.5	2.7	2.88	5.99	5.99	.260	.230	1.38
7	X	5	X	11.0	T	10.81	12.7	15.5	49.8	3.05	3.9	3.2	3.18	6.87	5.00	.335	.230	1.58
8	X	4	X	10.0	I-T	7.19	8.7	16.5	46.4	3.29	5.3	2.8	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X	13.0	I-T	9.52	11.0	17.5	55.7	3.34	5.1	3.2	2.80	7.99	4.00	.255	.230	1.84
8	X	5	1/2 X	13.0	T	12.83	16.6	18.5	70.8	3.45	4.3	3.8	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X	15.0	I-T	10.79	12.9	18.3	63.4	3.44	4.9	3.5	3.17	8.11	4.02	.315	.245	1.99
8	X	5	1/4 X	18.0	I-T	12.00	16.0	18.9	72.8	3.57	4.5	3.8	3.53	8.14	5.25	.330	.230	1.87
8	X	5	1/4 X	21.0	I-T	13.87	18.9	19.8	82.5	3.63	4.4	4.2	4.08	8.28	5.27	.400	.250	2.07
8	X	6	1/2 X	24.0	I-T	15.11	21.1	19.2	82.2	3.52	3.9	4.3	4.44	7.93	6.50	.400	.245	1.94

(35T) PLATE WEIGHT = 10.200 LBS. (.2500 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(35T = 0.750 IN.) PLATE WEIGHT = 10.200 LBS. (.2500 IN.) EFFECTIVE PLATE AREA = 2.188 SQ. IN.																
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS								
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	LBS/FT		LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
10	X 4	X 12.0	I-T	9.07	12.3	21.4	78.9	4.03	6.4	3.7	2.67	9.87	3.96	.210	.190	1.88
10	X 4	X 15.0	I-T	11.27	15.2	22.7	93.4	4.12	6.1	4.1	3.32	9.99	4.06	.270	.230	2.30
10	X 4	X 17.0	I-T	12.48	17.5	23.7	104.4	4.22	6.0	4.4	3.67	10.11	4.01	.330	.240	2.43
10	X 4	X 19.0	I-T	13.77	20.0	24.6	115.9	4.31	5.8	4.7	4.05	10.24	4.02	.395	.250	2.56
10	X 5 3/4	X 22.0	I-T	15.04	23.9	25.1	127.8	4.40	5.3	5.1	4.42	10.17	5.75	.360	.240	2.44
12	X 4	X 14.0	I-T	10.98	16.7	26.8	125.1	4.81	7.5	4.7	3.23	11.91	3.97	.225	.200	2.38
12	X 4	X 16.0	I-T	12.37	19.0	27.9	138.1	4.87	7.3	5.0	3.64	11.99	3.99	.265	.220	2.64
12	X 4	X 19.0	I-T	14.20	22.9	29.6	160.2	5.02	7.0	5.4	4.18	12.16	4.01	.350	.235	2.86
12	X 6 1/2	X 26.0	I-T	17.64	33.6	31.7	203.4	5.25	6.0	6.4	5.19	12.22	6.49	.380	.230	2.81
14	X 5	X 22.0	I-T	16.18	29.9	34.9	225.5	5.70	7.5	6.5	4.76	13.74	5.00	.335	.230	3.16
16	X 5 1/2	X 26.0	I-T	19.49	39.1	42.4	324.5	6.40	8.3	7.6	5.73	15.69	5.50	.345	.250	3.92

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(35T) PLATE WEIGHT = 10.200 LBS. (.2500 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		

(35T =		9.844 IN.)		PLATE WEIGHT = 11.475 LBS. (.2813 IN.)				EFFECTIVE PLATE AREA = 2.769 SQ. IN.										
NOMINAL SIZE				WT/FT	SECTION MODULUS				BEAM DIMENSIONS									
					FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
				LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN	IN	IN	IN	IN2		
IN	X	IN	X	LBS/FT														

4	X	4	X	5.0	T	4.91	3.8	9.4	11.4	1.64	3.0	1.2	1.44	3.95	3.94	.205	.170	.67
4	X	4	X	6.5	T	6.40	4.7	9.8	13.6	1.71	2.9	1.4	1.88	4.00	4.00	.255	.230	.92
4	X	4	X	7.5	T	7.42	5.6	10.2	15.7	1.78	2.8	1.5	2.18	4.06	4.02	.315	.245	.99
4	X	5	1/4	X	9.0	T	8.82	7.2	10.5	1.86	2.6	1.8	2.59	4.07	5.25	.330	.230	.94
4	X	4	X	13.0	I-T	8.39	6.3	10.6	17.6	1.83	2.8	1.7	2.47	4.16	4.06	.345	.280	1.16
5	X	4	X	6.0	T	5.88	5.2	12.1	18.9	2.05	3.7	1.6	1.73	4.94	3.96	.210	.190	.94
5	X	4	X	7.5	T	7.37	6.5	12.6	22.5	2.14	3.5	1.8	2.17	5.00	4.00	.270	.230	1.15
5	X	4	X	8.5	T	8.36	7.6	13.0	25.5	2.21	3.4	2.0	2.46	5.06	4.01	.330	.240	1.21
5	X	4	X	9.5	T	9.42	8.7	13.4	28.5	2.27	3.3	2.1	2.77	5.12	4.02	.395	.250	1.28
5	X	5	X	16.0	I-T	9.91	9.5	13.3	29.2	2.27	3.1	2.2	2.92	5.01	5.00	.360	.240	1.20
5	X	5	X	19.0	I-T	11.69	11.2	13.9	33.8	2.33	3.0	2.4	3.44	5.15	5.03	.430	.270	1.39
6	X	4	X	7.0	T	6.94	6.9	15.0	29.5	2.48	4.3	2.0	2.04	5.96	3.97	.225	.200	1.19
6	X	4	X	8.0	T	7.88	7.9	15.4	32.8	2.54	4.1	2.1	2.32	6.00	3.99	.265	.220	1.32
6	X	4	X	9.0	I-T	6.17	6.3	14.7	27.4	2.45	4.3	1.9	1.81	5.90	3.94	.215	.170	1.00
6	X	4	X	9.5	T	9.34	9.8	16.1	38.7	2.65	4.0	2.4	2.75	6.08	4.01	.350	.235	1.43
6	X	4	X	11.0	T	10.89	11.5	16.6	43.9	2.71	3.8	2.6	3.20	6.16	4.03	.425	.260	1.60
6	X	4	X	12.0	I-T	8.30	8.3	15.6	34.3	2.56	4.1	2.2	2.44	6.03	4.00	.280	.230	1.39
6	X	6	X	15.0	I-T	9.78	10.7	16.1	40.2	2.67	3.8	2.5	2.88	5.99	5.99	.260	.230	1.38
6	X	4	X	16.0	I-T	10.74	11.4	16.9	44.8	2.75	3.9	2.6	3.16	6.28	4.03	.405	.260	1.63
6	X	6	X	20.0	I-T	12.63	14.4	17.3	50.9	2.80	3.5	2.9	3.71	6.20	6.02	.365	.260	1.61
7	X	5	X	11.0	T	10.81	13.0	18.8	55.0	3.04	4.2	2.9	3.18	6.87	5.00	.335	.230	1.58
7	X	5	X	13.0	T	12.85	15.7	19.5	63.1	3.10	4.0	3.2	3.78	6.96	5.03	.420	.255	1.77
7	X	6	3/4	X	15.0	T	14.81	18.7	69.5	3.12	3.7	3.5	4.36	6.92	6.73	.385	.270	1.87
(35T)		PLATE WEIGHT = 11.475 LBS. (.2813 IN.)				-----												

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(35T = 9.844 IN.) PLATE WEIGHT = 11.475 LBS. (.2813 IN.) EFFECTIVE PLATE AREA = 2.769 SQ. IN.																
NOMINAL SIZE			SECTION MODULUS					BEAM DIMENSIONS								
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN2		
8	X 4	X 10.0	7.19	8.9	20.0	50.4	3.21	5.7	2.5	2.11	7.89	3.94	.205	.170	1.34	
8	X 4	X 13.0	9.52	11.3	21.1	60.8	3.30	5.4	2.9	2.80	7.99	4.00	.255	.230	1.84	
8	X 5 1/2	X 13.0	12.83	17.0	22.2	78.3	3.46	4.6	3.5	3.77	7.85	5.50	.345	.250	1.96	
8	X 4	X 15.0	10.79	13.3	22.0	69.5	3.42	5.2	3.2	3.17	8.11	4.02	.315	.245	1.99	
8	X 5 1/2	X 15.5	15.28	20.7	23.2	89.8	3.52	4.3	3.9	4.49	7.94	5.53	.440	.275	2.18	
8	X 5 1/4	X 18.0	12.00	16.4	22.8	80.4	3.57	4.9	3.5	3.53	8.14	5.25	.330	.230	1.87	
8	X 5 1/4	X 21.0	13.87	19.4	23.8	91.5	3.66	4.7	3.8	4.08	8.28	5.27	.400	.250	2.07	
8	X 6 1/2	X 24.0	15.11	21.7	23.1	91.8	3.57	4.2	4.0	4.44	7.93	6.50	.400	.245	1.94	
215	10	X 4	X 12.0	9.07	12.6	25.7	85.8	3.97	6.8	3.3	2.67	9.87	3.96	.210	.190	1.88
	10	X 4	X 15.0	11.27	15.7	27.2	102.1	4.10	6.5	3.8	3.32	9.99	4.00	.270	.230	2.30
	10	X 4	X 17.0	12.48	18.0	28.3	114.5	4.22	6.3	4.0	3.67	10.11	4.01	.330	.240	2.43
	10	X 4	X 19.0	13.77	20.6	29.4	127.4	4.32	6.2	4.3	4.05	10.24	4.02	.395	.250	2.56
	10	X 5 3/4	X 22.0	15.04	24.6	30.0	141.3	4.43	5.7	4.7	4.42	10.17	5.75	.360	.240	2.44
	10	X 5 3/4	X 26.0	17.37	29.1	31.4	160.2	4.51	5.5	5.1	5.11	10.33	5.77	.440	.260	2.69
	12	X 4	X 14.0	10.98	17.2	32.1	136.3	4.77	7.9	4.2	3.23	11.91	3.97	.225	.200	2.38
	12	X 4	X 16.0	12.37	19.5	33.2	150.8	4.85	7.7	4.5	3.64	11.99	3.99	.265	.220	2.64
	12	X 4	X 19.0	14.20	23.6	35.1	175.6	5.03	7.4	5.0	4.18	12.16	4.01	.350	.235	2.86
	12	X 4	X 22.0	16.33	27.6	36.8	198.5	5.12	7.2	5.4	4.80	12.31	4.03	.425	.260	3.20
12	X 6 1/2	X 26.0	17.64	34.6	37.6	225.3	5.32	6.5	6.0	5.19	12.22	6.49	.380	.230	2.81	
12	X 6 1/2	X 30.0	20.27	39.5	39.3	248.4	5.33	6.3	6.3	5.96	12.34	6.52	.440	.260	3.21	
14	X 5	X 22.0	16.18	30.8	41.3	247.6	5.73	8.0	6.0	4.76	13.74	5.00	.335	.230	3.16	
14	X 5	X 26.0	18.87	36.8	43.6	283.3	5.84	7.7	6.5	5.55	13.91	5.03	.420	.255	3.55	
14	X 6 3/4	X 30.0	21.16	42.8	44.9	309.4	5.87	7.2	6.9	6.22	13.84	6.73	.385	.270	3.74	

(35T) PLATE WEIGHT = 11.475 LBS. (.2813 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(35T = 9.844 IN.) PLATE WEIGHT = 11.475 LBS. (.2813 IN.) EFFECTIVE PLATE AREA = 2.769 SQ. IN.																
NOMINAL SIZE		WT/FT LBS	SECTION MODULUS				BEAM DIMENSIONS									
IN X	IN X		FLANGE IN3	PLATE IN3	I IN4	R IN	YF IN	YP IN	A IN2	D IN	WF IN	TF IN	TW IN	ASH IN2		
IN X	IN X	LBS/FT														
16	X 5 1/2 X	26.0	I-T	19.49	40.4	49.7	355.7	6.47	8.8	7.2	5.73	15.69	5.50	.345	.250	3.92
16	X 5 1/2 X	31.0	I-T	22.70	48.5	52.7	408.1	6.57	8.4	7.7	6.68	15.88	5.53	.440	.275	4.37

(35T) PLATE WEIGHT = 11.475 LBS. (.2813 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(35T = 10.930 IN.) PLATE WEIGHT = 12.750 LBS. (.3125 IN.) EFFECTIVE PLATE AREA = 3.418 SQ. IN.																		
NOMINAL SIZE						SECTION MODULUS						BEAM DIMENSIONS						
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2		
4	X	4	X	5.0	T	4.91	3.8	11.2	12.1	1.58	3.2	1.1	1.44	3.95	3.94	.205	.170	.67
4	X	4	X	6.5	T	6.40	4.8	11.6	14.7	1.66	3.1	1.3	1.88	4.00	4.00	.255	.230	.92
4	X	4	X	7.5	T	7.42	5.7	12.1	17.0	1.74	3.0	1.4	2.18	4.06	4.02	.315	.245	.99
4	X	5 1/4	X	9.0	T	8.82	7.4	12.6	20.3	1.84	2.8	1.6	2.59	4.07	5.25	.330	.230	.94
4	X	4	X	13.0	I-T	8.39	6.4	12.6	19.0	1.80	3.0	1.5	2.47	4.16	4.06	.345	.280	1.16
5	X	4	X	6.0	T	5.88	5.2	14.4	20.1	1.98	3.8	1.4	1.73	4.94	3.96	.210	.190	.94
5	X	4	X	7.5	T	7.37	6.6	15.0	24.3	2.08	3.7	1.6	2.17	5.00	4.00	.270	.230	1.15
5	X	4	X	8.5	T	8.36	7.7	15.5	27.6	2.17	3.6	1.8	2.46	5.06	4.01	.330	.240	1.21
5	X	4	X	9.5	T	9.42	8.9	16.0	31.0	2.24	3.5	1.9	2.77	5.12	4.02	.395	.250	1.28
5	X	5	X	16.0	I-T	9.91	9.6	15.9	31.9	2.24	3.3	2.0	2.92	5.01	5.00	.360	.240	1.20
5	X	5	X	19.0	I-T	11.69	11.5	16.6	37.1	2.33	3.2	2.2	3.44	5.15	5.03	.430	.270	1.39
6	X	4	X	7.0	T	6.94	7.0	17.8	31.6	2.41	4.5	1.8	2.04	5.96	3.97	.225	.200	1.19
6	X	4	X	8.0	T	7.88	8.1	18.3	35.3	2.48	4.4	1.9	2.32	6.00	3.99	.265	.220	1.32
6	X	4	X	9.0	I-T	6.17	6.4	17.5	29.3	2.36	4.5	1.7	1.81	5.90	3.94	.215	.170	1.00
6	X	4	X	9.5	T	9.34	10.0	19.1	41.9	2.61	4.2	2.2	2.75	6.08	4.01	.350	.235	1.43
6	X	4	X	11.0	T	10.89	11.8	19.8	47.8	2.69	4.1	2.4	3.20	6.16	4.03	.425	.260	1.60
6	X	4	X	12.0	I-T	8.30	8.5	18.5	36.9	2.51	4.3	2.0	2.44	6.03	4.00	.280	.230	1.39
6	X	6	X	15.0	I-T	9.78	10.9	19.2	43.7	2.64	4.0	2.3	2.88	5.99	5.99	.260	.230	1.38
6	X	4	X	16.0	I-T	10.74	11.7	20.1	48.7	2.72	4.2	2.4	3.16	6.28	4.03	.405	.260	1.63
6	X	6	X	20.0	I-T	12.63	14.7	20.6	55.9	2.80	3.8	2.7	3.71	6.20	6.02	.365	.260	1.61
7	X	5	X	11.0	T	10.81	13.3	22.4	59.9	3.01	4.5	2.7	3.18	6.87	5.00	.335	.230	1.58
7	X	5	X	13.0	T	12.85	16.1	23.2	69.0	3.10	4.3	3.0	3.78	6.96	5.03	.420	.255	1.77
7	X	6 3/4	X	15.0	T	14.81	19.1	23.7	76.5	3.14	4.0	3.2	4.36	6.92	6.73	.385	.270	1.87
7	X	6 3/4	X	17.0	T	16.77	21.9	24.3	84.1	3.17	3.8	3.5	4.93	6.99	6.75	.455	.285	1.99
7	X	6 3/4	X	19.0	T	18.74	24.4	24.9	90.7	3.19	3.7	3.6	5.51	7.05	6.77	.515	.310	2.19
(35T)						PLATE WEIGHT = 12.750 LBS. (.3125 IN.)												

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TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		

(35T = 10.938 IN.) PLATE WEIGHT = 12.750 LBS. (.3125 IN.) EFFECTIVE PLATE AREA = 3.418 SQ. IN.																		
NOMINAL SIZE					SECTION MODULUS				BEAM DIMENSIONS									
					WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X IN X LBS/FT					LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	

7	X	8	X	21.5	T	20.94	27.5	24.3	92.2	3.10	3.3	3.8	6.16	6.83	8.00	.530	.305	2.08
8	X	4	X	10.0	I-T	7.19	9.1	23.8	53.8	3.12	5.9	2.3	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X	13.0	I-T	9.52	11.5	25.0	65.5	3.24	5.7	2.6	2.80	7.99	4.00	.255	.230	1.84
8	X	5 1/2	X	13.0	T	12.83	17.4	26.3	85.4	3.45	4.9	3.2	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X	15.0	I-T	10.79	13.6	26.8	75.1	3.38	5.5	2.9	3.17	8.11	4.02	.315	.245	1.99
8	X	5 1/2	X	15.5	T	15.28	21.1	27.4	98.5	3.53	4.7	3.6	4.49	7.94	5.53	.440	.275	2.18
8	X	5 1/4	X	18.0	I-T	12.00	16.8	27.1	87.5	3.55	5.2	3.2	3.53	8.14	5.25	.330	.230	1.87
8	X	7	X	18.0	T	17.73	25.2	28.1	109.6	3.56	4.3	3.9	5.22	7.93	6.99	.430	.295	2.34
8	X	7	X	20.0	T	19.79	28.7	28.8	119.7	3.60	4.2	4.2	5.82	8.01	7.00	.505	.305	2.44
8	X	5 1/4	X	21.0	I-T	13.87	19.8	28.2	100.0	3.65	5.0	3.5	4.08	8.28	5.27	.400	.250	2.07
8	X	6 1/2	X	24.0	I-T	15.11	22.1	27.4	101.0	3.58	4.6	3.7	4.44	7.93	6.50	.400	.245	1.94
8	X	6 1/2	X	26.0	I-T	17.69	25.6	28.5	113.1	3.62	4.4	4.0	5.20	8.06	6.54	.465	.285	2.30
8	X	8	X	31.0	I-T	19.16	28.6	28.7	119.0	3.63	4.2	4.1	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X	17.5	T	17.26	25.4	31.4	128.6	3.89	5.1	4.1	5.08	8.85	6.00	.425	.300	2.66
10	X	4	X	12.0	I-T	9.07	12.8	30.5	92.0	3.89	7.2	3.0	2.67	9.87	3.96	.210	.190	1.88
10	X	4	X	15.0	I-T	11.27	16.0	32.1	110.1	4.04	6.9	3.4	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X	17.0	I-T	12.48	18.5	33.4	123.9	4.18	6.7	3.7	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X	19.0	I-T	13.77	21.1	34.6	138.3	4.30	6.6	4.0	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0	I-T	15.04	25.2	35.4	154.2	4.43	6.1	4.4	4.42	10.17	5.75	.360	.240	2.44
10	X	5 3/4	X	26.0	I-T	17.37	29.8	36.9	175.5	4.54	5.9	4.8	5.11	10.33	5.77	.440	.260	2.69
10	X	5 3/4	X	30.0	I-T	20.23	34.3	38.6	195.7	4.57	5.7	5.1	5.95	10.47	5.81	.510	.300	3.14
10	X	8	X	33.0	I-T	20.94	35.8	36.0	180.3	4.34	5.0	5.0	6.16	9.73	7.96	.435	.290	2.82

(35T) PLATE WEIGHT = 12.750 LBS. (.3125 IN.)																		

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TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(35T = 10.938 IN.) PLATE WEIGHT = 12.750 LBS. (.3125 IN.) EFFECTIVE PLATE AREA = 3.418 SQ. IN.																		
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS										
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	LBS/FT		LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2			
12	X	4	X	14.0	I-T	10.98	17.6	37.9	146.6	4.70	8.4	3.9	3.23	11.91	3.97	.225	.200	2.38
12	X	4	X	16.0	I-T	12.37	20.0	39.1	162.7	4.80	8.1	4.2	3.64	11.99	3.99	.265	.220	2.64
12	X	4	X	19.0	I-T	14.20	24.2	41.2	190.1	5.00	7.9	4.6	4.18	12.16	4.01	.350	.235	2.86
12	X	4	X	22.0	I-T	16.33	28.3	43.1	215.5	5.12	7.6	5.0	4.80	12.31	4.03	.425	.260	3.20
12	X	6 1/2	X	26.0	I-T	17.64	35.4	44.2	246.4	5.35	7.0	5.6	5.19	12.22	6.49	.380	.230	2.81
12	X	6 1/2	X	30.0	I-T	20.27	40.5	45.9	272.2	5.39	6.7	5.9	5.96	12.34	6.52	.440	.260	3.21
12	X	6 1/2	X	35.0	I-T	23.82	47.1	48.2	305.4	5.41	6.5	6.3	7.01	12.50	6.56	.520	.300	3.75
12	X	8	X	40.0	I-T	25.48	51.6	46.5	299.5	5.24	5.8	6.4	7.49	11.94	8.01	.515	.295	3.52
14	X	5	X	22.0	I-T	16.18	31.6	48.4	268.6	5.73	8.5	5.6	4.76	13.74	5.00	.335	.230	3.16
14	X	5	X	26.0	I-T	18.87	37.8	50.8	308.3	5.86	8.2	6.1	5.55	13.91	5.03	.420	.255	3.55
14	X	6 3/4	X	30.0	I-T	21.16	43.9	52.3	337.7	5.92	7.7	6.5	6.22	13.84	6.73	.385	.270	3.74
14	X	6 3/4	X	34.0	I-T	23.54	50.1	54.2	371.9	6.00	7.4	6.9	6.92	13.98	6.75	.455	.285	3.98
14	X	6 3/4	X	38.0	I-T	26.17	55.7	56.2	403.1	6.02	7.2	7.2	7.70	14.10	6.77	.515	.310	4.37
14	X	8	X	43.0	I-T	28.02	61.8	55.0	406.7	5.91	6.6	7.4	8.24	13.66	8.00	.530	.305	4.17
16	X	5 1/2	X	26.0	I-T	19.49	41.5	57.7	386.2	6.50	9.3	6.7	5.73	15.69	5.50	.345	.250	3.92
16	X	5 1/2	X	31.0	I-T	22.70	49.8	61.0	444.0	6.63	8.9	7.3	6.68	15.88	5.53	.440	.275	4.37
16	X	7	X	36.0	I-T	25.69	58.2	63.3	490.2	6.68	8.4	7.7	7.56	15.86	6.99	.430	.295	4.68
16	X	7	X	40.0	I-T	28.09	65.6	65.5	534.9	6.77	8.2	8.2	8.26	16.01	7.00	.505	.305	4.88
18	X	6	X	35.0	I-T	26.29	60.4	71.0	588.0	7.26	9.7	8.3	7.73	17.70	6.00	.425	.300	5.31

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MIL-HDBK-264 (SH)
30 September 1980

(35T) PLATE WEIGHT = 12.750 LBS. (.3125 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																			

(35T = 12.031 IN.) PLATE WEIGHT = 14.025 LBS. (.3438 IN.) EFFECTIVE PLATE AREA = 4.136 SQ. IN.																			
NOMINAL SIZE					SECTION MODULUS								BEAM DIMENSIONS						
					WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X IN X LBS/FT					LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2			

4	X	4	X	5.0	T	4.91	3.9	13.0	12.8	1.51	3.3	1.0	1.44	3.95	3.94	.205	.170	.67	
4	X	4	X	6.5	T	6.40	4.9	13.5	15.6	1.61	3.2	1.2	1.88	4.00	4.00	.255	.230	.92	
4	X	4	X	7.5	T	7.42	5.8	14.1	18.1	1.69	3.1	1.3	2.18	4.06	4.02	.315	.245	.99	
4	X	5	1/4	X	9.0	T	8.82	7.5	14.8	21.9	1.80	2.9	1.5	2.59	4.07	5.25	.330	.230	.94
4	X	4	X	13.0	I-T	8.39	6.6	14.7	20.4	1.76	3.1	1.4	2.47	4.16	4.06	.345	.280	1.16	
5	X	4	X	6.0	T	5.88	5.3	16.7	21.3	1.90	4.0	1.3	1.73	4.94	3.96	.210	.190	.94	
5	X	4	X	7.5	T	7.37	6.7	17.5	25.8	2.02	3.9	1.5	2.17	5.00	4.00	.270	.230	1.15	
5	X	4	X	8.5	T	8.36	7.8	18.2	29.5	2.12	3.8	1.6	2.46	5.06	4.01	.330	.240	1.21	
5	X	4	X	9.5	T	9.42	9.0	18.7	33.3	2.19	3.7	1.8	2.77	5.12	4.02	.395	.250	1.28	
5	X	5	X	16.0	I-T	9.91	9.8	18.6	34.4	2.21	3.5	1.8	2.92	5.01	5.00	.360	.240	1.20	
220	5	X	5	X	19.0	I-T	11.69	11.7	19.5	40.1	2.30	3.4	2.1	3.44	5.15	5.03	.430	.270	1.39
6	X	4	X	7.0	T	6.94	7.1	20.8	33.4	2.33	4.7	1.6	2.04	5.96	3.97	.225	.200	1.19	
6	X	4	X	8.0	T	7.88	8.2	21.4	37.5	2.41	4.6	1.8	2.32	6.00	3.99	.265	.220	1.32	
6	X	4	X	9.0	I-T	6.17	6.5	20.5	30.9	2.28	4.7	1.5	1.81	5.90	3.94	.215	.170	1.00	
6	X	4	X	9.5	T	9.34	10.1	22.4	44.8	2.55	4.4	2.0	2.75	6.08	4.01	.350	.235	1.43	
6	X	4	X	11.0	T	10.89	12.0	23.2	51.4	2.65	4.3	2.2	3.20	6.16	4.03	.425	.260	1.60	
6	X	4	X	12.0	I-T	8.30	8.6	21.7	39.3	2.45	4.6	1.8	2.44	6.03	4.00	.280	.230	1.39	
6	X	6	X	15.0	I-T	9.78	11.0	22.5	46.9	2.59	4.3	2.1	2.88	5.99	5.99	.260	.230	1.38	
6	X	4	X	16.0	I-T	10.74	11.9	23.6	52.3	2.68	4.4	2.2	3.16	6.28	4.03	.405	.260	1.63	
6	X	6	X	20.0	I-T	12.63	14.9	24.2	60.4	2.77	4.0	2.5	3.71	6.20	6.02	.365	.260	1.61	
7	X	5	X	11.0	T	10.81	13.5	26.2	64.3	2.96	4.8	2.5	3.18	6.87	5.00	.335	.230	1.58	
7	X	5	X	13.0	T	12.85	16.4	27.2	74.6	3.07	4.6	2.7	3.78	6.96	5.03	.420	.255	1.77	
7	X	6	3/4	X	15.0	T	14.81	19.4	27.8	83.0	3.13	4.3	3.0	4.36	6.92	6.73	.385	.270	1.87
7	X	6	3/4	X	17.0	T	16.77	22.3	28.5	91.8	3.18	4.1	3.2	4.93	6.99	6.75	.455	.285	1.99
7	X	6	3/4	X	19.0	T	18.74	24.9	29.1	99.2	3.21	4.0	3.4	5.51	7.05	6.77	.515	.310	2.19
(35T) PLATE WEIGHT = 14.025 LBS. (.3438 IN.)																			

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(35T = 12.031 IN.) PLATE WEIGHT = 14.025 LBS. (.3438 IN.) EFFECTIVE PLATE AREA = 4.136 SQ. IN.																		
NOMINAL SIZE					SECTION MODULUS								BEAM DIMENSIONS					
					WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN	IN2	IN	IN	IN	IN2		
7	X	8	X	21.5	T	20.94	28.1	28.5	101.5	3.14	3.6	3.6	6.16	6.83	8.00	.530	.305	2.08
7	X	8	X	24.0	T	23.53	31.2	29.2	109.2	3.14	3.5	3.7	6.92	6.90	8.03	.595	.340	2.35
8	X	4	X	10.0	I-T	7.19	9.2	27.9	56.9	3.02	6.2	2.0	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X	13.0	I-T	9.52	11.7	29.2	69.7	3.17	5.9	2.4	2.80	7.99	4.00	.255	.230	1.84
8	X	5 1/2	X	13.0	T	12.83	17.7	30.8	92.0	3.41	5.2	3.0	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X	15.0	I-T	10.79	13.8	30.4	80.3	3.31	5.8	2.6	3.17	8.11	4.02	.315	.245	1.99
8	X	5 1/2	X	15.5	T	15.28	21.5	32.0	106.7	3.52	5.0	3.3	4.49	7.94	5.53	.440	.275	2.18
8	X	5 1/4	X	18.0	I-T	12.00	17.1	31.7	94.1	3.50	5.5	3.0	3.53	8.14	5.25	.330	.230	1.87
8	X	7	X	18.0	T	17.73	25.7	32.8	119.3	3.57	4.6	3.6	5.22	7.93	6.99	.430	.295	2.34
8	X	7	X	20.0	T	19.79	29.3	33.6	130.8	3.62	4.5	3.9	5.82	8.01	7.00	.505	.305	2.44
8	X	5 1/4	X	21.0	I-T	13.87	20.2	33.0	108.0	3.63	5.3	3.3	4.08	8.28	5.27	.400	.250	2.07
8	X	6 1/2	X	24.0	I-T	15.11	22.5	32.1	109.6	3.57	4.9	3.4	4.44	7.93	6.50	.400	.245	1.94
8	X	6 1/2	X	28.0	I-T	17.69	26.2	33.3	123.2	3.63	4.7	3.7	5.20	8.06	6.54	.465	.285	2.30
8	X	8	X	31.0	I-T	19.16	29.1	33.6	130.1	3.65	4.5	3.9	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X	17.5	T	17.26	25.9	36.6	139.4	3.89	5.4	3.8	5.08	8.85	6.00	.425	.300	2.66
9	X	6	X	20.0	T	19.76	30.5	37.8	156.9	3.97	5.1	4.2	5.81	8.95	6.02	.525	.315	2.82
10	X	4	X	12.0	I-T	9.07	13.1	35.7	97.6	3.79	7.5	2.7	2.67	9.87	3.96	.210	.190	1.88
10	X	4	X	15.0	I-T	11.27	16.3	37.5	117.4	3.97	7.2	3.1	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X	17.0	I-T	12.48	18.8	38.9	132.5	4.12	7.0	3.4	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X	19.0	I-T	13.77	21.5	40.3	148.4	4.26	6.9	3.7	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0	I-T	15.04	25.6	41.3	166.3	4.41	6.5	4.0	4.42	10.17	5.75	.360	.240	2.44
10	X	5 3/4	X	26.0	I-T	17.37	30.4	43.0	190.0	4.53	6.3	4.4	5.11	10.33	5.77	.440	.260	2.69
10	X	5 3/4	X	30.0	I-T	20.23	35.8	44.7	212.5	4.59	6.1	4.7	5.95	10.47	5.81	.510	.300	3.14
10	X	8	X	33.0	I-T	20.94	36.5	41.9	196.6	4.37	5.4	4.7	6.16	9.73	7.96	.435	.290	2.82

(35T) PLATE WEIGHT = 14.025 LBS. (.3438 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(35T = 12.031 IN.) PLATE WEIGHT = 14.025 LBS. (.3438 IN.) EFFECTIVE PLATE AREA = 4.136 SQ. IN.																		
NOMINAL SIZE			WT/FT	SECTION MODULUS				BEAM DIMENSIONS										
				FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN X IN X LBS/FT			LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2		
10	X	8	X	39.0	I-T	24.45	43.5	43.8	223.9	4.45	5.1	5.1	7.19	9.92	7.99	.530	.315	3.12
12	X	4	X	14.0	I-T	10.98	17.9	44.2	156.0	4.60	8.7	3.5	3.23	11.91	3.97	.225	.200	2.38
12	X	4	X	16.0	I-T	12.37	20.4	45.6	173.6	4.73	8.5	3.8	3.64	11.99	3.99	.265	.220	2.64
12	X	4	X	19.0	I-T	14.20	24.7	47.9	203.7	4.95	8.3	4.3	4.18	12.16	4.01	.350	.235	2.86
12	X	4	X	22.0	I-T	16.33	28.9	50.0	231.6	5.09	8.0	4.6	4.80	12.31	4.03	.425	.260	3.20
12	X	6 1/2	X	26.0	I-T	17.64	36.1	51.5	266.4	5.35	7.4	5.2	5.19	12.22	6.49	.380	.230	2.81
12	X	6 1/2	X	30.0	I-T	20.27	41.3	53.3	295.1	5.41	7.1	5.5	5.96	12.34	6.52	.440	.260	3.21
12	X	6 1/2	X	35.0	I-T	23.82	48.2	55.7	331.8	5.46	6.9	6.0	7.01	12.50	6.56	.520	.300	3.75
12	X	8	X	40.0	I-T	25.48	52.7	53.8	326.9	5.30	6.2	6.1	7.49	11.94	8.01	.515	.295	3.52
12	X	8	X	45.0	I-T	28.81	58.6	55.7	354.4	5.30	6.0	6.4	8.47	12.06	8.05	.575	.335	4.04
14	X	5	X	22.0	I-T	16.18	32.3	56.1	288.5	5.70	8.9	5.1	4.76	13.74	5.00	.335	.230	3.16
14	X	5	X	26.0	I-T	18.87	38.6	58.8	332.2	5.86	8.6	5.7	5.55	13.91	5.03	.420	.255	3.55
14	X	6 3/4	X	30.0	I-T	21.16	44.9	60.3	365.0	5.94	8.1	6.0	6.22	13.84	6.73	.385	.270	3.74
14	X	6 3/4	X	34.0	I-T	23.54	51.2	62.4	403.0	6.04	7.9	6.5	6.92	13.98	6.75	.455	.285	3.98
14	X	6 3/4	X	38.0	I-T	26.17	57.1	64.5	437.3	6.08	7.7	6.8	7.70	14.10	6.77	.515	.310	4.37
14	X	8	X	43.0	I-T	28.02	63.2	63.3	442.9	5.98	7.0	7.0	8.24	13.66	8.00	.530	.305	4.17
14	X	8	X	48.0	I-T	31.50	70.4	65.7	480.1	5.99	6.8	7.3	9.26	13.79	8.03	.595	.340	4.69
16	X	5 1/2	X	26.0	I-T	19.49	42.4	66.6	415.4	6.49	9.8	6.2	5.73	15.69	5.50	.345	.250	3.92
16	X	5 1/2	X	31.0	I-T	22.70	51.0	70.1	478.8	6.65	9.4	6.8	6.68	15.88	5.53	.440	.275	4.37
16	X	7	X	36.0	I-T	25.69	59.6	72.5	529.9	6.73	8.9	7.3	7.56	15.86	6.99	.430	.295	4.68
16	X	7	X	40.0	I-T	28.09	67.2	74.9	579.3	6.84	8.6	7.7	8.26	16.01	7.00	.505	.305	4.88
18	X	6	X	35.0	I-T	26.29	61.9	81.1	633.4	7.31	10.2	7.8	7.73	17.70	6.00	.425	.300	5.31
18	X	6	X	40.0	I-T	29.35	71.9	84.8	709.9	7.46	9.9	8.4	8.63	17.90	6.02	.525	.315	5.64
(35T) PLATE WEIGHT = 14.025 LBS. (.3438 IN.)																		

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																			
(35T = 13.125 IN.) PLATE WEIGHT = 15.300 LBS. (.3750 IN.) EFFECTIVE PLATE AREA = 4.922 SQ. IN.																			
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS											
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2			
4	X	4	X	5.0	T	4.91	3.9	14.8	13.4	1.45	3.4	.9	1.44	3.95	3.94	.205	.170	.67	
4	X	4	X	6.5	T	6.40	4.9	15.5	16.4	1.55	3.3	1.1	1.88	4.00	4.00	.255	.230	.92	
4	X	4	X	7.5	T	7.42	5.9	16.2	19.2	1.64	3.3	1.2	2.18	4.06	4.02	.315	.245	.99	
4	X	5	1/4	X	9.0	T	8.82	7.6	17.0	23.3	1.76	3.1	1.4	2.59	4.07	5.25	.330	.230	.94
4	X	4	X	13.0	I-T	8.39	6.6	16.9	21.6	1.71	3.3	1.3	2.47	4.16	4.06	.345	.280	1.16	
5	X	4	X	6.0	T	5.88	5.4	19.2	22.3	1.83	4.2	1.2	1.73	4.94	3.96	.210	.190	.94	
5	X	4	X	7.5	T	7.37	6.8	20.2	27.2	1.96	4.0	1.3	2.17	5.00	4.00	.270	.230	1.15	
5	X	4	X	8.5	T	8.36	7.9	20.9	31.2	2.06	3.9	1.5	2.46	5.06	4.01	.330	.240	1.21	
5	X	4	X	9.5	T	9.42	9.1	21.6	35.3	2.14	3.9	1.6	2.77	5.12	4.02	.395	.250	1.28	
5	X	5	X	16.0	I-T	9.91	9.9	21.5	36.6	2.16	3.7	1.7	2.92	5.01	5.00	.360	.240	1.20	
5	X	5	X	19.0	I-T	11.69	11.8	22.6	42.9	2.27	3.6	1.9	3.44	5.15	5.03	.430	.270	1.39	
6	X	4	X	7.0	T	6.94	7.2	23.9	35.1	2.24	4.9	1.5	2.04	5.96	3.97	.225	.200	1.19	
6	X	4	X	8.0	T	7.88	8.3	24.6	39.5	2.34	4.8	1.6	2.32	6.00	3.99	.265	.220	1.32	
6	X	4	X	9.0	I-T	6.17	6.6	23.5	32.3	2.19	4.9	1.4	1.81	5.90	3.94	.215	.170	1.00	
6	X	4	X	9.5	T	9.34	10.3	25.8	47.5	2.49	4.6	1.8	2.75	6.08	4.01	.350	.235	1.43	
6	X	4	X	11.0	T	10.89	12.2	26.8	54.6	2.59	4.5	2.0	3.20	6.16	4.03	.425	.260	1.60	
6	X	4	X	12.0	I-T	8.30	8.7	25.0	41.5	2.37	4.7	1.7	2.44	6.03	4.00	.280	.230	1.39	
6	X	6	X	15.0	I-T	9.78	11.2	26.0	49.7	2.53	4.5	1.9	2.88	5.99	5.99	.260	.230	1.38	
6	X	4	X	16.0	I-T	10.74	12.1	27.2	55.6	2.62	4.6	2.0	3.16	6.28	4.03	.405	.260	1.63	
6	X	6	X	20.0	I-T	12.63	15.2	28.0	64.6	2.74	4.3	2.3	3.71	6.20	6.02	.365	.260	1.61	
7	X	5	X	11.0	T	10.81	13.7	30.3	68.3	2.90	5.0	2.3	3.18	6.87	5.00	.335	.230	1.58	
7	X	5	X	13.0	T	12.85	16.6	31.5	79.7	3.03	4.8	2.5	3.78	6.96	5.03	.420	.255	1.77	
7	X	6	3/4	X	15.0	T	14.81	19.7	32.1	89.2	3.10	4.5	2.8	4.36	6.92	6.73	.385	.270	1.87
7	X	6	3/4	X	17.0	T	16.77	22.7	32.9	99.0	3.17	4.4	3.0	4.93	6.99	6.75	.455	.285	1.99
7	X	6	3/4	X	19.0	T	18.74	25.3	33.6	107.3	3.21	4.2	3.2	5.51	7.05	6.77	.515	.310	2.19

(35T) PLATE WEIGHT = 15.300 LBS. (.3750 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(35T = 13.125 IN.) PLATE WEIGHT = 15.300 LBS. (.3750 IN.) EFFECTIVE PLATE AREA = 4.922 SQ. IN.																		
NOMINAL SIZE			SECTION MODULUS						BEAM DIMENSIONS									
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2			
7	X	8	X	21.5	T	20.94	28.6	33.0	110.4	3.16	3.9	3.3	6.16	6.83	8.00	.530	.305	2.08
7	X	8	X	24.0	T	23.53	31.8	33.7	119.1	3.17	3.7	3.5	6.92	6.90	8.03	.595	.340	2.35
8	X	4	X	10.0	I-T	7.19	9.3	32.2	59.6	2.91	6.4	1.9	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X	13.0	I-T	9.52	11.9	33.6	73.5	3.08	6.2	2.2	2.80	7.99	4.00	.255	.230	1.84
8	X	5 1/2	X	13.0	T	12.83	17.9	35.6	98.1	3.36	5.5	2.8	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X	15.0	I-T	10.79	14.0	35.1	85.0	3.24	6.1	2.4	3.17	8.11	4.02	.315	.245	1.99
8	X	5 1/2	X	15.5	T	15.28	21.9	37.0	114.3	3.48	5.2	3.1	4.49	7.94	5.53	.440	.275	2.18
8	X	5 1/4	X	18.0	I-T	12.00	17.3	36.6	100.1	3.44	5.8	2.7	3.53	8.14	5.25	.330	.230	1.87
8	X	7	X	18.0	T	17.73	26.1	37.9	128.5	3.56	4.9	3.4	5.22	7.93	6.99	.430	.295	2.34
8	X	7	X	20.0	T	19.79	29.8	38.8	141.4	3.63	4.7	3.6	5.82	8.01	7.00	.505	.305	2.44
8	X	5 1/4	X	21.0	I-T	13.87	20.5	38.1	115.3	3.58	5.6	3.0	4.08	8.28	5.27	.400	.250	2.07
8	X	7	X	22.5	T	22.32	33.1	39.7	152.5	3.64	4.6	3.8	6.56	8.07	7.04	.565	.345	2.78
8	X	6 1/2	X	24.0	I-T	15.11	22.9	37.2	117.6	3.54	5.1	3.2	4.44	7.93	6.50	.400	.245	1.94
8	X	6 1/2	X	28.0	I-T	17.69	26.6	38.5	132.7	3.62	5.0	3.4	5.20	8.06	6.54	.465	.285	2.30
8	X	8	X	31.0	I-T	19.16	29.6	38.8	140.6	3.65	4.8	3.6	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X	17.5	T	17.26	26.3	42.1	149.5	3.87	5.7	3.6	5.08	8.85	6.00	.425	.300	2.66
9	X	6	X	20.0	T	19.76	31.1	43.5	169.1	3.97	5.4	3.9	5.81	8.95	6.02	.525	.315	2.82
10	X	4	X	12.0	I-T	9.07	13.2	41.2	102.6	3.68	7.8	2.5	2.67	9.37	3.96	.210	.190	1.88
10	X	4	X	15.0	I-T	11.27	16.6	43.2	124.1	3.88	7.5	2.9	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X	17.0	I-T	12.48	19.1	44.8	140.5	4.04	7.3	3.1	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X	19.0	I-T	13.77	21.9	46.4	157.8	4.19	7.2	3.4	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0	I-T	15.04	26.0	47.7	177.5	4.36	6.8	3.7	4.42	10.17	5.75	.360	.240	2.44
10	X	5 3/4	X	26.0	I-T	17.37	30.9	49.6	203.7	4.51	6.6	4.1	5.11	10.33	5.77	.440	.260	2.69
10	X	5 3/4	X	30.0	I-T	20.23	35.7	51.4	228.4	4.58	6.4	4.4	5.95	10.47	5.81	.510	.300	3.14

(35T) PLATE WEIGHT = 15.300 LBS. (.3750 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																	
(35T = 13.125 IN.) PLATE WEIGHT = 15.300 LBS. (.3750 IN.) EFFECTIVE PLATE AREA = 4.922 SQ. IN.																	
NOMINAL SIZE			SECTION MODULUS						BEAM DIMENSIONS								
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2	
10	X	8	X	33.0	20.94	37.2	48.3	212.2	4.38	5.7	4.4	6.16	9.73	7.96	.435	.290	2.82
10	X	8	X	39.0	24.45	44.3	50.3	242.6	4.48	5.5	4.8	7.19	9.92	7.99	.530	.315	3.12
10	X	8	X	45.0	28.19	51.2	52.4	271.3	4.53	5.3	5.2	8.29	10.10	8.02	.620	.350	3.54
12	X	4	X	14.0	10.98	18.2	50.9	164.5	4.49	9.1	3.2	3.23	11.91	3.97	.225	.200	2.38
12	X	4	X	16.0	12.37	20.7	52.5	183.6	4.63	8.9	3.5	3.64	11.99	3.99	.265	.220	2.64
12	X	4	X	19.0	14.20	25.1	55.1	216.2	4.87	8.6	3.9	4.18	12.16	4.01	.350	.235	2.86
12	X	4	X	22.0	16.33	29.4	57.4	246.7	5.04	8.4	4.3	4.80	12.31	4.03	.425	.260	3.20
12	X	6 1/2	X	26.0	17.64	36.7	59.3	285.3	5.31	7.8	4.8	5.19	12.22	6.49	.380	.230	2.81
12	X	6 1/2	X	30.0	20.27	42.0	61.2	316.9	5.40	7.5	5.2	5.96	12.34	6.52	.440	.260	3.21
12	X	6 1/2	X	35.0	23.82	49.1	63.8	357.3	5.47	7.3	5.6	7.01	12.50	6.56	.520	.300	3.75
12	X	8	X	40.0	25.48	53.7	61.7	353.5	5.34	6.6	5.7	7.49	11.94	8.01	.515	.295	3.52
12	X	8	X	45.0	28.81	59.8	63.7	383.6	5.35	6.4	6.8	8.47	12.06	8.05	.575	.335	4.04
12	X	8 1/8	X	50.0	32.11	66.2	65.8	414.5	5.37	6.3	6.3	9.44	12.19	8.08	.640	.370	4.51
12	X	10	X	53.0	33.01	71.3	65.3	423.8	5.38	5.9	6.5	9.71	12.06	10.00	.575	.345	4.16
12	X	10	X	58.0	35.92	78.3	66.9	453.4	5.41	5.8	6.8	10.56	12.19	10.01	.640	.360	4.39
14	X	5	X	22.0	16.18	32.8	64.5	307.1	5.63	9.4	4.8	4.76	13.74	5.00	.335	.230	3.16
14	X	5	X	26.0	18.87	39.3	67.4	354.8	5.82	9.0	5.3	5.55	13.91	5.03	.420	.255	3.55
14	X	6 3/4	X	30.0	21.16	45.7	69.1	391.1	5.92	8.6	5.7	6.22	13.84	6.73	.385	.270	3.74
14	X	6 3/4	X	34.0	23.54	52.2	71.4	432.8	6.04	8.3	6.1	6.92	13.98	6.75	.455	.285	3.98
14	X	6 3/4	X	38.0	26.17	58.2	73.6	470.4	6.11	8.1	6.4	7.70	14.10	6.77	.515	.310	4.37
14	X	8	X	43.0	28.02	64.5	72.3	478.4	6.03	7.4	6.6	8.24	13.66	8.00	.530	.305	4.17
14	X	8	X	48.0	31.50	71.8	74.8	519.0	6.05	7.2	6.9	9.26	13.79	8.03	.595	.340	4.69
16	X	5 1/2	X	26.0	19.49	43.2	76.2	443.0	6.45	10.3	5.8	5.73	15.69	5.50	.345	.250	3.92
16	X	5 1/2	X	31.0	22.70	52.0	80.0	512.3	6.65	9.9	6.4	6.68	15.88	5.53	.440	.275	4.37
(35T)					PLATE WEIGHT = 15.300 LBS. (.3750 IN.)												

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																	
(35T = 13.125 IN.) PLATE WEIGHT = 15.300 LBS. (.3750 IN.) EFFECTIVE PLATE AREA = 4.922 SQ. IN.																	
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS									
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	YW	ASH	
IN X	IN X	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
16	X	7	X 36.0	I-T	25.69	60.8	82.6	568.4	6.75	9.4	6.9	7.56	15.86	6.99	.430	.295	4.68
16	X	7	X 40.0	I-T	28.09	68.6	85.2	622.7	6.87	9.1	7.3	8.26	16.01	7.00	.505	.305	4.88
16	X	7	X 45.0	I-T	31.77	76.4	88.3	676.2	6.88	8.9	7.7	9.34	16.13	7.04	.565	.345	5.56
18	X	6	X 35.0	I-T	26.29	63.3	92.0	677.6	7.32	10.7	7.4	7.73	17.70	6.00	.425	.300	5.31
18	X	6	X 40.0	I-T	29.35	73.5	96.0	760.9	7.49	10.4	7.9	8.63	17.90	6.02	.525	.315	5.64
18	X	7 1/2	X 50.0	I-T	35.55	92.4	101.9	890.0	7.61	9.6	8.7	10.46	17.99	7.50	.570	.355	6.39

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(35T) PLATE WEIGHT = 15.300 LBS. (.3750 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(35T = 15.313 IN.) PLATE WEIGHT = 17.850 LBS. (.4375 IN.) EFFECTIVE PLATE AREA = 6.699 SQ. IN.																		
NOMINAL SIZE						SECTION MODULUS				BEAM DIMENSIONS								
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2		
4	X	4	X	5.0	T	4.91	4.0	18.3	14.4	1.33	3.6	.8	1.44	3.95	3.94	.205	.170	.67
4	X	4	X	6.5	T	6.40	5.1	19.5	17.8	1.44	3.5	.9	1.88	4.00	4.00	.255	.230	.92
4	X	4	X	7.5	T	7.42	6.0	20.5	21.0	1.54	3.5	1.0	2.18	4.06	4.02	.315	.245	.99
4	X	5 1/4	X	9.0	T	8.82	7.7	21.8	25.7	1.66	3.3	1.2	2.59	4.07	5.25	.330	.230	.94
4	X	4	X	13.0	I-T	8.39	6.8	21.4	23.8	1.61	3.5	1.1	2.47	4.16	4.06	.345	.280	1.16
5	X	4	X	6.0	T	5.88	5.5	24.1	24.0	1.69	4.4	1.0	1.73	4.94	3.96	.210	.190	.94
5	X	4	X	7.5	T	7.37	6.9	25.6	29.5	1.83	4.3	1.2	2.17	5.00	4.00	.270	.230	1.15
5	X	4	X	8.5	T	8.36	8.1	26.7	34.1	1.93	4.2	1.3	2.46	5.06	4.01	.330	.240	1.21
5	X	4	X	9.5	T	9.42	9.4	27.7	38.9	2.03	4.2	1.4	2.77	5.12	4.02	.395	.250	1.28
5	X	5	X	16.0	I-T	9.91	10.1	27.7	40.4	2.05	4.0	1.5	2.92	5.01	5.00	.360	.240	1.20
5	X	5	X	19.0	I-T	11.69	12.1	29.1	47.9	2.17	3.9	1.6	3.44	5.15	5.03	.430	.270	1.39
6	X	4	X	7.0	T	6.94	7.3	30.4	37.9	2.08	5.2	1.2	2.04	5.96	3.97	.225	.200	1.19
6	X	4	X	8.0	T	7.88	8.5	31.5	42.9	2.18	5.1	1.4	2.32	6.00	3.99	.265	.220	1.32
6	X	4	X	9.0	I-T	8.17	6.7	29.9	34.8	2.02	5.2	1.2	1.81	5.90	3.94	.215	.170	1.00
6	X	4	X	9.5	T	9.34	10.5	33.2	52.0	2.35	5.0	1.6	2.75	6.08	4.01	.350	.235	1.43
6	X	4	X	11.0	T	10.89	12.4	34.5	60.3	2.47	4.8	1.7	3.20	6.16	4.03	.425	.260	1.66
6	X	4	X	12.0	I-T	8.30	8.9	31.9	45.1	2.22	5.1	1.4	2.44	6.03	4.00	.280	.230	1.39
6	X	6	X	15.0	I-T	9.78	11.4	33.5	54.7	2.39	4.8	1.6	2.88	5.99	5.99	.260	.230	1.38
6	X	4	X	16.0	I-T	10.74	12.3	35.0	61.3	2.49	5.0	1.8	3.16	6.28	4.03	.405	.260	1.63
6	X	6	X	20.0	I-T	12.63	15.5	36.2	72.1	2.63	4.6	2.0	3.71	6.20	6.02	.365	.260	1.61
7	X	5	X	11.0	T	10.81	14.0	39.2	75.3	2.76	5.4	1.9	3.18	6.87	5.00	.335	.230	1.58
7	X	5	X	13.0	T	12.85	17.0	40.7	88.7	2.91	5.2	2.2	3.78	6.96	5.03	.420	.255	1.77
7	X	6 3/4	X	15.0	T	14.81	20.2	41.7	100.1	3.01	5.0	2.4	4.36	6.92	6.73	.385	.270	1.87
7	X	6 3/4	X	17.0	T	16.77	23.3	42.8	112.0	3.10	4.8	2.6	4.93	6.99	6.75	.455	.285	1.99
7	X	6 3/4	X	19.0	T	18.74	26.0	43.6	122.1	3.16	4.7	2.8	5.51	7.05	6.77	.515	.310	2.19

(35T) PLATE WEIGHT = 17.850 LBS. (.4375 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																	
(35T = 15.313 IN.) PLATE WEIGHT = 17.850 LBS. (.4375 IN.) EFFECTIVE PLATE AREA = 6.699 SQ. IN.																	
NOMINAL SIZE					SECTION MODULUS								BEAM DIMENSIONS				
					WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	LBS/FT			LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2	
7	X	8	X	21.5 T	20.94	29.4	42.9	126.9	3.14	4.3	3.0	6.16	6.83	8.00	.530	.305	2.08
7	X	8	X	24.0 T	23.53	32.8	43.8	137.6	3.18	4.2	3.1	6.92	6.30	8.03	.595	.340	2.35
8	X	4	X	10.0 I-T	7.19	9.5	41.3	64.1	2.70	6.8	1.6	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X	13.0 I-T	9.52	12.2	43.2	80.0	2.90	6.6	1.9	2.80	7.99	4.00	.255	.230	1.84
8	X	5 1/2	X	13.0 T	12.83	18.4	46.1	108.8	3.22	5.9	2.4	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X	15.0 I-T	10.79	14.3	45.1	93.1	3.07	6.5	2.1	3.17	8.11	4.02	.315	.245	1.99
8	X	5 1/2	X	15.5 T	15.28	22.4	47.9	128.0	3.38	5.7	2.7	4.49	7.94	5.53	.440	.275	2.18
8	X	5 1/4	X	18.0 I-T	12.00	17.7	47.4	110.5	3.29	6.2	2.3	3.53	8.14	5.25	.330	.230	1.87
8	X	7	X	18.0 T	17.73	26.8	49.1	145.2	3.49	5.4	3.0	5.22	7.93	6.99	.430	.295	2.34
8	X	7	X	20.0 T	19.79	30.6	50.3	160.8	3.58	5.3	3.2	5.82	8.01	7.00	.505	.305	2.44
8	X	5 1/4	X	21.0 I-T	13.87	21.0	49.3	128.4	3.45	6.1	2.6	4.08	8.28	5.27	.400	.250	2.07
8	X	7	X	22.5 T	22.32	34.1	51.4	174.3	3.63	5.1	3.4	6.56	8.07	7.04	.565	.345	2.78
8	X	6 1/2	X	24.0 I-T	15.11	23.4	48.3	131.9	3.44	5.6	2.7	4.44	7.93	6.50	.400	.245	1.94
8	X	7 1/8	X	25.0 T	24.83	37.6	52.4	187.6	3.66	5.0	3.6	7.30	8.13	7.07	.630	.380	3.09
8	X	6 1/2	X	28.0 I-T	17.69	27.3	49.9	149.9	3.55	5.5	3.0	5.20	8.06	6.54	.465	.285	2.30
8	X	7 1/8	X	28.5 T	28.28	42.3	53.8	205.0	3.69	4.8	3.8	8.32	8.22	7.12	.715	.430	3.53
8	X	8	X	31.0 I-T	19.16	30.4	50.4	159.9	3.60	5.3	3.2	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X	17.5 T	17.26	27.1	54.4	167.8	3.77	6.2	3.1	5.08	8.85	6.00	.425	.300	2.66
9	X	6	X	20.0 T	19.76	32.0	56.2	191.3	3.91	6.0	3.4	5.81	8.95	6.02	.525	.315	2.82
10	X	4	X	12.0 I-T	9.07	13.5	53.0	111.1	3.44	8.2	2.1	2.67	9.87	3.96	.210	.190	1.88
10	X	4	X	15.0 I-T	11.27	17.0	55.6	135.6	3.68	8.0	2.4	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X	17.0 I-T	12.48	19.6	57.8	154.4	3.86	7.9	2.7	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X	19.0 I-T	13.77	22.4	59.9	174.3	4.03	7.8	2.9	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0 I-T	15.04	26.7	61.7	197.5	4.21	7.4	3.2	4.42	10.17	5.75	.360	.240	2.44

(35T) PLATE WEIGHT = 17.850 LBS. (.4375 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T															
(35T = 15.313 IN.) PLATE WEIGHT = 17.850 LBS. (.4375 IN.) EFFECTIVE PLATE AREA = 6.699 SQ. IN.															
NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS							
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN	X IN	X LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN2	
10	X 5 3/4	X 26.0 I-T	17.37	31.7	64.1	228.4	4.40	7.2	3.6	5.11	10.33	5.77	.440	.260	2.69
10	X 5 3/4	X 30.0 I-T	20.23	36.7	66.2	257.6	4.51	7.0	3.9	5.95	10.47	5.81	.510	.300	3.14
10	X 8	X 33.0 I-T	20.94	38.2	62.4	240.9	4.33	6.3	3.9	6.16	9.73	7.96	.435	.290	2.82
10	X 8	X 39.0 I-T	24.45	45.6	64.9	277.6	4.47	6.1	4.3	7.19	9.92	7.99	.530	.315	3.12
10	X 8	X 45.0 I-T	28.19	52.9	67.3	312.3	4.56	5.9	4.6	8.29	10.10	8.02	.620	.350	3.54
12	X 4	X 14.0 I-T	10.98	18.6	65.7	179.1	4.25	9.6	2.7	3.23	11.91	3.97	.225	.200	2.38
12	X 4	X 16.0 I-T	12.37	21.2	67.6	200.9	4.41	9.5	3.0	3.64	11.99	3.99	.265	.220	2.64
12	X 4	X 19.0 I-T	14.20	25.8	71.0	238.3	4.68	9.2	3.4	4.18	12.16	4.01	.350	.235	2.86
12	X 4	X 22.0 I-T	16.33	30.3	73.8	273.6	4.88	9.0	3.7	4.80	12.31	4.03	.425	.260	3.26
12	X 6 1/2	X 26.0 I-T	17.64	37.6	76.7	314.4	5.18	8.5	4.2	5.19	12.22	6.49	.380	.230	2.81
12	X 6 1/2	X 30.0 I-T	20.27	43.2	78.9	356.7	5.31	8.3	4.5	5.96	12.34	6.52	.440	.260	3.21
12	X 6 1/2	X 35.0 I-T	23.82	50.7	81.8	404.7	5.43	8.0	4.9	7.01	12.50	6.56	.520	.300	3.75
12	X 8	X 40.0 I-T	25.48	55.3	79.3	403.4	5.33	7.3	5.1	7.49	11.94	8.01	.515	.295	3.52
12	X 8	X 45.0 I-T	28.81	61.8	81.5	439.2	5.38	7.1	5.4	8.47	12.06	8.05	.575	.335	4.04
12	X 8 1/8	X 50.0 I-T	32.11	68.5	83.8	475.9	5.43	6.9	5.7	9.44	12.19	8.08	.640	.370	4.51
12	X 10	X 53.0 I-T	33.01	73.7	83.5	489.2	5.46	6.6	5.9	9.71	12.06	10.00	.575	.345	4.16
12	X 10	X 58.0 I-T	35.92	81.1	85.4	525.1	5.52	6.5	6.1	10.56	12.19	10.01	.640	.360	4.39
14	X 5	X 22.0 I-T	16.18	33.7	83.0	340.2	5.45	10.1	4.1	4.76	13.74	5.00	.335	.230	3.16
14	X 5	X 26.0 I-T	18.87	40.5	86.6	395.8	5.68	9.8	4.6	5.55	13.91	5.03	.420	.255	3.55
14	X 6 3/4	X 30.0 I-T	21.16	47.1	88.6	438.9	5.83	9.3	5.0	6.22	13.84	6.73	.385	.270	3.74
14	X 6 3/4	X 34.0 I-T	23.54	53.8	91.4	484.3	5.99	9.1	5.3	6.92	13.98	6.75	.455	.285	3.98
14	X 6 3/4	X 38.0 I-T	26.17	60.1	93.9	532.7	6.08	8.9	5.7	7.70	14.10	6.77	.515	.310	4.37
14	X 8	X 43.0 I-T	28.02	66.5	92.5	545.5	6.04	8.2	5.9	8.24	13.66	8.00	.530	.305	4.17
14	X 8	X 48.0 I-T	31.50	74.3	95.2	593.6	6.10	8.0	6.2	9.26	13.79	8.03	.595	.340	4.69

(35T) PLATE WEIGHT = 17.850 LBS. (.4375 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(35T = 15.313 IN.) PLATE WEIGHT = 17.850 LBS. (.4375 IN.) EFFECTIVE PLATE AREA = 6.699 SQ. IN.																
NOMINAL SIZE			WT/FT	SECTION MODULUS				BEAM DIMENSIONS								
				FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
16	X	5 1/2 X	26.0 I-T	19.49	44.6	97.6	493.3	6.30	11.1	5.1	5.73	15.69	5.50	.345	.250	3.92
16	X	5 1/2 X	31.0 I-T	22.70	53.7	102.1	574.1	6.55	10.7	5.6	6.68	15.88	5.53	.440	.275	4.37
16	X	7 X	36.0 I-T	25.69	62.8	105.1	640.7	6.70	10.2	6.1	7.56	15.86	6.99	.430	.295	4.68
16	X	7 X	40.0 I-T	28.09	70.9	108.2	704.8	6.86	9.9	6.5	8.26	16.01	7.00	.505	.305	4.88
16	X	7 X	45.0 I-T	31.77	79.2	111.5	767.1	6.91	9.7	6.9	9.34	16.13	7.04	.565	.345	5.56
16	X	7 1/8 X	50.0 I-T	35.34	87.6	114.9	829.8	6.97	9.5	7.2	10.39	16.26	7.07	.630	.380	6.18
16	X	7 1/8 X	57.0 I-T	40.28	98.7	119.5	911.8	7.01	9.2	7.6	11.85	16.43	7.12	.715	.430	7.06
16	X	10 1/4 X	67.0 I-T	44.18	120.6	121.5	1014.8	7.18	8.4	8.4	12.99	16.33	10.24	.665	.395	6.45
18	X	6 X	35.0 I-T	26.29	65.5	116.5	760.5	7.26	11.6	6.5	7.73	17.70	6.00	.425	.300	5.31
18	X	6 X	40.0 I-T	29.35	76.2	121.2	857.9	7.48	11.3	7.1	8.63	17.90	6.02	.525	.315	5.64
18	X	7 1/2 X	50.0 I-T	35.55	95.9	127.8	1009.7	7.67	10.5	7.9	10.46	17.99	7.50	.570	.355	6.39
18	X	7 1/2 X	60.0 I-T	42.61	114.5	135.1	1157.5	7.76	10.1	8.6	12.53	18.24	7.56	.695	.415	7.57
21	X	8 1/4 X	62.0 I-T	44.94	133.4	158.5	1552.1	8.83	11.6	9.8	13.22	20.99	8.24	.615	.400	8.40
21	X	8 1/4 X	68.0 I-T	49.15	146.2	163.5	1664.4	8.87	11.4	10.2	14.46	21.13	8.27	.685	.430	9.09

(35T) PLATE WEIGHT = 17.850 LBS. (.4375 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																			
(35T = 17.500 IN.) PLATE WEIGHT = 20.400 LBS. (.5000 IN.) EFFECTIVE PLATE AREA = 8.750 SQ. IN.																			
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS											
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN X IN X LBS/FT				LBS	INJ	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2			
4	X	4	X	5.0	T	4.91	4.1	21.5	15.2	1.22	3.7	.7	1.44	3.95	3.94	.205	.170	.67	
4	X	4	X	6.5	T	6.40	5.2	23.2	19.0	1.34	3.7	.8	1.88	4.00	4.00	.255	.230	.92	
4	X	4	X	7.5	T	7.42	6.2	24.7	22.5	1.43	3.7	.9	2.18	4.06	4.02	.315	.245	.99	
4	X	5	1/4	X	9.0	T	8.82	7.9	26.6	27.8	1.57	3.5	1.0	2.59	4.07	5.25	.330	.230	.94
4	X	4	X	13.0	I-T	8.39	7.0	26.0	25.6	1.51	3.7	1.0	2.47	4.16	4.06	.345	.280	1.16	
5	X	4	X	6.0	T	5.88	5.6	28.9	25.4	1.56	4.6	.9	1.73	4.94	3.96	.210	.190	.94	
5	X	4	X	7.5	T	7.37	7.0	31.0	31.5	1.70	4.5	1.0	2.17	5.00	4.00	.270	.230	1.15	
5	X	4	X	8.5	T	8.36	8.2	32.6	36.6	1.81	4.4	1.1	2.46	5.06	4.01	.330	.240	1.21	
5	X	4	X	9.5	T	9.42	9.5	34.0	41.9	1.91	4.4	1.2	2.77	5.12	4.02	.395	.250	1.28	
5	X	5	X	16.0	I-T	9.91	10.3	34.1	43.7	1.94	4.2	1.3	2.92	5.01	5.00	.360	.240	1.20	
5	X	5	X	19.0	I-T	11.69	12.4	36.1	52.1	2.07	4.2	1.4	3.44	5.15	5.03	.430	.270	1.39	
6	X	4	X	7.0	T	6.94	7.5	37.0	40.1	1.93	5.4	1.1	2.04	5.96	3.97	.225	.200	1.19	
6	X	4	X	8.0	T	7.88	8.6	38.4	45.7	2.03	5.3	1.2	2.32	6.00	3.99	.265	.220	1.32	
6	X	4	X	9.0	I-T	6.17	6.8	36.1	36.7	1.86	5.4	1.0	1.81	5.90	3.94	.215	.170	1.00	
6	X	4	X	9.5	T	9.34	10.7	40.8	55.8	2.20	5.2	1.4	2.75	6.00	4.01	.350	.235	1.43	
6	X	4	X	11.0	T	10.89	12.7	42.6	65.1	2.33	5.1	1.5	3.20	6.16	4.03	.425	.260	1.66	
6	X	4	X	12.0	I-T	8.30	9.1	39.0	48.1	2.07	5.3	1.2	2.44	6.03	4.00	.280	.230	1.39	
6	X	6	X	15.0	I-T	9.78	11.6	41.3	58.8	2.25	5.1	1.4	2.88	5.99	5.99	.260	.230	1.38	
6	X	4	X	16.0	I-T	10.74	12.6	43.3	66.1	2.36	5.3	1.5	3.16	6.28	4.03	.405	.260	1.63	
6	X	6	X	20.0	I-T	12.63	15.8	45.0	78.4	2.51	5.0	1.7	3.71	6.20	6.02	.365	.260	1.61	
7	X	5	X	11.0	T	10.81	14.2	48.6	81.1	2.61	5.7	1.7	3.18	6.87	5.00	.335	.230	1.58	
7	X	5	X	13.0	T	12.85	17.3	50.7	96.2	2.77	5.6	1.9	3.78	6.96	5.03	.420	.255	1.77	
7	X	6	3/4	X	15.0	T	14.81	20.6	52.1	109.5	2.89	5.3	2.1	4.36	6.92	6.73	.385	.270	1.87
7	X	6	3/4	X	17.0	T	16.77	23.8	53.5	123.2	3.00	5.2	2.3	4.93	6.99	6.75	.455	.285	1.99
7	X	6	3/4	X	19.0	T	18.74	26.6	54.7	135.1	3.08	5.1	2.5	5.51	7.05	6.77	.515	.310	2.19

(35T) PLATE WEIGHT = 20.400 LBS. (.5000 IN.)

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TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(35T = 17.500 IN.) PLATE WEIGHT = 20.400 LBS. (.5000 IN.) EFFECTIVE PLATE AREA = 8.750 SQ. IN.																		
NOMINAL SIZE						SECTION MODULUS							BEAM DIMENSIONS					
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2		
7	X	8	X	21.5	T	20.94	30.1	53.9	141.5	3.08	4.7	2.6	6.16	6.83	8.00	.530	.305	2.08
7	X	8	X	24.0	T	23.53	33.6	55.0	154.3	3.14	4.6	2.8	6.92	6.90	8.03	.595	.340	2.35
8	X	4	X	10.0	I-T	7.19	9.6	50.6	67.8	2.50	7.1	1.3	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X	13.0	I-T	9.52	12.4	53.3	85.3	2.72	6.9	1.6	2.80	7.99	4.00	.255	.230	1.84
8	X	5 1/2	X	13.0	T	12.83	18.7	57.4	117.7	3.07	6.3	2.1	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X	15.0	I-T	10.79	14.6	55.9	99.7	2.89	6.8	1.8	3.17	8.11	4.02	.315	.245	1.99
8	X	5 1/2	X	15.5	T	15.28	22.9	59.8	139.7	3.25	6.1	2.3	4.49	7.94	5.53	.440	.275	2.18
8	X	5 1/4	X	18.0	I-T	12.00	18.0	59.0	119.1	3.12	6.6	2.0	3.53	8.14	5.25	.330	.230	1.87
8	X	7	X	18.0	T	17.73	27.4	61.5	159.6	3.38	5.8	2.6	5.22	7.93	6.99	.430	.295	2.34
8	X	7	X	20.0	T	19.79	31.3	63.1	177.9	3.49	5.7	2.8	5.82	8.01	7.00	.505	.305	2.44
8	X	5 1/4	X	21.0	I-T	13.87	21.4	61.6	139.3	3.30	6.5	2.3	4.08	8.28	5.27	.400	.250	2.07
8	X	7	X	22.5	T	22.32	34.9	64.3	193.8	3.56	5.6	3.0	6.56	8.07	7.04	.565	.345	2.78
8	X	6 1/2	X	24.0	I-T	15.11	23.8	60.5	144.1	3.30	6.0	2.4	4.44	7.93	6.50	.400	.245	1.94
8	X	7 1/8	X	25.0	T	24.83	38.6	65.5	209.5	3.61	5.4	3.2	7.30	8.13	7.07	.630	.380	3.09
8	X	6 1/2	X	28.0	I-T	17.69	27.8	62.5	164.9	3.44	5.9	2.6	5.20	8.06	6.54	.465	.285	2.30
8	X	7 1/8	X	28.5	T	28.28	43.5	67.1	230.1	3.67	5.3	3.4	8.32	8.22	7.12	.715	.430	3.53
8	X	8	X	31.0	I-T	19.16	31.0	63.2	176.7	3.50	5.7	2.8	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X	17.5	T	17.26	27.6	67.9	183.6	3.64	6.6	2.7	5.08	8.85	6.00	.425	.300	2.66
9	X	6	X	20.0	T	19.76	32.7	70.2	210.8	3.80	6.4	3.0	5.81	8.95	6.02	.525	.315	2.82
10	X	4	X	12.0	I-T	9.07	13.8	65.7	117.9	3.21	8.6	1.8	2.67	9.87	3.96	.210	.190	1.88
10	X	4	X	15.0	I-T	11.27	17.3	69.0	145.1	3.47	8.4	2.1	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X	17.0	I-T	12.48	20.0	71.9	165.9	3.65	8.3	2.3	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X	19.0	I-T	13.77	22.9	74.6	188.1	3.83	8.2	2.5	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0	I-T	15.04	27.2	77.1	214.4	4.03	7.9	2.8	4.42	10.17	5.75	.360	.240	2.44

(35T) PLATE WEIGHT = 20.400 LBS. (.5000 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (3St). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(35T = 17.500 IN.) PLATE WEIGHT = 20.400 LBS. (.5000 IN.) EFFECTIVE PLATE AREA = 8.750 SQ. IN.																		
NOMINAL SIZE			SECTION MODULUS						BEAM DIMENSIONS									
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2		
10	X	5 3/4	X	26.0	I-T	17.37	32.3	80.2	249.6	4.24	7.7	3.1	5.11	10.33	5.77	.440	.260	2.69
10	X	5 3/4	X	30.0	I-T	20.23	37.5	82.8	283.2	4.39	7.5	3.4	5.95	10.47	5.81	.510	.300	3.14
10	X	8	X	33.0	I-T	20.94	39.0	78.2	266.1	4.22	6.8	3.4	6.16	9.73	7.96	.435	.290	2.82
10	X	8	X	39.0	I-T	24.45	46.7	81.4	309.0	4.40	6.6	3.8	7.19	9.92	7.99	.530	.315	3.12
10	X	8	X	45.0	I-T	28.19	54.2	84.2	349.7	4.53	6.4	4.2	8.29	10.10	8.02	.620	.350	3.54
12	X	4	X	14.0	I-T	10.98	19.0	81.7	191.0	3.99	10.1	2.3	3.23	11.91	3.97	.225	.200	2.38
12	X	4	X	16.0	I-T	12.37	21.7	84.2	215.2	4.17	9.9	2.6	3.64	11.99	3.99	.265	.220	2.64
12	X	4	X	19.0	I-T	14.20	26.3	88.6	256.8	4.46	9.8	2.9	4.18	12.16	4.01	.350	.235	2.86
12	X	4	X	22.0	I-T	16.33	30.9	92.0	296.5	4.68	9.6	3.2	4.80	12.31	4.03	.425	.260	3.20
12	X	6 1/2	X	26.0	I-T	17.64	38.3	96.1	348.5	5.00	9.1	3.6	5.19	12.22	6.49	.380	.230	2.81
12	X	6 1/2	X	30.0	I-T	20.27	44.1	98.7	391.5	5.16	8.9	4.0	5.96	12.34	6.52	.440	.260	3.21
12	X	6 1/2	X	35.0	I-T	23.82	51.8	102.1	446.9	5.33	8.6	4.4	7.01	12.50	6.56	.520	.300	3.75
12	X	8	X	40.0	I-T	25.48	56.6	99.2	448.2	5.25	7.9	4.5	7.49	11.94	8.01	.515	.295	3.52
12	X	8	X	45.0	I-T	28.81	63.3	101.7	490.0	5.33	7.7	4.8	8.47	12.06	8.05	.575	.335	4.04
12	X	8 1/8	X	50.0	I-T	32.11	70.3	104.3	532.9	5.41	7.6	5.1	9.44	12.19	8.08	.640	.370	4.51
12	X	10	X	53.0	I-T	33.01	75.5	104.2	550.0	5.46	7.3	5.3	9.71	12.06	10.00	.575	.345	4.16
12	X	10	X	58.0	I-T	35.92	83.2	106.4	592.6	5.54	7.1	5.6	10.56	12.19	10.01	.640	.360	4.39
14	X	5	X	22.0	I-T	16.18	34.5	103.7	368.2	5.22	10.7	3.6	4.76	13.74	5.00	.335	.230	3.16
14	X	5	X	26.0	I-T	18.97	41.4	108.0	431.2	5.49	10.4	4.0	5.55	13.91	5.03	.420	.255	3.55
14	X	6 3/4	X	30.0	I-T	21.16	48.1	110.6	480.9	5.67	10.0	4.3	6.22	13.84	6.73	.385	.270	3.74
14	X	6 3/4	X	34.0	I-T	23.54	55.1	114.0	537.6	5.86	9.8	4.7	6.92	13.98	6.75	.455	.285	3.98
14	X	6 3/4	X	38.0	I-T	26.17	61.6	116.8	588.9	5.98	9.6	5.0	7.70	14.10	6.77	.515	.310	4.37
14	X	8	X	43.0	I-T	28.02	68.1	115.3	606.4	5.97	8.9	5.3	8.24	13.66	8.00	.530	.305	4.17
14	X	8	X	48.0	I-T	31.50	76.2	118.3	662.4	6.06	8.7	5.6	9.26	13.79	8.03	.595	.340	4.69

(35T) PLATE WEIGHT = 20.400 LBS. (.5000 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(35T = 17.500 IN.) PLATE WEIGHT = 20.400 LBS. (.5000 IN.) EFFECTIVE PLATE AREA = 8.750 SQ. IN.																
NOMINAL SIZE			WT/FT	SECTION MODULUS				BEAM DIMENSIONS								
				FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2		
16	X 5 1/2	X 26.0	I-T	19.49	45.6	121.6	536.9	6.09	11.8	4.4	5.73	15.69	5.50	.345	.250	3.92
16	X 5 1/2	X 31.0	I-T	22.70	55.0	127.0	628.8	6.38	11.4	5.0	6.68	15.88	5.53	.440	.275	4.37
16	X 7	X 36.0	I-T	25.69	64.4	130.6	705.5	6.58	11.0	5.4	7.56	15.86	6.99	.430	.295	4.68
16	X 7	X 40.0	I-T	28.09	72.8	134.4	779.3	6.77	10.7	5.6	8.26	16.01	7.00	.505	.305	4.88
16	X 7	X 45.0	I-T	31.77	81.4	137.9	851.0	6.86	10.5	6.2	9.34	16.13	7.04	.565	.345	5.56
16	X 7 1/8	X 50.0	I-T	35.34	90.2	141.6	923.1	6.94	10.2	6.5	10.39	16.26	7.07	.630	.380	6.18
16	X 7 1/8	X 57.0	I-T	40.28	101.8	146.5	1017.0	7.03	10.0	6.9	11.85	16.43	7.12	.715	.430	7.06
16	X 10 1/4	X 67.0	I-T	44.18	124.2	149.5	1141.8	7.25	9.2	7.6	12.99	16.33	10.24	.665	.395	6.45
16	X 10 1/4	X 77.0	I-T	50.98	141.3	155.4	1259.4	7.28	8.9	8.1	15.00	16.52	10.30	.760	.455	7.52
18	X 6	X 35.0	I-T	26.29	67.3	144.3	835.1	7.12	12.4	5.8	7.73	17.70	6.00	.425	.300	5.31
18	X 6	X 40.0	I-T	29.35	78.3	149.9	946.3	7.38	12.1	6.3	8.63	17.90	6.02	.525	.315	5.64
18	X 7 1/2	X 50.0	I-T	35.55	98.7	157.3	1121.6	7.64	11.4	7.1	10.46	17.99	7.50	.570	.355	6.39
18	X 7 1/2	X 60.0	I-T	42.61	118.1	165.2	1290.9	7.79	10.9	7.8	12.53	18.24	7.56	.695	.415	7.57
18	X 7 5/8	X 71.0	I-T	50.75	137.5	173.5	1455.5	7.84	10.6	8.4	14.93	18.47	7.64	.810	.495	9.14
18	X 11 1/8	X 86.0	I-T	57.79	172.7	178.8	1659.6	8.03	9.6	9.3	17.00	18.39	11.09	.770	.480	8.83
21	X 8 1/4	X 62.0	I-T	44.94	137.8	193.0	1727.5	8.87	12.5	9.0	13.22	20.99	8.24	.615	.400	8.40
21	X 8 1/4	X 68.0	I-T	49.15	151.1	198.3	1855.1	8.94	12.3	9.4	14.46	21.13	8.27	.685	.430	9.09
21	X 8 1/4	X 73.0	I-T	52.58	161.7	202.6	1954.7	8.98	12.1	9.6	15.47	21.24	8.30	.740	.455	9.66
21	X 12 1/4	X 101.0	I-T	68.38	230.3	218.1	2448.8	9.21	10.6	11.2	20.11	21.36	12.29	.800	.500	10.68

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MIL-HDBK-264 (SH)
30 September 1980

(35T) PLATE WEIGHT = 20.400 LBS. (.5000 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(35T = 19.688 IN.) PLATE WEIGHT = 22.950 LBS. (.5625 IN.) EFFECTIVE PLATE AREA = 11.074 SQ. IN.																		
NOMINAL SIZE						SECTION MODULUS				BEAM DIMENSIONS								
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2			
4	X	4	X	5.0	T	4.91	4.1	24.3	16.0	1.13	3.9	.7	1.44	3.95	3.94	.205	.170	.67
4	X	4	X	6.5	T	6.40	5.3	26.7	20.0	1.24	3.8	.8	1.88	4.00	4.00	.255	.230	.92
4	X	4	X	7.5	T	7.42	6.3	28.7	23.8	1.34	3.8	.8	2.18	4.06	4.02	.315	.245	.99
4	X	5 1/4	X	9.0	T	8.82	8.0	31.2	29.6	1.47	3.7	.9	2.59	4.07	5.25	.330	.230	.94
4	X	4	X	13.0	I-T	8.39	7.1	30.3	27.1	1.42	3.8	.9	2.47	4.16	4.06	.345	.280	1.16
5	X	4	X	6.0	T	5.88	5.7	33.3	26.6	1.44	4.7	.8	1.73	4.94	3.96	.210	.190	.94
5	X	4	X	7.5	T	7.37	7.1	36.1	33.2	1.58	4.6	.9	2.17	5.00	4.00	.270	.230	1.15
5	X	4	X	8.5	T	8.36	8.4	38.3	38.7	1.69	4.6	1.0	2.46	5.06	4.01	.330	.240	1.21
5	X	4	X	9.5	T	9.42	9.7	40.2	44.4	1.79	4.6	1.1	2.77	5.12	4.02	.395	.250	1.28
5	X	5	X	16.0	I-T	9.91	10.5	40.5	46.4	1.82	4.4	1.1	2.92	5.01	5.00	.360	.240	1.20
5	X	5	X	19.0	I-T	11.69	12.6	43.1	55.6	1.96	4.4	1.3	3.44	5.15	5.03	.430	.270	1.39
6	X	4	X	7.0	T	6.94	7.6	43.2	42.1	1.79	5.5	1.0	2.04	5.96	3.97	.225	.200	1.19
6	X	4	X	8.0	T	7.88	8.7	45.2	48.0	1.89	5.5	1.1	2.32	6.00	3.99	.265	.220	1.32
6	X	4	X	9.0	I-T	6.17	6.9	42.0	38.4	1.73	5.5	.9	1.81	5.90	3.94	.215	.170	1.00
6	X	4	X	9.5	T	9.34	10.9	48.5	58.9	2.06	5.4	1.2	2.75	6.08	4.01	.350	.235	1.43
6	X	4	X	11.0	T	10.89	12.9	50.9	69.1	2.20	5.4	1.4	3.20	6.16	4.03	.425	.260	1.60
6	X	4	X	12.0	I-T	8.30	9.2	46.0	50.7	1.94	5.5	1.1	2.44	6.03	4.00	.280	.230	1.39
6	X	6	X	15.0	I-T	9.78	11.8	49.2	62.2	2.11	5.3	1.3	2.88	5.99	5.99	.260	.230	1.38
6	X	4	X	16.0	I-T	10.74	12.8	51.7	70.1	2.22	5.5	1.4	3.16	6.28	4.03	.405	.260	1.63
6	X	6	X	20.0	I-T	12.63	16.0	54.2	83.7	2.38	5.2	1.5	3.71	6.20	6.02	.365	.260	1.61
7	X	5	X	11.0	T	10.81	14.4	58.2	85.9	2.46	6.0	1.5	3.18	6.87	5.00	.335	.230	1.58
7	X	5	X	13.0	T	12.85	17.6	61.1	102.6	2.63	5.8	1.7	3.78	6.96	5.03	.420	.255	1.77
7	X	6 3/4	X	15.0	T	14.81	20.9	63.0	117.4	2.76	5.6	1.9	4.36	6.92	6.73	.385	.270	1.87
7	X	6 3/4	X	17.0	T	16.77	24.1	65.0	132.9	2.88	5.5	2.0	4.93	6.99	6.75	.455	.285	1.99
7	X	6 3/4	X	19.0	T	18.74	27.1	66.5	146.4	2.97	5.4	2.2	5.51	7.05	6.77	.515	.310	2.19

(35T) PLATE WEIGHT = 22.950 LBS. (.5625 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(35T = 19.688 IN.) PLATE WEIGHT = 22.950 LBS. (.5625 IN.) EFFECTIVE PLATE AREA = 11.074 SQ. IN.																
NOMINAL SIZE				SECTION MODULUS								BEAM DIMENSIONS				
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
7	X	8	X 21.5 T	20.94	30.6	65.8	154.4	2.99	5.0	2.3	6.16	6.83	8.00	.538	.305	2.68
7	X	8	X 24.0 T	23.53	34.2	67.2	169.2	3.07	4.9	2.5	6.92	6.90	8.03	.595	.340	2.35
8	X	4	X 10.0 I-T	7.19	9.7	59.8	70.8	2.32	7.3	1.2	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X 13.0 I-T	9.52	12.6	63.5	89.7	2.54	7.1	1.4	2.80	7.99	4.00	.255	.230	1.84
8	X	5 1/2	X 13.0 T	12.83	19.0	69.3	125.2	2.90	6.6	1.8	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X 15.0 I-T	10.79	14.8	67.0	105.3	2.72	7.1	1.6	3.17	8.11	4.02	.315	.245	1.99
8	X	5 1/2	X 15.5 T	15.28	23.2	72.5	149.6	3.10	6.4	2.1	4.49	7.94	5.53	.440	.275	2.18
8	X	5 1/4	X 18.0 I-T	12.00	18.2	71.2	126.4	2.94	6.9	1.8	3.53	8.14	5.25	.330	.230	1.87
8	X	7	X 18.0 T	17.73	27.8	74.7	172.1	3.25	6.2	2.3	5.22	7.93	6.99	.430	.295	2.34
8	X	7	X 20.0 T	19.79	31.8	76.9	192.8	3.38	6.1	2.5	5.82	8.01	7.00	.505	.305	2.44
8	X	5 1/4	X 21.0 I-T	13.87	21.7	74.5	148.6	3.13	6.8	2.0	4.08	8.28	5.27	.400	.250	2.07
8	X	7	X 22.5 T	22.32	35.5	78.4	211.0	3.46	5.9	2.7	6.56	8.07	7.04	.565	.345	2.78
8	X	6 1/2	X 24.0 I-T	15.11	24.2	73.4	154.5	3.15	6.4	2.1	4.44	7.93	6.50	.400	.245	1.94
8	X	7 1/8	X 25.0 T	24.83	39.3	79.8	229.0	3.53	5.8	2.9	7.30	8.13	7.07	.630	.380	3.09
8	X	6 1/2	X 28.0 I-T	17.69	28.3	76.0	177.7	3.30	6.3	2.3	5.20	8.06	6.54	.465	.285	2.30
8	X	7 1/8	X 28.5 T	28.28	44.4	81.8	252.8	3.61	5.7	3.1	8.32	8.22	7.12	.715	.430	3.53
8	X	8	X 31.0 I-T	19.16	31.5	77.0	191.3	3.38	6.1	2.5	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X 17.5 T	17.26	28.1	82.4	197.2	3.49	7.0	2.4	5.08	8.85	6.00	.425	.300	2.66
9	X	6	X 20.0 T	19.76	33.3	85.5	227.7	3.67	6.8	2.7	5.81	8.95	6.02	.525	.315	2.82
10	X	4	X 12.0 I-T	9.07	13.9	78.6	123.6	3.00	8.9	1.6	2.67	9.87	3.96	.210	.190	1.88
10	X	4	X 15.0 I-T	11.27	17.6	83.1	153.0	3.26	8.7	1.8	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X 17.0 I-T	12.48	20.3	86.8	175.5	3.45	8.7	2.0	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X 19.0 I-T	13.77	23.2	90.3	199.7	3.63	8.6	2.2	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X 22.0 I-T	15.04	27.6	93.7	228.6	3.84	8.3	2.4	4.42	10.17	5.75	.360	.240	2.44

(35T) PLATE WEIGHT = 22.950 LBS. (.5625 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T															
(35T = 19.688 IN.) PLATE WEIGHT = 22.950 LBS. (.5625 IN.) EFFECTIVE PLATE AREA = 11.074 SQ. IN.															
NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS							
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN	X IN	X LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN2	
10	X 5 3/4	X 26.0 I-T	17.37	32.8	97.6	267.7	4.07	8.2	2.7	5.11	10.33	5.77	.440	.260	2.69
10	X 5 3/4	X 30.0 I-T	20.23	38.2	100.8	305.4	4.24	8.0	3.0	5.95	10.47	5.81	.510	.300	3.14
10	X 8	X 33.0 I-T	20.94	39.6	95.4	288.1	4.09	7.3	3.0	6.16	9.73	7.96	.435	.290	2.82
10	X 8	X 39.0 I-T	24.45	47.5	99.3	336.7	4.29	7.1	3.4	7.19	9.92	7.99	.530	.315	3.12
10	X 8	X 45.0 I-T	28.19	55.3	102.8	383.3	4.45	6.9	3.7	8.29	10.10	8.02	.620	.350	3.54
12	X 4	X 14.0 I-T	10.98	19.2	98.6	200.8	3.75	10.4	2.0	3.23	11.91	3.97	.225	.200	2.38
12	X 4	X 16.0 I-T	12.37	22.0	101.8	227.1	3.93	10.3	2.2	3.64	11.99	3.99	.265	.220	2.64
12	X 4	X 19.0 I-T	14.20	26.7	107.4	272.3	4.23	10.2	2.5	4.18	12.16	4.01	.350	.235	2.86
12	X 4	X 22.0 I-T	16.33	31.4	111.7	315.9	4.46	10.0	2.8	4.80	12.31	4.03	.425	.260	3.20
12	X 6 1/2	X 26.0 I-T	17.64	38.9	117.2	373.4	4.79	9.6	3.2	5.19	12.22	6.49	.380	.230	2.81
12	X 6 1/2	X 30.0 I-T	20.27	44.8	120.4	421.6	4.97	9.4	3.5	5.96	12.34	6.52	.440	.260	3.21
12	X 6 1/2	X 35.0 I-T	23.82	52.8	124.4	484.0	5.17	9.2	3.9	7.81	12.50	6.56	.520	.300	3.75
12	X 8	X 40.0 I-T	25.48	57.6	121.2	487.9	5.13	8.5	4.0	7.49	11.94	8.01	.515	.295	3.52
12	X 8	X 45.0 I-T	28.81	64.5	124.0	535.7	5.23	8.3	4.3	8.47	12.06	8.05	.575	.335	4.04
12	X 8 1/8	X 50.0 I-T	32.11	71.8	127.0	584.7	5.34	8.1	4.6	9.44	12.19	8.08	.640	.370	4.51
12	X 10	X 53.0 I-T	33.01	77.0	127.1	605.4	5.40	7.9	4.8	9.71	12.06	10.00	.575	.345	4.16
12	X 10	X 58.0 I-T	35.92	84.9	129.8	654.6	5.50	7.7	5.0	10.56	12.19	10.01	.640	.360	4.39
14	X 5	X 22.0 I-T	16.18	35.0	126.1	391.9	4.98	11.2	3.1	4.76	13.74	5.00	.335	.230	3.16
14	X 5	X 26.0 I-T	18.87	42.1	131.5	461.6	5.27	11.0	3.5	5.55	13.91	5.03	.420	.255	3.55
14	X 6 3/4	X 30.0 I-T	21.16	49.0	134.7	517.3	5.47	10.6	3.8	6.22	13.84	6.73	.385	.270	3.74
14	X 6 3/4	X 34.0 I-T	23.54	56.1	138.9	580.8	5.68	10.4	4.2	6.92	13.98	6.75	.455	.285	3.98
14	X 6 3/4	X 38.0 I-T	26.17	62.8	142.2	638.6	5.83	10.2	4.5	7.70	14.10	6.77	.515	.310	4.37
14	X 8	X 43.0 I-T	28.02	69.4	140.6	660.9	5.85	9.5	4.7	8.24	13.66	8.00	.530	.305	4.17
14	X 8	X 48.0 I-T	31.50	77.8	144.0	724.8	5.97	9.3	5.0	9.26	13.79	8.03	.595	.340	4.69
(35T)			PLATE WEIGHT = 22.950 LBS. (.5625 IN.)												

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(35T = 19.688 IN.) PLATE WEIGHT = 22.950 LBS. (.5625 IN.) EFFECTIVE PLATE AREA = 11.074 SQ. IN.																
NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS								
IN X IN X LBS/FT		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
		LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN	IN2		
16	X 5 1/2 X	26.0	I-T	19.49	46.4	148.0	574.2	5.84	12.4	3.9	5.73	15.69	5.50	.345	.250	3.92
16	X 5 1/2 X	31.0	I-T	22.70	56.1	154.5	676.3	6.17	12.1	4.4	6.68	15.88	5.53	.440	.275	4.37
16	X 7 X	36.0	I-T	25.69	65.6	158.8	762.7	6.40	11.6	4.8	7.56	15.86	6.99	.430	.295	4.68
16	X 7 X	40.0	I-T	28.09	74.2	163.4	845.7	6.61	11.4	5.2	8.26	16.01	7.00	.505	.305	4.88
16	X 7 X	45.0	I-T	31.77	83.1	167.3	927.0	6.74	11.2	5.5	9.34	16.13	7.04	.565	.345	5.56
16	X 7 1/8 X	50.0	I-T	35.34	92.2	171.3	1008.6	6.85	10.9	5.9	10.39	16.26	7.07	.630	.380	6.18
16	X 7 1/8 X	57.0	I-T	40.28	104.4	176.6	1114.9	6.97	10.7	6.3	11.85	16.43	7.12	.715	.430	7.06
16	X 10 1/4 X	67.0	I-T	44.18	127.1	180.9	1261.1	7.24	9.9	7.0	12.99	16.33	10.24	.665	.395	6.45
16	X 10 1/4 X	77.0	I-T	50.98	144.9	187.1	1395.1	7.32	9.6	7.5	15.00	16.52	10.30	.760	.455	7.52
16	X 10 3/8 X	89.0	I-T	59.17	166.2	194.7	1552.1	7.38	9.3	8.0	17.40	16.75	10.37	.875	.525	8.79
18	X 6 X	35.0	I-T	26.29	68.7	175.0	901.1	6.92	13.1	5.1	7.73	17.70	6.00	.425	.300	5.31
18	X 6 X	40.0	I-T	29.35	80.0	181.7	1025.6	7.21	12.8	5.6	8.63	17.90	6.02	.525	.315	5.64
18	X 7 1/2 X	50.0	I-T	35.55	101.0	190.3	1224.1	7.54	12.1	6.4	10.46	17.99	7.50	.570	.355	6.39
18	X 7 1/2 X	60.0	I-T	42.61	121.1	198.9	1415.6	7.74	11.7	7.1	12.53	18.24	7.56	.695	.415	7.57
18	X 7 5/8 X	71.0	I-T	50.75	141.4	207.7	1600.8	7.85	11.3	7.7	14.93	18.47	7.64	.810	.495	9.14
18	X 11 1/8 X	86.0	I-T	57.79	177.4	214.3	1839.3	8.09	10.4	8.6	17.00	18.39	11.09	.770	.480	8.83
18	X 11 1/8 X	97.0	I-T	65.20	198.9	221.7	2008.0	8.15	10.1	9.1	19.18	18.59	11.15	.870	.535	9.95
21	X 8 1/4 X	62.0	I-T	44.94	141.4	231.7	1892.2	8.83	13.4	8.2	13.22	20.99	8.24	.615	.400	8.40
21	X 8 1/4 X	68.0	I-T	49.15	155.2	237.5	2036.0	8.93	13.1	8.6	14.46	21.13	8.27	.685	.430	9.09
21	X 8 1/4 X	73.0	I-T	52.58	166.2	242.1	2148.1	9.00	12.9	8.9	15.47	21.24	8.30	.740	.455	9.66
21	X 8 3/8 X	83.0	I-T	59.78	186.6	250.9	2353.2	9.06	12.6	9.4	17.58	21.43	8.36	.835	.515	11.04
21	X 12 1/4 X	101.0	I-T	68.38	236.8	259.6	2715.0	9.33	11.5	10.5	20.11	21.36	12.29	.800	.500	10.68
21	X 12 3/8 X	111.0	I-T	75.30	257.9	267.2	2896.6	9.34	11.2	10.8	22.15	21.51	12.34	.875	.550	11.83

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MIL-HDBK-264 (SH)
30 September 1980

(35T) PLATE WEIGHT = 22.950 LBS. (.5625 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(35T = 21.875 IN.) PLATE WEIGHT = 25.500 LBS. (.6250 IN.) EFFECTIVE PLATE AREA = 13.672 SQ. IN.																		
NOMINAL SIZE					SECTION MODULUS								BEAM DIMENSIONS					
					WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2		
4	X	4	X	5.0	T	4.91	4.2	26.7	16.7	1.05	3.9	.6	1.44	3.95	3.94	.205	.170	.67
4	X	4	X	6.5	T	6.40	5.4	29.7	21.0	1.16	3.9	.7	1.88	4.00	4.00	.255	.230	.92
4	X	4	X	7.5	T	7.42	6.4	32.2	25.0	1.26	3.9	.8	2.18	4.06	4.02	.315	.245	.99
4	X	5 1/4	X	9.0	T	8.82	8.2	35.6	31.2	1.38	3.8	.9	2.59	4.07	5.25	.330	.230	.94
4	X	4	X	13.0	I-T	8.39	7.2	34.3	28.6	1.33	4.0	.8	2.47	4.16	4.06	.345	.280	1.16
5	X	4	X	6.0	T	5.88	5.7	37.1	27.7	1.34	4.8	.7	1.73	4.94	3.96	.210	.190	.94
5	X	4	X	7.5	T	7.37	7.3	40.8	34.7	1.48	4.8	.8	2.17	5.00	4.00	.270	.230	1.15
5	X	4	X	8.5	T	8.36	8.5	43.6	40.5	1.58	4.8	.9	2.46	5.06	4.01	.330	.240	1.21
5	X	4	X	9.5	T	9.42	9.8	46.2	46.6	1.68	4.7	1.0	2.77	5.12	4.02	.395	.250	1.28
5	X	5	X	16.0	I-T	9.91	10.7	46.6	48.9	1.72	4.6	1.0	2.92	5.01	5.00	.360	.240	1.20
5	X	5	X	19.0	I-T	11.69	12.8	50.0	58.8	1.85	4.6	1.2	3.44	5.15	5.03	.430	.270	1.39
6	X	4	X	7.0	T	6.94	7.7	48.9	43.8	1.67	5.7	.9	2.04	5.96	3.97	.225	.200	1.19
6	X	4	X	8.0	T	7.88	8.9	51.5	50.1	1.77	5.7	1.0	2.32	6.00	3.99	.265	.220	1.32
6	X	4	X	9.0	I-T	6.17	7.0	47.3	39.9	1.60	5.7	.8	1.81	5.90	3.94	.215	.170	1.00
6	X	4	X	9.5	T	9.34	11.0	55.8	61.6	1.94	5.6	1.1	2.75	6.08	4.01	.350	.235	1.43
6	X	4	X	11.0	T	10.89	13.1	59.1	72.6	2.07	5.6	1.2	3.20	6.16	4.03	.425	.260	1.60
6	X	4	X	12.0	I-T	8.30	9.4	52.6	52.9	1.81	5.6	1.0	2.44	6.03	4.00	.280	.230	1.39
6	X	6	X	15.0	I-T	9.78	11.9	56.9	65.2	1.98	5.5	1.1	2.88	5.99	5.99	.260	.230	1.38
6	X	4	X	16.0	I-T	10.74	13.0	59.9	73.6	2.09	5.7	1.2	3.16	6.28	4.33	.405	.260	1.63
6	X	6	X	20.0	I-T	12.63	16.3	63.3	88.3	2.25	5.4	1.4	3.71	6.20	6.02	.365	.260	1.61
7	X	5	X	11.0	T	10.81	14.6	67.8	90.1	2.31	6.2	1.3	3.18	6.87	5.00	.335	.230	1.58
7	X	5	X	13.0	T	12.85	17.8	71.6	108.1	2.49	6.1	1.5	3.78	6.96	5.03	.420	.255	1.77
7	X	6 3/4	X	15.0	T	14.81	21.2	74.2	124.3	2.63	5.9	1.7	4.36	6.92	6.73	.385	.270	1.87
7	X	6 3/4	X	17.0	T	16.77	24.5	76.9	141.3	2.76	5.8	1.8	4.93	6.99	6.75	.455	.285	1.99
7	X	6 3/4	X	19.0	T	18.74	27.4	78.8	156.2	2.85	5.7	2.0	5.51	7.05	6.77	.515	.310	2.19

(35T) PLATE WEIGHT = 25.500 LBS. (.6250 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(35T = 21.875 IN.) PLATE WEIGHT = 25.500 LBS. (.6250 IN.) EFFECTIVE PLATE AREA = 13.672 SQ. IN.																		
NOMINAL SIZE						SECTION MODULUS						BEAM DIMENSIONS						
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X IN X LBS/FT						LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN	IN	IN2		
7	X	8	X	21.5	T	20.94	31.1	78.3	165.7	2.89	5.3	2.1	6.16	6.83	8.00	.530	.305	2.08
7	X	8	X	24.0	T	23.53	34.8	80.1	182.4	2.98	5.2	2.3	6.92	6.90	8.03	.595	.340	2.35
8	X	4	X	10.0	I-T	7.19	9.9	68.5	73.3	2.16	7.4	1.1	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X	13.0	I-T	9.52	12.7	73.6	93.5	2.38	7.3	1.3	2.80	7.99	4.00	.255	.230	1.84
8	X	5 1/2	X	13.0	T	12.83	19.2	81.3	131.6	2.75	6.9	1.6	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X	15.0	I-T	10.79	15.0	78.0	110.1	2.56	7.3	1.4	3.17	8.11	4.02	.315	.245	1.99
8	X	5 1/2	X	15.5	T	15.28	23.6	85.6	158.2	2.95	6.7	1.8	4.49	7.94	5.53	.440	.275	2.18
8	X	5 1/4	X	18.0	I-T	12.00	18.5	83.5	132.6	2.78	7.2	1.6	3.53	8.14	5.25	.330	.230	1.87
8	X	7	X	18.0	T	17.73	28.2	88.6	182.9	3.11	6.5	2.1	5.22	7.93	6.99	.430	.295	2.34
8	X	7	X	20.0	T	19.79	32.2	91.4	205.8	3.25	6.4	2.3	5.82	8.01	7.00	.505	.305	2.44
8	X	5 1/4	X	21.0	I-T	13.87	22.0	87.9	156.5	2.97	7.1	1.8	4.08	8.28	5.27	.400	.250	2.07
8	X	7	X	22.5	T	22.32	36.1	93.3	226.1	3.34	6.3	2.4	6.56	8.07	7.04	.565	.345	2.78
8	X	6 1/2	X	24.0	I-T	15.11	24.5	86.8	163.3	3.00	6.7	1.9	4.44	7.93	6.50	.400	.245	1.94
8	X	7 1/8	X	25.0	T	24.83	40.0	95.1	246.4	3.43	6.2	2.6	7.30	8.13	7.07	.630	.380	3.09
8	X	6 1/2	X	28.0	I-T	17.69	28.7	90.2	188.9	3.16	6.6	2.1	5.20	8.06	6.54	.465	.285	2.30
8	X	7 1/8	X	28.5	T	28.28	45.2	97.5	273.1	3.52	6.0	2.8	8.32	8.22	7.12	.715	.430	3.53
8	X	8	X	31.0	I-T	19.16	31.9	91.6	204.0	3.25	6.4	2.2	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X	17.5	T	17.26	28.5	97.6	208.8	3.34	7.3	2.1	5.08	8.85	6.00	.425	.300	2.66
9	X	6	X	20.0	T	19.76	33.7	101.5	242.4	3.53	7.2	2.4	5.81	8.95	6.02	.525	.315	2.82
10	X	4	X	12.0	I-T	9.07	14.1	91.4	128.3	2.80	9.1	1.4	2.67	9.87	3.96	.210	.190	1.88
10	X	4	X	15.0	I-T	11.27	17.8	97.3	159.6	3.07	9.0	1.6	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X	17.0	I-T	12.48	20.5	102.0	183.6	3.25	8.9	1.8	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X	19.0	I-T	13.77	23.5	106.5	209.5	3.44	8.9	2.0	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0	I-T	15.04	27.9	110.9	240.7	3.65	8.6	2.2	4.42	10.17	5.75	.360	.240	2.44

(35T) PLATE WEIGHT = 25.500 LBS. (.6250 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(35T = 21.875 IN.) PLATE WEIGHT = 25.500 LBS. (.6250 IN.) EFFECTIVE PLATE AREA = 13.672 SQ. IN.																
NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS								
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	JN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2		
10	X 5 3/4	X 26.0	I-T	17.37	33.3	116.0	283.2	3.88	8.5	2.4	5.11	10.33	5.77	.440	.260	2.69
10	X 5 3/4	X 30.0	I-T	20.23	38.7	119.9	324.7	4.07	8.4	2.7	5.95	10.47	5.81	.510	.300	3.14
10	X 8	X 33.0	I-T	20.94	40.1	113.7	307.2	3.94	7.7	2.7	6.16	9.73	7.96	.435	.290	2.82
10	X 8	X 39.0	I-T	24.45	48.2	118.6	361.2	4.16	7.5	3.0	7.19	9.92	7.99	.530	.315	3.12
10	X 8	X 45.0	I-T	28.19	56.1	122.9	413.3	4.34	7.4	3.4	8.29	10.18	8.02	.620	.350	3.54
12	X 4	X 14.0	I-T	10.98	19.5	115.9	209.0	3.52	10.7	1.8	3.23	11.91	3.97	.225	.200	2.38
12	X 4	X 16.0	I-T	12.37	22.3	120.0	237.1	3.70	10.6	2.0	3.64	11.99	3.99	.265	.220	2.64
12	X 4	X 19.0	I-T	14.20	27.1	127.1	285.3	4.00	10.5	2.2	4.18	12.16	4.01	.350	.235	2.86
12	X 4	X 22.0	I-T	16.33	31.9	132.5	332.4	4.24	10.4	2.5	4.80	12.31	4.03	.425	.260	3.20
12	X 6 1/2	X 26.0	I-T	17.64	39.4	139.6	394.6	4.57	10.0	2.8	5.19	12.22	6.49	.380	.230	2.81
12	X 6 1/2	X 30.0	I-T	20.27	45.4	143.6	447.5	4.77	9.8	3.1	5.96	12.34	6.52	.440	.260	3.21
12	X 6 1/2	X 35.0	I-T	23.82	53.5	148.5	516.5	5.00	9.6	3.5	7.01	12.50	6.56	.520	.300	3.75
12	X 8	X 40.0	I-T	25.48	58.4	144.9	522.8	4.97	9.0	3.6	7.49	11.94	8.01	.515	.295	3.52
12	X 8	X 45.0	I-T	28.81	65.5	148.2	576.3	5.10	8.8	3.9	8.47	12.06	8.05	.575	.335	4.04
12	X 8 1/8	X 50.0	I-T	32.11	73.0	151.6	631.2	5.23	8.7	4.2	9.44	12.19	8.08	.640	.370	4.51
12	X 10	X 53.0	I-T	33.01	86.2	152.1	655.3	5.29	8.4	4.3	9.71	12.06	10.00	.575	.345	4.16
12	X 10	X 58.0	I-T	35.92	86.3	155.3	711.0	5.42	8.2	4.6	10.56	12.19	10.01	.640	.360	4.39
14	X 5	X 22.0	I-T	16.18	35.5	149.9	412.0	4.73	11.6	2.7	4.76	13.74	5.00	.335	.230	3.16
14	X 5	X 26.0	I-T	18.87	42.7	156.6	487.5	5.04	11.4	3.1	5.55	13.91	5.03	.420	.255	3.55
14	X 6 3/4	X 30.0	I-T	21.16	49.7	160.6	548.7	5.25	11.0	3.4	6.22	13.84	6.73	.385	.270	3.74
14	X 6 3/4	X 34.0	I-T	23.54	56.9	165.7	618.4	5.48	10.9	3.7	6.92	13.98	6.75	.455	.285	3.98
14	X 6 3/4	X 38.0	I-T	26.17	63.8	169.7	682.4	5.65	10.7	4.0	7.70	14.10	6.77	.515	.310	4.37
14	X 8	X 43.0	I-T	28.02	70.5	168.0	709.1	5.69	10.1	4.2	8.24	13.66	8.00	.530	.305	4.17
14	X 8	X 48.0	I-T	31.50	79.0	171.9	780.6	5.83	9.9	4.5	9.26	13.79	8.03	.595	.340	4.69

(35T) PLATE WEIGHT = 25.500 LBS. (.6250 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(35T = 21.875 IN.) PLATE WEIGHT = 25.500 LBS. (.6250 IN.) EFFECTIVE PLATE AREA = 13.672 SQ. IN.																
NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS								
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2		
16	X 5 1/2	X 26.0	I-T	19.49	47.1	176.3	606.2	5.59	12.9	3.4	5.73	15.69	5.50	.345	.250	3.92
16	X 5 1/2	X 31.0	I-T	22.70	56.9	184.1	717.6	5.94	12.6	3.9	6.68	15.88	5.53	.440	.275	4.37
16	Y 7	X 36.0	I-T	25.69	66.7	189.4	812.8	6.19	12.2	4.3	7.56	15.86	6.99	.430	.295	4.68
16	X 7	X 40.0	I-T	28.09	75.4	194.9	904.4	6.42	12.0	4.6	8.26	16.01	7.90	.505	.305	4.88
16	X 7	X 45.0	I-T	31.77	84.6	199.3	994.9	6.57	11.8	5.0	9.34	16.13	7.04	.565	.345	5.56
16	X 7 1/8	X 50.0	I-T	35.34	94.0	203.8	1085.9	6.72	11.6	5.3	10.39	16.26	7.07	.630	.380	6.18
16	X 7 1/8	X 57.0	I-T	40.28	106.5	209.7	1204.5	6.87	11.3	5.7	11.85	16.43	7.12	.715	.430	7.06
16	X 10 1/4	X 67.0	I-T	44.18	129.5	215.4	1371.3	7.17	10.6	6.4	12.99	16.33	10.24	.665	.395	6.45
16	X 10 1/4	X 77.0	I-T	50.98	147.9	222.2	1522.4	7.29	10.3	6.9	15.00	16.52	10.30	.760	.455	7.52
16	X 10 3/8	X 89.0	I-T	59.17	169.9	230.3	1699.1	7.39	10.0	7.4	17.40	16.75	10.37	.875	.525	8.79
18	X 6	X 35.0	I-T	26.29	69.9	208.5	959.0	6.69	13.7	4.6	7.73	17.70	6.00	.425	.300	5.31
18	X 6	X 40.0	I-T	29.35	81.4	216.4	1095.8	7.01	13.5	5.1	8.63	17.90	6.02	.525	.315	5.64
18	X 7 1/2	X 50.0	I-T	35.55	102.9	226.4	1316.6	7.39	12.8	5.8	10.46	17.99	7.50	.570	.355	6.39
18	X 7 1/2	Y 60.0	I-T	42.61	123.6	236.0	1530.3	7.64	12.4	6.5	12.53	18.24	7.56	.695	.415	7.57
18	X 7 5/8	X 71.0	I-T	50.75	144.6	245.3	1737.0	7.79	12.0	7.1	14.93	18.47	7.64	.810	.495	9.14
18	X 11 1/8	X 86.0	I-T	57.79	181.3	253.5	2009.8	8.10	11.1	7.9	17.00	18.39	11.09	.770	.480	8.83
18	X 11 1/8	X 97.0	I-T	65.20	203.6	261.5	2199.2	8.18	10.8	8.4	19.18	18.59	11.15	.870	.535	9.95
18	X 11 1/4	Y 106.0	I-T	71.48	220.2	267.8	2339.0	8.21	10.6	8.7	21.02	18.73	11.20	.940	.590	11.05
21	X 8 1/4	X 62.0	I-T	44.94	144.3	274.3	2044.3	8.72	14.2	7.5	13.22	20.99	8.24	.615	.400	8.40
21	X 8 1/4	X 68.0	I-T	49.15	158.6	280.7	2204.7	8.85	13.9	7.9	14.46	21.13	8.27	.685	.430	9.09
21	X 8 1/4	Y 73.0	I-T	52.58	169.9	285.6	2329.6	8.94	13.7	8.2	15.47	21.24	8.30	.740	.455	9.66
21	X 8 3/8	X 83.0	I-T	59.78	191.1	294.9	2557.6	9.05	13.4	8.7	17.58	21.43	8.36	.835	.515	11.04
21	X 8 3/8	X 93.0	I-T	67.42	212.7	304.5	2785.7	9.12	13.1	9.1	19.83	21.62	8.42	.930	.580	12.54
21	X 12 1/4	X 101.0	I-T	68.38	242.4	305.5	2971.6	9.38	12.3	9.7	20.11	21.36	12.29	.800	.500	10.68
21	X 12 3/8	X 111.0	I-T	75.30	264.3	313.4	3173.9	9.41	12.0	10.1	22.15	21.51	12.34	.875	.550	11.83

(35T) PLATE WEIGHT = 25.500 LBS. (.6250 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		

(35T = 24.063 IN.) PLATE WEIGHT = 28.050 LBS. (.6875 IN.) EFFECTIVE PLATE AREA = 16.543 SQ. IN.																		

NOMINAL SIZE						SECTION MODULUS				BEAM DIMENSIONS								
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2			

4	X	4	X	7.5	T	7.42	6.5	35.3	26.1	1.18	4.0	.7	2.18	4.06	4.02	.315	.245	.99
4	X	5 1/4	X	9.0	T	8.82	8.3	39.5	32.7	1.31	3.9	.8	2.59	4.07	5.25	.330	.230	.94
4	X	4	X	13.0	I-T	8.39	7.4	37.9	29.9	1.25	4.1	.8	2.47	4.16	4.06	.345	.280	1.16
5	X	4	X	6.0	T	5.88	5.8	40.3	28.7	1.25	4.9	.7	1.73	4.94	3.96	.210	.190	.94
5	X	4	X	7.5	T	7.37	7.4	44.9	36.0	1.39	4.9	.8	2.17	5.00	4.00	.270	.230	1.15
5	X	4	X	8.5	T	8.36	8.6	48.4	42.2	1.49	4.9	.9	2.46	5.06	4.01	.330	.240	1.21
5	X	4	X	9.5	T	9.42	10.0	51.6	48.6	1.59	4.9	.9	2.77	5.12	4.02	.395	.250	1.28
5	X	5	X	16.0	I-T	9.91	10.8	52.3	51.0	1.62	4.7	1.0	2.92	5.01	5.00	.360	.240	1.20
5	X	5	X	19.0	I-T	11.69	13.0	56.6	61.6	1.76	4.7	1.1	3.44	5.15	5.03	.430	.270	1.39
6	X	4	X	7.0	T	6.94	7.8	54.0	45.3	1.56	5.8	.8	2.04	5.96	3.97	.225	.200	1.19
6	X	4	X	8.0	T	7.88	9.0	57.3	51.9	1.66	5.8	.9	2.32	6.00	3.99	.265	.220	1.32
6	X	4	X	9.0	I-T	6.17	7.1	51.9	41.2	1.50	5.8	.8	1.81	5.90	3.94	.215	.170	1.00
6	X	4	X	9.5	T	9.34	11.2	62.7	64.1	1.82	5.7	1.0	2.75	6.08	4.01	.350	.235	1.43
6	X	4	X	11.0	T	10.89	13.2	66.8	75.7	1.96	5.7	1.1	3.20	6.16	4.03	.425	.260	1.60
6	X	4	X	12.0	I-T	8.30	9.5	58.6	54.9	1.70	5.8	.9	2.44	6.03	4.00	.280	.230	1.39
6	X	6	X	15.0	I-T	9.78	12.1	64.1	67.8	1.87	5.6	1.1	2.88	5.99	5.99	.260	.230	1.38
6	X	4	X	16.0	I-T	10.74	13.1	67.8	76.6	1.97	5.8	1.1	3.16	6.28	4.03	.405	.260	1.63
6	X	6	X	20.0	I-T	12.63	16.5	72.3	92.4	2.14	5.6	1.3	3.71	6.20	6.02	.365	.268	1.61
7	X	5	X	11.0	T	10.81	14.8	77.0	93.7	2.18	6.3	1.2	3.18	6.97	5.00	.335	.230	1.58
7	X	5	X	13.0	T	12.85	18.0	82.0	112.9	2.36	6.3	1.4	3.78	6.96	5.03	.420	.255	1.77
7	X	6 3/4	X	15.0	T	14.81	21.4	85.5	130.4	2.50	6.1	1.5	4.36	6.92	6.73	.385	.270	1.87
7	X	6 3/4	X	17.0	T	16.77	24.8	88.9	148.7	2.63	6.0	1.7	4.93	6.99	6.75	.455	.285	1.99
7	X	6 3/4	X	19.0	T	18.74	27.8	91.4	164.9	2.73	5.9	1.8	5.51	7.05	6.77	.515	.310	2.19
7	X	8	X	21.5	T	20.94	31.5	91.1	175.8	2.78	5.6	1.9	6.16	6.83	8.00	.530	.305	2.08
(35T) PLATE WEIGHT = 28.050 LBS. (.6875 IN.)																		

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(35T = 24.063 IN.) PLATE WEIGHT = 28.050 LBS. (.6875 IN.) EFFECTIVE PLATE AREA = 16.543 SQ. IN.																		
NOMINAL SIZE						SECTION MODULUS							BEAM DIMENSIONS					
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X IN X LBS/FT						LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN2	
7	X	8	X	24.0	T	23.53	35.2	93.4	194.1	2.88	5.5	2.1	6.92	6.90	8.03	.595	.340	2.35
8	X	4	X	10.0	I-T	7.19	10.0	76.5	75.6	2.01	7.6	1.0	2.11	7.89	3.94	.205	.170	1.34
8	X	4	X	13.0	I-T	9.52	12.9	83.1	96.8	2.24	7.5	1.2	2.80	7.39	4.00	.255	.230	1.84
8	X	5 1/2	X	13.0	T	12.83	19.4	93.3	137.2	2.60	7.1	1.5	3.77	7.85	5.50	.345	.250	1.96
8	X	4	X	15.0	I-T	10.79	15.2	88.8	114.2	2.41	7.5	1.3	3.17	8.11	4.02	.315	.245	1.99
8	X	5 1/2	X	15.5	T	15.28	23.8	98.8	165.6	2.81	7.0	1.7	4.49	7.94	5.53	.440	.275	2.18
8	X	5 1/4	X	18.0	I-T	12.00	18.7	95.6	137.9	2.62	7.4	1.4	3.53	8.14	5.25	.330	.230	1.87
8	X	7	X	18.0	T	17.73	28.5	102.7	192.4	2.97	6.7	1.9	5.22	7.93	6.99	.430	.295	2.34
8	X	7	X	20.0	T	19.79	32.6	106.3	217.2	3.12	6.7	2.0	5.82	8.01	7.00	.505	.305	2.44
8	X	5 1/4	X	21.0	I-T	13.87	22.2	101.2	163.3	2.81	7.4	1.6	4.08	8.28	5.27	.400	.250	2.07
8	X	7	X	22.5	T	22.32	36.5	108.8	239.4	3.22	6.6	2.2	6.56	8.07	7.04	.565	.345	2.78
8	X	6 1/2	X	24.0	I-T	15.11	24.7	100.4	171.0	2.85	6.9	1.7	4.44	7.93	6.50	.400	.245	1.94
8	X	7 1/8	X	25.0	T	24.83	40.5	111.1	261.8	3.31	6.5	2.4	7.30	8.13	7.07	.630	.380	3.09
8	X	6 1/2	X	28.0	I-T	17.69	29.0	104.7	198.6	3.02	6.8	1.9	5.20	8.06	6.54	.465	.285	2.30
8	X	7 1/8	X	28.5	T	28.28	45.9	114.0	291.3	3.42	6.4	2.6	8.32	8.22	7.12	.715	.430	3.53
8	X	8	X	31.0	I-T	19.16	32.3	106.5	215.1	3.11	6.7	2.0	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X	17.5	T	17.26	28.8	113.1	219.0	3.18	7.6	1.9	5.08	8.85	6.00	.425	.300	2.66
9	X	6	X	20.0	T	19.76	34.1	118.2	255.3	3.38	7.5	2.2	5.81	8.95	6.02	.525	.315	2.82
10	X	4	X	12.0	I-T	9.07	14.3	103.7	132.4	2.62	9.3	1.3	2.67	9.87	3.96	.210	.190	1.88
10	X	4	X	15.0	I-T	11.27	18.0	111.4	165.3	2.89	9.2	1.5	3.32	9.99	4.00	.270	.230	2.30
10	X	4	X	17.0	I-T	12.48	20.8	117.3	190.6	3.07	9.2	1.6	3.67	10.11	4.01	.330	.240	2.43
10	X	4	X	19.0	I-T	13.77	23.8	122.9	218.0	3.25	9.2	1.8	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0	I-T	15.04	28.2	128.6	251.1	3.46	8.9	2.0	4.42	10.17	5.75	.360	.240	2.44
10	X	5 3/4	X	26.0	I-T	17.37	33.6	135.0	296.6	3.70	8.8	2.2	5.11	10.33	5.77	.440	.260	2.69

(35T) PLATE WEIGHT = 28.050 LBS. (.6875 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(35T = 24.063 IN.) PLATE WEIGHT = 28.050 LBS. (.6875 IN.) EFFECTIVE PLATE AREA = 16.543 SQ. IN.																
NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS								
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
10	X 5 3/4	X 30.0	I-T	20.23	39.2	139.8	341.4	3.90	8.7	2.4	5.95	10.47	5.81	.510	.300	3.14
10	X 8	X 33.0	I-T	20.94	40.6	132.8	323.9	3.78	8.0	2.4	6.16	9.73	7.96	.435	.290	2.82
10	X 8	X 39.0	I-T	24.45	48.7	138.9	382.7	4.02	7.9	2.8	7.19	9.92	7.99	.530	.315	3.12
10	X 8	X 45.0	I-T	28.19	56.9	144.1	439.9	4.21	7.7	3.1	8.29	10.10	8.02	.620	.350	3.54
12	X 4	X 14.0	I-T	10.98	19.7	133.0	216.0	3.30	11.0	1.6	3.23	11.91	3.97	.225	.200	2.38
12	X 4	X 16.0	I-T	12.37	22.5	138.2	245.6	3.49	10.9	1.8	3.64	11.99	3.99	.265	.220	2.64
12	X 4	X 19.0	I-T	14.20	27.4	147.2	296.5	3.78	10.8	2.0	4.18	12.16	4.01	.350	.235	2.86
12	X 4	X 22.0	I-T	16.33	32.2	153.9	346.5	4.03	10.7	2.3	4.80	12.31	4.03	.425	.260	3.20
12	X 6 1/2	X 26.0	I-T	17.64	39.8	163.0	412.8	4.36	10.4	2.5	5.19	12.22	6.49	.380	.230	2.81
12	X 6 1/2	X 30.0	I-T	20.27	45.9	168.0	469.9	4.57	10.2	2.8	5.96	12.34	6.52	.440	.260	3.21
12	X 6 1/2	X 35.0	I-T	23.82	54.2	173.9	544.8	4.81	10.1	3.1	7.01	12.50	6.56	.520	.300	3.75
12	X 8	X 40.0	I-T	25.48	59.1	170.0	553.5	4.80	9.4	3.3	7.49	11.94	8.01	.515	.295	3.52
12	X 8	X 45.0	I-T	28.81	66.4	173.9	612.3	4.95	9.2	3.5	8.47	12.06	8.05	.575	.335	4.04
12	X 8 1/8	X 50.0	I-T	32.11	74.0	178.0	672.8	5.09	9.1	3.8	9.44	12.19	8.08	.640	.370	4.51
12	X 10	X 53.0	I-T	33.01	79.3	178.8	700.1	5.16	8.8	3.9	9.71	12.06	10.00	.575	.345	4.16
12	X 10	X 58.0	I-T	35.92	87.5	182.7	761.8	5.30	8.7	4.2	10.56	12.19	10.01	.640	.360	4.39
14	X 5	X 22.0	I-T	16.18	35.8	174.6	429.1	4.49	12.0	2.5	4.76	13.74	5.00	.335	.230	3.16
14	X 5	X 26.0	I-T	18.87	43.2	182.8	509.9	4.80	11.8	2.8	5.55	13.91	5.03	.420	.255	3.55
14	X 6 3/4	X 30.0	I-T	21.16	50.2	187.9	575.8	5.03	11.5	3.1	6.22	13.84	6.73	.385	.270	3.74
14	X 6 3/4	X 34.0	I-T	23.54	57.6	194.1	651.2	5.27	11.3	3.4	6.92	13.98	6.75	.455	.285	3.98
14	X 6 3/4	X 38.0	I-T	26.17	64.6	198.9	720.8	5.45	11.2	3.6	7.70	14.10	6.77	.515	.310	4.37
14	X 8	X 43.0	I-T	28.02	71.3	197.3	751.6	5.51	10.5	3.8	8.24	13.66	8.00	.530	.305	4.17
14	X 8	X 48.0	I-T	31.50	80.1	201.9	830.3	5.67	10.4	4.1	9.26	13.79	8.03	.595	.340	4.69
16	X 5 1/2	X 26.0	I-T	19.49	47.6	206.0	633.6	5.33	13.3	3.1	5.73	15.69	5.50	.345	.250	3.92

(35T) PLATE WEIGHT = 28.050 LBS. (.6875 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(35T = 24.063 IN.) PLATE WEIGHT = 28.050 LBS. (.6875 IN.) EFFECTIVE PLATE AREA = 16.543 SQ. IN.																
NOMINAL SIZE			WT/FT	SECTION MODULUS				BEAM DIMENSIONS								
				FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
16	X 5 1/2	X 31.0	I-T	22.70	57.6	215.6	753.4	5.70	13.1	3.5	6.68	15.88	5.53	.440	.275	4.37
16	X 7	X 36.0	I-T	25.69	67.5	222.0	856.7	5.96	12.7	3.9	7.56	15.86	6.99	.430	.295	4.68
16	X 7	X 40.0	I-T	28.09	76.4	228.7	956.1	6.21	12.5	4.2	8.26	16.01	7.00	.505	.305	4.88
16	X 7	X 45.0	I-T	31.77	85.8	233.7	1055.3	6.38	12.3	4.5	9.34	16.13	7.04	.565	.345	5.56
16	X 7 1/8	X 50.0	I-T	35.34	95.4	238.9	1155.2	6.55	12.1	4.8	10.39	16.26	7.07	.630	.380	6.18
16	X 7 1/8	X 57.0	I-T	40.28	108.3	245.4	1285.9	6.73	11.9	5.2	11.85	16.43	7.12	.715	.430	7.06
16	X 10 1/4	X 67.0	I-T	44.18	131.5	252.8	1472.1	7.06	11.2	5.8	12.99	16.33	10.24	.665	.395	6.45
16	X 10 1/4	X 77.0	I-T	50.98	150.4	260.2	1640.4	7.21	10.9	6.3	15.00	16.52	10.30	.760	.455	7.52
16	X 10 3/8	X 89.0	I-T	59.17	173.1	269.1	1837.1	7.36	10.6	6.8	17.40	16.75	10.37	.875	.525	8.79
18	X 6	X 35.0	I-T	26.29	70.8	244.2	1009.6	6.45	14.3	4.1	7.73	17.70	6.00	.425	.300	5.31
18	X 6	X 40.0	I-T	29.35	82.5	253.7	1157.7	6.78	14.0	4.6	8.63	17.90	6.02	.525	.315	5.64
18	X 7 1/2	X 50.0	I-T	35.55	104.4	265.4	1399.6	7.20	13.4	5.3	10.46	17.99	7.50	.570	.355	6.39
18	X 7 1/2	X 60.0	I-T	42.61	125.7	276.2	1634.8	7.50	13.0	5.9	12.53	18.24	7.56	.695	.415	7.57
18	X 7 5/8	X 71.0	I-T	50.75	147.3	286.2	1863.2	7.69	12.6	6.5	14.93	18.47	7.64	.810	.495	9.14
18	X 11 1/8	X 86.0	I-T	57.79	184.6	296.2	2169.5	8.04	11.8	7.3	17.00	18.39	11.09	.770	.480	8.83
18	X 11 1/8	X 97.0	I-T	65.20	207.5	304.9	2380.3	8.16	11.5	7.8	19.18	18.59	11.15	.870	.535	9.95
18	X 11 1/4	X 106.0	I-T	71.48	224.8	311.5	2535.3	8.22	11.3	8.1	21.02	18.73	11.20	.940	.590	11.05
18	X 11 1/4	X 119.0	I-T	80.48	252.1	321.9	2779.1	8.31	11.0	8.6	23.67	18.97	11.27	1.060	.655	12.43
21	X 8 1/4	X 62.0	I-T	44.94	146.8	320.7	2183.4	8.57	14.9	6.8	13.22	20.99	8.24	.615	.400	8.40
21	X 8 1/4	X 68.0	I-T	49.15	161.5	327.7	2360.1	8.73	14.6	7.2	14.46	21.13	8.27	.685	.430	9.09
21	X 8 1/4	X 73.0	I-T	52.58	173.1	333.1	2498.0	8.83	14.4	7.5	15.47	21.24	8.30	.740	.455	9.66
21	X 8 3/8	X 83.0	I-T	59.78	195.0	343.0	2749.6	8.98	14.1	8.0	17.58	21.43	8.36	.835	.515	11.04
21	X 8 3/8	X 93.0	I-T	67.42	217.3	353.1	3000.8	9.08	13.8	8.5	19.83	21.62	8.42	.930	.580	12.54
21	X 12 1/4	X 101.0	I-T	68.38	247.1	355.8	3215.3	9.37	13.0	9.0	20.11	21.36	12.29	.800	.500	10.68
21	X 12 3/8	X 111.0	I-T	75.30	269.8	364.0	3439.5	9.43	12.7	9.4	22.15	21.51	12.34	.875	.550	11.83

(35T) PLATE WEIGHT = 28.050 LBS. (.6875 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																	
(35T = 26.250 IN.) PLATE WEIGHT = 30.600 LBS. (.7500 IN.) EFFECTIVE PLATE AREA = 19.688 SQ. IN.																	
NOMINAL SIZE							SECTION MODULUS						BEAM DIMENSIONS				
							WT/FT	FLANGE		PLATE	I	R	YF	YP	A	D	WF
IN X IN X LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2			
4 X 5 1/4 X 9.0 T	8.82	8.5	42.9	34.1	1.24	4.0	.8	2.59	4.07	5.25	.330	.230	.94				
4 X 4 X 13.0 I-T	8.39	7.5	41.0	31.2	1.19	4.1	.8	2.47	4.16	4.06	.345	.280	1.16				
5 X 4 X 7.5 T	7.37	7.5	48.5	37.4	1.31	5.0	.8	2.17	5.00	4.00	.270	.230	1.15				
5 X 4 X 8.5 T	8.36	8.8	52.7	43.7	1.41	5.0	.8	2.46	5.06	4.01	.330	.240	1.21				
5 X 4 X 9.5 T	9.42	10.2	56.5	50.5	1.50	5.0	.9	2.77	5.12	4.02	.395	.250	1.28				
5 X 5 X 16.0 I-T	9.91	11.0	57.5	53.1	1.53	4.8	.9	2.92	5.01	5.00	.360	.240	1.20				
5 X 5 X 19.0 I-T	11.69	13.2	62.7	64.1	1.67	4.9	1.0	3.44	5.15	5.03	.430	.270	1.39				
6 X 4 X 7.0 T	6.94	7.9	58.3	46.8	1.47	5.9	.8	2.04	5.96	3.97	.225	.200	1.19				
6 X 4 X 8.0 T	7.88	9.1	62.3	53.7	1.56	5.9	.9	2.32	6.00	3.99	.265	.220	1.32				
6 X 4 X 9.0 I-T	6.17	7.2	55.8	42.5	1.41	5.9	.8	1.81	5.90	3.94	.215	.170	1.00				
6 X 4 X 9.5 T	9.34	11.3	68.9	66.3	1.72	5.9	1.0	2.75	6.08	4.01	.350	.235	1.43				
6 X 4 X 11.0 T	10.89	13.4	74.1	78.5	1.85	5.9	1.1	3.20	6.16	4.03	.425	.260	1.60				
6 X 4 X 12.0 I-T	8.30	9.6	64.0	56.7	1.60	5.9	.9	2.44	6.03	4.00	.280	.230	1.39				
6 X 6 X 15.0 I-T	9.78	12.2	70.6	70.3	1.76	5.7	1.0	2.88	5.99	5.99	.260	.230	1.38				
6 X 4 X 16.0 I-T	10.74	13.3	75.1	79.4	1.86	6.0	1.1	3.16	6.28	4.03	.405	.260	1.63				
6 X 6 X 20.0 I-T	12.63	16.7	80.8	96.0	2.03	5.8	1.2	3.71	6.20	6.02	.365	.260	1.61				
7 X 5 X 11.0 T	10.81	15.0	85.6	97.0	2.06	6.5	1.1	3.18	6.87	5.00	.335	.230	1.58				
7 X 5 X 13.0 T	12.85	18.2	91.9	117.2	2.23	6.4	1.3	3.78	6.96	5.03	.420	.255	1.77				
7 X 6 3/4 X 15.0 T	14.81	21.7	96.4	135.7	2.38	6.3	1.4	4.36	6.92	6.73	.385	.270	1.87				
7 X 6 3/4 X 17.0 T	16.77	25.0	108.8	155.2	2.51	6.2	1.5	4.93	6.99	6.75	.455	.285	1.99				
7 X 6 3/4 X 19.0 T	18.74	28.1	104.0	172.6	2.62	6.1	1.7	5.51	7.05	6.77	.515	.310	2.19				
7 X 8 X 21.5 T	20.94	31.8	104.1	184.7	2.67	5.8	1.8	6.16	6.83	8.00	.530	.305	2.08				
7 X 8 X 24.0 T	23.53	35.7	107.0	204.6	2.77	5.7	1.9	6.92	6.90	8.03	.595	.340	2.35				

(35T) PLATE WEIGHT = 30.600 LBS. (.7500 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																	
(35T = 26.250 IN.) PLATE WEIGHT = 30.600 LBS. (.7500 IN.) EFFECTIVE PLATE AREA = 19.688 SQ. IN.																	
NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS									
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2			
8	X 4	X 10.0	I-T	7.19	10.1	83.5	77.7	1.89	7.7	.9	2.11	7.89	3.94	.205	.170	1.34	
8	X 4	X 13.0	I-T	9.52	13.0	92.0	99.7	2.11	7.7	1.1	2.80	7.99	4.00	.255	.230	1.84	
8	X 5 1/2	X 13.0	T	12.83	19.6	104.8	142.2	2.46	7.2	1.4	3.77	7.85	5.50	.345	.250	1.96	
8	X 4	X 15.0	I-T	10.79	15.4	98.9	117.9	2.27	7.7	1.2	3.17	8.11	4.02	.315	.245	1.99	
8	X 5 1/2	X 15.5	T	15.28	24.1	111.8	172.2	2.67	7.1	1.5	4.49	7.94	5.53	.440	.275	2.18	
8	X 5 1/4	X 18.0	I-T	12.00	18.9	107.3	142.6	2.48	7.6	1.3	3.53	8.14	5.25	.330	.230	1.87	
8	X 7	X 18.0	T	17.73	28.8	116.9	200.7	2.84	7.0	1.7	5.22	7.93	6.99	.430	.295	2.34	
8	X 7	X 20.0	T	19.79	33.0	121.4	227.2	2.98	6.9	1.9	5.82	8.01	7.00	.505	.305	2.44	
8	X 5 1/4	X 21.0	I-T	13.87	22.4	114.2	159.4	2.67	7.5	1.5	4.08	8.28	5.27	.400	.250	2.07	
8	X 7	X 22.5	T	22.32	36.9	124.5	251.3	3.09	6.8	2.0	6.56	8.07	7.04	.565	.345	2.78	
248	8	X 6 1/2	X 24.0	I-T	15.11	25.0	113.7	177.8	2.71	7.1	1.6	4.44	7.93	6.50	.460	.245	1.94
	8	X 7 1/8	X 25.0	T	24.83	41.0	127.4	275.5	3.19	6.7	2.2	7.30	8.13	7.07	.630	.380	3.09
	8	X 6 1/2	X 28.0	I-T	17.69	29.3	119.1	207.2	2.89	7.1	1.7	5.20	8.06	6.54	.465	.285	2.30
	8	X 7 1/8	X 28.5	T	28.28	46.5	131.0	307.7	3.31	6.6	2.3	8.32	8.22	7.12	.715	.430	3.53
	8	X 8	X 31.0	I-T	19.16	32.6	121.6	224.9	2.98	6.9	1.8	5.63	8.00	8.00	.435	.285	2.28
9	X 6	X 17.5	T	17.26	29.1	128.7	228.0	3.03	7.8	1.8	5.08	8.85	6.00	.425	.300	2.66	
9	X 6	X 20.0	T	19.76	34.5	135.0	266.6	3.23	7.7	2.0	5.81	8.95	6.02	.525	.315	2.82	
10	X 4	X 12.0	I-T	9.07	14.4	115.3	136.0	2.47	9.4	1.2	2.67	9.87	3.96	.210	.190	1.88	
10	X 4	X 15.0	I-T	11.27	18.2	124.9	170.3	2.72	9.4	1.4	3.32	9.99	4.00	.270	.230	2.30	
10	X 4	X 17.0	I-T	12.48	21.0	132.1	196.7	2.90	9.4	1.5	3.67	10.11	4.01	.330	.240	2.43	
10	X 4	X 19.0	I-T	13.77	24.1	139.0	225.4	3.08	9.4	1.6	4.05	10.24	4.02	.395	.250	2.56	
10	X 5 3/4	X 22.0	I-T	15.04	28.5	146.2	260.2	3.29	9.1	1.8	4.42	10.17	5.75	.360	.240	2.44	
10	X 5 3/4	X 26.0	I-T	17.37	34.0	154.1	308.3	3.53	9.1	2.0	5.11	10.33	5.77	.440	.260	2.69	
10	X 5 3/4	X 30.0	I-T	20.23	39.6	160.2	356.1	3.73	9.0	2.2	5.95	10.47	5.81	.510	.300	3.14	
10	X 8	X 33.0	I-T	20.94	41.0	152.3	338.6	3.62	8.3	2.2	6.16	9.73	7.96	.435	.290	2.82	
10	X 8	X 39.0	I-T	24.45	49.2	159.9	401.8	3.87	8.2	2.5	7.19	9.92	7.99	.530	.315	3.12	

(35T) PLATE WEIGHT = 30.600 LBS. (.7500 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(35t = 26.250 IN.) PLATE WEIGHT = 30.600 LBS. (.7500 IN.) EFFECTIVE PLATE AREA = 19.688 SQ. IN.																
NOMINAL SIZE				SECTION MODULUS								BEAM DIMENSIONS				
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	LBS/FT		LBS	IN ³	IN ³	IN ⁴	IN	IN	IN	IN	IN ²	IN	IN	IN	IN ²
10	X 8	X 45.0	I-T	28.19	57.5	166.3	463.6	4.07	8.1	2.8	8.29	10.10	8.02	.620	.350	3.54
12	X 4	X 14.0	I-T	10.98	19.9	149.7	222.1	3.11	11.2	1.5	3.23	11.91	3.97	.225	.200	2.38
12	X 4	X 16.0	I-T	12.37	22.7	156.2	252.9	3.29	11.1	1.6	3.64	11.99	3.99	.265	.220	2.64
12	X 4	X 19.0	I-T	14.20	27.6	167.2	306.2	3.58	11.1	1.8	4.18	12.16	4.01	.350	.235	2.86
12	X 4	X 22.0	I-T	16.33	32.6	175.5	358.8	3.83	11.0	2.0	4.80	12.31	4.03	.425	.260	3.20
12	X 6 1/2	X 26.0	I-T	17.64	40.1	186.8	428.6	4.15	10.7	2.3	5.19	12.22	6.49	.380	.230	2.81
12	X 6 1/2	X 30.0	I-T	20.27	46.4	193.0	489.4	4.37	10.6	2.5	5.96	12.34	6.52	.440	.260	3.21
12	X 6 1/2	X 35.0	I-T	23.82	54.7	200.3	569.7	4.62	10.4	2.8	7.01	12.50	6.56	.520	.300	3.75
12	X 8	X 40.0	I-T	25.48	59.7	196.2	580.5	4.62	9.7	3.0	7.49	11.94	8.01	.515	.295	3.52
12	X 8	X 45.0	I-T	28.81	67.1	200.9	644.2	4.78	9.6	3.2	8.47	12.06	8.05	.575	.335	4.04
12	X 8 1/8	X 50.0	I-T	32.11	74.8	205.8	710.0	4.94	9.5	3.5	9.44	12.19	8.08	.640	.370	4.51
12	X 10	X 53.0	I-T	33.01	80.1	207.0	740.1	5.02	9.2	3.6	9.71	12.06	10.00	.575	.345	4.16
12	X 10	X 58.0	I-T	35.92	88.5	211.8	807.6	5.17	9.1	3.8	10.56	12.19	10.01	.640	.360	4.39
14	X 5	X 22.0	I-T	16.18	36.2	199.6	443.9	4.26	12.3	2.2	4.76	13.74	5.00	.335	.230	3.16
14	X 5	X 26.0	I-T	18.87	43.6	209.8	529.2	4.58	12.1	2.5	5.55	13.91	5.03	.420	.255	3.55
14	X 6 3/4	X 30.0	I-T	21.16	50.7	216.2	599.5	4.81	11.8	2.8	6.22	13.84	6.73	.385	.270	3.74
14	X 6 3/4	X 34.0	I-T	23.54	58.2	223.8	679.9	5.05	11.7	3.0	6.92	13.98	6.75	.455	.285	3.98
14	X 6 3/4	X 38.0	I-T	26.17	65.3	229.6	754.6	5.25	11.6	3.3	7.70	14.10	6.77	.515	.310	4.37
14	X 8	X 43.0	I-T	28.02	72.1	228.1	789.2	5.32	11.0	3.5	8.24	13.66	8.00	.530	.305	4.17
14	X 8	X 48.0	I-T	31.50	81.0	233.6	874.5	5.50	10.8	3.7	9.26	13.79	8.03	.595	.340	4.69
16	X 5 1/2	X 26.0	I-T	19.49	48.1	236.8	657.4	5.09	13.7	2.8	5.73	15.69	5.50	.345	.250	3.92
16	X 5 1/2	X 31.0	I-T	22.70	58.2	248.5	784.5	5.45	13.5	3.2	6.68	15.88	5.53	.440	.275	4.37
16	X 7	X 36.0	I-T	25.69	68.2	256.3	895.2	5.73	13.1	3.5	7.56	15.86	6.99	.430	.295	4.68
16	X 7	X 40.0	I-T	28.09	77.2	264.4	1001.7	5.99	13.0	3.8	8.26	16.01	7.00	.505	.305	4.88

(35T) PLATE WEIGHT = 30.600 LBS. (.7500 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T															

(35T = 26.250 IN.) PLATE WEIGHT = 30.600 LBS. (.7500 IN.) EFFECTIVE PLATE AREA = 19.688 SQ. IN.															

NOMINAL SIZE			SECTION MODULUS					BEAM DIMENSIONS							
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN	IN2

16	X 7	X 45.0 I-T	31.77	86.8	270.2	1108.9	6.18	12.8	4.1	9.34	16.13	7.04	.565	.345	5.56
16	X 7 1/8	X 50.0 I-T	35.34	96.6	276.1	1217.3	6.36	12.6	4.4	10.39	16.26	7.07	.630	.380	6.18
16	X 7 1/8	X 57.0 I-T	40.28	109.8	283.6	1359.5	6.57	12.4	4.8	11.85	16.43	7.12	.715	.430	7.06
16	X 10 1/4	X 67.0 I-T	44.18	133.2	292.9	1563.8	6.92	11.7	5.3	12.99	16.33	10.24	.665	.395	6.45
16	X 10 1/4	X 77.0 I-T	50.98	152.6	301.1	1748.8	7.10	11.5	5.8	15.00	16.52	10.30	.760	.455	7.52
16	X 10 3/8	X 89.0 I-T	59.17	175.9	310.9	1965.7	7.28	11.2	6.3	17.40	16.75	10.37	.875	.525	8.79
18	X 6	X 35.0 I-T	26.29	71.7	281.9	1054.0	6.20	14.7	3.7	7.73	17.70	6.00	.425	.300	5.31
18	X 6	X 40.0 I-T	29.35	83.5	293.2	1212.4	6.54	14.5	4.1	8.63	17.90	6.02	.525	.315	5.64
18	X 7 1/2	X 50.0 I-T	35.55	105.7	307.0	1473.8	6.99	13.9	4.8	10.46	17.99	7.50	.570	.355	6.39
18	X 7 1/2	X 60.0 I-T	42.61	127.4	319.2	1729.6	7.33	13.6	5.4	12.53	18.24	7.56	.695	.415	7.57
18	X 7 5/8	X 71.0 I-T	50.75	149.6	330.1	1979.0	7.56	13.2	6.0	14.93	18.47	7.64	.810	.495	9.14
18	X 11 1/8	X 86.0 I-T	57.79	187.4	342.3	2317.7	7.95	12.4	6.8	17.00	18.39	11.09	.770	.480	8.83
18	X 11 1/8	X 97.0 I-T	65.20	210.9	351.7	2550.1	8.10	12.1	7.3	19.18	18.59	11.15	.870	.535	9.95
18	X 11 1/4	X 106.0 I-T	71.48	228.7	358.7	2720.7	8.17	11.9	7.6	21.02	18.73	11.20	.940	.590	11.05
18	X 11 1/4	X 119.0 I-T	80.48	256.8	369.9	2989.3	8.30	11.6	8.1	23.67	18.97	11.27	1.060	.655	12.43
21	X 8 1/4	X 62.0 I-T	44.94	149.0	370.5	2309.8	8.38	15.5	6.2	13.22	20.99	8.24	.615	.400	8.40
21	X 8 1/4	X 68.0 I-T	49.15	163.9	378.3	2502.4	8.56	15.3	6.6	14.46	21.13	8.27	.685	.430	9.09
21	X 8 1/4	X 73.0 I-T	52.58	175.9	384.3	2652.9	8.69	15.1	6.9	15.47	21.24	8.30	.740	.455	9.66
21	X 8 3/8	X 83.0 I-T	59.78	198.3	394.8	2928.0	8.86	14.8	7.4	17.58	21.43	8.36	.835	.515	11.04
21	X 8 3/8	X 93.0 I-T	67.42	221.3	405.6	3202.8	9.00	14.5	7.9	19.83	21.62	8.42	.930	.580	12.54
21	X 12 1/4	X 101.0 I-T	68.38	251.2	410.2	3444.4	9.30	13.7	8.4	20.11	21.36	12.29	.800	.500	10.68
21	X 12 3/8	X 111.0 I-T	75.30	274.5	418.9	3691.2	9.39	13.4	8.8	22.15	21.51	12.34	.875	.550	11.83

(35T) PLATE WEIGHT = 30.600 LBS. (.7500 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(35T = 30.625 IN.) PLATE WEIGHT = 35.700 LBS. (.8750 IN.) EFFECTIVE PLATE AREA = 26.797 SQ. IN.																
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS								
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	LBS/FT		LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	
5	X 5	X 19.0	I-T	11.69	13.5	73.3	68.9	1.51	5.1	.9	3.44	5.15	5.03	.430	.270	1.39
6	X 4	X 9.5	T	9.34	11.6	79.3	70.5	1.54	6.1	.9	2.75	6.08	4.01	.350	.235	1.43
6	X 4	X 11.0	T	10.89	13.8	86.5	83.5	1.67	6.1	1.0	3.20	6.16	4.03	.425	.260	1.60
6	X 6	X 15.0	I-T	9.78	12.6	81.7	74.7	1.59	6.0	.9	2.88	5.99	5.99	.260	.230	1.38
6	X 4	X 16.0	I-T	10.74	13.6	87.6	84.5	1.68	6.2	1.0	3.16	6.28	4.03	.405	.260	1.63
6	X 6	X 20.0	I-T	12.63	17.1	95.9	102.5	1.83	6.0	1.1	3.71	6.20	6.02	.365	.260	1.61
7	X 5	X 11.0	T	10.81	15.3	100.6	102.8	1.85	6.7	1.0	3.18	6.87	5.00	.335	.230	1.58
7	X 5	X 13.0	T	12.85	18.6	109.8	124.7	2.02	6.7	1.1	3.78	6.96	5.03	.420	.255	1.77
7	X 6 3/4	X 15.0	T	14.81	22.1	116.7	145.0	2.16	6.6	1.2	4.36	6.92	6.73	.385	.270	1.87
7	X 6 3/4	X 17.0	T	16.77	25.6	123.2	166.6	2.29	6.5	1.4	4.93	6.99	6.75	.455	.285	1.99
7	X 6 3/4	X 19.0	T	18.74	28.7	128.2	185.9	2.40	6.5	1.5	5.51	7.05	6.77	.515	.310	2.19
7	X 8	X 21.5	T	20.94	32.5	129.3	200.1	2.46	6.2	1.5	6.16	6.83	8.00	.530	.305	2.08
7	X 8	X 24.0	T	23.53	36.4	133.9	222.7	2.57	6.1	1.7	6.92	6.90	8.03	.595	.340	2.35
8	X 4	X 13.0	I-T	9.52	13.3	106.9	105.0	1.88	7.9	1.0	2.80	7.99	4.00	.255	.230	1.84
8	X 5 1/2	X 13.0	T	12.83	20.0	125.8	150.7	2.22	7.5	1.2	3.77	7.85	5.50	.345	.250	1.96
8	X 4	X 15.0	I-T	10.79	15.7	116.5	124.4	2.04	7.9	1.1	3.17	8.11	4.02	.315	.245	1.99
8	X 5 1/2	X 15.5	T	15.28	24.6	136.2	183.5	2.42	7.5	1.3	4.49	7.94	5.53	.440	.275	2.18
8	X 5 1/4	X 18.0	I-T	12.00	19.2	128.3	150.8	2.23	7.8	1.2	3.53	8.14	5.25	.330	.230	1.87
8	X 7	X 18.0	T	17.73	29.4	144.1	215.0	2.59	7.3	1.5	5.22	7.93	6.99	.430	.295	2.34
8	X 7	X 20.0	T	19.79	33.6	151.0	244.4	2.74	7.3	1.6	5.82	8.01	7.00	.505	.305	2.44
8	X 5 1/4	X 21.0	I-T	13.87	22.9	138.4	179.7	2.41	7.9	1.3	4.08	8.28	5.27	.400	.250	2.07
8	X 7	X 22.5	T	22.32	37.7	155.8	271.5	2.85	7.2	1.7	6.56	8.07	7.04	.565	.345	2.78
8	X 6 1/2	X 24.0	I-T	15.11	25.5	138.8	189.5	2.46	7.4	1.4	4.44	7.93	6.50	.400	.245	1.94
8	X 7 1/8	X 25.0	T	24.83	41.9	160.3	299.0	2.96	7.1	1.9	7.30	8.13	7.07	.630	.380	3.09

(35T) PLATE WEIGHT = 35.700 LBS. (.8750 IN.)

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MIL-HDBK-264(SH)
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TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(35T = 30.625 IN.) PLATE WEIGHT = 35.700 LBS. (.8750 IN.) EFFECTIVE PLATE AREA = 26.797 SQ. IN.																
NOMINAL SIZE			WT/FT	SECTION MODULUS				BEAM DIMENSIONS								
				FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
8	X 6 1/2	X 28.0	I-T	17.69	29.9	147.0	221.8	2.63	7.4	1.5	5.20	8.06	6.54	.465	.285	2.30
8	X 7 1/8	X 28.5	T	28.28	47.5	165.8	335.8	3.09	7.1	2.0	8.32	8.22	7.12	.715	.430	3.53
8	X 8	X 31.0	I-T	19.16	33.2	151.1	241.6	2.73	7.3	1.6	5.63	8.00	8.00	.435	.285	2.28
9	X 6	X 17.5	T	17.26	29.7	158.7	243.2	2.76	8.2	1.5	5.08	8.85	6.00	.425	.300	2.66
9	X 6	X 20.0	T	19.76	35.2	168.2	285.9	2.96	8.1	1.7	5.81	8.95	6.02	.525	.315	2.82
10	X 4	X 12.0	I-T	9.07	14.7	135.1	142.3	2.20	9.7	1.1	2.67	9.87	3.96	.210	.190	1.88
10	X 4	X 15.0	I-T	11.27	18.5	149.1	179.0	2.44	9.7	1.2	3.32	9.99	4.00	.270	.230	2.30
10	X 4	X 17.0	I-T	12.48	21.4	159.4	207.1	2.61	9.7	1.3	3.67	10.11	4.01	.330	.240	2.43
10	X 4	X 19.0	I-T	13.77	24.5	169.3	237.9	2.78	9.7	1.4	4.05	10.24	4.02	.395	.250	2.56
10	X 5 3/4	X 22.0	I-T	15.04	29.0	179.9	275.5	2.97	9.5	1.5	4.42	10.17	5.75	.360	.240	2.44
10	X 5 3/4	X 26.0	I-T	17.37	34.5	191.7	327.9	3.21	9.5	1.7	5.11	10.33	5.77	.440	.260	2.69
10	X 5 3/4	X 30.0	I-T	20.23	40.3	200.9	380.8	3.41	9.4	1.9	5.95	10.47	5.81	.510	.300	3.14
10	X 8	X 33.0	I-T	20.94	41.7	191.3	363.3	3.32	8.7	1.9	6.16	9.73	7.96	.435	.290	2.82
10	X 8	X 39.0	I-T	24.45	50.1	202.7	433.9	3.57	8.7	2.1	7.19	9.92	7.99	.530	.315	3.12
10	X 8	X 45.0	I-T	28.19	58.6	212.0	503.9	3.79	8.6	2.4	8.29	10.10	8.02	.620	.350	3.54
12	X 4	X 14.0	I-T	10.98	20.2	180.1	232.4	2.78	11.5	1.3	3.23	11.91	3.97	.225	.200	2.38
12	X 4	X 16.0	I-T	12.37	23.1	189.7	265.4	2.95	11.5	1.4	3.64	11.99	3.99	.265	.220	2.64
12	X 4	X 19.0	I-T	14.20	28.1	205.6	322.4	3.23	11.5	1.6	4.18	12.16	4.01	.350	.235	2.86
12	X 4	X 22.0	I-T	16.33	33.1	217.9	379.3	3.46	11.4	1.7	4.80	12.31	4.03	.425	.260	3.20
12	X 6 1/2	X 26.0	I-T	17.64	40.8	234.4	454.7	3.77	11.2	1.9	5.19	12.22	6.49	.380	.230	2.81
12	X 6 1/2	X 30.0	I-T	20.27	47.1	243.8	521.9	3.99	11.1	2.1	5.96	12.34	6.52	.440	.260	3.21
12	X 6 1/2	X 35.0	I-T	23.82	55.7	254.7	611.3	4.25	11.0	2.4	7.01	12.50	6.56	.520	.300	3.75
12	X 8	X 40.0	I-T	25.48	60.7	250.4	625.8	4.27	10.3	2.5	7.49	11.94	8.01	.515	.295	3.52
12	X 8	X 45.0	I-T	28.81	68.3	257.3	698.1	4.45	10.2	2.7	8.47	12.06	8.05	.575	.335	4.04
12	X 8 1/8	X 50.0	I-T	32.11	76.3	264.2	773.2	4.62	10.1	2.9	9.44	12.19	8.08	.640	.370	4.51

(35T) PLATE WEIGHT = 35.700 LBS. (.8750 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(35T = 30.625 IN.) PLATE WEIGHT = 35.700 LBS. (.8750 IN.) EFFECTIVE PLATE AREA = 26.797 SQ. IN.																
NOMINAL SIZE			SECTION MODULUS								BEAM DIMENSIONS					
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	O	WF	TF	TW	ASH	
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
12	X 10	X 53.0	I-T	33.01	81.6	266.7	808.1	4.70	9.9	3.0	9.71	12.06	10.00	.575	.345	4.16
12	X 10	X 58.0	I-T	35.92	90.1	273.4	885.8	4.87	9.8	3.2	10.56	12.19	10.01	.640	.360	4.39
14	X 5	X 22.0	I-T	16.18	36.8	249.2	468.3	3.85	12.7	1.9	4.76	13.74	5.00	.335	.230	3.16
14	X 5	X 26.0	I-T	18.87	44.3	264.3	561.2	4.17	12.7	2.1	5.55	13.91	5.03	.420	.255	3.55
14	X 6 3/4	X 30.0	I-T	21.16	51.6	274.0	638.7	4.40	12.4	2.3	6.22	13.84	6.73	.385	.270	3.74
14	X 6 3/4	X 34.0	I-T	23.54	59.1	285.1	727.5	4.64	12.3	2.6	6.92	13.98	6.75	.455	.285	3.98
14	X 6 3/4	X 38.0	I-T	26.17	66.4	293.5	811.0	4.85	12.2	2.8	7.70	14.10	6.77	.515	.310	4.37
14	X 8	X 43.0	I-T	28.02	73.3	292.8	852.2	4.93	11.6	2.9	8.24	13.66	8.00	.530	.305	4.17
14	X 8	X 48.0	I-T	31.50	82.5	300.5	949.1	5.13	11.5	3.2	9.26	13.79	8.03	.595	.340	4.69
16	X 5 1/2	X 26.0	I-T	19.49	48.9	299.6	696.5	4.63	14.2	2.3	5.73	15.69	5.50	.345	.250	3.92
16	X 5 1/2	X 31.0	I-T	22.70	59.2	316.5	836.0	5.00	14.1	2.6	6.68	15.88	5.53	.440	.275	4.37
16	X 7	X 36.0	I-T	25.69	69.4	328.0	959.1	5.28	13.8	2.9	7.56	15.86	6.99	.430	.295	4.68
16	X 7	X 40.0	I-T	28.09	78.6	339.5	1077.7	5.54	13.7	3.2	8.26	16.01	7.00	.505	.305	4.88
16	X 7	X 45.0	I-T	31.77	88.5	347.6	1199.2	5.76	13.6	3.4	9.34	16.13	7.04	.565	.345	5.56
16	X 7 1/8	X 50.0	I-T	35.34	98.6	355.8	1322.6	5.96	13.4	3.7	10.39	16.26	7.07	.630	.380	6.18
16	X 7 1/8	X 57.0	I-T	40.28	112.2	365.7	1485.7	6.20	13.2	4.1	11.85	16.43	7.12	.715	.430	7.06
16	X 10 1/4	X 67.0	I-T	44.18	135.9	379.8	1722.1	6.58	12.7	4.5	12.99	16.33	10.24	.665	.395	6.45
16	X 10 1/4	X 77.0	I-T	50.98	156.0	390.3	1938.9	6.81	12.4	5.0	15.00	16.52	10.30	.760	.455	7.52
16	X 10 3/8	X 89.0	I-T	59.17	180.3	402.4	2194.3	7.05	12.2	5.5	17.40	16.75	10.37	.875	.525	8.79
18	X 6	X 35.0	I-T	26.29	73.0	361.1	1127.7	5.71	15.5	3.1	7.73	17.70	6.00	.425	.300	5.31
18	X 6	X 40.0	I-T	29.35	85.1	376.9	1303.6	6.07	15.3	3.5	8.63	17.90	6.02	.525	.315	5.64
18	X 7 1/2	X 50.0	I-T	35.55	107.9	396.2	1599.3	6.55	14.8	4.0	10.46	17.99	7.50	.570	.355	6.39
18	X 7 1/2	X 60.0	I-T	42.61	130.3	412.3	1892.4	6.94	14.5	4.6	12.53	18.24	7.56	.695	.415	7.57
18	X 7 5/8	X 71.0	I-T	50.75	153.4	426.0	2181.7	7.23	14.2	5.1	14.93	18.47	7.64	.810	.495	9.14

(35T) PLATE WEIGHT = 35.700 LBS. (.8750 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T															
(35T = 30.625 IN.) PLATE WEIGHT = 35.700 LBS. (.8750 IN.) EFFECTIVE PLATE AREA = 26.797 SQ. IN.															
NOMINAL SIZE		WT/FT	SECTION MODULUS				BEAM DIMENSIONS								
			FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
18	X 11 1/8 X	86.0 I-T	57.79	191.9	443.4	2580.1	7.68	13.4	5.8	17.00	18.39	11.09	.770	.480	8.83
18	X 11 1/8 X	97.0 I-T	65.20	216.4	454.8	2854.5	7.88	13.2	6.3	19.18	18.59	11.15	.870	.535	9.95
18	X 11 1/4 X	106.0 I-T	71.48	235.1	463.0	3056.7	7.99	13.0	6.6	21.02	18.73	11.20	.940	.590	11.05
18	X 11 1/4 X	119.0 I-T	80.48	264.5	476.2	3375.0	8.18	12.8	7.1	23.67	18.97	11.27	1.060	.655	12.43
21	X 8 1/4 X	62.0 I-T	44.94	152.4	479.0	2527.4	7.95	16.6	5.3	13.22	20.99	8.24	.615	.400	8.40
21	X 8 1/4 X	68.0 I-T	49.15	167.9	488.9	2749.6	8.16	16.4	5.6	14.46	21.13	8.27	.685	.430	9.09
21	X 8 1/4 X	73.0 I-T	52.58	180.2	496.3	2924.0	8.32	16.2	5.9	15.47	21.24	8.30	.740	.455	9.66
21	X 8 3/8 X	83.0 I-T	59.78	203.7	509.0	3244.6	8.55	15.9	6.4	17.58	21.43	8.36	.835	.515	11.04
21	X 8 3/8 X	93.8 I-T	67.42	227.8	521.4	3565.8	8.74	15.7	6.8	19.83	21.62	8.42	.930	.580	12.54
21	X 12 1/4 X	101.0 I-T	68.38	257.7	530.4	3856.2	9.07	15.0	7.3	20.11	21.36	12.29	.800	.500	10.68
21	X 12 3/8 X	111.0 I-T	75.30	282.1	540.4	4148.7	9.21	14.7	7.7	22.15	21.51	12.34	.875	.550	11.83

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(35T) PLATE WEIGHT = 35.700 LBS. (.8750 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																			
(35T = 35.000 IN.) PLATE WEIGHT = 40.800 LBS. (1.0000 IN.) EFFECTIVE PLATE AREA = 35.000 SQ. IN.																			
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS											
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2		
6	X	6	X	20.0	I-T	12.63	17.5	108.1	108.5	1.67	6.2	1.0	3.71	6.20	6.02	.365	.260	1.61	
7	X	5	X	13.0	T	12.85	19.1	124.5	131.5	1.84	6.9	1.1	3.78	6.96	5.03	.420	.255	1.77	
7	X	6 3/4	X	15.0	T	14.81	22.6	133.9	153.3	1.97	6.8	1.1	4.36	6.92	6.73	.385	.270	1.87	
7	X	6 3/4	X	17.0	T	16.77	26.1	143.0	176.4	2.10	6.8	1.2	4.93	6.99	6.75	.455	.285	1.99	
7	X	6 3/4	X	19.0	T	18.74	29.3	150.0	197.4	2.21	6.7	1.3	5.51	7.05	6.77	.515	.310	2.19	
7	X	8	X	21.5	T	20.94	33.2	152.6	213.3	2.28	6.4	1.4	6.16	6.83	8.00	.530	.305	2.08	
7	X	8	X	24.0	T	23.53	37.2	159.2	238.2	2.38	6.4	1.5	6.92	6.90	8.03	.595	.340	2.35	
255	8	X	5 1/2	X	13.0	T	12.83	20.4	143.2	158.3	2.02	7.7	1.1	3.77	7.85	5.50	.345	.250	1.96
	8	X	4	X	15.0	I-T	10.79	16.1	130.3	130.3	1.85	8.1	1.0	3.17	8.11	4.02	.315	.245	1.99
	8	X	5 1/2	X	15.5	T	15.28	25.1	157.3	193.2	2.21	7.7	1.2	4.49	7.94	5.53	.440	.275	2.18
	8	X	5 1/4	X	18.0	I-T	12.00	19.6	145.5	158.1	2.03	8.1	1.1	3.53	8.14	5.25	.330	.230	1.87
	8	X	7	X	18.0	T	17.73	30.0	168.6	227.1	2.38	7.6	1.3	5.22	7.93	6.99	.430	.295	2.34
	8	X	7	X	20.0	T	19.79	34.3	178.2	258.9	2.52	7.6	1.5	5.82	8.01	7.00	.505	.305	2.44
	8	X	5 1/4	X	21.0	I-T	13.87	23.3	159.0	188.7	2.20	8.1	1.2	4.08	8.28	5.27	.400	.250	2.07
	8	X	7	X	22.5	T	22.32	38.4	185.3	288.5	2.63	7.5	1.6	6.56	8.07	7.04	.565	.345	2.78
	8	X	6 1/2	X	24.0	I-T	15.11	25.9	160.7	199.5	2.25	7.7	1.2	4.44	7.93	6.50	.480	.245	1.94
	8	X	7 1/8	X	25.0	T	24.83	42.7	191.8	318.8	2.74	7.5	1.7	7.30	8.13	7.07	.630	.380	3.09
	8	X	6 1/2	X	28.0	I-T	17.69	30.4	172.2	234.3	2.41	7.7	1.4	5.20	8.06	6.54	.465	.285	2.30
	8	X	7 1/8	X	28.5	T	28.28	48.4	199.8	359.5	2.88	7.4	1.8	8.32	8.22	7.12	.715	.430	3.53
8	X	8	X	31.0	I-T	19.16	33.8	178.1	255.8	2.51	7.6	1.4	5.63	8.00	8.00	.435	.285	2.28	
9	X	6	X	17.5	T	17.26	30.2	185.7	256.0	2.53	8.5	1.4	5.08	8.85	6.00	.425	.300	2.66	
9	X	6	X	20.0	T	19.76	35.8	199.0	301.9	2.72	8.4	1.5	5.81	8.95	6.02	.525	.315	2.82	

(35T) PLATE WEIGHT = 40.800 LBS. (1.0000 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																			
(35T = 35.000 IN.) PLATE WEIGHT = 40.800 LBS. (1.0000 IN.) EFFECTIVE PLATE AREA = 35.000 SQ. IN.																			
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS											
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN X IN X LBS/FT				LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2				
10	X	4	X	15.0	I-T	11.27	18.9	168.9	186.5	2.21	9.9	1.1	3.32	9.99	4.00	.270	.230	2.30	
10	X	4	X	17.0	I-T	12.48	21.8	182.4	216.1	2.36	9.9	1.2	3.67	10.11	4.01	.330	.240	2.43	
10	X	4	X	19.0	I-T	13.77	24.9	195.6	248.5	2.52	10.0	1.3	4.05	10.24	4.02	.395	.250	2.56	
10	X	5	3/4	X	22.0	I-T	15.04	29.4	209.9	288.3	2.70	9.8	1.4	4.42	10.17	5.75	.360	.240	2.44
10	X	5	3/4	X	26.0	I-T	17.37	35.1	226.3	344.2	2.93	9.8	1.5	5.11	10.33	5.77	.440	.260	2.69
10	X	5	3/4	X	30.0	I-T	20.23	40.9	239.4	401.1	3.13	9.8	1.7	5.95	10.47	5.81	.510	.300	3.14
10	X	8	X	33.0	I-T	20.94	42.4	228.4	383.7	3.05	9.1	1.7	6.16	9.73	7.96	.435	.290	2.82	
10	X	8	X	39.0	I-T	24.45	50.9	244.5	460.3	3.30	9.0	1.9	7.19	9.92	7.99	.530	.315	3.12	
10	X	8	X	45.0	I-T	28.19	59.6	257.7	537.0	3.52	9.0	2.1	8.29	10.10	8.02	.620	.350	3.54	
256	12	X	4	X	14.0	I-T	10.98	20.6	205.3	241.2	2.51	11.7	1.2	3.23	11.91	3.97	.225	.200	2.38
12	X	4	X	16.0	I-T	12.37	23.5	218.4	275.9	2.67	11.7	1.3	3.64	11.99	3.99	.265	.220	2.64	
12	X	4	X	19.0	I-T	14.20	28.6	239.8	335.8	2.93	11.8	1.4	4.10	12.16	4.01	.350	.235	2.86	
12	X	4	X	22.0	I-T	16.33	33.7	256.9	396.1	3.15	11.8	1.5	4.80	12.31	4.03	.425	.260	3.20	
12	X	6	1/2	X	26.0	I-T	17.64	41.3	279.3	475.9	3.44	11.5	1.7	5.19	12.22	6.49	.380	.230	2.81
12	X	6	1/2	X	30.0	I-T	20.27	47.8	292.9	548.1	3.66	11.5	1.9	5.96	12.34	6.52	.440	.260	3.21
12	X	6	1/2	X	35.0	I-T	23.82	56.5	308.6	644.8	3.92	11.4	2.1	7.01	12.50	6.56	.520	.300	3.75
12	X	8	X	40.0	I-T	25.48	61.5	304.6	662.4	3.95	10.8	2.2	7.49	11.94	8.01	.515	.295	3.52	
12	X	8	X	45.0	I-T	28.81	69.3	314.6	741.9	4.13	10.7	2.4	8.47	12.06	8.05	.575	.335	4.04	
12	X	8	1/8	X	50.0	I-T	32.11	77.5	324.4	824.7	4.31	10.6	2.5	9.44	12.19	8.08	.640	.370	4.51
12	X	10	X	53.0	I-T	33.01	82.8	328.3	863.6	4.40	10.4	2.6	9.71	12.06	10.00	.575	.345	4.16	
12	X	10	X	58.0	I-T	35.92	91.5	337.8	949.8	4.57	10.4	2.8	10.56	12.19	10.01	.640	.360	4.39	
14	X	5	X	22.0	I-T	16.18	37.3	295.5	488.0	3.50	13.1	1.7	4.76	13.74	5.00	.335	.230	3.16	
14	X	5	X	26.0	I-T	18.87	45.0	316.6	586.9	3.80	13.1	1.9	5.55	13.91	5.03	.420	.255	3.55	
14	X	6	3/4	X	30.0	I-T	21.16	52.3	330.7	670.1	4.03	12.8	2.0	6.22	13.84	6.73	.385	.270	3.74
14	X	6	3/4	X	34.0	I-T	23.54	60.0	346.3	765.7	4.27	12.8	2.2	6.92	13.98	6.75	.455	.285	3.98
14	X	6	3/4	X	38.0	I-T	26.17	67.4	358.2	856.3	4.48	12.7	2.4	7.70	14.10	6.77	.515	.310	4.37

(35T) PLATE WEIGHT = 40.800 LBS. (1.0000 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(35T = 35.000 IN.) PLATE WEIGHT = 40.800 LBS. (1.0000 IN.) EFFECTIVE PLATE AREA = 35.000 SQ. IN.																		
NOMINAL SIZE					SECTION MODULUS				BEAM DIMENSIONS									
					WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
14	X	8	X	43.0	I-T	28.02	74.3	358.8	902.8	4.57	12.1	2.5	8.24	13.66	8.00	.530	.305	4.17
14	X	8	X	48.0	I-T	31.50	83.7	369.8	1009.5	4.78	12.1	2.7	9.26	13.79	8.03	.595	.340	4.69
16	X	5 1/2	X	26.0	I-T	19.49	49.6	361.0	727.7	4.23	14.7	2.0	5.73	15.69	5.50	.345	.250	3.92
16	X	5 1/2	X	31.0	I-T	22.70	60.1	384.6	877.0	4.59	14.6	2.3	6.68	15.88	5.53	.440	.275	4.37
16	X	7	X	36.0	I-T	25.69	70.4	401.1	1010.0	4.87	14.3	2.5	7.56	15.86	6.99	.430	.295	4.68
16	X	7	X	40.0	I-T	28.09	79.7	417.1	1138.4	5.13	14.3	2.7	8.26	16.01	7.00	.505	.305	4.88
16	X	7	X	45.0	I-T	31.77	89.8	428.5	1271.9	5.36	14.2	3.0	9.34	16.13	7.04	.565	.345	5.56
16	X	7 1/8	X	50.0	I-T	35.34	100.1	439.7	1407.9	5.57	14.1	3.2	10.39	16.26	7.07	.630	.380	6.18
16	X	7 1/8	X	57.0	I-T	40.28	114.1	453.2	1588.9	5.82	13.9	3.5	11.85	16.43	7.12	.715	.430	7.06
16	X	10 1/4	X	67.0	I-T	44.18	138.1	473.3	1852.4	6.21	13.4	3.9	12.99	16.33	10.24	.665	.395	6.45
16	X	10 1/4	X	77.0	I-T	50.98	158.7	487.1	2097.5	6.48	13.2	4.3	15.00	16.52	10.30	.760	.455	7.52
16	X	10 3/8	X	89.0	I-T	59.17	183.7	502.6	2388.2	6.75	13.0	4.8	17.40	16.75	10.37	.875	.525	8.79
18	X	6	X	35.0	I-T	26.29	74.1	442.4	1186.2	5.27	16.0	2.7	7.73	17.70	6.00	.425	.300	5.31
18	X	6	X	40.0	I-T	29.35	86.4	464.2	1376.3	5.62	15.9	3.0	8.63	17.90	6.02	.525	.315	5.64
18	X	7 1/2	X	50.0	I-T	35.55	109.5	490.9	1700.5	6.12	15.5	3.5	10.46	17.99	7.50	.570	.395	6.39
18	X	7 1/2	X	60.0	I-T	42.61	132.5	512.6	2025.7	6.53	15.3	4.0	12.53	18.24	7.56	.695	.415	7.57
18	X	7 5/8	X	71.0	I-T	50.75	156.3	530.2	2350.5	6.86	15.0	4.4	14.93	18.47	7.64	.810	.495	9.14
18	X	11 1/8	X	86.0	I-T	57.79	195.4	554.4	2801.3	7.34	14.3	5.1	17.00	18.39	11.09	.770	.480	8.83
18	X	11 1/8	X	97.0	I-T	65.20	220.7	568.7	3114.7	7.58	14.1	5.5	19.18	18.59	11.15	.870	.535	9.95
18	X	11 1/4	X	106.0	I-T	71.48	240.0	578.5	3347.0	7.73	13.9	5.8	21.02	18.73	11.20	.940	.590	11.05
18	X	11 1/4	X	119.0	I-T	80.48	270.5	594.6	3713.3	7.96	13.7	6.2	23.67	18.97	11.27	1.060	.655	12.43
21	X	8 1/4	X	62.0	I-T	44.94	155.0	596.9	2705.6	7.49	17.5	4.5	13.22	20.99	8.24	.615	.400	8.40
21	X	8 1/4	X	68.0	I-T	49.15	170.9	609.7	2953.8	7.73	17.3	4.8	14.46	21.13	8.27	.685	.430	9.09
21	X	8 1/4	X	73.0	I-T	52.98	183.6	619.2	3149.5	7.90	17.2	5.1	15.47	21.24	8.30	.740	.455	9.66
21	X	8 3/8	X	83.0	I-T	59.78	207.8	634.8	3511.9	8.17	16.9	5.5	17.58	21.43	8.36	.835	.515	11.04

(35T) PLATE WEIGHT = 40.800 LBS. (1.0000 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(35T = 35.000 IN.) PLATE WEIGHT = 40.800 LBS. (1.0000 IN.) EFFECTIVE PLATE AREA = 35.000 SQ. IN.																
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS								
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	LBS/FT		LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2	
21	X 8 3/8 X	93.0	I-T	67.42	232.8	649.8	3876.7	8.41	16.7	6.8	19.83	21.62	8.42	.930	.500	12.54
21	X 12 1/4 X	101.0	I-T	68.38	262.7	664.0	4209.0	8.74	16.0	6.3	20.11	21.36	12.29	.800	.500	10.68
21	X 12 3/8 X	111.0	I-T	75.30	287.9	675.9	4545.3	8.92	15.8	6.7	22.15	21.51	12.34	.875	.550	11.83

(35T) PLATE WEIGHT = 40.800 LBS. (1.0000 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(35T = 39.375 IN.) PLATE WEIGHT = 45.900 LBS. (1.1250 IN.) EFFECTIVE PLATE AREA = 44.297 SQ. IN.																		
NOMINAL SIZE							SECTION MODULUS				BEAM DIMENSIONS							
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN	IN	IN2			
7	X	6 3/4	X	17.0	T	16.77	26.7	159.4	185.5	1.94	7.0	1.2	4.93	6.99	6.75	.455	.285	1.99
7	X	6 3/4	X	19.0	T	18.74	29.9	168.6	207.9	2.04	6.9	1.2	5.51	7.05	6.77	.515	.310	2.19
7	X	8	X	21.5	T	20.94	33.9	172.9	225.2	2.11	6.7	1.3	6.16	6.83	8.00	.530	.305	2.08
7	X	8	X	24.0	T	23.53	38.0	181.8	252.0	2.22	6.6	1.4	6.92	6.90	8.03	.595	.340	2.35
8	X	5 1/2	X	15.5	T	15.28	25.6	174.7	202.2	2.04	7.9	1.2	4.49	7.94	5.53	.440	.275	2.18
8	X	7	X	18.0	T	17.73	30.5	189.4	238.1	2.19	7.8	1.3	5.22	7.93	6.99	.430	.295	2.34
8	X	7	X	20.0	T	19.79	34.9	202.0	271.9	2.33	7.8	1.3	5.82	8.01	7.00	.505	.305	2.44
8	X	7	X	22.5	T	22.32	39.1	211.6	303.6	2.44	7.8	1.4	6.56	8.07	7.04	.565	.345	2.78
8	X	6 1/2	X	24.0	I-T	15.11	26.5	178.7	208.7	2.07	7.9	1.2	4.44	7.93	6.50	.400	.245	1.94
8	X	7 1/8	X	25.0	T	24.83	43.5	220.6	336.1	2.55	7.7	1.5	7.30	8.13	7.07	.630	.380	3.09
8	X	6 1/2	X	28.0	I-T	17.69	31.0	193.6	245.5	2.23	7.9	1.3	5.20	8.06	6.54	.465	.285	2.30
8	X	7 1/8	X	28.5	T	28.28	49.3	231.5	380.1	2.69	7.7	1.6	8.32	8.22	7.12	.715	.430	3.53
8	X	8	X	31.0	I-T	19.16	34.4	201.6	268.4	2.32	7.8	1.3	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X	17.5	T	17.26	30.8	208.7	267.6	2.33	8.7	1.3	5.08	8.85	6.00	.425	.300	2.66
9	X	6	X	20.0	T	19.76	36.4	226.1	316.1	2.51	8.7	1.4	5.81	8.95	6.02	.525	.315	2.82
10	X	4	X	19.0	I-T	13.77	25.4	216.9	258.2	2.31	10.2	1.2	4.05	10.24	4.02	.395	.250	2.56
10	X	5 3/4	X	22.0	I-T	15.04	29.9	235.1	299.7	2.48	10.0	1.3	4.42	10.17	5.75	.360	.240	2.44
10	X	5 3/4	X	26.0	I-T	17.37	35.6	256.4	358.4	2.69	10.1	1.4	5.11	10.33	5.77	.440	.260	2.69
10	X	5 3/4	X	30.0	I-T	20.23	41.6	274.0	418.6	2.89	10.1	1.5	5.95	10.47	5.81	.510	.300	3.14
10	X	8	X	33.0	I-T	20.94	43.0	261.9	401.3	2.82	9.3	1.5	6.16	9.73	7.96	.435	.290	2.82
10	X	8	X	39.0	I-T	24.45	51.7	283.4	482.9	3.06	9.3	1.7	7.19	9.92	7.99	.530	.315	3.12
10	X	8	X	45.0	I-T	28.19	60.5	301.3	565.2	3.28	9.3	1.9	8.29	10.10	8.02	.620	.350	3.54
12	X	4	X	16.0	I-T	12.37	23.9	241.4	285.4	2.44	11.9	1.2	3.64	11.99	3.99	.265	.220	2.64

(35T) PLATE WEIGHT = 45.900 LBS. (1.1250 IN.)

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TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(35T = 39.375 IN.) PLATE WEIGHT = 45.900 LBS. (1.1250 IN.) EFFECTIVE PLATE AREA = 44.297 SQ. IN.																
NOMINAL SIZE			WT/FT	SECTION MODULUS				BEAM DIMENSIONS								
				FLANGE	PLATE	T	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
12	X 4	X 19.0	I-T	14.20	29.0	288.3	347.7	2.68	12.0	1.3	4.18	12.16	4.01	.350	.235	2.86
12	X 4	X 22.0	I-T	16.33	34.2	290.6	410.8	2.89	12.0	1.4	4.80	12.31	4.03	.425	.260	3.20
12	X 6 1/2	X 26.0	I-T	17.64	41.9	319.4	494.1	3.16	11.8	1.5	5.19	12.22	6.49	.380	.230	2.81
12	X 6 1/2	X 30.0	I-T	20.27	48.4	338.0	570.3	3.37	11.8	1.7	5.96	12.34	6.52	.440	.260	3.21
12	X 6 1/2	X 35.0	I-T	23.82	57.3	359.4	673.1	3.62	11.8	1.9	7.01	12.50	6.56	.520	.300	3.75
12	X 8	X 40.0	I-T	25.48	62.3	356.3	693.2	3.66	11.1	1.9	7.49	11.94	8.01	.515	.295	3.52
12	X 8	X 45.0	I-T	28.81	70.3	370.1	778.6	3.84	11.1	2.1	8.47	12.06	8.05	.575	.335	4.04
12	X 8 1/8	X 50.0	I-T	32.11	78.5	383.6	867.9	4.02	11.1	2.3	9.44	12.19	8.08	.640	.370	4.51
12	X 10	X 53.0	I-T	33.01	83.9	389.3	910.1	4.11	10.8	2.3	9.71	12.06	10.00	.575	.345	4.16
12	X 10	X 58.0	I-T	35.92	92.7	402.3	1003.5	4.28	10.8	2.5	10.56	12.19	10.01	.640	.360	4.39
14	X 5	X 22.0	I-T	16.18	37.8	336.3	505.0	3.21	13.4	1.5	4.76	13.74	5.00	.335	.230	3.16
14	X 5	X 26.0	I-T	18.87	45.5	364.3	608.7	3.49	13.4	1.7	5.55	13.91	5.03	.420	.255	3.55
14	X 6 3/4	X 30.0	I-T	21.16	53.0	383.6	696.5	3.71	13.1	1.8	6.22	13.84	6.73	.385	.270	3.74
14	X 6 3/4	X 34.0	I-T	23.54	60.7	404.5	797.5	3.95	13.1	2.0	6.92	13.98	6.75	.455	.285	3.98
14	X 6 3/4	X 38.0	I-T	26.17	68.2	420.9	894.0	4.15	13.1	2.1	7.70	14.10	6.77	.515	.310	4.37
14	X 8	X 43.0	I-T	28.02	75.3	423.4	944.9	4.24	12.6	2.2	8.24	13.66	8.00	.530	.305	4.17
14	X 8	X 48.0	I-T	31.50	84.8	438.6	1059.7	4.45	12.5	2.4	9.26	13.79	8.03	.595	.340	4.69
16	X 5 1/2	X 26.0	I-T	19.49	50.2	417.8	753.7	3.88	15.0	1.8	5.73	15.69	5.50	.345	.250	3.92
16	X 5 1/2	X 31.0	I-T	22.70	60.8	449.6	910.9	4.23	15.0	2.0	6.68	15.88	5.53	.440	.275	4.37
16	X 7	X 36.0	I-T	25.69	71.3	472.2	1052.1	4.50	14.8	2.2	7.56	15.86	6.99	.430	.295	4.68
16	X 7	X 40.0	I-T	28.09	80.7	493.6	1188.4	4.76	14.7	2.4	8.26	16.01	7.00	.505	.305	4.88
16	X 7	X 45.0	I-T	31.77	91.0	509.5	1331.8	4.98	14.6	2.6	9.34	16.13	7.04	.565	.345	5.56
16	X 7 1/8	X 50.0	I-T	35.34	101.5	524.9	1478.4	5.20	14.6	2.8	10.39	16.26	7.07	.630	.380	6.18
16	X 7 1/8	X 57.0	I-T	40.28	115.7	543.0	1674.7	5.46	14.5	3.1	11.85	16.43	7.12	.715	.430	7.06
16	X 10 1/4	X 67.0	I-T	44.18	139.9	570.6	1960.8	5.85	14.0	3.4	12.99	16.33	10.24	.665	.395	6.45
16	X 10 1/4	X 77.0	I-T	50.98	161.0	588.9	2230.6	6.13	13.9	3.8	15.00	16.52	10.30	.760	.455	7.52

(35T) PLATE WEIGHT = 45.900 LBS. (1.1250 IN.)

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TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T															
(35T = 39.375 IN.) PLATE WEIGHT = 45.900 LBS. (1.1250 IN.) EFFECTIVE PLATE AREA = 44.297 SQ. IN.															
NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS							
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2	
16	X 10 3/8 X	89.0 I-T	59.17	186.5	609.1	2552.7	6.43	13.7	4.2	17.40	16.75	10.37	.875	.525	8.79
18	X 6 X	35.0 I-T	26.29	75.0	522.2	1234.3	4.87	16.5	2.4	7.73	17.70	6.00	.425	.300	5.31
18	X 6 X	40.0 I-T	29.35	87.5	551.3	1436.0	5.21	16.4	2.6	8.63	17.90	6.02	.525	.315	5.64
18	X 7 1/2 X	50.0 I-T	35.55	110.9	587.7	1783.7	5.71	16.1	3.0	10.46	17.99	7.50	.570	.355	6.39
18	X 7 1/2 X	60.0 I-T	42.61	134.3	616.7	2136.2	6.13	15.9	3.5	12.53	18.24	7.56	.695	.415	7.57
18	X 7 5/8 X	71.0 I-T	50.75	158.7	639.9	2491.9	6.49	15.7	3.9	14.93	18.47	7.64	.810	.495	9.14
18	X 11 1/8 X	86.0 I-T	57.79	198.2	672.6	2988.0	6.98	15.1	4.4	17.00	18.39	11.09	.770	.480	8.83
18	X 11 1/8 X	97.0 I-T	65.20	224.1	690.9	3336.6	7.25	14.9	4.8	19.18	18.59	11.15	.870	.535	9.95
18	X 11 1/4 X	106.0 I-T	71.48	244.0	703.0	3596.7	7.42	14.7	5.1	21.02	18.73	11.20	.940	.590	11.05
18	X 11 1/4 X	119.0 I-T	80.48	275.4	722.9	4007.4	7.68	14.6	5.5	23.67	18.97	11.27	1.060	.655	12.43
21	X 8 1/4 X	62.0 I-T	44.94	157.1	720.8	2852.9	7.04	18.2	4.0	13.22	20.99	8.24	.615	.400	8.40
21	X 8 1/4 X	68.0 I-T	49.15	173.3	737.6	3123.6	7.29	18.0	4.2	14.46	21.13	8.27	.685	.430	9.09
21	X 8 1/4 X	73.0 I-T	52.58	186.3	749.8	3337.9	7.47	17.9	4.5	15.47	21.24	8.30	.740	.455	9.66
21	X 8 3/8 X	83.0 I-T	59.78	211.2	769.6	3737.4	7.77	17.7	4.9	17.58	21.43	8.36	.835	.515	11.04
21	X 8 3/8 X	93.0 I-T	67.42	236.8	788.1	4141.9	8.04	17.5	5.3	19.83	21.62	8.42	.930	.580	12.54
21	X 12 1/4 X	101.0 I-T	68.38	266.7	808.4	4509.7	8.37	16.9	5.6	20.11	21.36	12.29	.800	.500	10.68
21	X 12 3/8 X	111.0 I-T	75.30	292.6	823.1	4886.5	8.58	16.7	5.9	22.15	21.51	12.34	.875	.550	11.83

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MIL-HDBK-264 (SH)
30 September 1980

(35T) PLATE WEIGHT = 45.900 LBS. (1.1250 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(35T = 43.750 IN.) PLATE WEIGHT = 51.000 LBS. (1.2500 IN.) EFFECTIVE PLATE AREA = 54.688 SQ. IN.																		
NOMINAL SIZE						SECTION MODULUS						BEAM DIMENSIONS						
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X IN X LBS/FT						LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN	IN	IN	IN2	
7	X	8	X	24.0	T	23.53	38.8	201.3	265.0	2.07	6.8	1.3	6.92	6.90	8.03	.595	.340	2.35
8	X	7	X	20.0	T	19.79	35.6	221.9	284.1	2.17	8.0	1.3	5.82	8.01	7.00	.505	.305	2.44
8	X	7	X	22.5	T	22.32	39.9	234.2	317.6	2.28	8.0	1.4	6.56	8.07	7.04	.565	.345	2.78
8	X	7 1/8	X	25.0	T	24.83	44.3	245.7	352.0	2.38	7.9	1.4	7.30	8.13	7.07	.630	.380	3.09
8	X	7 1/8	X	28.5	T	28.28	50.3	259.9	398.9	2.52	7.9	1.5	8.32	8.22	7.12	.715	.430	3.53
8	X	8	X	31.0	I-T	19.16	35.1	221.2	280.3	2.16	8.0	1.3	5.63	8.00	8.00	.435	.285	2.28
9	X	6	X	20.0	T	19.76	37.1	248.9	329.4	2.33	8.9	1.3	5.81	8.95	6.02	.525	.315	2.82
10	X	5 3/4	X	26.0	I-T	17.37	36.2	281.4	371.6	2.49	10.3	1.3	5.11	10.33	5.77	.440	.260	2.69
10	X	5 3/4	X	30.0	I-T	20.23	42.2	303.7	434.6	2.68	10.3	1.4	5.95	10.47	5.81	.510	.300	3.14
10	X	8	X	33.0	I-T	20.94	43.7	290.8	417.4	2.62	9.5	1.4	6.16	9.73	7.96	.435	.290	2.82
10	X	8	X	39.0	I-T	24.45	52.5	318.0	503.2	2.85	9.6	1.6	7.19	9.92	7.99	.530	.315	3.12
10	X	8	X	45.0	I-T	28.19	61.3	341.1	590.1	3.06	9.6	1.7	8.29	10.10	8.02	.620	.350	3.54
12	X	4	X	22.0	I-T	16.33	34.7	318.4	424.3	2.67	12.2	1.3	4.80	12.31	4.03	.425	.260	3.20
12	X	6 1/2	X	26.0	I-T	17.64	42.4	353.5	510.4	2.92	12.0	1.4	5.19	12.22	6.49	.380	.230	2.81
12	X	6 1/2	X	30.0	I-T	20.27	49.1	377.4	590.0	3.12	12.0	1.6	5.96	12.34	6.52	.440	.260	3.21
12	X	6 1/2	X	35.0	I-T	23.82	58.0	405.3	697.8	3.36	12.0	1.7	7.01	12.50	6.56	.520	.300	3.75
12	X	8	X	40.0	I-T	25.48	63.1	403.5	720.1	3.40	11.4	1.8	7.49	11.94	8.01	.515	.295	3.52
12	X	8	X	45.0	I-T	28.81	71.2	421.9	818.5	3.58	11.4	1.9	8.47	12.06	8.05	.575	.335	4.04
12	X	8 1/8	X	50.0	I-T	32.11	79.5	439.7	905.3	3.76	11.4	2.1	9.44	12.19	8.08	.640	.370	4.51
12	X	10	X	53.0	I-T	33.01	84.9	447.6	950.3	3.84	11.2	2.1	9.71	12.06	10.00	.575	.345	4.16
12	X	10	X	58.0	I-T	35.92	93.9	464.6	1049.7	4.01	11.2	2.3	10.56	12.19	10.01	.640	.360	4.39
14	X	5	X	22.0	I-T	16.18	38.3	370.3	520.3	2.96	13.6	1.4	4.76	13.74	5.00	.335	.230	3.16

(35T) PLATE WEIGHT = 51.000 LBS. (1.2500 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(35T = 43.750 IN.) PLATE WEIGHT = 51.000 LBS. (1.2500 IN.) EFFECTIVE PLATE AREA = 54.688 SQ. IN.																
NOMINAL SIZE			SECTION MODULUS					BEAM DIMENSIONS								
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN	IN	IN	IN	IN2	
14	X 5	X 26.0	I-T	18.87	46.1	405.7	628.0	3.23	13.6	1.5	5.55	13.91	5.03	.420	.255	3.55
14	X 6 3/4	X 30.0	I-T	21.16	53.6	430.7	719.6	3.44	13.4	1.7	6.22	13.84	6.73	.385	.270	3.74
14	X 6 3/4	X 34.0	I-T	23.54	61.5	457.6	825.1	3.66	13.4	1.8	6.92	13.98	6.75	.455	.285	3.98
14	X 6 3/4	X 38.0	I-T	26.17	69.1	479.0	926.5	3.85	13.4	1.9	7.70	14.10	6.77	.515	.310	4.37
14	X 8	X 43.0	I-T	28.02	76.1	484.1	981.1	3.95	12.9	2.0	8.24	13.66	8.00	.530	.305	4.17
14	X 8	X 48.0	I-T	31.50	85.8	504.4	1102.7	4.15	12.9	2.2	9.26	13.79	8.03	.595	.340	4.69
16	X 5 1/2	X 26.0	I-T	19.49	50.8	468.1	776.4	3.58	15.3	1.7	5.73	15.69	5.50	.345	.250	3.92
16	X 5 1/2	X 31.0	I-T	22.70	61.5	508.9	940.2	3.91	15.3	1.8	6.68	15.88	5.53	.440	.275	4.37
16	X 7	X 36.0	I-T	25.69	72.1	538.6	1088.0	4.18	15.1	2.0	7.56	15.86	6.99	.430	.295	4.68
16	X 7	X 40.0	I-T	28.09	81.6	566.3	1230.9	4.42	15.1	2.2	8.26	16.01	7.00	.505	.305	4.88
16	X 7	X 45.0	I-T	31.77	92.0	587.7	1382.6	4.65	15.0	2.4	9.34	16.13	7.04	.565	.345	5.56
16	X 7 1/8	X 50.0	I-T	35.34	102.7	608.2	1538.2	4.86	15.0	2.5	10.39	16.26	7.07	.630	.380	6.18
16	X 7 1/8	X 57.0	I-T	40.28	117.2	632.2	1747.5	5.12	14.9	2.8	11.85	16.43	7.12	.715	.430	7.06
16	X 10 1/4	X 67.0	I-T	44.18	141.5	668.6	2052.6	5.51	14.5	3.1	12.99	16.33	10.24	.665	.395	6.45
16	X 10 1/4	X 77.0	I-T	50.98	162.9	692.9	2343.8	5.80	14.4	3.4	15.00	16.52	10.30	.760	.455	7.92
16	X 10 3/8	X 89.0	I-T	59.17	189.0	719.1	2693.5	6.11	14.3	3.7	17.40	16.75	10.37	.875	.525	8.79
18	X 6	X 35.0	I-T	26.29	75.8	597.5	1275.1	4.52	16.8	2.1	7.73	17.70	6.00	.425	.300	5.31
18	X 6	X 40.0	I-T	29.35	88.4	635.0	1486.3	4.85	16.8	2.3	8.63	17.90	6.02	.525	.315	5.64
18	X 7 1/2	X 50.0	I-T	35.55	112.2	683.2	1853.8	5.33	16.5	2.7	10.46	17.99	7.50	.570	.355	6.39
18	X 7 1/2	X 60.0	I-T	42.61	135.9	721.6	2229.4	5.76	16.4	3.1	12.53	18.24	7.56	.695	.415	7.57
18	X 7 5/8	X 71.0	I-T	50.75	160.8	752.1	2611.9	6.13	16.2	3.5	14.93	18.47	7.64	.810	.495	9.14
18	X 11 1/8	X 86.0	I-T	57.79	200.7	795.2	3147.0	6.63	15.7	4.0	17.00	18.39	11.09	.770	.480	8.83
18	X 11 1/8	X 97.0	I-T	65.20	227.1	818.7	3526.7	6.91	15.5	4.3	19.18	18.59	11.15	.870	.535	9.95
18	X 11 1/4	X 106.0	I-T	71.48	247.4	834.0	3811.9	7.10	15.4	4.6	21.02	18.73	11.20	.940	.590	11.05
18	X 11 1/4	X 119.0	I-T	80.48	279.4	858.7	4263.1	7.38	15.3	5.0	23.67	18.97	11.27	1.060	.655	12.43

(35T) PLATE WEIGHT = 51.000 LBS. (1.2500 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T															
(35T = 43.750 IN.) PLATE WEIGHT = 51.000 LBS. (1.2500 IN.) EFFECTIVE PLATE AREA = 54.688 SQ. IN.															
NOMINAL SIZE			WT/FT	SECTION MODULUS				BEAM DIMENSIONS							
				FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN
21	X 8 1/4 X	62.0 I-T	44.94	158.9	847.3	2976.5	6.62	18.7	3.5	13.22	20.99	8.24	.615	.400	8.40
21	X 8 1/4 X	68.0 I-T	49.15	175.4	869.1	3266.5	6.87	18.6	3.8	14.46	21.13	8.27	.685	.430	9.09
21	X 8 1/4 X	73.0 I-T	52.58	188.6	884.9	3496.9	7.06	18.5	4.0	15.47	21.24	8.30	.740	.455	9.66
21	X 8 3/8 X	83.0 I-T	59.78	214.0	910.2	3929.1	7.37	18.4	4.3	17.58	21.43	8.36	.835	.515	11.04
21	X 8 3/8 X	93.0 I-T	67.42	240.2	933.5	4369.0	7.66	18.2	4.7	19.83	21.62	8.42	.930	.580	12.54
21	X 12 1/4 X	101.0 I-T	68.38	270.1	960.9	4766.8	7.98	17.6	5.0	20.11	21.36	12.29	.800	.500	10.68
21	X 12 3/8 X	111.0 I-T	75.30	296.5	979.2	5180.3	8.21	17.5	5.3	22.15	21.51	12.34	.875	.550	11.83

(35T) PLATE WEIGHT = 51.000 LBS. (1.2500 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																	
(35T = 48.125 IN.) PLATE WEIGHT = 56.100 LBS. (1.3750 IN.) EFFECTIVE PLATE AREA = 66.172 SQ. IN.																	
NOMINAL SIZE							SECTION MODULUS						BEAM DIMENSIONS				
							WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF
IN X IN X LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN	IN	IN2			
8 X 7 1/8 X 25.0 T	24.83	45.2	267.1	367.3	2.24	8.1	1.4	7.30	8.13	7.07	.630	.380	3.09				
8 X 7 1/8 X 28.5 T	28.28	51.2	284.5	416.6	2.36	8.1	1.5	8.32	8.22	7.12	.715	.430	3.53				
10 X 8 X 39.0 I-T	24.45	53.3	347.8	522.1	2.67	9.8	1.5	7.19	9.92	7.99	.530	.315	3.12				
10 X 8 X 45.0 I-T	28.19	62.3	376.3	613.0	2.87	9.8	1.6	8.29	10.10	8.02	.620	.350	3.54				
12 X 6 1/2 X 26.0 I-T	17.64	43.1	381.3	525.9	2.71	12.2	1.4	5.19	12.22	6.49	.380	.230	2.81				
12 X 6 1/2 X 30.0 I-T	20.27	49.7	410.6	608.4	2.90	12.2	1.5	5.96	12.34	6.52	.440	.260	3.21				
12 X 6 1/2 X 35.0 I-T	23.82	58.8	445.2	720.5	3.14	12.3	1.6	7.01	12.50	6.56	.520	.300	3.75				
12 X 8 X 40.0 I-T	25.48	64.0	445.2	744.6	3.18	11.6	1.7	7.49	11.94	8.01	.515	.295	3.52				
12 X 8 X 45.0 I-T	28.81	72.1	468.5	839.2	3.35	11.6	1.8	8.47	12.06	8.05	.575	.335	4.04				
12 X 8 1/8 X 50.0 I-T	32.11	80.6	491.1	938.8	3.52	11.7	1.9	9.44	12.19	8.08	.640	.370	4.51				
12 X 10 X 53.0 I-T	33.01	86.0	501.3	986.0	3.60	11.5	2.0	9.71	12.06	10.00	.575	.345	4.16				
12 X 10 X 58.0 I-T	35.92	95.0	522.8	1090.7	3.77	11.5	2.1	10.56	12.19	10.01	.640	.360	4.39				
14 X 5 X 26.0 I-T	18.87	46.7	440.2	645.9	3.00	13.8	1.5	5.55	13.91	5.03	.420	.255	3.55				
14 X 6 3/4 X 30.0 I-T	21.16	54.3	471.0	740.7	3.20	13.6	1.6	6.22	13.84	6.73	.385	.270	3.74				
14 X 6 3/4 X 34.0 I-T	23.54	62.2	504.8	850.1	3.41	13.7	1.7	6.92	13.98	6.75	.455	.285	3.98				
14 X 6 3/4 X 38.0 I-T	26.17	69.9	531.0	955.6	3.60	13.7	1.8	7.70	14.10	6.77	.515	.310	4.37				
14 X 8 X 43.0 I-T	28.02	77.0	539.1	1013.3	3.69	13.2	1.9	8.24	13.66	8.00	.530	.305	4.17				
14 X 8 X 48.0 I-T	31.50	86.8	565.0	1140.7	3.89	13.1	2.0	9.26	13.79	8.03	.595	.340	4.69				
16 X 5 1/2 X 26.0 I-T	19.49	51.4	510.7	797.2	3.33	15.5	1.6	5.73	15.69	5.50	.345	.250	3.92				
16 X 5 1/2 X 31.0 I-T	22.70	62.2	560.9	966.5	3.64	15.5	1.7	6.68	15.88	5.53	.440	.275	4.37				
16 X 7 X 36.0 I-T	25.69	72.9	598.4	1120.0	3.90	15.4	1.9	7.56	15.86	6.99	.430	.295	4.68				
16 X 7 X 40.0 I-T	28.09	82.5	632.9	1268.4	4.13	15.4	2.0	8.26	16.01	7.00	.505	.305	4.88				
16 X 7 X 45.0 I-T	31.77	93.0	660.7	1427.2	4.35	15.3	2.2	9.34	16.13	7.04	.565	.345	5.56				
(35T) PLATE WEIGHT = 56.100 LBS. (1.3750 IN.)																	

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TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																
(35T = 48.125 IN.) PLATE WEIGHT = 56.100 LBS. (1.3750 IN.) EFFECTIVE PLATE AREA = 66.172 SQ. IN.																
NOMINAL SIZE			WT/FT	SECTION MODULUS				BEAM DIMENSIONS								
				FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
16	X 7 1/8	X 50.0	I-T	35.34	103.8	687.1	1590.3	4.56	15.3	2.3	10.39	16.26	7.07	.630	.380	6.18
16	X 7 1/8	X 57.0	I-T	40.28	118.5	718.2	1810.8	4.82	15.3	2.5	11.85	16.43	7.12	.715	.430	7.06
16	X 10 1/4	X 67.0	I-T	44.18	142.9	764.7	2131.9	5.19	14.9	2.8	12.99	16.33	10.24	.665	.395	6.45
16	X 10 1/4	X 77.0	I-T	50.98	164.7	796.3	2441.7	5.48	14.8	3.1	15.00	16.52	10.30	.760	.455	7.52
16	X 10 3/8	X 89.0	I-T	59.17	191.1	830.0	2815.6	5.80	14.7	3.4	17.40	16.75	10.37	.875	.525	8.79
18	X 6	X 35.0	I-T	26.29	76.6	666.0	1311.1	4.21	17.1	2.0	7.73	17.70	6.00	.425	.300	5.31
18	X 6	X 40.0	I-T	29.35	89.3	712.7	1530.3	4.52	17.1	2.1	8.63	17.90	6.02	.525	.315	5.64
18	X 7 1/2	X 50.0	I-T	35.55	113.3	774.7	1914.4	5.00	16.9	2.5	10.46	17.99	7.50	.570	.355	6.39
18	X 7 1/2	X 60.0	I-T	42.61	137.4	824.2	2309.7	5.42	16.8	2.8	12.53	18.24	7.56	.695	.415	7.57
18	X 7 5/8	X 71.0	I-T	50.75	162.6	863.8	2715.4	5.79	16.7	3.1	14.93	18.47	7.64	.810	.495	9.14
18	X 11 1/8	X 86.0	I-T	57.79	202.8	919.2	3284.0	6.28	16.2	3.6	17.00	18.39	11.09	.770	.480	8.83
18	X 11 1/8	X 97.0	I-T	65.20	229.6	949.2	3691.2	6.58	16.1	3.9	19.18	18.59	11.15	.870	.535	9.95
18	X 11 1/4	X 106.0	I-T	71.48	250.3	968.6	3998.9	6.77	16.0	4.1	21.02	18.73	11.20	.940	.590	11.05
18	X 11 1/4	X 119.0	I-T	80.48	282.9	999.5	4486.4	7.07	15.9	4.5	23.67	18.97	11.27	1.060	.655	12.43
21	X 8 1/4	X 62.0	I-T	44.94	160.6	972.9	3082.2	6.23	19.2	3.2	13.22	20.99	8.24	.615	.400	8.40
21	X 8 1/4	X 68.0	I-T	49.15	177.2	1000.8	3388.7	6.48	19.1	3.4	14.46	21.13	8.27	.685	.430	9.09
21	X 8 1/4	X 73.0	I-T	52.58	190.6	1021.1	3633.1	6.67	19.1	3.6	15.47	21.24	8.30	.740	.455	9.66
21	X 8 3/8	X 83.0	I-T	59.78	216.4	1053.4	4093.8	6.99	18.9	3.9	17.58	21.43	8.36	.835	.515	11.04
21	X 8 3/8	X 93.0	I-T	67.42	243.1	1082.9	4565.1	7.29	18.8	4.2	19.83	21.62	8.42	.930	.580	12.54
21	X 12 1/4	X 101.0	I-T	68.38	273.0	1118.3	4988.5	7.60	18.3	4.5	20.11	21.36	12.29	.800	.500	10.68
21	X 12 3/8	X 111.0	I-T	75.30	299.9	1141.3	5434.7	7.84	18.1	4.8	22.15	21.51	12.34	.875	.550	11.83

(35T) PLATE WEIGHT = 56.100 LBS. (1.3750 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																	
(35T = 52.500 IN.) PLATE WEIGHT = 61.200 LBS. (1.5000 IN.) EFFECTIVE PLATE AREA = 78.750 SQ. IN.																	
NOMINAL SIZE			WT/FT	SECTION MODULUS				BEAM DIMENSIONS									
				FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2		
10	X 8	X 45.0	I-T	28.19	63.2	406.6	634.9	2.70	10.0	1.6	6.29	10.10	8.02	.620	.350	3.54	
12	X 6 1/2	X 35.0	I-T	23.82	59.6	478.9	741.9	2.94	12.5	1.5	7.01	12.50	6.56	.520	.300	3.75	
12	X 8	X 40.0	I-T	25.48	64.8	480.7	767.6	2.98	11.8	1.6	7.49	11.94	8.01	.515	.295	3.52	
12	X 8	X 45.0	I-T	28.81	73.0	509.2	866.0	3.15	11.9	1.7	8.47	12.06	8.05	.575	.335	4.04	
12	X 8 1/8	X 50.0	I-T	32.11	81.6	536.8	969.6	3.32	11.9	1.8	9.44	12.19	8.08	.640	.370	4.51	
12	X 10	X 53.0	I-T	33.01	87.0	549.4	1018.8	3.39	11.7	1.9	9.71	12.06	10.00	.575	.345	4.16	
12	X 10	X 58.0	I-T	35.92	96.2	575.8	1128.0	3.55	11.7	2.0	10.56	12.19	10.01	.640	.360	4.39	
267	14	X 6 3/4	X 30.0	I-T	21.16	55.0	504.3	760.9	2.99	13.8	1.5	6.22	13.84	6.73	.385	.270	3.74
	14	X 6 3/4	X 34.0	I-T	23.54	63.0	543.5	873.6	3.19	13.9	1.6	6.92	13.98	6.75	.455	.285	3.98
	14	X 6 3/4	X 38.0	I-T	26.17	70.7	576.0	982.6	3.37	13.9	1.7	7.70	14.10	6.77	.515	.310	4.37
	14	X 8	X 43.0	I-T	28.02	77.9	587.3	1043.0	3.46	13.4	1.8	8.24	13.66	8.00	.530	.305	4.17
	14	X 8	X 48.0	I-T	31.50	87.8	619.4	1175.4	3.65	13.4	1.9	9.26	13.79	8.03	.595	.340	4.69
16	X 5 1/2	X 31.0	I-T	22.70	63.0	605.0	991.0	3.41	15.7	1.6	6.68	15.88	5.53	.440	.275	4.37	
16	X 7	X 36.0	I-T	25.69	73.7	650.5	1149.4	3.65	15.6	1.8	7.56	15.86	6.99	.430	.295	4.68	
16	X 7	X 40.0	I-T	28.09	83.3	692.0	1302.5	3.87	15.6	1.9	8.26	16.01	7.00	.505	.305	4.88	
16	X 7	X 45.0	I-T	31.77	94.0	726.8	1467.3	4.08	15.6	2.0	9.34	16.13	7.04	.565	.345	5.56	
16	X 7 1/8	X 50.0	I-T	35.34	104.9	759.7	1637.1	4.29	15.6	2.2	10.39	16.26	7.07	.630	.380	6.18	
16	X 7 1/8	X 57.0	I-T	40.28	119.7	798.8	1867.1	4.54	15.6	2.3	11.85	16.43	7.12	.715	.430	7.06	
16	X 10 1/4	X 67.0	I-T	44.18	144.3	856.4	2202.0	4.90	15.3	2.6	12.99	16.33	10.24	.665	.395	6.45	
16	X 10 1/4	X 77.0	I-T	50.98	166.3	896.5	2528.0	5.19	15.2	2.8	15.00	16.52	10.30	.760	.455	7.52	
16	X 10 3/8	X 89.0	I-T	59.17	193.1	939.2	2923.1	5.51	15.1	3.1	17.40	16.75	10.37	.875	.525	8.79	
18	X 6	X 35.0	I-T	26.29	77.5	726.3	1343.8	3.94	17.3	1.9	7.73	17.70	6.00	.425	.300	5.31	
18	X 6	X 40.0	I-T	29.35	90.3	782.8	1569.9	4.24	17.4	2.0	8.63	17.90	6.02	.525	.315	5.64	

(35T) PLATE WEIGHT = 61.200 LBS. (1.5000 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																	
(35T = 52.500 IN.) PLATE WEIGHT = 61.200 LBS. (1.5000 IN.) EFFECTIVE PLATE AREA = 78.750 SQ. IN.																	
NOMINAL SIZE			SECTION MODULUS					BEAM DIMENSIONS									
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2			
18	X	7 1/2 X	50.0	I-T	35.55	114.4	859.6	1968.3	4.70	17.2	2.3	10.46	17.99	7.50	.570	.355	6.39
18	X	7 1/2 X	60.0	I-T	42.61	138.7	922.0	2380.5	5.11	17.2	2.6	12.53	18.24	7.56	.695	.415	7.57
18	X	7 5/8 X	71.0	I-T	50.75	164.3	972.4	2806.4	5.47	17.1	2.9	14.93	18.47	7.64	.810	.495	9.14
18	X	11 1/8 X	86.0	I-T	57.79	204.8	1041.9	3404.0	5.96	16.6	3.3	17.00	18.39	11.09	.770	.480	8.83
18	X	11 1/8 X	97.0	I-T	65.20	231.9	1079.7	3835.4	6.26	16.5	3.6	19.18	18.59	11.15	.870	.535	9.95
18	X	11 1/4 X	106.0	I-T	71.48	252.9	1104.1	4163.1	6.46	16.5	3.8	21.02	18.73	11.20	.940	.590	11.05
18	X	11 1/4 X	119.0	I-T	80.48	286.1	1142.5	4683.0	6.76	16.4	4.1	23.67	18.97	11.27	1.060	.655	12.43
21	X	8 1/4 X	62.0	I-T	44.94	162.0	1094.5	3174.4	5.88	19.6	2.9	13.22	20.99	8.24	.615	.400	8.40
21	X	8 1/4 X	68.0	I-T	49.15	178.9	1129.7	3495.3	6.12	19.5	3.1	14.46	21.13	8.27	.685	.430	9.09
21	X	8 1/4 X	73.0	I-T	52.58	192.5	1155.3	3751.8	6.31	19.5	3.2	15.47	21.24	8.30	.740	.455	9.66
21	X	8 3/8 X	83.0	I-T	59.78	218.6	1196.2	4237.5	6.63	19.4	3.5	17.58	21.43	8.36	.835	.515	11.04
21	X	8 3/8 X	93.0	I-T	67.42	245.7	1233.2	4736.4	6.93	19.3	3.8	19.83	21.62	8.42	.930	.580	12.54
21	X	12 1/4 X	101.0	I-T	68.38	275.6	1277.5	5181.6	7.24	18.8	4.1	20.11	21.36	12.29	.800	.500	10.68
21	X	12 3/8 X	111.0	I-T	75.30	302.8	1306.4	5657.0	7.49	18.7	4.3	22.15	21.51	12.34	.875	.550	11.83

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(35T) PLATE WEIGHT = 61.200 LBS. (1.5000 IN.)

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TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(35T = 61.250 IN.) PLATE WEIGHT = 71.400 LBS. (1.7500 IN.) EFFECTIVE PLATE AREA = 107.188 SQ. IN.																		
NOMINAL SIZE			WT/FT	SECTION MODULUS				BEAM DIMENSIONS										
				FLANGE	PLATE	I	R	YF	YP	A	O	WF	TF	TW	ASH			
IN	X	IN	X	LBS/FT	LBS	IN ³	IN ³	IN ⁴	IN	IN	IN	IN	IN ²	IN	IN	IN	IN	IN ²
12	X	10	X	58.0	I-T	35.92	98.6	663.7	1196.8	3.19	12.1	1.8	10.56	12.19	10.01	.640	.360	4.39
14	X	8	X	48.0	I-T	31.50	89.9	707.5	1239.7	3.26	13.8	1.8	9.26	13.79	8.03	.595	.340	4.69
16	X	7	X	45.0	I-T	31.77	96.1	835.2	1540.4	3.64	16.0	1.8	9.34	16.13	7.04	.565	.345	5.56
16	X	7 1/8	X	50.0	I-T	35.34	107.2	882.0	1720.9	3.83	16.1	2.0	10.39	16.26	7.07	.630	.380	6.18
16	X	7 1/8	X	57.0	I-T	40.28	122.3	938.6	1966.8	4.06	16.1	2.1	11.85	16.43	7.12	.715	.430	7.06
16	X	10 1/4	X	67.0	I-T	44.18	147.1	1019.8	2324.1	4.40	15.8	2.3	12.99	16.33	10.24	.665	.395	6.45
16	X	10 1/4	X	77.0	I-T	50.98	169.5	1080.1	2676.9	4.68	15.8	2.5	15.00	16.52	10.30	.760	.455	7.52
16	X	10 3/8	X	89.0	I-T	59.17	196.9	1144.2	3107.3	4.99	15.8	2.7	17.40	16.75	10.37	.875	.525	8.79
18	X	6	X	40.0	I-T	29.35	92.1	896.4	1641.8	3.77	17.8	1.8	8.63	17.90	6.02	.525	.315	5.64
18	X	7 1/2	X	50.0	I-T	35.55	116.7	1004.8	2063.4	4.19	17.7	2.1	10.46	17.99	7.50	.570	.355	6.39
18	X	7 1/2	X	60.0	I-T	42.61	141.4	1095.7	2503.5	4.57	17.7	2.3	12.53	18.24	7.56	.695	.415	7.57
18	X	7 5/8	X	71.0	I-T	50.75	167.5	1171.5	2962.7	4.93	17.7	2.5	14.93	18.47	7.64	.810	.495	9.14
18	X	11 1/8	X	86.0	I-T	57.79	208.5	1273.5	3607.8	5.39	17.3	2.8	17.00	18.39	11.09	.770	.480	8.83
18	X	11 1/8	X	97.0	I-T	65.20	236.2	1330.7	4079.5	5.68	17.3	3.1	19.18	18.59	11.15	.870	.535	9.95
18	X	11 1/4	X	106.0	I-T	71.48	257.7	1368.1	4440.8	5.89	17.2	3.2	21.02	18.73	11.20	.940	.590	11.05
18	X	11 1/4	X	119.0	I-T	80.48	291.6	1425.5	5015.8	6.19	17.2	3.5	23.67	18.97	11.27	1.060	.655	12.43
21	X	8 1/4	X	62.0	I-T	44.94	164.9	1316.3	3331.7	5.26	20.2	2.5	13.22	20.99	8.24	.615	.400	8.40
21	X	8 1/4	X	68.0	I-T	49.15	182.0	1368.6	3676.0	5.50	20.2	2.7	14.46	21.13	8.27	.685	.430	9.09
21	X	8 1/4	X	73.0	I-T	52.58	195.8	1406.9	3952.3	5.68	20.2	2.8	15.47	21.24	8.30	.740	.455	9.66
21	X	8 3/8	X	83.0	I-T	59.78	222.5	1469.3	4479.3	5.99	20.1	3.0	17.58	21.43	8.36	.835	.515	11.04
21	X	8 3/8	X	93.0	I-T	67.42	250.3	1525.7	5024.3	6.29	20.1	3.3	19.83	21.62	8.42	.930	.580	12.54
21	X	12 1/4	X	101.0	I-T	68.38	280.2	1589.9	5504.6	6.58	19.6	3.5	20.11	21.36	12.29	.800	.500	10.68

(35T) PLATE WEIGHT = 71.400 LBS. (1.7500 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T														
(35T = 61.250 IN.) PLATE WEIGHT = 71.400 LBS. (1.7500 IN.) EFFECTIVE PLATE AREA = 107.188 SQ. IN.														
NOMINAL SIZE		WT/FT	SECTION MODULUS				BEAM DIMENSIONS							
			FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X IN X LBS/FT		LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
21	X 12 3/8 X 111.0 I-T	75.30	308.1	1634.1	6029.1	6.83	19.6	3.7	22.15	21.51	12.34	.875	.550	11.83

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(35T) PLATE WEIGHT = 71.400 LBS. (1.7500 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T															
(35T = 70.000 IN.) PLATE WEIGHT = 81.600 LBS. (2.0000 IN.) EFFECTIVE PLATE AREA = 140.000 SQ. IN.															
NOMINAL SIZE			SECTION MODULUS					BEAM DIMENSIONS							
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2	
16	X 10 1/4 X	67.0 I-T	44.18	150.0	1151.2	2432.9	3.99	16.2	2.1	12.99	16.33	10.24	.665	.395	6.45
16	X 10 1/4 X	77.0 I-T	50.98	172.8	1233.3	2807.1	4.26	16.2	2.3	15.00	16.92	10.30	.760	.455	7.52
16	X 10 3/8 X	89.0 I-T	59.17	200.6	1321.8	3265.8	4.56	16.3	2.5	17.40	16.75	10.37	.875	.525	8.79
18	X 7 1/2 X	60.0 I-T	42.61	144.2	1234.3	2612.9	4.14	18.1	2.1	12.53	18.24	7.56	.695	.415	7.57
18	X 7 5/8 X	71.0 I-T	50.75	170.7	1338.1	3098.6	4.47	18.2	2.3	14.93	18.47	7.64	.810	.495	9.14
18	X 11 1/8 X	86.0 I-T	57.79	212.1	1475.7	3781.0	4.91	17.8	2.6	17.00	18.39	11.09	.770	.480	8.83
18	X 11 1/8 X	97.0 I-T	65.20	240.2	1555.9	4284.9	5.19	17.8	2.8	19.18	18.59	11.15	.870	.535	9.95
18	X 11 1/4 X	106.0 I-T	71.48	262.2	1609.2	4673.4	5.39	17.8	2.9	21.02	18.73	11.20	.940	.590	11.05
18	X 11 1/4 X	119.0 I-T	80.48	296.7	1690.0	5292.8	5.69	17.8	3.1	23.67	18.97	11.27	1.060	.655	12.43
21	X 8 1/4 X	62.0 I-T	44.94	167.7	1499.6	3467.4	4.76	20.7	2.3	13.22	20.99	8.24	.615	.400	8.40
21	X 8 1/4 X	68.0 I-T	49.15	185.1	1571.1	3830.1	4.98	20.7	2.4	14.46	21.13	8.27	.685	.430	9.09
21	X 8 1/4 X	73.0 I-T	52.58	199.1	1623.8	4122.1	5.15	20.7	2.5	15.47	21.24	8.30	.740	.455	9.66
21	X 8 3/8 X	83.0 I-T	59.78	226.2	1711.9	4681.8	5.45	20.7	2.7	17.58	21.43	8.36	.835	.515	11.04
21	X 8 3/8 X	93.0 I-T	67.42	254.5	1792.0	5263.6	5.74	20.7	2.9	19.83	21.62	8.42	.930	.580	12.54
21	X 12 1/4 X	101.0 I-T	68.38	264.5	1878.1	5770.9	6.00	20.3	3.1	20.11	21.36	12.29	.800	.500	10.68
21	X 12 3/8 X	111.0 I-T	75.30	312.9	1941.9	6334.6	6.25	20.2	3.3	22.15	21.51	12.34	.875	.550	11.83

(35T) PLATE WEIGHT = 81.600 LBS. (2.0000 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T														
(35T = 78.750 IN.) PLATE WEIGHT = 91.800 LBS. (2.2500 IN.) EFFECTIVE PLATE AREA = 177.188 SQ. IN.														
NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS						
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X IN X LBS/FT	IN X IN X LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
16	X 10 3/8 X 89.0 I-T	59.17	204.6	1467.0	3411.9	4.19	16.7	2.3	17.40	16.75	10.37	.875	.525	8.79
18	X 11 1/8 X 86.0 I-T	57.79	215.9	1641.8	3938.6	4.50	18.2	2.4	17.00	18.39	11.09	.770	.480	8.83
18	X 11 1/8 X 97.0 I-T	65.20	244.5	1746.3	4469.0	4.77	18.3	2.6	19.18	18.59	11.15	.870	.535	9.95
18	X 11 1/4 X 106.0 I-T	71.48	266.7	1817.3	4879.8	4.96	18.3	2.7	21.02	18.73	11.20	.940	.590	11.05
18	X 11 1/4 X 119.0 I-T	80.48	301.8	1924.3	5535.8	5.25	18.3	2.9	23.67	18.97	11.27	1.060	.655	12.43
21	X 8 1/4 X 68.0 I-T	49.15	188.4	1731.9	3971.7	4.55	21.1	2.3	14.46	21.13	8.27	.685	.430	9.09
21	X 8 1/4 X 73.0 I-T	52.58	202.5	1799.4	4276.4	4.71	21.1	2.4	15.47	21.24	8.30	.740	.455	9.66
21	X 8 3/8 X 83.0 I-T	59.78	230.0	1914.6	4862.9	5.00	21.1	2.5	17.58	21.43	8.36	.835	.515	11.04
21	X 8 3/8 X 93.0 I-T	67.42	258.7	2020.9	5474.8	5.27	21.2	2.7	19.83	21.62	8.42	.930	.580	12.54
21	X 12 1/4 X 101.0 I-T	68.38	288.8	2129.0	6003.4	5.52	20.8	2.8	20.11	21.36	12.29	.806	.500	10.68
21	X 12 3/8 X 111.0 I-T	75.30	317.6	2215.4	6599.3	5.75	20.8	3.0	22.15	21.51	12.34	.875	.550	11.83

(35T) PLATE WEIGHT = 91.800 LBS. (2.2500 IN.)

TABLE XI. Properties of combined beam and plate, I-T and T (35t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE I-T AND T																		
(35T = 87.500 IN.) PLATE WEIGHT = 102.000 LBS. (2.5000 IN.) EFFECTIVE PLATE AREA = 218.750 SQ. IN.																		
NOMINAL SIZE			SECTION MODULUS					BEAM DIMENSIONS										
IN	X	IN	X	LBS/FT	WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN	IN2	
18	X	11 1/4	X	106.0	I-T	71.48	271.6	1989.0	5073.5	4.60	18.7	2.6	21.02	18.73	11.20	.940	.590	11.05
18	X	11 1/4	X	119.0	I-T	80.48	307.1	2122.7	5760.4	4.87	18.8	2.7	23.67	18.97	11.27	1.060	.655	12.43
21	X	8 3/8	X	93.0	I-T	67.42	263.2	2208.2	5672.0	4.88	21.6	2.6	19.83	21.62	8.42	.930	.580	12.54
21	X	12 1/4	X	101.0	I-T	68.38	293.3	2337.2	6218.0	5.10	21.2	2.7	20.11	21.36	12.29	.800	.500	10.68
21	X	12 3/8	X	111.0	I-T	75.30	322.5	2447.1	6840.9	5.33	21.2	2.8	22.15	21.51	12.34	.875	.550	11.83

(35T) PLATE WEIGHT = 102.000 LBS. (2.5000 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t).

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																			
(60T = 7.500 IN.) PLATE WEIGHT = 5.100 LBS. (.1250 IN.) EFFECTIVE PLATE AREA = .938 SQ. IN.																			
NOMINAL SIZE						SECTION MODULUS				BEAM DIMENSIONS									
IN X IN X IN X LBS/FT						WT/FT	FLANGE	PLATE	I	R	Y ^c	Y ^p	A	D	WF	TF	TW	ASH	
						LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN	IN2	
2	X	1 1/2	X	3/16	X	2.12 L	2.11	.7	1.6	1.0	.80	1.5	.6	.62	2.00	1.50	.187	.187	.37
2	X	2	X	3/16	X	2.44 L	2.42	.8	1.7	1.2	.84	1.4	.7	.71	2.00	2.00	.187	.187	.37
2 1/2	X	2	X	3/16	X	2.75 L	2.74	1.1	2.1	1.9	1.05	1.7	.9	.81	2.50	2.00	.187	.187	.47
3	X	2	X	3/16	X	3.07 L	3.06	1.4	2.6	2.9	1.25	2.0	1.1	.90	3.00	2.00	.187	.187	.56
3	X	3	X	3/16	X	3.71 L	3.70	1.9	2.9	3.5	1.31	1.9	1.3	1.09	3.00	3.00	.187	.187	.56

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(60T) PLATE WEIGHT = 5.100 LBS. (.1250 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																			
(60t = 9.375 IN.) PLATE WEIGHT = 6.375 LBS. (.1563 IN.) EFFECTIVE PLATE AREA = 1.465 SQ. IN.																			
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS											
				WT/FT	FLANGE	PLATE	I	R	Y _F	Y _P	A	D	WF	TF	TW	ASH			
IN	X	IN	X	IN	X	LBS/FT	LBS	IN ³	IN ³	IN ⁴	IN	IN	IN	IN	IN ²	IN	IN	IN	IN ²
2	X	1 1/2	X	3/16	X	2.12 L	2.11	.7	2.3	1.1	.74	1.7	.5	.62	2.00	1.50	.187	.187	.37
2	X	2	X	3/16	X	2.44 L	2.42	.9	2.4	1.4	.79	1.6	.6	.71	2.00	2.00	.187	.187	.37
2 1/2	X	2	X	3/16	X	2.75 L	2.74	1.1	3.1	2.2	.99	1.9	.7	.81	2.50	2.00	.187	.187	.47
3	X	2	X	3/16	X	3.07 L	3.06	1.5	3.8	3.3	1.18	2.3	.9	.90	3.00	2.00	.187	.187	.56
3	X	3	X	3/16	X	3.71 L	3.70	2.0	4.0	4.1	1.27	2.1	1.0	1.09	3.00	3.00	.187	.187	.56

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(60T) PLATE WEIGHT = 6.375 LBS. (.1563 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L														
(60T = 11.250 IN.) PLATE WEIGHT = 7.650 LBS. (.1875 IN.) EFFECTIVE PLATE AREA = 2.109 SQ. IN.														
NOMINAL SIZE	WT/FT	SECTION MODULUS				BEAM DIMENSIONS								
		FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X IN X IN X LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
2 X 1 1/2 X 3/16 X 2.12 L	2.11	.7	3.0	1.3	.68	1.8	.4	.62	2.00	1.50	.187	.187	.37	
2 X 2 X 3/16 X 2.44 L	2.42	.9	3.2	1.5	.73	1.7	.5	.71	2.00	2.00	.187	.187	.37	
2 1/2 X 2 X 3/16 X 2.75 L	2.74	1.2	4.1	2.5	.92	2.1	.6	.81	2.50	2.00	.187	.187	.47	
3 X 2 X 3/16 X 3.07 L	3.06	1.5	5.1	3.7	1.11	2.5	.7	.90	3.00	2.00	.187	.187	.56	
3 X 3 X 3/16 X 3.71 L	3.70	2.0	5.4	4.7	1.21	2.3	.9	1.09	3.00	3.00	.187	.187	.56	

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(60T) PLATE WEIGHT = 7.650 LBS. (.1875 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																		
(60T = 13.125 IN.) PLATE WEIGHT = 8.925 LBS. (.2188 IN.) EFFECTIVE PLATE AREA = 2.871 SQ. IN.																		
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS										
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN	IN2
2	X 1 1/2	X 3/16	X 2.12 L	2.11	.7	3.7	1.4	.62	1.8	.4	.62	2.00	1.50	.187	.187	.37		
2	X 2	X 3/16	X 2.44 L	2.42	.9	3.9	1.6	.68	1.8	.4	.71	2.00	2.00	.187	.187	.37		
2 1/2	X 2	X 3/16	X 2.75 L	2.74	1.2	5.2	2.7	.85	2.2	.5	.81	2.50	2.00	.187	.187	.47		
3	X 2	X 3/16	X 3.07 L	3.06	1.5	6.4	4.0	1.03	2.6	.6	.90	3.00	2.00	.187	.187	.56		
3	X 3	X 3/16	X 3.71 L	3.70	2.1	6.9	5.1	1.14	2.5	.7	1.09	3.00	3.00	.187	.187	.56		

(60T) PLATE WEIGHT = 8.925 LBS. (.2188 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																
(60T = 15.000 IN.) PLATE WEIGHT = 10.200 LBS. (.2500 IN.) EFFECTIVE PLATE AREA = 3.750 SQ. IN.																
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS								
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
2	X 1 1/2	X 3/16	X 2.12 L	2.11	.8	4.3	1.4	.57	1.9	.3	.62	2.00	1.50	.187	.187	.37
2	X 2	X 3/16	X 2.44 L	2.42	.9	4.7	1.7	.62	1.9	.4	.71	2.00	2.00	.187	.187	.37
2	X 1 1/2	X 1/4	X 2.77 L	2.76	.9	4.6	1.8	.62	1.9	.4	.81	2.00	1.50	.250	.250	.50
2	X 2	X 1/4	X 3.19 L	3.19	1.2	4.9	2.1	.67	1.8	.4	.94	2.00	2.00	.250	.250	.50
2 1/2	X 2	X 3/16	X 2.75 L	2.74	1.2	6.2	2.8	.79	2.3	.5	.81	2.50	2.00	.187	.187	.47
2 1/2	X 2	X 1/4	X 3.62 L	3.61	1.6	6.5	3.5	.85	2.2	.5	1.06	2.50	2.00	.250	.250	.63
3	X 2	X 3/16	X 3.07 L	3.06	1.6	7.8	4.2	.95	2.7	.5	.90	3.00	2.00	.187	.187	.56
3	X 3	X 3/16	X 3.71 L	3.70	2.1	8.5	5.5	1.06	2.6	.6	1.09	3.00	3.00	.187	.187	.56
3	X 2	X 1/4	X 4.1 L	4.04	2.0	8.2	5.2	1.03	2.6	.6	1.19	3.00	2.00	.250	.250	.75
3	X 2 1/2	X 1/4	X 4.5 L	4.46	2.3	8.5	6.0	1.08	2.6	.7	1.31	3.00	2.50	.250	.250	.75
3	X 3	X 1/4	X 4.9 L	4.89	2.7	8.8	6.7	1.13	2.5	.8	1.44	3.00	3.00	.250	.250	.75
3 1/2	X 2 1/2	X 1/4	X 4.9 L	4.89	2.9	10.2	8.4	1.27	2.9	.8	1.44	3.50	2.50	.250	.250	.88
3 1/2	X 3	X 1/4	X 5.4 L	5.31	3.3	10.5	9.3	1.33	2.9	.9	1.56	3.50	3.00	.250	.250	.88
4	X 3	X 1/4	X 5.8 L	5.74	3.9	12.2	12.5	1.52	3.2	1.0	1.69	4.00	3.00	.250	.250	1.00
4	X 3 1/2	X 1/4	X 6.2 L	6.16	4.3	12.5	13.7	1.57	3.2	1.1	1.81	4.00	3.50	.250	.250	1.00
4	X 4	X 1/4	X 6.6 L	6.59	4.8	12.8	14.8	1.61	3.1	1.2	1.94	4.00	4.00	.250	.250	1.00
5	X 3	X 1/4	X 6.6 L	6.59	5.2	15.7	20.5	1.90	3.9	1.3	1.94	5.00	3.00	.250	.250	1.25
5	X 3 1/2	X 1/4	X 7.0 L	7.01	5.8	16.0	22.3	1.96	3.9	1.4	2.06	5.00	3.50	.250	.250	1.25
10	X 2 5/8	X	X 15.3 C	11.66	16.2	34.9	113.6	3.98	7.0	3.3	3.43	10.00	2.60	.436	.240	2.40

(60T) PLATE WEIGHT = 10.200 LBS. (.2500 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																	
(60T = 16.875 IN.) PLATE WEIGHT = 11.475 LBS. (.2813 IN.) EFFECTIVE PLATE AREA = 4.746 SQ. IN.																	
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS									
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
2	X 1 1/2	X 3/16	X 2.12 L	2.11	.8	4.8	1.5	.53	2.0	.3	.62	2.00	1.50	.187	.187	.37	
2	X 2	X 3/16	X 2.44 L	2.42	.9	5.3	1.8	.58	1.9	.3	.71	2.00	2.00	.187	.187	.37	
2	X 1 1/2	X 1/4	X 2.77 L	2.76	1.0	5.2	1.9	.58	1.9	.4	.81	2.00	1.50	.250	.250	.50	
2	X 2	X 1/4	X 3.19 L	3.19	1.2	5.7	2.3	.63	1.9	.4	.94	2.00	2.00	.250	.250	.50	
2 1/2	X 2	X 3/16	X 2.75 L	2.74	1.3	7.2	3.0	.73	2.4	.4	.81	2.50	2.00	.187	.187	.47	
2 1/2	X 2	X 1/4	X 3.62 L	3.61	1.6	7.6	3.7	.79	2.3	.5	1.06	2.50	2.00	.250	.250	.63	
3	X 2	X 3/16	X 3.07 L	3.06	1.6	9.1	4.4	.89	2.8	.5	.90	3.00	2.00	.187	.187	.56	
3	X 3	X 3/16	X 3.71 L	3.70	2.1	10.0	5.8	.99	2.7	.6	1.09	3.00	3.00	.187	.187	.56	
3	X 2	X 1/4	X 4.1 L	4.04	2.0	9.6	5.5	.96	2.7	.6	1.19	3.00	2.00	.250	.250	.75	
3	X 2 1/2	X 1/4	X 4.5 L	4.46	2.4	10.1	6.3	1.02	2.7	.6	1.31	3.00	2.50	.250	.250	.75	
3	X 3	X 1/4	X 4.9 L	4.89	2.7	10.5	7.1	1.07	2.6	.7	1.44	3.00	3.00	.250	.250	.75	
3 1/2	X 2 1/2	X 1/4	X 4.9 L	4.89	2.9	12.2	8.9	1.20	3.1	.7	1.44	3.50	2.50	.250	.250	.88	
3 1/2	X 3	X 1/4	X 5.4 L	5.31	3.3	12.6	9.9	1.25	3.0	.8	1.56	3.50	3.00	.250	.250	.88	
4	X 3	X 1/4	X 5.8 L	5.74	3.9	14.7	13.3	1.44	3.4	.9	1.69	4.00	3.00	.250	.250	1.00	
4	X 3 1/2	X 1/4	X 6.2 L	6.16	4.4	15.1	14.6	1.49	3.3	1.0	1.81	4.00	3.50	.250	.250	1.00	
4	X 4	X 1/4	X 6.6 L	6.59	4.9	15.5	15.9	1.54	3.3	1.0	1.94	4.00	4.00	.250	.250	1.00	
5	X 3	X 1/4	X 6.6 L	6.59	5.3	19.0	21.8	1.81	4.1	1.2	1.94	5.00	3.00	.250	.250	1.25	
5	X 3 1/2	X 1/4	X 7.0 L	7.01	5.9	19.4	23.8	1.87	4.1	1.2	2.06	5.00	3.50	.250	.250	1.25	
10	X 2 5/8	X	X 15.3 C	11.66	16.6	42.3	122.6	3.87	7.4	2.9	3.43	10.00	2.60	.436	.240	2.40	

(60T) PLATE WEIGHT = 11.475 LBS. (.2813 IN.)

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TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																
(60T = 18.750 IN.) PLATE WEIGHT = 12.750 LBS. (.3125 IN.) EFFECTIVE PLATE AREA = 5.859 SQ. IN.																
NOMINAL SIZE				WT/FT	SECTION MODULUS				BEAM DIMENSIONS							
					FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
2	X 2	X 3/16	X 2.44 L	2.42	1.0	5.8	1.9	.54	2.0	.3	.71	2.00	2.00	.187	.187	.37
2	X 1 1/2	X 1/4	X 2.77 L	2.76	1.0	5.8	2.0	.54	2.0	.3	.81	2.00	1.50	.250	.250	.50
2	X 2	X 1/4	X 3.19 L	3.19	1.2	6.4	2.4	.59	1.9	.4	.94	2.00	2.00	.250	.250	.50
2 1/2	X 2	X 3/16	X 2.75 L	2.74	1.3	8.0	3.1	.68	2.4	.4	.81	2.50	2.00	.187	.187	.47
2 1/2	X 2	X 1/4	X 3.62 L	3.61	1.6	8.7	3.8	.75	2.4	.4	1.06	2.50	2.00	.250	.250	.63
3	X 2	X 3/16	X 3.07 L	3.06	1.6	10.3	4.6	.83	2.9	.4	.90	3.00	2.00	.187	.187	.56
3	X 3	X 3/16	X 3.71 L	3.70	2.2	11.5	6.0	.93	2.8	.5	1.09	3.00	3.00	.187	.187	.56
3	X 2	X 1/4	X 4.1 L	4.04	2.1	11.0	5.8	.90	2.8	.5	1.19	3.00	2.00	.250	.250	.75
3	X 2 1/2	X 1/4	X 4.5 L	4.46	2.4	11.7	6.6	.96	2.7	.6	1.31	3.00	2.50	.250	.250	.75
3	X 3	X 1/4	X 4.9 L	4.89	2.8	12.2	7.5	1.01	2.7	.6	1.44	3.00	3.00	.250	.250	.75
3 1/2	X 2 1/2	X 1/4	X 4.9 L	4.89	2.9	14.2	9.3	1.13	3.2	.7	1.44	3.50	2.50	.250	.250	.88
3 1/2	X 3	X 1/4	X 5.4 L	5.31	3.4	14.7	10.4	1.19	3.1	.7	1.56	3.50	3.00	.250	.250	.88
4	X 3	X 1/4	X 5.8 L	5.74	4.0	17.3	14.0	1.36	3.5	.8	1.69	4.00	3.00	.250	.250	1.00
4	X 3 1/2	X 1/4	X 6.2 L	6.16	4.5	17.8	15.4	1.42	3.4	.9	1.81	4.00	3.50	.250	.250	1.00
4	X 4	X 1/4	X 6.6 L	6.59	4.9	18.3	16.8	1.47	3.4	.9	1.94	4.00	4.00	.250	.250	1.00
5	X 3	X 1/4	X 6.6 L	6.59	5.4	22.4	23.0	1.72	4.3	1.0	1.94	5.00	3.00	.250	.250	1.25
5	X 3 1/2	X 1/4	X 7.0 L	7.01	5.9	23.0	25.1	1.78	4.2	1.1	2.06	5.00	3.50	.250	.250	1.25
10	X 2 5/8	X	X 15.3 C	11.66	16.9	50.4	130.5	3.75	7.7	2.6	3.43	10.00	2.60	.436	.240	2.40
12	X 3	X	X 20.7 C	16.03	26.5	63.6	230.4	4.67	8.7	3.6	4.72	12.00	2.94	.501	.282	3.38

(60T) PLATE WEIGHT = 12.750 LBS. (.3125 IN.)

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TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																					
(60T = 20.625 IN.) PLATE WEIGHT = 14.025 LBS. (.3438 IN.) EFFECTIVE PLATE AREA = 7.090 SQ. IN.																					
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS													
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH					
IN	X	IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2		
2	X	2	X	1/4	X	3.19 L	3.19	1.3	7.0	2.5	.56	2.0	.4	.94	2.00	2.00	.250	.250	.50		
2	1/2	X	2	X	3/16	X	2.75 L	2.74	1.3	8.8	3.2	.64	2.5	.4	.81	2.50	2.00	.187	.187	.47	
2	1/2	X	2	X	1/4	X	3.62 L	3.61	1.7	9.6	4.0	.70	2.4	.4	1.06	2.50	2.00	.250	.250	.63	
2	1/2	X	2	X	5/16	X	4.5 L	4.46	2.0	10.2	4.7	.75	2.4	.5	1.31	2.50	2.00	.313	.313	.78	
3	X	2	X	3/16	X	3.07 L	3.06	1.6	11.4	4.8	.77	2.9	.4	.90	3.00	2.00	.187	.187	.56		
3	X	3	X	3/16	X	3.71 L	3.70	2.2	12.9	6.2	.87	2.9	.5	1.09	3.00	3.00	.187	.187	.56		
3	X	2	X	1/4	X	4.1 L	4.04	2.1	12.4	6.0	.85	2.9	.5	1.19	3.00	2.00	.250	.250	.75		
3	X	2	1/2	X	1/4	X	4.5 L	4.46	2.4	13.2	6.9	.91	2.8	.5	1.31	3.00	2.50	.250	.250	.75	
3	X	3	X	1/4	X	4.9 L	4.89	2.8	13.8	7.8	.96	2.8	.6	1.44	3.00	3.00	.250	.250	.75		
3	X	2	X	5/16	X	5.0 L	4.99	2.5	13.0	7.0	.91	2.8	.5	1.47	3.00	2.00	.313	.313	.94		
3	X	2	1/2	X	5/16	X	5.6 L	5.52	2.9	13.8	8.1	.96	2.8	.6	1.62	3.00	2.50	.313	.313	.94	
3	X	3	X	5/16	X	6.1 L	6.05	3.4	14.4	9.2	1.02	2.7	.6	1.78	3.00	3.00	.313	.313	.94		
3	1/2	X	2	1/2	X	1/4	X	4.9 L	4.89	3.0	16.1	9.7	1.07	3.2	.6	1.44	3.50	2.50	.250	.250	.88
3	1/2	X	3	X	1/4	X	5.4 L	5.31	3.4	16.8	10.9	1.12	3.2	.6	1.56	3.50	3.00	.250	.250	.88	
3	1/2	X	2	1/2	X	5/16	X	6.1 L	6.05	3.6	16.8	11.4	1.13	3.2	.7	1.78	3.50	2.50	.313	.313	1.10
3	1/2	X	3	X	5/16	X	6.6 L	6.58	4.1	17.5	12.8	1.19	3.1	.7	1.94	3.50	3.00	.313	.313	1.10	
4	X	3	X	1/4	X	5.8 L	5.74	4.0	19.8	14.6	1.29	3.6	.7	1.69	4.00	3.00	.250	.250	1.00		
4	X	3	1/2	X	1/4	X	6.2 L	6.16	4.5	20.5	16.1	1.34	3.6	.8	1.81	4.00	3.50	.250	.250	1.00	
4	X	4	X	1/4	X	6.6 L	6.59	5.0	21.1	17.5	1.39	3.5	.8	1.94	4.00	4.00	.250	.250	1.00		
4	X	3	X	5/16	X	7.2 L	7.12	4.9	20.5	17.2	1.37	3.5	.8	2.09	4.00	3.00	.313	.313	1.25		
4	X	3	1/2	X	5/16	X	7.7 L	7.65	5.5	21.2	18.9	1.42	3.5	.9	2.25	4.00	3.50	.313	.313	1.25	
4	X	4	X	5/16	X	8.2 L	8.18	6.1	21.7	20.6	1.47	3.4	.9	2.41	4.00	4.00	.313	.313	1.25		

(60T) PLATE WEIGHT = 14.025 LBS. (.3438 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																		

(60T = 20.625 IN.) PLATE WEIGHT = 14.025 LBS. (.3438 IN.) EFFECTIVE PLATE AREA = 7.090 SQ. IN.																		

NOMINAL SIZE						SECTION MODULUS							BEAM DIMENSIONS					
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X IN X IN X LBS/FT						LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2

5	X 3	X 1/4	X 6.6	L	6.59	5.4	25.9	24.0	1.63	4.4	.9	1.94	5.00	3.00	.250	.250	1.25	
5	X 3 1/2	X 1/4	X 7.0	L	7.01	6.0	26.7	26.2	1.69	4.4	1.0	2.06	5.00	3.50	.250	.250	1.25	
5	X 3	X 5/16	X 8.2	L	8.18	6.6	26.7	28.2	1.72	4.3	1.1	2.41	5.00	3.00	.313	.313	1.57	
5	X 3 1/2	X 5/16	X 8.7	L	8.71	7.3	27.5	30.9	1.79	4.2	1.1	2.56	5.00	3.50	.313	.313	1.57	
6	X 3 1/2	X 5/16	X 9.8	L	9.78	9.3	33.8	46.4	2.16	5.0	1.4	2.88	6.00	3.50	.313	.313	1.88	
6	X 4	X 5/16	X 10.3	L	10.31	10.2	34.5	49.9	2.22	4.9	1.4	3.03	6.00	4.00	.313	.313	1.88	
6	X 3 1/2	X	X 15.3	C	11.07	10.7	34.6	52.0	2.24	4.8	1.5	3.26	6.00	3.50	.385	.340	2.04	
10	X 2 5/8	X	X 15.3	C	11.66	17.1	59.1	137.4	3.61	8.0	2.3	3.43	10.00	2.60	.436	.240	2.40	
10	X 3 1/2	X	X 21.9	C	16.36	24.2	62.4	160.2	3.89	7.5	2.9	4.81	10.00	3.45	.500	.325	3.25	
12	X 3	X	X 20.7	C	16.03	27.0	74.4	244.4	4.55	9.1	3.3	4.72	12.00	2.94	.501	.282	3.38	

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(60T) PLATE WEIGHT = 14.025 LBS. (.3438 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																					
(60T = 22.500 IN.) PLATE WEIGHT = 15.300 LBS. (.3750 IN.) EFFECTIVE PLATE AREA = 8.438 SQ. IN.																					
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS													
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH					
IN	X	IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2		
2	X	2	X	3/8	X	4.7 L	4.62	1.7	8.4	3.4	.59	2.0	.4	1.36	2.00	2.00	.375	.375	.75		
2	1/2	X	2	X	1/4	X	3.62 L	3.61	1.7	10.4	4.2	.66	2.5	.4	1.06	2.50	2.00	.250	.250	.63	
2	1/2	X	2	X	5/16	X	4.5 L	4.46	2.0	11.1	4.9	.71	2.4	.4	1.31	2.50	2.00	.313	.313	.78	
2	1/2	X	2	X	3/8	X	5.3 L	5.26	2.3	11.6	5.5	.74	2.4	.5	1.55	2.50	2.00	.375	.375	.94	
3	X	2	X	3/16	X	3.07 L	3.06	1.7	12.3	4.9	.73	3.0	.4	.90	3.00	2.00	.187	.187	.56		
3	X	3	X	3/16	X	3.71 L	3.70	2.2	14.1	6.5	.82	2.9	.5	1.09	3.00	3.00	.187	.187	.56		
3	X	2	X	1/4	X	4.1 L	4.04	2.1	13.5	6.2	.80	2.9	.5	1.19	3.00	2.00	.250	.250	.75		
3	X	2	1/2	X	1/4	X	4.5 L	4.46	2.5	14.5	7.2	.86	2.9	.5	1.31	3.00	2.50	.250	.250	.75	
3	X	3	X	1/4	X	4.9 L	4.89	2.8	15.3	8.1	.91	2.8	.5	1.44	3.00	3.00	.250	.250	.75		
3	X	2	X	5/16	X	5.0 L	4.99	2.6	14.4	7.3	.86	2.9	.5	1.47	3.00	2.00	.313	.313	.94		
3	X	2	1/2	X	5/16	X	5.6 L	5.52	3.0	15.3	8.4	.92	2.8	.6	1.62	3.00	2.50	.313	.313	.94	
3	X	3	X	5/16	X	6.1 L	6.05	3.4	16.1	9.5	.97	2.8	.6	1.78	3.00	3.00	.313	.313	.94		
3	X	2	1/2	X	3/8	X	6.6 L	6.53	3.4	15.9	9.6	.96	2.8	.6	1.92	3.00	2.50	.375	.375	1.13	
3	X	3	X	3/8	X	7.2 L	7.17	4.0	16.7	10.8	1.01	2.7	.6	2.11	3.00	3.00	.375	.375	1.13		
3	1/2	X	2	1/2	X	1/4	X	4.9 L	4.89	3.0	17.8	10.0	1.01	3.3	.6	1.44	3.50	2.50	.250	.250	.88
3	1/2	X	3	X	1/4	X	5.4 L	5.31	3.4	18.8	11.3	1.06	3.3	.6	1.56	3.50	3.00	.250	.250	.88	
3	1/2	X	2	1/2	X	5/16	X	6.1 L	6.05	3.7	18.8	11.9	1.08	3.2	.6	1.78	3.50	2.50	.313	.313	1.10
3	1/2	X	3	X	5/16	X	6.6 L	6.58	4.2	19.6	13.3	1.13	3.2	.7	1.94	3.50	3.00	.313	.313	1.10	
3	1/2	X	2	1/2	X	3/8	X	7.2 L	7.17	4.2	19.4	13.4	1.13	3.2	.7	2.11	3.50	2.50	.375	.375	1.31
3	1/2	X	3	X	3/8	X	7.9 L	7.81	4.8	20.3	15.1	1.19	3.1	.7	2.30	3.50	3.00	.375	.375	1.31	
4	X	3	X	1/4	X	5.8 L	5.74	4.1	22.3	15.1	1.22	3.7	.7	1.69	4.00	3.00	.250	.250	1.00		
4	X	3	1/2	X	1/4	X	6.2 L	6.16	4.6	23.1	16.7	1.28	3.7	.7	1.81	4.00	3.50	.250	.250	1.00	
4	X	4	X	1/4	X	6.6 L	6.59	5.1	23.8	18.2	1.33	3.6	.8	1.94	4.00	4.00	.250	.250	1.00		

(60T) PLATE WEIGHT = 15.300 LBS. (.3750 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																
(60T = 22.500 IN.) PLATE WEIGHT = 15.300 LBS. (.3750 IN.) EFFECTIVE PLATE AREA = 8.438 SQ. IN.																
NOMINAL SIZE				SECTION MODULUS								BEAM DIMENSIONS				
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
4	X 3	X 5/16	X 7.2 L	7.12	5.0	23.2	17.9	1.30	3.6	.8	2.09	4.00	3.00	.313	.313	1.25
4	X 3 1/2	X 5/16	X 7.7 L	7.65	5.5	24.0	19.7	1.36	3.6	.8	2.25	4.00	3.50	.313	.313	1.25
4	X 4	X 5/16	X 8.2 L	8.18	6.1	24.7	21.5	1.41	3.5	.9	2.41	4.00	4.00	.313	.313	1.25
4	X 3	X 3/8	X 8.5 L	8.45	5.7	23.9	20.3	1.36	3.5	.8	2.48	4.00	3.00	.375	.375	1.50
4	X 3 1/2	X 3/8	X 9.1 L	9.08	6.4	24.7	22.3	1.42	3.5	.9	2.67	4.00	3.50	.375	.375	1.50
4	X 4	X 3/8	X 9.8 L	9.72	7.1	25.3	24.3	1.47	3.4	1.0	2.86	4.00	4.00	.375	.375	1.50
5	X 3	X 1/4	X 6.6 L	6.59	5.5	29.3	24.8	1.55	4.5	.8	1.94	5.00	3.00	.250	.250	1.25
5	X 3 1/2	X 1/4	X 7.0 L	7.01	6.1	30.3	27.2	1.61	4.5	.9	2.06	5.00	3.50	.250	.250	1.25
5	X 3	X 5/16	X 8.2 L	8.18	6.7	30.4	29.4	1.65	4.4	1.0	2.41	5.00	3.00	.313	.313	1.57
5	X 3 1/2	X 5/16	X 8.7 L	8.71	7.4	31.4	32.2	1.71	4.3	1.0	2.56	5.00	3.50	.313	.313	1.57
5	X 3	X 3/8	X 9.8 L	9.72	7.8	31.2	33.4	1.72	4.3	1.1	2.86	5.00	3.00	.375	.375	1.88
5	X 3 1/2	X 3/8	X 10.4 L	10.36	8.6	32.1	36.5	1.78	4.2	1.1	3.05	5.00	3.50	.375	.375	1.88
5	X 5	X 3/8	X 12.3 L	12.27	11.2	34.2	45.3	1.94	4.0	1.3	3.61	5.00	5.00	.375	.375	1.88
6	X 3 1/2	X 5/16	X 9.8 L	9.78	9.4	38.7	48.4	2.07	5.1	1.2	2.88	6.00	3.50	.313	.313	1.88
6	X 4	X 5/16	X 10.3 L	10.31	10.3	39.6	52.2	2.13	5.1	1.3	3.03	6.00	4.00	.313	.313	1.88
6	X 3 1/2	X	X 15.3 C	11.07	10.9	39.8	54.4	2.16	5.0	1.4	3.26	6.00	3.50	.385	.340	2.04
6	X 3 1/2	X 3/8	X 11.7 L	11.63	11.0	39.6	54.9	2.15	5.0	1.4	3.42	6.00	3.50	.375	.375	2.25
6	X 4	X 3/8	X 12.3 L	12.27	12.0	40.5	59.2	2.22	4.9	1.5	3.61	6.00	4.00	.375	.375	2.25
7	X 4	X 3/8	X 13.6 L	13.55	14.8	48.2	83.5	2.59	5.6	1.7	3.98	7.00	4.00	.375	.375	2.63
10	X 2 5/8	X	X 15.3 C	11.66	17.3	68.3	143.5	3.48	8.3	2.1	3.43	10.00	2.60	.436	.240	2.40
10	X 3 1/2	X	X 21.9 C	16.36	24.5	72.1	189.8	3.78	7.7	2.6	4.81	10.00	3.45	.500	.325	3.25

(60T) PLATE WEIGHT = 15.300 LBS. (.3750 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																	
(60T = 22.500 IN.) PLATE WEIGHT = 15.300 LBS. (.3750 IN.) EFFECTIVE PLATE AREA = 8.438 SQ. IN.																	
NOMINAL SIZE				SECTION MODULUS								BEAM DIMENSIONS					
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TM	ASH	
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
12	X 3	X	X 20.7 C	16.03	27.4	86.0	256.9	4.42	9.4	3.0	4.72	12.00	2.94	.501	.282	3.38	
13	X 4	X	X 31.8 C	24.09	44.7	100.3	413.4	5.16	9.3	4.1	7.09	13.00	4.00	.610	.375	4.88	

(60T) PLATE WEIGHT = 15.300 LBS. (.3750 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																		
(60T = 26.250 IN.) PLATE WEIGHT = 17.850 LBS. (.4375 IN.) EFFECTIVE PLATE AREA = 11.484 SQ. IN.																		
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS										
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN	IN2
2	1/2 X 2	X 3/8	X 5.3 L	5.26	2.4	13.4	6.0	.68	2.5	.4	1.55	2.50	2.00	.375	.375	.94		
3	X 2 1/2	X 1/4	X 4.5 L	4.46	2.6	16.8	7.6	.77	3.0	.5	1.31	3.00	2.50	.250	.250	.75		
3	X 3	X 1/4	X 4.9 L	4.89	2.9	17.9	8.6	.82	3.0	.5	1.44	3.00	3.00	.250	.250	.75		
3	X 2	X 5/16	X 5.0 L	4.99	2.6	16.7	7.8	.78	3.0	.5	1.47	3.00	2.00	.313	.313	.94		
3	X 2 1/2	X 5/16	X 5.6 L	5.52	3.1	18.0	9.0	.83	2.9	.5	1.62	3.00	2.50	.313	.313	.94		
3	X 3	X 5/16	X 6.1 L	6.05	3.5	19.1	10.2	.88	2.9	.5	1.78	3.00	3.00	.313	.313	.94		
3	X 2 1/2	X 3/8	X 6.6 L	6.53	3.5	18.9	10.3	.88	2.9	.5	1.92	3.00	2.50	.375	.375	1.13		
3	X 3	X 3/8	X 7.2 L	7.17	4.1	20.0	11.6	.92	2.9	.6	2.11	3.00	3.00	.375	.375	1.13		
3	1/2 X 2 1/2	X 1/4	X 4.9 L	4.89	3.1	20.9	10.7	.91	3.4	.5	1.44	3.50	2.50	.250	.250	.88		
3	1/2 X 3	X 1/4	X 5.4 L	5.31	3.5	22.2	12.0	.96	3.4	.5	1.56	3.50	3.00	.250	.250	.88		
3	1/2 X 2 1/2	X 5/16	X 6.1 L	6.05	3.8	22.4	12.6	.98	3.4	.6	1.78	3.50	2.50	.313	.313	1.10		
3	1/2 X 3	X 5/16	X 6.6 L	6.58	4.3	23.6	14.2	1.03	3.3	.6	1.94	3.50	3.00	.313	.313	1.10		
3	1/2 X 2 1/2	X 3/8	X 7.2 L	7.17	4.3	23.4	14.4	1.03	3.3	.6	2.11	3.50	2.50	.375	.375	1.31		
3	1/2 X 3	X 3/8	X 7.9 L	7.81	5.0	24.7	16.2	1.09	3.3	.7	2.30	3.50	3.00	.375	.375	1.31		
4	X 3	X 1/4	X 5.8 L	5.74	4.2	26.7	16.0	1.10	3.8	.6	1.69	4.00	3.00	.250	.250	1.00		
4	X 3 1/2	X 1/4	X 6.2 L	6.16	4.7	27.9	17.7	1.16	3.8	.6	1.81	4.00	3.50	.250	.250	1.00		
4	X 4	X 1/4	X 6.6 L	6.59	5.2	29.0	19.4	1.20	3.8	.7	1.94	4.00	4.00	.250	.250	1.00		
4	X 3	X 5/16	X 7.2 L	7.12	5.1	28.3	19.1	1.19	3.8	.7	2.09	4.00	3.00	.313	.313	1.25		
4	X 3 1/2	X 5/16	X 7.7 L	7.65	5.7	29.5	21.1	1.24	3.7	.7	2.25	4.00	3.50	.313	.313	1.25		
4	X 4	X 5/16	X 8.2 L	8.18	6.3	30.5	23.1	1.29	3.7	.8	2.41	4.00	4.00	.313	.313	1.25		
4	X 3	X 3/8	X 8.5 L	8.45	5.9	29.4	21.8	1.25	3.7	.7	2.48	4.00	3.00	.375	.375	1.50		
4	X 3 1/2	X 3/8	X 9.1 L	9.08	6.6	30.5	24.0	1.30	3.6	.8	2.67	4.00	3.50	.375	.375	1.50		
4	X 4	X 3/8	X 9.8 L	9.72	7.3	31.5	26.3	1.35	3.6	.8	2.86	4.00	4.00	.375	.375	1.50		

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MIT-HDBK-264 (SH)
30 September 1980

(60T) PLATE WEIGHT = 17.850 LBS. (.4375 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																
(60T = 26.250 IN.) PLATE WEIGHT = 17.850 LBS. (.4375 IN.) EFFECTIVE PLATE AREA = 11.484 SQ. IN.																
NOMINAL SIZE				WT/FT	SECTION MODULUS				BEAM DIMENSIONS							
					FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
5	X 3	X 1/4	X 6.6 L	6.59	5.6	35.9	26.3	1.40	4.7	.7	1.94	5.00	3.00	.250	.250	1.25
5	X 3 1/2	X 1/4	X 7.0 L	7.01	6.2	37.3	28.9	1.46	4.7	.8	2.06	5.00	3.50	.250	.250	1.25
5	X 3	X 5/16	X 8.2 L	8.18	6.8	37.7	31.4	1.50	4.6	.8	2.41	5.00	3.00	.313	.313	1.57
5	X 3 1/2	X 5/16	X 8.7 L	8.71	7.6	39.1	34.4	1.57	4.6	.9	2.56	5.00	3.50	.313	.313	1.57
5	X 3	X 3/8	X 9.8 L	9.72	7.9	39.0	35.8	1.58	4.5	.9	2.86	5.00	3.00	.375	.375	1.88
5	X 3 1/2	X 3/8	X 10.4 L	10.36	8.8	40.3	39.3	1.64	4.5	1.0	3.05	5.00	3.50	.375	.375	1.88
5	X 5	X 3/8	X 12.3 L	12.27	11.4	43.4	49.2	1.81	4.3	1.1	3.61	5.00	5.00	.375	.375	1.88
6	X 3 1/2	X 5/16	X 9.8 L	9.78	9.6	48.8	51.8	1.90	5.4	1.1	2.88	6.00	3.50	.313	.313	1.88
6	X 4	X 5/16	X 10.3 L	10.31	10.5	50.1	56.0	1.96	5.3	1.1	3.03	6.00	4.00	.313	.313	1.88
6	X 3 1/2	X	X 15.3 C	11.07	11.1	50.4	58.5	1.99	5.3	1.2	3.26	6.00	3.50	.385	.340	2.04
6	X 3 1/2	X 3/8	X 11.7 L	11.63	11.2	50.2	59.1	1.99	5.3	1.2	3.42	6.00	3.50	.375	.375	2.25
6	X 4	X 3/8	X 12.3 L	12.27	12.3	51.5	63.9	2.06	5.2	1.2	3.61	6.00	4.00	.375	.375	2.25
6	X 3 1/2	X	X 18.0 C	12.77	12.9	51.9	66.4	2.09	5.2	1.3	3.76	6.00	3.50	.475	.379	2.27
7	X 4	X 3/8	X 13.6 L	13.55	15.1	61.5	90.3	2.42	6.0	1.5	3.98	7.00	4.00	.375	.375	2.63
10	X 2 5/8	X	X 15.3 C	11.66	17.7	87.8	153.6	3.21	8.7	1.7	3.43	10.00	2.60	.436	.240	2.40
10	X 3 1/2	X	X 21.9 C	16.36	25.1	93.0	206.1	3.56	8.2	2.2	4.81	10.00	3.45	.500	.325	3.25
10	X 2 5/8	X	X 20.0 C	16.39	21.8	88.4	182.5	3.35	8.4	2.1	4.82	10.00	2.74	.436	.379	3.79
10	X 3 1/2	X	X 24.9 C	18.73	28.0	94.2	225.5	3.64	8.0	2.4	5.51	10.00	3.40	.575	.377	3.77
10	X 3 1/2	X	X 25.3 C	19.76	27.9	93.4	224.2	3.60	8.0	2.4	5.81	10.00	3.55	.500	.425	4.25
10	X 4 1/2	X	X 28.5 C	21.34	32.0	96.3	250.5	3.76	7.8	2.6	6.28	10.00	3.95	.575	.425	4.25
12	X 3	X	X 20.7 C	16.03	28.0	111.1	278.0	4.14	9.9	2.5	4.72	12.00	2.94	.501	.282	3.38
12	X 3	X	X 25.0 C	20.33	32.3	111.8	311.5	4.22	9.7	2.8	5.98	12.00	3.05	.501	.387	4.64

(60T) PLATE WEIGHT = 17.850 LBS. (.4375 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																	
(60T = 26.250 IN.) PLATE WEIGHT = 17.850 LBS. (.4375 IN.) EFFECTIVE PLATE AREA = 11.484 SQ. IN.																	
NOMINAL SIZE				WT/FT LBS	SECTION MODULUS				BEAM DIMENSIONS								
IN	X	IN	X		IN	IN ³	IN ³	IN ⁴	IN	YF	YP	A	D	WF	TF	TW	ASH
				LBS/FT													
13	X	4	X	X 31.8 C	24.09	45.9	129.3	455.3	4.95	9.9	3.5	7.09	13.00	4.00	.610	.375	4.88
15	X	3 3/8	X	X 33.9 C	27.03	53.8	149.1	610.6	5.61	11.3	4.1	7.95	15.00	3.40	.650	.400	6.00

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(60T) PLATE WEIGHT = 17.850 LBS. (.4375 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																
(60T = 30.000 IN.) PLATE WEIGHT = 20.400 LBS. (.5000 IN.) EFFECTIVE PLATE AREA = 15.000 SQ. IN.																
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS								
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
3	X 3	X 5/16	X 6.1 L	6.05	3.6	21.6	10.9	.80	3.0	.5	1.78	3.00	3.00	.313	.313	.94
3	X 2 1/2	X 3/8	X 6.6 L	6.53	3.7	21.4	10.9	.80	3.0	.5	1.92	3.00	2.50	.375	.375	1.13
3	X 3	X 3/8	X 7.2 L	7.17	4.2	22.9	12.4	.85	3.0	.5	2.11	3.00	3.00	.375	.375	1.13
3	X 2 1/2	X 7/16	X 7.6 L	7.54	4.1	22.4	12.2	.84	3.0	.5	2.22	3.00	2.50	.438	.438	1.31
3	X 3	X 7/16	X 8.3 L	8.28	4.7	23.9	13.8	.89	2.9	.6	2.44	3.00	3.00	.438	.438	1.31
3	X 3	X 1/2	X 9.4 L	9.35	5.2	24.7	15.0	.92	2.9	.6	2.75	3.00	3.00	.500	.500	1.50
3 1/2	X 3	X 1/4	X 5.4 L	5.31	3.6	25.0	12.7	.87	3.5	.5	1.56	3.50	3.00	.250	.250	.88
3 1/2	X 2 1/2	X 5/16	X 6.1 L	6.05	3.8	25.4	13.4	.89	3.5	.5	1.78	3.50	2.50	.313	.313	1.10
3 1/2	X 3	X 5/16	X 6.6 L	6.58	4.4	27.0	15.1	.94	3.4	.6	1.94	3.50	3.00	.313	.313	1.10
3 1/2	X 2 1/2	X 3/8	X 7.2 L	7.17	4.5	26.8	15.3	.95	3.4	.6	2.11	3.50	2.50	.375	.375	1.31
3 1/2	X 3	X 3/8	X 7.9 L	7.81	5.1	28.5	17.2	1.00	3.4	.6	2.30	3.50	3.00	.375	.375	1.31
4	X 3	X 1/4	X 5.8 L	5.74	4.3	30.4	16.9	1.01	3.9	.6	1.69	4.00	3.00	.250	.250	1.00
4	X 3 1/2	X 1/4	X 6.2 L	6.16	4.8	32.0	18.7	1.05	3.9	.6	1.81	4.00	3.50	.250	.250	1.00
4	X 4	X 1/4	X 6.6 L	6.59	5.3	33.5	20.5	1.10	3.9	.6	1.94	4.00	4.00	.250	.250	1.00
4	X 3	X 5/16	X 7.2 L	7.12	5.2	32.7	20.1	1.09	3.9	.6	2.09	4.00	3.00	.313	.313	1.25
4	X 3 1/2	X 5/16	X 7.7 L	7.65	5.8	34.3	22.3	1.14	3.8	.7	2.25	4.00	3.50	.313	.313	1.25
4	X 4	X 5/16	X 8.2 L	8.18	6.4	35.7	24.4	1.18	3.8	.7	2.41	4.00	4.00	.313	.313	1.25
4	X 3	X 3/8	X 8.5 L	8.45	6.0	34.3	23.1	1.15	3.8	.7	2.48	4.00	3.00	.375	.375	1.50
4	X 3 1/2	X 3/8	X 9.1 L	9.08	6.7	35.9	25.5	1.20	3.8	.7	2.67	4.00	3.50	.375	.375	1.50
4	X 4	X 3/8	X 9.8 L	9.72	7.4	37.3	27.9	1.25	3.8	.7	2.86	4.00	4.00	.375	.375	1.50
4	X 3	X 7/16	X 9.8 L	9.77	6.8	35.6	25.8	1.20	3.8	.7	2.87	4.00	3.00	.438	.438	1.75
4	X 3	X 1/2	X 11.1 L	11.05	7.6	36.6	28.2	1.24	3.7	.8	3.25	4.00	3.00	.500	.500	2.00
4	X 4	X 7/16	X 11.3 L	11.26	8.4	38.6	31.2	1.30	3.7	.8	3.31	4.00	4.00	.438	.438	1.75
4	X 3 1/2	X 1/2	X 11.9 L	11.90	8.5	38.1	31.2	1.30	3.7	.8	3.50	4.00	3.50	.500	.500	2.00
4	X 4	X 1/2	X 12.8 L	12.75	9.4	39.5	34.1	1.35	3.6	.9	3.75	4.00	4.00	.500	.500	2.00

(60T) PLATE WEIGHT = 20.400 LBS. (.5000 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																
(60T = 30.000 IN.) PLATE WEIGHT = 20.400 LBS. (.5000 IN.) EFFECTIVE PLATE AREA = 15.000 SQ. IN.																
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS								
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN	X IN	X IN	X LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2	
5	X 3	X 1/4	X 6.6 L	6.59	5.7	41.7	27.6	1.28	4.8	.7	1.94	5.00	3.00	.250	.250	1.25
5	X 3 1/2	X 1/4	X 7.0 L	7.01	6.3	43.6	30.3	1.33	4.8	.7	2.06	5.00	3.50	.250	.250	1.25
5	X 3	X 5/16	X 8.2 L	8.18	6.9	44.4	33.0	1.38	4.8	.7	2.41	5.00	3.00	.313	.313	1.57
5	X 3 1/2	X 5/16	X 8.7 L	8.71	7.7	46.3	36.3	1.44	4.7	.8	2.56	5.00	3.50	.313	.313	1.57
5	X 3	X 3/8	X 9.8 L	9.72	8.1	46.3	37.9	1.46	4.7	.8	2.86	5.00	3.00	.375	.375	1.88
5	X 3 1/2	X 3/8	X 10.4 L	10.36	9.0	48.2	41.6	1.52	4.6	.9	3.05	5.00	3.50	.375	.375	1.88
5	X 3	X 7/16	X 11.3 L	11.26	9.2	47.8	42.4	1.52	4.6	.9	3.31	5.00	3.00	.438	.438	2.19
5	X 3 1/2	X 7/16	X 12.0 L	12.01	10.2	49.6	46.6	1.59	4.6	.9	3.53	5.00	3.50	.438	.438	2.19
5	X 5	X 3/8	X 12.3 L	12.27	11.6	52.5	52.4	1.68	4.5	1.0	3.61	5.00	5.00	.375	.375	1.88
5	X 3	X 1/2	X 12.8 L	12.75	10.2	49.0	46.5	1.58	4.6	1.0	3.75	5.00	3.00	.500	.500	2.50
290	X 3 1/2	X 1/2	X 13.6 L	13.60	11.4	50.7	51.1	1.64	4.5	1.0	4.00	5.00	3.50	.500	.500	2.50
6	X 3 1/2	X 5/16	X 9.8 L	9.78	9.8	58.5	54.5	1.75	5.6	.9	2.88	6.00	3.50	.313	.313	1.88
6	X 4	X 5/16	X 10.3 L	10.31	10.7	60.4	59.1	1.81	5.5	1.0	3.03	6.00	4.00	.313	.313	1.88
6	X 3 1/2	X	X 15.3 C	11.07	11.3	60.9	61.9	1.84	5.5	1.0	3.26	6.00	3.50	.385	.340	2.04
6	X 3 1/2	X 3/8	X 11.7 L	11.63	11.5	60.7	62.6	1.84	5.5	1.0	3.42	6.00	3.50	.375	.375	2.25
6	X 4	X 3/8	X 12.3 L	12.27	12.5	62.4	67.8	1.91	5.4	1.1	3.61	6.00	4.00	.375	.375	2.25
6	X 3 1/2	X	X 18.0 C	12.77	13.1	63.1	70.6	1.94	5.4	1.1	3.76	6.00	3.50	.475	.379	2.27
6	X 4	X 7/16	X 14.3 L	14.24	14.3	64.1	75.9	1.99	5.3	1.2	4.19	6.00	4.00	.438	.438	2.63
6	X 4	X 1/2	X 16.2 L	16.15	15.9	65.3	83.3	2.05	5.2	1.3	4.75	6.00	4.00	.500	.500	3.00
7	X 4	X 3/8	X 13.6 L	13.55	15.4	75.2	95.8	2.25	6.2	1.3	3.98	7.00	4.00	.375	.375	2.63
7	X 4	X 1/2	X 17.9 L	17.85	19.6	78.4	117.8	2.41	6.0	1.5	5.25	7.00	4.00	.500	.500	3.50
8	X 4	X 1/2	X 19.6 L	19.55	23.6	91.5	159.6	2.77	6.8	1.7	5.75	8.00	4.00	.500	.500	4.00
8	X 6	X 1/2	X 23.0 L	22.95	31.0	97.9	200.0	3.03	6.5	2.0	6.75	8.00	6.00	.500	.500	4.00

(60T) PLATE WEIGHT = 20.400 LBS. (.5000 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																	
(60T = 30.000 IN.) PLATE WEIGHT = 20.400 LBS. (.5000 IN.) EFFECTIVE PLATE AREA = 15.000 SQ. IN.																	
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS									
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
9	X 4	X 1/2	X 21.3 L	21.25	27.9	104.7	209.1	3.14	7.5	2.0	6.25	9.00	4.00	.500	.500	4.50	
10	X 2 5/8	X	X 15.3 C	11.66	17.9	108.1	161.5	2.96	9.0	1.5	3.43	10.00	2.60	.436	.240	2.40	
10	X 3 1/2	X	X 21.9 C	16.36	25.5	115.4	219.3	3.33	8.6	1.9	4.81	10.00	3.45	.500	.325	3.25	
10	X 2 5/8	X	X 20.0 C	16.39	22.2	109.2	193.9	3.13	8.7	1.8	4.82	10.00	2.74	.436	.379	3.79	
10	X 3 1/2	X	X 24.9 C	18.73	28.6	117.0	241.1	3.43	8.4	2.1	5.51	10.00	3.40	.575	.377	3.77	
10	X 3 1/2	X	X 25.3 C	19.76	28.5	115.8	240.0	3.40	8.4	2.1	5.81	10.00	3.55	.500	.425	4.25	
10	X 4 1/2	X	X 28.5 C	21.34	32.6	119.8	269.2	3.56	8.3	2.2	6.28	10.00	3.95	.575	.425	4.25	
10	X 3 1/2	X	X 28.3 C	22.13	31.5	117.5	260.7	3.48	8.3	2.2	6.51	10.00	3.50	.575	.477	4.77	
291	12	X 3	X	X 20.7 C	16.03	28.5	138.3	295.0	3.87	10.4	2.1	4.72	12.00	2.94	.501	.282	3.38
	12	X 3	X	X 25.0 C	20.33	32.9	138.9	332.9	3.98	10.1	2.4	5.98	12.00	3.05	.501	.387	4.64
	12	X 3 1/2	X	X 30.9 C	24.48	40.5	144.4	395.6	4.22	9.8	2.7	7.20	12.00	3.45	.610	.450	5.40
	12	X 3 1/2	X	X 32.9 C	26.52	42.5	144.8	411.1	4.25	9.7	2.8	7.80	12.00	3.50	.600	.500	6.00
	12	X 4	X	X 35.0 C	26.91	46.6	148.8	443.3	4.40	9.5	3.0	7.92	12.00	3.77	.700	.467	5.60
	13	X 4	X	X 31.8 C	24.09	46.9	161.5	490.3	4.71	10.5	3.0	7.09	13.00	4.00	.618	.375	4.88
	13	X 4	X	X 35.0 C	27.27	50.2	161.9	517.4	4.74	10.3	3.2	8.02	13.00	4.07	.610	.447	5.81
	15	X 3 3/8	X	X 33.9 C	27.03	55.1	185.8	658.6	5.36	12.0	3.5	7.95	15.00	3.40	.650	.400	6.00
	18	X 4	X	X 42.7 C	34.98	80.1	231.0	1100.6	6.60	13.7	4.8	10.29	18.00	3.95	.625	.450	8.10
	18	X 4	X	X 45.8 C	38.04	84.3	232.2	1144.4	6.61	13.6	4.9	11.19	18.00	4.00	.625	.500	9.00
(60T)				PLATE WEIGHT = 20.400 LBS. (.5000 IN.)													

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																		
(60T = 33.750 IN.) PLATE WEIGHT = 22.950 LBS. (.5625 IN.) EFFECTIVE PLATE AREA = 18.984 SQ. IN.																		
NOMINAL SIZE				WT/FT	SECTION MODULUS								BEAM DIMENSIONS					
					FLANGE	PLATE	I	R	YF	YP	A	O	WF	TF	TW	ASH		
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2	
3	X 3	X 1/2	X 9.4 L	9.35	5.4	27.6	16.0	.86	3.0	.6	2.75	3.00	3.00	.500	.500	1.50		
3	1/2 X 3	X 3/8	X 7.9 L	7.81	5.2	31.7	18.2	.92	3.5	.6	2.30	3.50	3.00	.375	.375	1.31		
4	X 4	X 1/4	X 6.6 L	6.59	5.4	37.1	21.4	1.01	4.0	.6	1.94	4.00	4.00	.250	.250	1.00		
4	X 3	X 5/16	X 7.2 L	7.12	5.3	36.3	21.1	1.00	4.0	.6	2.09	4.00	3.00	.313	.313	1.25		
4	X 3 1/2	X 5/16	X 7.7 L	7.65	5.9	38.4	23.4	1.05	4.0	.6	2.25	4.00	3.50	.313	.313	1.25		
4	X 4	X 5/16	X 8.2 L	8.18	6.5	40.2	25.6	1.09	3.9	.6	2.41	4.00	4.00	.313	.313	1.25		
4	X 3	X 3/8	X 8.5 L	8.45	6.2	38.6	24.2	1.06	3.9	.6	2.48	4.00	3.00	.375	.375	1.50		
292	4	X 3 1/2	X 3/8	X 9.1 L	9.08	6.9	40.6	26.8	1.11	3.9	.7	2.67	4.00	3.50	.375	.375	1.50	
4	X 4	X 3/8	X 9.8 L	9.72	7.6	42.5	29.4	1.16	3.9	.7	2.86	4.00	4.00	.375	.375	1.50		
4	X 3	X 7/16	X 9.8 L	9.77	7.0	40.4	27.1	1.11	3.9	.7	2.87	4.00	3.00	.438	.438	1.75		
4	X 3	X 1/2	X 11.1 L	11.05	7.7	41.7	29.8	1.16	3.8	.7	3.25	4.00	3.00	.500	.500	2.00		
4	X 4	X 7/16	X 11.3 L	11.26	8.6	44.2	32.9	1.22	3.8	.7	3.31	4.00	4.00	.438	.438	1.75		
4	X 3 1/2	X 1/2	X 11.9 L	11.90	8.7	43.8	33.0	1.21	3.8	.8	3.50	4.00	3.50	.500	.500	2.00		
4	X 4	X 1/2	X 12.8 L	12.75	9.6	45.6	36.1	1.26	3.8	.8	3.75	4.00	4.00	.500	.500	2.00		
5	X 3	X 1/4	X 6.6 L	6.59	5.8	46.5	28.7	1.17	4.9	.6	1.94	5.00	3.00	.250	.250	1.25		
5	X 3 1/2	X 1/4	X 7.0 L	7.01	6.4	48.9	31.6	1.23	4.9	.6	2.06	5.00	3.50	.250	.250	1.25		
5	X 3	X 5/16	X 8.2 L	8.18	7.1	50.2	34.5	1.27	4.9	.7	2.41	5.00	3.00	.313	.313	1.57		
5	X 3 1/2	X 5/16	X 8.7 L	8.71	7.8	52.6	37.9	1.33	4.8	.7	2.56	5.00	3.50	.313	.313	1.57		
5	X 3	X 3/8	X 9.8 L	9.72	8.2	52.9	39.7	1.35	4.8	.7	2.86	5.00	3.00	.375	.375	1.88		
5	X 3 1/2	X 3/8	X 10.4 L	10.36	9.1	55.3	43.7	1.41	4.8	.8	3.05	5.00	3.50	.375	.375	1.88		
5	X 3	X 7/16	X 11.3 L	11.26	9.4	55.1	44.6	1.41	4.8	.8	3.31	5.00	3.00	.438	.438	2.19		
5	X 3 1/2	X 7/16	X 12.0 L	12.01	10.4	57.5	49.0	1.48	4.7	.9	3.53	5.00	3.50	.438	.438	2.19		
5	X 5	X 3/8	X 12.3 L	12.27	11.8	61.1	55.2	1.56	4.7	.9	3.61	5.00	5.00	.375	.375	1.88		
5	X 3	X 1/2	X 12.8 L	12.75	10.4	56.7	49.0	1.47	4.7	.9	3.75	5.00	3.00	.500	.500	2.50		

(60T) PLATE WEIGHT = 22.950 LBS. (.5625 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																		
(60T = 33.750 IN.) PLATE WEIGHT = 22.950 LBS. (.5625 IN.) EFFECTIVE PLATE AREA = 18.984 SQ. IN.																		
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS										
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X IN X IN X LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2				
5	X 3 1/2 X 1/2 X 13.6 L	13.60	11.6	59.1	53.9	1.53	4.7	.9	4.00	5.00	3.50	.500	.500	2.50				
6	X 3 1/2 X 5/16 X 9.8 L	9.78	9.9	67.5	56.9	1.61	5.7	.8	2.88	6.00	3.50	.313	.313	1.88				
6	X 4 X 5/16 X 10.3 L	10.31	10.9	69.9	61.7	1.67	5.7	.9	3.03	6.00	4.00	.313	.313	1.88				
6	X 3 1/2 X 15.3 C	11.07	11.5	70.8	64.8	1.71	5.6	.9	3.26	6.00	3.50	.385	.340	2.04				
6	X 3 1/2 X 3/8 X 11.7 L	11.63	11.6	70.6	65.6	1.71	5.6	.9	3.42	6.00	3.50	.375	.375	2.25				
6	X 4 X 3/8 X 12.3 L	12.27	12.7	73.0	71.1	1.77	5.6	1.0	3.61	6.00	4.00	.375	.375	2.25				
6	X 3 1/2 X 18.0 C	12.77	13.3	73.9	74.1	1.81	5.6	1.0	3.76	6.00	3.50	.475	.379	2.27				
6	X 4 X 7/16 X 14.3 L	14.24	14.5	75.3	79.9	1.86	5.5	1.1	4.19	6.00	4.00	.438	.438	2.63				
6	X 4 X 1/2 X 16.2 L	16.15	16.2	77.1	88.0	1.93	5.4	1.1	4.75	6.00	4.00	.500	.500	3.00				
7	X 4 X 3/8 X 13.6 L	13.55	15.6	88.7	100.5	2.09	6.4	1.1	3.98	7.00	4.00	.375	.375	2.63				
7	X 4 X 1/2 X 17.9 L	17.85	20.0	93.2	124.5	2.27	6.2	1.3	5.25	7.00	4.00	.500	.500	3.50				
8	X 4 X 1/2 X 19.6 L	19.55	24.0	109.5	168.8	2.61	7.0	1.5	5.75	8.00	4.00	.500	.500	4.00				
8	X 6 X 1/2 X 23.0 L	22.95	31.5	117.9	212.8	2.88	6.8	1.8	6.75	8.00	6.00	.500	.500	4.00				
9	X 4 X 1/2 X 21.3 L	21.25	28.4	125.7	221.3	2.96	7.8	1.8	6.25	9.00	4.00	.500	.500	4.50				
10	X 2 5/8 X 15.3 C	11.66	18.2	128.4	168.0	2.74	9.3	1.3	3.43	10.00	2.60	.436	.240	2.40				
10	X 3 1/2 X 21.9 C	16.36	25.9	138.6	230.2	3.11	8.9	1.7	4.81	10.00	3.45	.500	.325	3.25				
10	X 2 5/8 X 20.0 C	16.39	22.6	130.5	203.3	2.92	9.0	1.6	4.82	10.00	2.74	.436	.379	3.79				
10	X 3 1/2 X 24.9 C	18.73	29.0	140.8	254.0	3.22	8.8	1.8	5.51	10.00	3.40	.575	.377	3.77				
10	X 3 1/2 X 25.3 C	19.76	28.9	139.2	253.1	3.19	8.7	1.8	5.81	10.00	3.55	.500	.425	4.25				
10	X 4 1/2 X 28.5 C	21.34	33.1	144.4	284.8	3.36	8.6	2.0	6.28	10.00	3.95	.575	.425	4.25				
10	X 3 1/2 X 28.3 C	22.13	32.0	141.4	275.9	3.29	8.6	2.0	6.51	10.00	3.50	.575	.477	4.77				

(60T) PLATE WEIGHT = 22.950 LBS. (.5625 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																
(60T = 33.750 IN.) PLATE WEIGHT = 22.950 LBS. (.5625 IN.) EFFECTIVE PLATE AREA = 18.984 SQ. IN.																
NOMINAL SIZE				SECTION MODULUS								BEAM DIMENSIONS				
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2	
12	X 3	X	X 20.7 C	16.03	28.8	166.5	308.8	3.61	10.7	1.9	4.72	12.00	2.94	.501	.282	3.38
12	X 3	X	X 25.0 C	20.33	33.5	167.6	350.7	3.75	10.5	2.1	5.98	12.00	3.05	.501	.387	4.64
12	X 3 1/2	X	X 30.9 C	24.40	41.3	174.7	419.2	4.00	10.2	2.4	7.20	12.00	3.45	.600	.450	5.40
12	X 3	X	X 30.0 C	25.34	38.8	169.1	396.1	3.87	10.2	2.3	7.45	12.00	3.17	.501	.510	6.12
12	X 3 1/2	X	X 32.9 C	26.52	43.4	175.1	436.6	4.04	10.1	2.5	7.60	12.00	3.50	.600	.500	6.00
12	X 4	X	X 35.0 C	26.91	47.4	180.3	471.5	4.19	9.9	2.6	7.92	12.00	3.77	.700	.467	5.60
13	X 4	X	X 31.8 C	24.09	47.6	196.0	519.5	4.46	10.9	2.6	7.09	13.00	4.00	.610	.375	4.88
13	X 4	X	X 35.0 C	27.27	51.1	196.3	550.1	4.51	10.8	2.8	8.02	13.00	4.07	.610	.447	5.81
13	X 4	X	X 40.0 C	32.28	56.6	197.3	596.5	4.58	10.5	3.0	9.49	13.00	4.19	.610	.560	7.28
15	X 3 3/8	X	X 33.9 C	27.03	56.1	225.7	698.9	5.09	12.5	3.1	7.95	15.00	3.40	.650	.400	6.00
15	X 3 3/8	X	X 40.0 C	33.15	63.7	227.2	774.3	5.19	12.2	3.4	9.75	15.00	3.52	.650	.520	7.80
18	X 4	X	X 42.7 C	34.98	81.8	280.4	1175.6	6.34	14.4	4.2	10.29	18.00	3.95	.625	.450	8.10
18	X 4	X	X 45.8 C	38.04	86.2	281.5	1225.0	6.37	14.2	4.4	11.19	18.00	4.00	.625	.500	9.00

(60T) PLATE WEIGHT = 22.950 LBS. (.5625 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																	
(60T = 37.500 IN.) PLATE WEIGHT = 25.500 LBS. (.6250 IN.) EFFECTIVE PLATE AREA = 23.438 SQ. IN.																	
	NOMINAL SIZE					WT/FT	SECTION MODULUS				BEAM DIMENSIONS						
							FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW
	IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
4	X 3 1/2	X 3/8	X 9.1	L	9.08	7.0	44.6	28.1	1.04	4.0	.6	2.67	4.00	3.50	.375	.375	1.50
4	X 4	X 3/8	X 9.8	L	9.72	7.8	46.8	30.8	1.08	4.0	.7	2.86	4.00	4.00	.375	.375	1.50
4	X 3	X 7/16	X 9.8	L	9.77	7.1	44.4	28.4	1.04	4.0	.6	2.87	4.00	3.00	.438	.438	1.75
4	X 3	X 1/2	X 11.1	L	11.05	7.9	46.2	31.3	1.08	3.9	.7	3.25	4.00	3.00	.500	.500	2.00
4	X 4	X 7/16	X 11.3	L	11.26	8.8	49.2	34.6	1.14	3.9	.7	3.31	4.00	4.00	.438	.438	1.75
4	X 3 1/2	X 1/2	X 11.9	L	11.90	8.9	48.8	34.6	1.13	3.9	.7	3.50	4.00	3.50	.500	.500	2.00
4	X 4	X 1/2	X 12.8	L	12.75	9.8	51.0	38.0	1.18	3.9	.7	3.75	4.00	4.00	.500	.500	2.00
4	X 4	X 5/8	X 15.7	L	15.67	11.6	53.8	44.1	1.25	3.8	.8	4.61	4.00	4.00	.625	.625	2.50
5	X 3	X 5/16	X 8.2	L	8.18	7.2	55.0	35.8	1.18	5.0	.7	2.41	5.00	3.00	.313	.313	1.57
5	X 3 1/2	X 5/16	X 8.7	L	8.71	8.0	58.0	39.4	1.23	4.9	.7	2.56	5.00	3.50	.313	.313	1.57
5	X 3	X 3/8	X 9.8	L	9.72	8.4	58.6	41.3	1.25	4.9	.7	2.86	5.00	3.00	.375	.375	1.88
5	X 3 1/2	X 3/8	X 10.4	L	10.36	9.3	61.6	45.5	1.31	4.9	.7	3.05	5.00	3.50	.375	.375	1.88
5	X 3	X 7/16	X 11.3	L	11.26	9.6	61.5	46.5	1.32	4.9	.8	3.31	5.00	3.00	.438	.438	2.19
5	X 3 1/2	X 7/16	X 12.0	L	12.01	10.6	64.5	51.2	1.38	4.8	.8	3.53	5.00	3.50	.438	.438	2.19
5	X 5	X 3/8	X 12.3	L	12.27	12.0	69.0	57.7	1.46	4.8	.8	3.61	5.00	5.00	.375	.375	1.88
5	X 3	X 1/2	X 12.8	L	12.75	10.6	63.7	51.2	1.37	4.8	.8	3.75	5.00	3.00	.500	.500	2.50
5	X 3 1/2	X 1/2	X 13.6	L	13.60	11.8	66.7	56.4	1.43	4.8	.8	4.00	5.00	3.50	.500	.500	2.50
5	X 3 1/2	X 5/8	X 16.8	L	16.73	14.0	70.1	65.8	1.52	4.7	.9	4.92	5.00	3.50	.625	.625	3.13
6	X 3 1/2	X 5/16	X 9.8	L	9.78	10.1	75.4	59.0	1.50	5.8	.8	2.88	6.00	3.50	.313	.313	1.88
6	X 4	X 5/16	X 10.3	L	10.31	11.0	78.5	64.0	1.56	5.8	.8	3.03	6.00	4.00	.313	.313	1.88
6	X 3 1/2	X	X 15.3	C	11.07	11.6	79.7	67.3	1.59	5.8	.8	3.26	6.00	3.50	.385	.340	2.04
6	X 3 1/2	X 3/8	X 11.7	L	11.63	11.8	79.6	68.2	1.59	5.8	.9	3.42	6.00	3.50	.375	.375	2.25
6	X 4	X 3/8	X 12.3	L	12.27	12.9	82.6	74.0	1.65	5.7	.9	3.61	6.00	4.00	.375	.375	2.25
6	X 3 1/2	X	X 18.0	C	12.77	13.5	83.9	77.2	1.69	5.7	.9	3.76	6.00	3.50	.475	.379	2.27
6	X 4	X 7/16	X 14.3	L	14.24	14.8	85.9	83.4	1.74	5.7	1.0	4.19	6.00	4.00	.438	.438	2.63
6	X 4	X 1/2	X 16.2	L	16.15	16.5	88.4	92.1	1.81	5.6	1.0	4.75	6.00	4.00	.500	.500	3.00

(60T) PLATE WEIGHT = 25.500 LBS. (.6250 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																	
(60T = 37.500 IN.) PLATE WEIGHT = 25.500 LBS. (.6250 IN.) EFFECTIVE PLATE AREA = 23.438 SQ. IN.																	
	NOMINAL SIZE				WT/FT	SECTION MODULUS				BEAM DIMENSIONS							
						FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
	IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
6	X 4	X 9/16	X 18.1	L	18.06	18.2	90.5	100.2	1.87	5.5	1.1	5.31	6.00	4.00	.563	.563	3.38
6	X 4	X 5/8	X 20.0	L	19.92	19.7	92.2	107.7	1.92	5.5	1.2	5.86	6.00	4.00	.625	.625	3.75
7	X 4	X 3/8	X 13.6	L	13.55	15.8	101.4	104.5	1.95	6.6	1.0	3.98	7.00	4.00	.375	.375	2.63
7	X 4	X 1/2	X 17.9	L	17.85	20.3	107.8	130.2	2.13	6.4	1.2	5.25	7.00	4.00	.500	.500	3.50
7	X 4	X 5/8	X 22.1	L	22.05	24.4	111.9	152.6	2.26	6.3	1.4	6.48	7.00	4.00	.625	.625	4.38
8	X 4	X 1/2	X 19.6	L	19.55	24.4	127.3	176.6	2.46	7.2	1.4	5.75	8.00	4.00	.500	.500	4.00
8	X 4	X 9/16	X 21.9	L	21.89	27.0	129.8	192.5	2.54	7.1	1.5	6.44	8.00	4.00	.563	.563	4.50
8	X 6	X 1/2	X 23.0	L	22.95	31.9	138.3	223.8	2.72	7.0	1.6	6.75	8.00	6.00	.500	.500	4.00
8	X 4	X 5/8	X 24.2	L	24.17	29.4	131.9	207.1	2.60	7.1	1.6	7.11	8.00	4.00	.625	.625	5.00
8	X 6	X 9/16	X 25.7	L	25.72	35.3	140.6	243.6	2.80	6.9	1.7	7.57	8.00	6.00	.563	.563	4.50
9	X 4	X 1/2	X 21.3	L	21.25	28.8	147.0	231.7	2.79	8.0	1.6	6.25	9.00	4.00	.500	.500	4.50
9	X 4	X 9/16	X 23.8	L	23.81	31.8	149.7	252.6	2.88	7.9	1.7	7.00	9.00	4.00	.563	.563	5.07
9	X 4	X 5/8	X 26.3	L	26.30	34.7	151.9	271.9	2.95	7.8	1.8	7.73	9.00	4.00	.625	.625	5.63
10	X 2 5/8	X	X 15.3	C	11.66	18.4	147.8	173.4	2.54	9.5	1.2	3.43	10.00	2.60	.436	.240	2.40
10	X 3 1/2	X	X 21.9	C	16.36	26.2	161.7	239.3	2.91	9.1	1.5	4.81	10.00	3.45	.500	.325	3.25
10	X 2 5/8	X	X 20.0	C	16.39	22.9	151.7	211.2	2.73	9.2	1.4	4.82	10.00	2.74	.436	.379	3.79
10	X 3 1/2	X	X 24.9	C	18.73	29.4	164.9	264.9	3.02	9.0	1.6	5.51	10.00	3.40	.575	.377	3.77
10	X 3 1/2	X	X 25.3	C	19.76	29.3	162.9	264.2	3.01	9.0	1.6	5.81	10.00	3.55	.500	.425	4.25
10	X 4 1/2	X	X 28.5	C	21.34	33.6	169.7	298.0	3.17	8.9	1.8	6.28	10.00	3.95	.575	.425	4.25
10	X 3 1/2	X	X 28.3	C	22.13	32.5	165.9	288.8	3.11	8.9	1.7	6.51	10.00	3.50	.575	.477	4.77
10	X 4	X	X 33.6	C	26.44	38.2	170.9	331.8	3.26	8.7	1.9	7.78	10.00	4.10	.575	.575	5.75
12	X 3	X	X 20.7	C	16.03	29.2	195.1	320.2	3.37	11.0	1.6	4.72	12.00	2.94	.501	.282	3.38

(60T) PLATE WEIGHT = 25.500 LBS. (.6250 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																
(60T = 37.500 IN.) PLATE WEIGHT = 25.500 LBS. (.6250 IN.) EFFECTIVE PLATE AREA = 23.438 SQ. IN.																
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS								
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	IN X	LBS/FT	LBS	IN ³	IN ³	IN ⁴	IN	IN	IN	IN	IN ²	IN	IN	IN	IN ²
12	X 3	X	X 25.0 C	20.33	33.9	197.0	365.6	3.53	10.8	1.9	5.98	12.00	3.05	.501	.387	4.64
12	X 3 1/2	X	X 30.9 C	24.48	41.9	206.1	439.2	3.79	10.5	2.1	7.20	12.00	3.45	.600	.450	5.40
12	X 3	X	X 30.0 C	25.34	39.4	199.2	415.1	3.67	10.5	2.1	7.45	12.00	3.17	.501	.510	6.12
12	X 3 1/2	X	X 32.9 C	26.52	44.0	206.7	458.3	3.83	10.4	2.2	7.80	12.00	3.50	.600	.500	6.00
12	X 4	X	X 35.0 C	26.91	48.1	213.3	495.6	3.98	10.3	2.3	7.92	12.00	3.77	.700	.467	5.60
12	X 3 1/2	X	X 37.0 C	30.60	48.3	208.0	495.2	3.91	10.2	2.4	9.00	12.00	3.60	.600	.600	7.20
12	X 4	X	X 40.0 C	31.93	53.3	214.3	539.2	4.05	10.1	2.5	9.39	12.00	3.89	.700	.590	7.08
13	X 4	X	X 31.8 C	24.09	48.2	232.2	544.0	4.22	11.3	2.3	7.09	13.00	4.00	.610	.375	4.88
13	X 4	X	X 35.0 C	27.27	51.9	232.6	577.8	4.29	11.1	2.5	8.02	13.00	4.07	.610	.447	5.81
13	X 4	X	X 40.0 C	32.28	57.6	233.6	629.2	4.37	10.9	2.7	9.49	13.00	4.19	.610	.560	7.28
15	X 3 3/8	X	X 33.9 C	27.03	56.9	267.8	733.1	4.83	12.9	2.7	7.95	15.00	3.40	.650	.400	6.00
15	X 3 3/8	X	X 40.0 C	33.15	64.8	269.4	816.2	4.96	12.6	3.0	9.75	15.00	3.52	.650	.520	7.80
15	X 4	X	X 50.0 C	41.02	81.3	281.1	985.2	5.27	12.1	3.5	12.06	15.00	4.00	.797	.625	9.38
18	X 4	X	X 42.7 C	34.98	83.2	333.6	1239.9	6.06	14.9	3.7	10.29	18.00	3.95	.625	.450	8.10
18	X 4	X	X 45.8 C	38.04	87.8	334.6	1294.8	6.12	14.8	3.9	11.19	18.00	4.00	.625	.500	9.00
18	X 4	X	X 51.9 C	44.16	96.8	337.0	1400.1	6.20	14.5	4.2	12.99	18.00	4.10	.625	.600	10.80

(60T) PLATE WEIGHT = 25.500 LBS. (.6250 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																	
(60T = 41.250 IN.) PLATE WEIGHT = 28.050 LBS. (.6875 IN.) EFFECTIVE PLATE AREA = 28.359 SQ. IN.																	
NOMINAL SIZE					SECTION MODULUS				BEAM DIMENSIONS								
					WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	IN X	LBS/FT		LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
4	X 4	X 1/2	X 12.8	L	12.75	10.0	55.8	39.8	1.11	4.0	.7	3.75	4.00	4.00	.500	.500	2.00
4	X 4	X 5/8	X 15.7	L	15.67	11.8	59.4	46.3	1.18	3.9	.8	4.61	4.00	4.00	.625	.625	2.50
5	X 3 1/2	X 3/8	X 10.4	L	10.36	9.5	66.9	47.2	1.23	5.0	.7	3.05	5.00	3.50	.375	.375	1.88
5	X 3	X 7/16	X 11.3	L	11.26	9.7	67.0	48.3	1.24	5.0	.7	3.31	5.00	3.00	.438	.438	2.19
5	X 3 1/2	X 7/16	X 12.0	L	12.01	10.8	70.6	53.3	1.29	4.9	.8	3.53	5.00	3.50	.438	.438	2.19
5	X 5	X 3/8	X 12.3	L	12.27	12.2	75.9	59.9	1.37	4.9	.8	3.61	5.00	5.00	.375	.375	1.88
5	X 3	X 1/2	X 12.8	L	12.75	10.8	69.9	53.3	1.29	4.9	.8	3.75	5.00	3.00	.500	.500	2.50
5	X 3 1/2	X 1/2	X 13.6	L	13.60	12.0	73.5	58.8	1.35	4.9	.8	4.00	5.00	3.50	.500	.500	2.50
5	X 3 1/2	X 5/8	X 16.8	L	16.73	14.3	78.0	68.8	1.44	4.8	.9	4.92	5.00	3.50	.625	.625	3.13
6	X 3 1/2	X 5/16	X 9.8	L	9.78	10.3	82.1	61.0	1.40	5.9	.7	2.88	6.00	3.50	.313	.313	1.88
6	X 4	X 5/16	X 10.3	L	10.31	11.2	85.8	66.2	1.45	5.9	.8	3.03	6.00	4.00	.313	.313	1.88
6	X 3 1/2	X	X 15.3	C	11.07	11.8	87.4	69.6	1.48	5.9	.8	3.26	6.00	3.50	.385	.340	2.04
6	X 3 1/2	X 3/8	X 11.7	L	11.63	12.0	87.5	70.6	1.49	5.9	.8	3.42	6.00	3.50	.375	.375	2.25
6	X 4	X 3/8	X 12.3	L	12.27	13.1	91.2	76.7	1.55	5.8	.8	3.61	6.00	4.00	.375	.375	2.25
6	X 3 1/2	X	X 18.0	C	12.77	13.7	92.8	80.0	1.58	5.8	.9	3.76	6.00	3.50	.475	.379	2.27
6	X 4	X 7/16	X 14.3	L	14.24	15.0	95.4	86.6	1.63	5.8	.9	4.19	6.00	4.00	.438	.438	2.63
6	X 4	X 1/2	X 16.2	L	16.15	16.7	98.8	95.7	1.70	5.7	1.0	4.75	6.00	4.00	.500	.500	3.00
6	X 4	X 9/16	X 18.1	L	18.06	18.5	101.6	104.4	1.76	5.7	1.0	5.31	6.00	4.00	.563	.563	3.38
6	X 4	X 5/8	X 20.0	L	19.92	20.1	103.9	112.4	1.81	5.6	1.1	5.86	6.00	4.00	.625	.625	3.75
7	X 4	X 3/8	X 13.6	L	13.55	16.1	113.0	108.1	1.83	6.7	1.0	3.98	7.00	4.00	.375	.375	2.63
7	X 4	X 1/2	X 17.9	L	17.85	20.6	121.5	135.3	2.01	6.6	1.1	5.25	7.00	4.00	.500	.500	3.50
7	X 4	X 5/8	X 22.1	L	22.05	24.7	127.2	159.2	2.14	6.4	1.3	6.48	7.00	4.00	.625	.625	4.38
8	X 4	X 1/2	X 19.6	L	19.55	24.7	144.6	183.4	2.32	7.4	1.3	5.75	8.00	4.00	.500	.500	4.00

(60T) PLATE WEIGHT = 28.050 LBS. (.6875 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																
(60T = 41.250 IN.) PLATE WEIGHT = 28.050 LBS. (.6875 IN.) EFFECTIVE PLATE AREA = 28.359 SQ. IN.																
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS								
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
8	X 4	X 9/16	X 21.9 L	21.89	27.3	148.0	200.4	2.40	7.3	1.4	6.44	8.00	4.00	.563	.563	4.50
8	X 6	X 1/2	X 23.0 L	22.95	32.3	158.5	233.4	2.58	7.2	1.5	6.75	8.00	6.00	.500	.500	4.00
8	X 4	X 5/8	X 24.2 L	24.17	29.8	150.7	216.1	2.47	7.3	1.4	7.11	8.00	4.00	.625	.625	5.00
8	X 6	X 9/16	X 25.7 L	25.72	35.8	161.7	254.7	2.66	7.1	1.6	7.57	8.00	6.00	.563	.563	4.50
9	X 4	X 1/2	X 21.3 L	21.25	29.2	168.0	240.7	2.64	8.3	1.4	6.25	9.00	4.00	.500	.500	4.50
9	X 4	X 9/16	X 23.8 L	23.81	32.3	171.5	263.1	2.73	8.2	1.5	7.00	9.00	4.00	.563	.563	5.07
9	X 4	X 5/8	X 26.3 L	26.30	35.2	174.5	283.8	2.80	8.1	1.6	7.73	9.00	4.00	.625	.625	5.63
10	X 2 5/8	X	X 15.3 C	11.66	18.5	165.7	178.2	2.37	9.6	1.1	3.43	10.00	2.60	.436	.240	2.40
10	X 3 1/2	X	X 21.9 C	16.36	26.4	184.0	247.1	2.73	9.3	1.3	4.81	10.00	3.45	.500	.325	3.25
10	X 2 5/8	X	X 20.0 C	16.39	23.2	172.0	218.1	2.56	9.4	1.3	4.82	10.00	2.74	.436	.379	3.79
10	X 3 1/2	X	X 24.9 C	18.73	29.7	188.5	274.2	2.85	9.2	1.5	5.51	10.00	3.40	.575	.377	3.77
10	X 3 1/2	X	X 25.3 C	19.76	29.7	186.3	273.8	2.83	9.2	1.5	5.81	10.00	3.55	.500	.425	4.25
10	X 4 1/2	X	X 28.5 C	21.34	34.0	194.8	309.3	2.99	9.1	1.6	6.28	10.00	3.95	.575	.425	4.25
10	X 3 1/2	X	X 28.3 C	22.13	32.9	190.3	300.0	2.93	9.1	1.6	6.51	10.00	3.50	.575	.477	4.77
10	X 4	X	X 33.6 C	26.44	38.7	196.8	346.0	3.09	8.9	1.8	7.78	10.00	4.10	.575	.575	5.75
12	X 3	X	X 20.7 C	16.03	29.4	223.0	330.0	3.16	11.2	1.5	4.72	12.00	2.94	.501	.282	3.38
12	X 3	X	X 25.0 C	20.33	34.3	226.3	378.3	3.32	11.0	1.7	5.98	12.00	3.05	.501	.387	4.64
12	X 3 1/2	X	X 30.9 C	24.48	42.4	238.1	456.4	3.58	10.8	1.9	7.20	12.00	3.45	.600	.450	5.40
12	X 3	X	X 30.0 C	25.34	39.9	229.8	431.5	3.47	10.8	1.9	7.45	12.00	3.17	.501	.510	6.12
12	X 3 1/2	X	X 32.9 C	26.52	44.6	239.0	477.0	3.63	10.7	2.0	7.80	12.00	3.50	.600	.500	6.00
12	X 4	X	X 35.0 C	26.91	48.7	247.2	516.2	3.77	10.6	2.1	7.92	12.00	3.77	.700	.467	5.60
12	X 3 1/2	X	X 37.0 C	30.60	49.0	240.8	517.0	3.72	10.5	2.1	9.00	12.00	3.60	.600	.600	7.20
12	X 4	X	X 40.0 C	31.93	54.1	248.6	563.7	3.86	10.4	2.3	9.39	12.00	3.89	.700	.590	7.08

(60T) PLATE WEIGHT = 28.050 LBS. (.6875 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																	
(60T = 41.250 IN.) PLATE WEIGHT = 28.050 LBS. (.6075 IN.) EFFECTIVE PLATE AREA = 28.359 SQ. IN.																	
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS									
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	O	MF	TF	TW	ASH	
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
13	X 4	X	X 31.8 C	24.09	48.8	269.2	565.0	3.99	11.6	2.1	7.09	13.00	4.00	.610	.375	4.88	
13	X 4	X	X 35.0 C	27.27	52.5	269.9	601.6	4.07	11.5	2.2	8.02	13.00	4.07	.610	.447	5.81	
13	X 4	X	X 40.0 C	32.28	58.4	271.4	657.5	4.17	11.3	2.4	9.49	13.00	4.19	.610	.560	7.28	
15	X 3 3/8	X	X 33.9 C	27.03	57.6	311.5	762.1	4.58	13.2	2.4	7.95	15.00	3.40	.650	.400	6.00	
15	X 3 3/8	X	X 40.0 C	33.15	65.7	313.7	852.4	4.73	13.0	2.7	9.75	15.00	3.52	.650	.520	7.80	
15	X 4	X	X 50.0 C	41.02	82.6	327.7	1034.6	5.06	12.5	3.2	12.06	15.00	4.00	.797	.625	9.38	
18	X 4	X	X 42.7 C	34.98	84.3	389.8	1295.3	5.79	15.4	3.3	10.29	18.00	3.95	.625	.450	8.10	
18	X 4	X	X 45.8 C	38.04	89.0	390.8	1355.2	5.85	15.2	3.5	11.19	18.00	4.00	.625	.500	9.00	
18	X 4	X	X 51.9 C	44.16	98.4	393.3	1470.5	5.96	14.9	3.7	12.99	18.00	4.10	.625	.600	10.80	

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(60T) PLATE WEIGHT = 28.050 LBS. (.6075 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																	
(60T = 45.000 IN.) PLATE WEIGHT = 30.600 LBS. (.7500 IN.) EFFECTIVE PLATE AREA = 33.750 SQ. IN.																	
NOMINAL SIZE				WT/FT	SECTION MODULUS				BEAM DIMENSIONS								
					FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
4	X 4	X 5/8	X 15.7	L	15.67	12.1	64.3	48.4	1.12	4.0	.8	4.61	4.00	4.00	.625	.625	2.50
4	X 4	X 3/4	X 18.5	L	18.49	13.8	67.5	54.4	1.18	3.9	.8	5.44	4.00	4.00	.750	.750	3.00
5	X 5	X 3/8	X 12.3	L	12.27	12.5	81.7	62.1	1.29	5.0	.8	3.61	5.00	5.00	.375	.375	1.88
5	X 3 1/2	X 1/2	X 13.6	L	13.60	12.3	79.3	61.0	1.27	5.0	.8	4.00	5.00	3.50	.500	.500	2.50
5	X 3 1/2	X 5/8	X 16.8	L	16.73	14.6	85.0	71.6	1.36	4.9	.8	4.92	5.00	3.50	.625	.625	3.13
5	X 3 1/2	X 3/4	X 19.8	L	19.76	16.7	89.0	80.8	1.43	4.8	.9	5.81	5.00	3.50	.750	.750	3.75
6	X 3 1/2	X	X 15.3	C	11.07	12.0	94.0	71.8	1.39	6.0	.8	3.26	6.00	3.50	.385	.340	2.04
6	X 3 1/2	X 3/8	X 11.7	L	11.63	12.2	94.2	72.9	1.40	6.0	.8	3.42	6.00	3.50	.375	.375	2.25
6	X 4	X 3/8	X 12.3	L	12.27	13.3	98.5	79.2	1.46	5.9	.8	3.61	6.00	4.00	.375	.375	2.25
6	X 3 1/2	X	X 18.0	C	12.77	13.9	100.6	82.7	1.48	5.9	.8	3.76	6.00	3.50	.475	.379	2.27
6	X 4	X 7/16	X 14.3	L	14.24	15.2	103.9	89.6	1.54	5.9	.9	4.19	6.00	4.00	.438	.438	2.63
6	X 4	X 1/2	X 16.2	L	16.15	17.0	108.2	99.2	1.60	5.8	.9	4.75	6.00	4.00	.500	.500	3.00
6	X 4	X 9/16	X 18.1	L	18.06	18.7	111.8	108.3	1.67	5.8	1.0	5.31	6.00	4.00	.563	.563	3.38
6	X 4	X 5/8	X 20.0	L	19.92	20.4	114.8	116.8	1.72	5.7	1.0	5.86	6.00	4.00	.625	.625	3.75
6	X 4	X 3/4	X 23.6	L	23.59	23.5	119.5	132.4	1.80	5.6	1.1	6.94	6.00	4.00	.750	.750	4.50
7	X 4	X 3/8	X 13.6	L	13.55	16.3	123.3	111.4	1.72	6.8	.9	3.98	7.00	4.00	.375	.375	2.63
7	X 4	X 1/2	X 17.9	L	17.85	20.9	134.2	139.9	1.89	6.7	1.0	5.25	7.00	4.00	.500	.500	3.50
7	X 4	X 5/8	X 22.1	L	22.05	25.1	141.6	165.2	2.03	6.6	1.2	6.48	7.00	4.00	.625	.625	4.38
7	X 4	X 3/4	X 26.2	L	26.14	29.0	146.9	187.6	2.13	6.5	1.3	7.69	7.00	4.00	.750	.750	5.25
8	X 4	X 1/2	X 19.6	L	19.55	25.0	160.9	189.6	2.19	7.6	1.2	5.75	8.00	4.00	.500	.500	4.00
8	X 4	X 9/16	X 21.9	L	21.89	27.7	165.3	207.5	2.27	7.5	1.3	6.44	8.00	4.00	.563	.563	4.50
8	X 6	X 1/2	X 23.0	L	22.95	32.7	178.0	241.9	2.44	7.4	1.4	6.75	8.00	6.00	.500	.500	4.00
8	X 4	X 5/8	X 24.2	L	24.17	30.2	169.0	224.1	2.34	7.4	1.3	7.11	8.00	4.00	.625	.625	5.00
8	X 6	X 9/16	X 25.7	L	25.72	36.2	182.2	264.5	2.53	7.3	1.5	7.57	8.00	6.00	.563	.563	4.50

(60T) PLATE WEIGHT = 30.600 LBS. (.7500 IN.)

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MIT-HDBK-264 (SH)
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TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																	
(60T = 45.000 IN.) PLATE WEIGHT = 30.600 LBS. (.7500 IN.) EFFECTIVE PLATE AREA = 33.750 SQ. IN.																	
NOMINAL SIZE						SECTION MODULUS						BEAM DIMENSIONS					
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW
IN X	IN X	IN X	LBS/FT														
				LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
8	X 4	X 3/4	X 28.7 L	28.69	35.0	174.7	254.9	2.46	7.3	1.5	8.44	8.00	4.00	.750	.750	6.00	
8	X 6	X 3/4	X 33.8 L	33.79	46.0	191.1	324.3	2.72	7.1	1.7	9.94	8.00	6.00	.750	.750	6.00	
9	X 4	X 1/2	X 21.3 L	21.25	29.5	188.1	248.7	2.49	8.4	1.3	6.25	9.00	4.00	.500	.500	4.50	
9	X 4	X 9/16	X 23.8 L	23.81	32.7	192.8	272.4	2.59	8.3	1.4	7.00	9.00	4.00	.563	.563	5.07	
9	X 4	X 5/8	X 26.3 L	26.30	35.7	196.6	294.3	2.66	8.3	1.5	7.73	9.00	4.00	.625	.625	5.63	
10	X 2 5/8	X	X 15.3 C	11.66	18.7	181.9	182.4	2.22	9.7	1.0	3.43	10.00	2.60	.436	.240	2.40	
10	X 3 1/2	X	X 21.9 C	16.36	26.7	205.2	254.0	2.57	9.5	1.2	4.81	10.00	3.45	.500	.325	3.25	
10	X 2 5/8	X	X 20.0 C	16.39	23.4	191.0	224.2	2.41	9.6	1.2	4.82	10.00	2.74	.436	.379	3.79	
10	X 3 1/2	X	X 24.9 C	18.73	30.0	211.1	282.4	2.68	9.4	1.3	5.51	10.00	3.40	.575	.377	3.77	
10	X 3 1/2	X	X 25.3 C	19.76	30.0	208.7	282.2	2.67	9.4	1.4	5.81	10.00	3.55	.500	.425	4.25	
10	X 4 1/2	X	X 28.5 C	21.34	34.4	219.2	319.3	2.82	9.3	1.5	6.28	10.00	3.95	.575	.425	4.25	
10	X 3 1/2	X	X 28.3 C	22.13	33.3	214.0	309.8	2.77	9.3	1.4	6.51	10.00	3.50	.575	.477	4.77	
10	X 4	X	X 33.6 C	26.44	39.2	222.4	358.4	2.94	9.1	1.6	7.78	10.00	4.10	.575	.575	5.75	
12	X 3	X	X 20.7 C	16.03	29.7	249.7	338.5	2.97	11.4	1.4	4.72	12.00	2.94	.501	.282	3.38	
12	X 3	X	X 25.0 C	20.33	34.7	255.0	389.4	3.13	11.2	1.5	5.98	12.00	3.05	.501	.387	4.64	
12	X 3 1/2	X	X 30.9 C	24.48	42.8	269.9	471.3	3.39	11.0	1.7	7.20	12.00	3.45	.600	.450	5.40	
12	X 3	X	X 30.0 C	25.34	40.4	260.1	445.8	3.29	11.0	1.7	7.45	12.00	3.17	.581	.510	6.12	
12	X 3 1/2	X	X 32.9 C	26.52	45.1	271.3	493.3	3.45	10.9	1.8	7.80	12.00	3.50	.608	.500	6.00	
12	X 4	X	X 35.0 C	26.91	49.2	281.2	534.1	3.58	10.9	1.9	7.92	12.00	3.77	.700	.467	5.60	
12	X 3 1/2	X	X 37.0 C	30.60	49.7	273.9	536.1	3.54	10.8	2.0	9.00	12.00	3.60	.600	.600	7.20	
12	X 4	X	X 40.0 C	31.93	54.8	283.4	585.2	3.68	10.7	2.1	9.39	12.00	3.89	.700	.590	7.08	
12	X 4	X	X 45.0 C	36.90	60.2	285.6	633.7	3.77	10.5	2.2	10.85	12.00	4.01	.700	.712	8.54	
13	X 4	X	X 31.8 C	24.09	49.2	306.3	583.1	3.78	11.8	1.9	7.09	13.00	4.00	.618	.375	4.88	

(60T) PLATE WEIGHT = 30.600 LBS. (.7500 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																
(60T = 45.000 IN.) PLATE WEIGHT = 30.600 LBS. (.7500 IN.) EFFECTIVE PLATE AREA = 33.750 SQ. IN.																
NOMINAL SIZE				SECTION MODULUS								BEAM DIMENSIONS				
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
13	X 4	X	X 35.0 C	27.27	53.1	307.6	622.2	3.86	11.7	2.0	8.02	13.00	4.07	.610	.447	5.81
13	X 4	X	X 40.0 C	32.28	59.1	309.9	682.2	3.97	11.5	2.2	9.49	13.00	4.19	.610	.560	7.28
15	X 3 3/8	X	X 33.9 C	27.03	58.1	355.9	787.2	4.34	13.5	2.2	7.95	15.00	3.40	.650	.400	6.00
15	X 3 3/8	X	X 40.0 C	33.15	66.5	359.1	883.9	4.51	13.3	2.5	9.75	15.00	3.52	.650	.520	7.80
15	X 4	X	X 50.0 C	41.02	83.7	376.2	1078.0	4.85	12.9	2.9	12.06	15.00	4.00	.797	.625	9.38
15	X 3 3/8	X	X 50.0 C	43.15	79.8	364.7	1031.7	4.71	12.9	2.8	12.69	15.00	3.72	.650	.716	10.74
15	X 4	X	X 53.2 C	44.23	87.8	377.3	1122.2	4.90	12.8	3.0	13.01	15.00	4.06	.797	.688	10.32
18	X 4	X	X 42.7 C	34.98	85.3	448.3	1343.3	5.52	15.8	3.0	10.29	18.00	3.95	.625	.450	8.10
18	X 4	X	X 45.8 C	38.04	90.1	449.5	1407.8	5.60	15.6	3.1	11.19	18.00	4.00	.625	.500	9.00
18	X 4	X	X 51.9 C	44.16	99.7	452.4	1532.2	5.73	15.4	3.4	12.99	18.00	4.10	.625	.600	10.80
18	X 4	X	X 58.0 C	50.28	109.1	455.7	1651.0	5.83	15.1	3.6	14.79	18.00	4.20	.625	.700	12.60

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(60T) PLATE WEIGHT = 30.600 LBS. (.7500 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																	
(60T = 52.500 IN.) PLATE WEIGHT = 35.700 LBS. (.8750 IN.) EFFECTIVE PLATE AREA = 45.938 SQ. IN.																	
NOMINAL SIZE				WT/FT	SECTION MODULUS				BEAM DIMENSIONS								
					FLANGE	PLATE	I	R	YF	YP	A	D	WF	IF	TW	ASH	
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
6	X 4	X 9/16	X 18.1	L	18.06	19.3	128.9	115.6	1.50	6.0	.9	5.31	6.00	4.00	.563	.563	3.38
6	X 4	X 5/8	X 20.0	L	19.92	21.0	133.4	124.8	1.55	5.9	.9	5.86	6.00	4.00	.625	.625	3.75
6	X 4	X 3/4	X 23.6	L	23.59	24.2	140.7	142.0	1.64	5.9	1.0	6.94	6.00	4.00	.750	.750	4.50
7	X 4	X 1/2	X 17.9	L	17.85	21.4	155.8	148.4	1.70	6.9	1.0	5.25	7.00	4.00	.500	.500	3.50
7	X 4	X 5/8	X 22.1	L	22.05	25.8	167.1	175.9	1.83	6.8	1.1	6.48	7.00	4.00	.625	.625	4.38
7	X 4	X 3/4	X 26.2	L	26.14	29.8	175.4	200.7	1.93	6.7	1.1	7.69	7.00	4.00	.750	.750	5.25
8	X 4	X 1/2	X 19.6	L	19.55	25.6	189.5	200.5	1.97	7.8	1.1	5.75	8.00	4.00	.500	.500	4.00
8	X 4	X 9/16	X 21.9	L	21.89	28.4	196.3	220.0	2.05	7.8	1.1	6.44	8.00	4.00	.563	.563	4.50
8	X 6	X 1/2	X 23.0	L	22.95	33.4	213.6	256.7	2.21	7.7	1.2	6.75	8.00	6.00	.500	.500	4.00
8	X 4	X 5/8	X 24.2	L	24.17	31.0	202.1	238.2	2.12	7.7	1.2	7.11	8.00	4.00	.625	.625	5.00
8	X 6	X 9/16	X 25.7	L	25.72	37.1	220.4	281.6	2.29	7.6	1.3	7.57	8.00	6.00	.563	.563	4.50
8	X 4	X 3/4	X 28.7	L	28.69	35.9	211.3	272.3	2.24	7.6	1.3	8.44	8.00	4.00	.750	.750	6.00
8	X 4	X 7/8	X 33.1	L	33.10	40.5	218.2	302.9	2.33	7.5	1.4	9.73	8.00	4.00	.875	.875	7.00
8	X 6	X 3/4	X 33.8	L	33.79	47.1	235.0	348.2	2.50	7.4	1.5	9.94	8.00	6.00	.750	.750	6.00
8	X 6	X 7/8	X 39.1	L	39.05	53.3	241.6	387.4	2.60	7.3	1.6	11.48	8.00	6.00	.875	.875	7.00
9	X 4	X 1/2	X 21.3	L	21.25	30.2	224.2	262.7	2.24	8.7	1.2	6.25	9.00	4.00	.500	.500	4.50
9	X 4	X 9/16	X 23.8	L	23.81	33.4	231.7	288.4	2.33	8.6	1.2	7.00	9.00	4.00	.563	.563	5.07
9	X 4	X 5/8	X 26.3	L	26.30	36.5	237.9	312.5	2.41	8.6	1.3	7.73	9.00	4.00	.625	.625	5.63
10	X 2 5/8	X	X 15.3	C	11.66	19.1	207.8	190.1	1.96	10.0	.9	3.43	10.00	2.60	.436	.240	2.40
10	X 3 1/2	X	X 21.9	C	16.36	27.2	242.0	265.1	2.29	9.8	1.1	4.81	10.00	3.45	.500	.325	3.25
10	X 2 5/8	X	X 20.0	C	16.39	23.9	223.6	235.0	2.15	9.8	1.1	4.82	10.00	2.74	.436	.379	3.79
10	X 3 1/2	X	X 24.9	C	18.73	30.6	251.6	296.7	2.40	9.7	1.2	5.51	10.00	3.40	.575	.377	3.77
10	X 3 1/2	X	X 25.3	C	19.76	30.6	249.0	296.8	2.39	9.7	1.2	5.81	10.00	3.55	.500	.425	4.25

(60T) PLATE WEIGHT = 35.700 LBS. (.8750 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																			
(60T = 52.500 IN.) PLATE WEIGHT = 35.700 LBS. (.8750 IN.) EFFECTIVE PLATE AREA = 45.938 SQ. IN.																			
NOMINAL SIZE				SECTION MODULUS								BEAM DIMENSIONS							
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN	X	IN	X	IN	Y	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN2		
10	X	4	1/2	X		X 28.5 C	21.34	35.0	264.0	336.3	2.54	9.6	1.3	6.28	10.00	3.95	.575	.425	4.25
10	X	3	1/2	X		X 28.3 C	22.13	34.0	257.5	326.6	2.50	9.6	1.3	6.51	10.00	3.50	.575	.477	4.77
10	X	4		X		X 33.6 C	26.44	40.1	270.7	379.7	2.66	9.5	1.4	7.78	10.00	4.10	.575	.575	5.75
10	X	4		X		X 41.1 C	33.95	47.4	279.0	440.5	2.81	9.3	1.6	9.99	10.00	4.32	.575	.796	7.96
12	X	3		X		X 20.7 C	16.03	30.2	297.2	353.1	2.64	11.7	1.2	4.72	12.00	2.94	.501	.282	3.38
12	X	3		X		X 25.0 C	20.33	35.4	307.8	408.3	2.80	11.5	1.3	5.98	12.00	3.05	.501	.387	4.64
12	X	3	1/2	X		X 30.9 C	24.48	43.7	330.3	496.4	3.06	11.4	1.5	7.20	12.00	3.45	.600	.450	5.40
12	X	3		X		X 30.0 C	25.34	41.2	317.6	470.0	2.97	11.4	1.5	7.45	12.00	3.17	.501	.510	6.12
12	X	3	1/2	X		X 32.9 C	26.52	46.0	333.2	520.8	3.11	11.3	1.6	7.80	12.00	3.50	.600	.500	6.00
12	X	4		X		X 35.0 C	26.91	50.2	346.9	564.2	3.24	11.2	1.6	7.92	12.00	3.77	.700	.467	5.60
12	X	3	1/2	X		X 37.0 C	30.60	50.8	338.5	568.3	3.22	11.2	1.7	9.00	12.00	3.60	.600	.600	7.20
12	X	4		X		X 40.0 C	31.93	55.9	351.8	621.3	3.35	11.1	1.8	9.39	12.00	3.89	.700	.590	7.08
12	X	4		X		X 45.0 C	36.90	61.6	356.2	675.9	3.45	11.0	1.9	10.85	12.00	4.01	.700	.712	8.54
12	X	4		X		X 50.0 C	41.93	67.3	360.5	729.8	3.54	10.9	2.0	12.33	12.00	4.14	.700	.835	10.02
13	X	4		X		X 31.8 C	24.09	50.0	377.8	613.1	3.40	12.3	1.6	7.09	13.00	4.00	.610	.375	4.88
13	X	4		X		X 35.0 C	27.27	54.0	381.2	656.6	3.49	12.2	1.7	8.02	13.00	4.07	.610	.447	5.81
13	X	4		X		X 40.0 C	32.28	60.3	386.2	723.5	3.61	12.0	1.9	9.49	13.00	4.19	.610	.560	7.28
13	X	4		X		X 50.0 C	42.30	72.4	395.0	849.3	3.81	11.7	2.2	12.44	13.00	4.41	.610	.787	10.23
15	X	3	3/8	X		X 33.9 C	27.03	59.2	443.5	828.6	3.92	14.0	1.9	7.95	15.00	3.40	.650	.400	6.00
15	X	3	3/8	X		X 40.0 C	33.15	67.8	450.4	936.1	4.10	13.8	2.1	9.75	15.00	3.52	.650	.520	7.80
15	X	4		X		X 50.0 C	41.02	85.5	475.8	1150.4	4.45	13.5	2.4	12.06	15.00	4.00	.797	.625	9.38
15	X	3	3/8	X		X 50.0 C	43.15	81.8	460.3	1102.4	4.34	13.5	2.4	12.69	15.00	3.72	.650	.716	10.74
15	X	4		X		X 53.2 C	44.23	89.9	477.8	1200.7	4.51	13.4	2.5	13.01	15.00	4.06	.797	.688	10.32
15	X	4		X		X 56.4 C	47.46	94.3	480.1	1251.3	4.57	13.3	2.6	13.96	15.00	4.13	.797	.751	11.27
15	X	4		X		X 59.6 C	50.61	98.6	482.1	1299.0	4.62	13.2	2.7	14.89	15.00	4.19	.797	.813	12.20

(60T) PLATE WEIGHT = 35.700 LBS. (.8750 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																	
(60T = 52.500 IN.) PLATE WEIGHT = 35.700 LBS. (.8750 IN.) EFFECTIVE PLATE AREA = 45.938 SQ. IN.																	
NOMINAL SIZE				SECTION MODULUS								BEAM DIMENSIONS					
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
1A	X 4	X	X 42.7 C	34.98	86.9	568.3	1422.1	5.03	16.4	2.5	10.29	18.00	3.95	.625	.450	8.10	
1A	X 4	X	X 45.8 C	38.04	91.9	570.8	1494.5	5.11	16.3	2.6	11.19	18.00	4.00	.625	.500	9.00	
1B	X 4	X	X 51.9 C	44.16	102.0	575.7	1635.0	5.27	16.0	2.8	12.99	18.00	4.10	.625	.600	10.80	
1B	X 4	X	X 58.0 C	50.28	111.8	580.6	1770.0	5.40	15.8	3.0	14.79	18.00	4.20	.625	.700	12.60	

(60T) PLATE WEIGHT = 35.700 LBS. (.8750 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																	
(60T = 60.000 IN.) PLATE WEIGHT = 40.800 LBS. (1.0000 IN.) EFFECTIVE PLATE AREA = 60.000 SQ. IN.																	
NOMINAL SIZE				SECTION MODULUS								BEAM DIMENSIONS					
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
7	X 4	X 3/4	X 26.2 L	26.14	30.7	199.2	212.5	1.77	6.9	1.1	7.69	7.00	4.00	.750	.750	5.25	
8	X 4	X 9/16	X 21.9 L	21.89	29.1	221.4	231.3	1.87	8.0	1.0	6.44	8.00	4.00	.563	.563	4.50	
8	X 6	X 1/2	X 23.0 L	22.95	34.2	243.1	269.8	2.01	7.9	1.1	6.75	8.00	6.00	.500	.500	4.00	
8	X 4	X 5/8	X 24.2 L	24.17	31.7	229.6	250.8	1.93	7.9	1.1	7.11	8.00	4.00	.625	.625	5.00	
8	X 6	X 9/16	X 25.7 L	25.72	37.9	252.9	296.5	2.09	7.8	1.2	7.57	8.00	6.00	.563	.563	4.50	
8	X 4	X 3/4	X 28.7 L	28.69	36.8	242.9	287.5	2.05	7.8	1.2	8.44	8.00	4.00	.750	.750	6.00	
8	X 4	X 7/8	X 33.1 L	33.10	41.5	253.1	320.9	2.15	7.7	1.3	9.73	8.00	4.00	.875	.875	7.00	
8	X 6	X 3/4	X 33.8 L	33.79	48.2	274.6	368.9	2.30	7.7	1.3	9.94	8.00	6.00	.750	.750	6.00	
8	X 4	X 1	X 37.4 L	37.40	45.9	261.1	351.2	2.22	7.7	1.3	11.00	8.00	4.00	1.000	1.000	8.00	
8	X 6	X 7/8	X 39.1 L	39.05	54.5	284.7	411.8	2.40	7.6	1.4	11.48	8.00	6.00	.875	.875	7.00	
8	X 6	X 1	X 44.2 L	44.20	60.5	292.6	451.0	2.49	7.5	1.5	13.00	8.00	6.00	1.000	1.000	8.00	
9	X 4	X 1/2	X 21.3 L	21.25	30.8	253.7	275.1	2.04	8.9	1.1	6.25	9.00	4.00	.500	.500	4.50	
9	X 4	X 9/16	X 23.8 L	23.81	34.2	264.4	302.5	2.12	8.9	1.1	7.00	9.00	4.00	.563	.563	5.07	
9	X 4	X 5/8	X 26.3 L	26.30	37.3	273.4	328.4	2.20	8.8	1.2	7.73	9.00	4.00	.625	.625	5.63	
10	X 3 1/2	X	X 21.9 C	16.36	27.8	270.7	276.9	2.07	10.0	1.0	4.81	10.00	3.45	.500	.325	3.25	
10	X 3 1/2	X	X 24.9 C	18.73	31.2	284.3	309.2	2.17	9.9	1.1	5.51	10.00	3.40	.575	.377	3.77	
10	X 3 1/2	X	X 25.3 C	19.76	31.3	281.8	309.6	2.17	9.9	1.1	5.81	10.00	3.55	.500	.425	4.25	
10	X 4 1/2	X	X 28.5 C	21.34	35.7	301.4	351.1	2.30	9.8	1.2	6.28	10.00	3.95	.575	.425	4.25	
10	X 3 1/2	X	X 28.3 C	22.13	34.7	293.9	341.3	2.27	9.8	1.2	6.51	10.00	3.50	.575	.477	4.77	
10	X 4	X	X 33.6 C	26.44	40.9	312.8	397.9	2.42	9.7	1.3	7.78	10.00	4.10	.575	.575	5.75	
10	X 4	X	X 41.1 C	33.95	48.5	326.6	464.1	2.58	9.6	1.4	9.99	10.00	4.32	.575	.796	7.96	
12	X 3	X	X 20.7 C	16.03	30.7	335.0	365.7	2.38	11.9	1.1	4.72	12.00	2.94	.501	.282	3.38	
12	X 3	X	X 25.0 C	20.33	36.0	352.1	424.3	2.54	11.8	1.2	5.98	12.00	3.05	.501	.387	4.64	

(60T) PLATE WEIGHT = 40.800 LBS. (1.0000 IN.)

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MIL-HDBK-264 (SH)
30 September 1980

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																				
(60T = 60.000 IN.) PLATE WEIGHT = 40.800 LBS. (1.0000 IN.) EFFECTIVE PLATE AREA = 60.000 SQ. IN.																				
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS												
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH				
IN	X	IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN	IN	IN2			
12	X	3	1/2	X	X	30.9	C	24.48	44.4	383.6	517.5	2.77	11.7	1.3	7.20	12.00	3.45	.600	.450	5.40
12	X	3		X	X	30.0	C	25.34	42.0	368.2	490.3	2.70	11.7	1.3	7.45	12.00	3.17	.501	.510	6.12
12	X	3	1/2	X	X	32.9	C	26.52	46.9	388.6	543.7	2.83	11.6	1.4	7.80	12.00	3.50	.600	.500	6.00
12	X	4		X	X	35.0	C	26.91	51.0	406.3	589.1	2.95	11.6	1.4	7.92	12.00	3.77	.700	.467	5.60
12	X	3	1/2	X	X	37.0	C	30.60	51.7	397.6	595.0	2.94	11.5	1.5	9.00	12.00	3.60	.600	.600	7.20
12	X	4		X	X	40.0	C	31.93	57.0	415.3	651.1	3.06	11.4	1.6	9.39	12.00	3.89	.700	.590	7.08
12	X	4		X	X	45.0	C	36.90	62.8	423.2	710.8	3.17	11.3	1.7	10.85	12.00	4.01	.700	.712	8.54
12	X	4		X	X	50.0	C	41.93	68.7	430.4	770.0	3.26	11.2	1.8	12.33	12.00	4.14	.700	.835	10.02
308	13	X	4		X	31.8	C	24.09	50.8	441.9	637.9	3.08	12.6	1.4	7.09	13.00	4.00	.610	.375	4.88
	13	X	4		X	35.0	C	27.27	54.9	448.5	684.7	3.17	12.5	1.5	8.02	13.00	4.07	.610	.447	5.81
	13	X	4		X	40.0	C	32.28	61.3	458.0	757.3	3.30	12.3	1.7	9.49	13.00	4.19	.610	.560	7.28
	13	X	4		X	50.0	C	42.30	73.9	473.3	895.1	3.52	12.1	1.9	12.44	13.00	4.41	.610	.787	10.23
15	X	3	3/8	X	X	33.9	C	27.03	60.0	525.0	862.0	3.56	14.4	1.6	7.95	15.00	3.40	.650	.400	6.00
15	X	3	3/8	X	X	40.0	C	33.15	69.0	537.8	978.2	3.74	14.2	1.8	9.75	15.00	3.52	.650	.520	7.80
15	X	4		X	X	50.0	C	41.02	87.0	574.4	1208.9	4.10	13.9	2.1	12.06	15.00	4.00	.797	.625	9.38
15	X	3	3/8	X	X	50.0	C	43.15	83.4	555.0	1159.8	3.99	13.9	2.1	12.69	15.00	3.72	.650	.716	10.74
15	X	4		X	X	53.2	C	44.23	91.5	578.2	1264.3	4.16	13.8	2.2	13.01	15.00	4.06	.797	.688	10.32
15	X	4		X	X	56.4	C	47.46	96.1	582.0	1320.2	4.22	13.7	2.3	13.96	15.00	4.13	.797	.751	11.27
15	X	4		X	X	59.6	C	50.61	100.6	585.4	1373.0	4.28	13.7	2.3	14.89	15.00	4.19	.797	.813	12.20
15	X	4		X	X	62.8	C	53.82	105.0	588.7	1425.7	4.34	13.6	2.4	15.83	15.00	4.25	.797	.876	13.14
15	X	4		X	X	65.9	C	56.93	109.3	591.8	1476.1	4.39	13.5	2.5	16.74	15.00	4.31	.797	.937	14.06
15	X	4		X	X	69.1	C	60.13	113.7	594.9	1527.1	4.43	13.4	2.6	17.69	15.00	4.37	.797	1.000	15.00
18	X	4		X	X	42.7	C	34.98	88.2	687.0	1484.5	4.60	16.8	2.2	10.29	18.00	3.95	.625	.450	8.10
18	X	4		X	X	45.8	C	38.04	93.4	691.8	1563.4	4.69	16.7	2.3	11.19	18.00	4.00	.625	.500	9.00
18	X	4		X	X	51.9	C	44.16	103.8	700.7	1717.2	4.85	16.5	2.5	12.99	18.00	4.10	.625	.600	10.80

(60T) PLATE WEIGHT = 40.800 LBS. (1.0000 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																	
(60T = 60.000 IN.) PLATE WEIGHT = 40.800 LBS. (1.0000 IN.) EFFECTIVE PLATE AREA = 60.000 SQ. IN.																	
NOMINAL SIZE				WT/FT	SECTION MODULUS				BEAM DIMENSIONS								
					FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TH	ASH	
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
14	X	4	X	58.0 C	50.28	114.0	708.8	1865.9	4.99	16.4	2.6	14.79	18.00	4.20	.625	.700	12.60

(60T) PLATE WEIGHT = 40.800 LBS. (1.0000 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																
(60T = 67.500 IN.) PLATE WEIGHT = 45.900 LBS. (1.1250 IN.) EFFECTIVE PLATE AREA = 75.938 SQ. IN.																
NOMINAL SIZE				WT/FT	SECTION MODULUS				BEAM DIMENSIONS							
					FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
8	X 4	X 7/8	X 33.1 L	33.10	42.6	282.5	337.5	1.98	7.9	1.2	9.73	8.00	4.00	.875	.875	7.00
8	X 6	X 3/4	X 33.8 L	33.79	49.3	308.5	387.7	2.12	7.9	1.3	9.94	8.00	6.00	.750	.750	6.00
8	Y 4	X 1	X 37.4 L	37.40	47.1	293.6	370.1	2.06	7.9	1.3	11.00	8.00	4.00	1.000	1.000	8.00
8	X 6	X 7/8	X 39.1 L	39.05	55.8	322.7	433.9	2.23	7.8	1.3	11.48	8.00	6.00	.875	.875	7.00
8	X 6	X 1	X 44.2 L	44.20	61.9	334.0	476.3	2.31	7.7	1.4	13.00	8.00	6.00	1.000	1.000	8.00
9	X 4	X 5/8	X 26.3 L	26.30	38.2	302.1	343.2	2.03	9.0	1.1	7.73	9.00	4.00	.625	.625	5.63
10	X 4	X	X 33.6 C	26.44	41.7	347.4	414.6	2.23	9.9	1.2	7.78	10.80	4.10	.575	.575	5.75
10	X 4	X	X 41.1 C	33.95	49.5	367.6	485.3	2.38	9.8	1.3	9.99	10.00	4.32	.575	.796	7.96
12	X 3	X	X 25.0 C	20.33	36.6	386.9	439.1	2.32	12.0	1.1	5.98	12.00	3.05	.501	.387	4.64
12	X 3 1/2	X	X 30.9 C	24.48	45.2	427.6	536.3	2.54	11.9	1.3	7.20	12.00	3.45	.600	.450	5.40
12	X 3	X	X 30.0 C	25.34	42.8	409.9	508.7	2.47	11.9	1.2	7.45	12.00	3.17	.501	.510	6.12
12	X 3 1/2	X	X 32.9 C	26.52	47.7	435.1	564.0	2.60	11.8	1.3	7.80	12.00	3.50	.600	.500	6.00
12	X 4	X	X 35.0 C	26.91	51.8	456.8	611.1	2.70	11.8	1.3	7.92	12.00	3.77	.700	.467	5.60
12	X 3 1/2	X	X 37.0 C	30.60	52.7	448.7	618.6	2.70	11.7	1.4	9.00	12.00	3.60	.600	.600	7.20
12	X 4	X	X 40.0 C	31.93	57.9	471.0	677.1	2.82	11.7	1.4	9.39	12.00	3.89	.700	.590	7.08
12	X 4	X	X 45.0 C	36.90	63.9	483.3	741.1	2.92	11.6	1.5	10.85	12.00	4.01	.700	.712	8.54
12	X 4	X	X 50.0 C	41.93	70.0	494.5	804.8	3.02	11.5	1.6	12.33	12.00	4.14	.700	.835	10.02
13	X 4	X	X 31.8 C	24.09	51.6	495.8	659.6	2.82	12.8	1.3	7.09	13.00	4.00	.610	.375	4.88
13	Y 4	X	X 35.0 C	27.27	55.7	506.5	709.3	2.91	12.7	1.4	8.82	13.00	4.07	.610	.447	5.81
13	X 4	X	X 40.0 C	32.28	62.3	521.6	786.5	3.03	12.6	1.5	9.49	13.00	4.19	.610	.560	7.28
13	X 4	X	X 50.0 C	42.30	75.3	545.8	934.2	3.25	12.4	1.7	12.44	13.00	4.41	.610	.787	10.23
15	X 3 3/8	X	X 33.9 C	27.03	60.9	596.4	890.7	3.26	14.6	1.5	7.95	15.00	3.40	.650	.400	6.00

(60T) PLATE WEIGHT = 45.900 LBS. (1.1250 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																		
(60T = 67.500 IN.) PLATE WEIGHT = 45.900 LBS. (1.1250 IN.) EFFECTIVE PLATE AREA = 75.938 SQ. IN.																		
NOMINAL SIZE				SECTION MODULUS								BEAM DIMENSIONS						
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2		
15	X 3	3/8	X	X 40.0	C	33.15	70.0	617.1	1014.0	3.44	14.5	1.6	9.75	15.00	3.52	.650	.520	7.80
15	X 4		X	X 50.0	C	41.02	88.3	667.4	1258.0	3.78	14.2	1.9	12.06	15.00	4.00	.797	.625	9.38
15	X 3	3/8	X	X 50.0	C	43.15	84.8	644.3	1208.2	3.69	14.2	1.9	12.69	15.00	3.72	.650	.716	10.74
15	X 4		X	X 53.2	C	44.23	93.0	673.6	1317.7	3.85	14.2	2.0	13.01	15.00	4.06	.797	.688	10.32
15	X 4		X	X 56.4	C	47.46	97.7	679.8	1378.1	3.92	14.1	2.0	13.96	15.00	4.13	.797	.751	11.27
15	X 4		X	X 59.6	C	50.61	102.3	685.3	1435.3	3.98	14.0	2.1	14.89	15.00	4.19	.797	.813	12.20
15	X 4		X	X 62.8	C	53.82	106.9	690.5	1492.4	4.03	14.0	2.2	15.83	15.00	4.25	.797	.876	13.14
15	X 4		X	X 65.9	C	56.93	111.3	695.4	1547.3	4.09	13.9	2.2	16.74	15.00	4.31	.797	.937	14.06
15	X 4		X	X 69.1	C	60.13	115.9	700.2	1602.9	4.14	13.8	2.3	17.69	15.00	4.37	.797	1.000	15.00
15	X 4		X	X 75.0	C	66.06	124.3	708.7	1704.7	4.23	13.7	2.4	19.43	15.00	4.49	.797	1.116	16.74
18	X 4		X	X 42.7	C	34.98	89.3	798.5	1536.2	4.22	17.2	1.9	10.29	18.00	3.95	.625	.450	8.10
18	X 4		X	X 45.8	C	38.04	94.7	806.8	1620.5	4.31	17.1	2.0	11.19	18.00	4.00	.625	.500	9.00
18	X 4		X	X 51.9	C	44.16	105.3	821.6	1785.2	4.48	17.0	2.2	12.99	18.00	4.10	.625	.600	10.80
18	X 4		X	X 58.0	C	50.28	115.8	834.7	1945.4	4.63	16.8	2.3	14.79	18.00	4.20	.625	.700	12.60

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(60T) PLATE WEIGHT = 45.900 LBS. (1.1250 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																

(60T = 75.000 IN.) PLATE WEIGHT = 51.000 LBS. (1.2500 IN.) EFFECTIVE PLATE AREA = 93.750 SQ. IN.																
NOMINAL SIZE				WT/FT	SECTION MODULUS				BEAM DIMENSIONS							
					FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2

8	X 6	X 7/8	X 39.1 L	39.05	57.1	354.9	454.8	2.08	8.0	1.3	11.48	8.00	6.00	.875	.875	7.00
8	X 6	X 1	X 44.2 L	44.20	63.3	369.8	500.0	2.16	7.9	1.4	13.00	8.00	6.00	1.000	1.000	8.00
10	X 4	X	X 41.1 C	33.95	50.6	401.5	505.4	2.21	10.0	1.3	9.99	10.00	4.32	.575	.796	7.96
12	X 4	X	X 35.0 C	26.91	52.7	497.6	631.7	2.49	12.0	1.3	7.92	12.00	3.77	.700	.467	5.60
12	X 3 1/2	X	X 37.0 C	30.60	53.6	490.8	640.6	2.50	11.9	1.3	9.00	12.00	3.60	.600	.600	7.20
12	X 4	X	X 40.0 C	31.93	58.9	517.6	701.2	2.61	11.9	1.4	9.39	12.00	3.89	.700	.590	7.08
12	X 4	X	X 45.0 C	36.90	65.1	534.9	768.7	2.71	11.8	1.4	10.85	12.00	4.01	.700	.712	8.54
12	X 4	X	X 50.0 C	41.93	71.3	550.7	836.2	2.81	11.7	1.5	12.33	12.00	4.14	.700	.835	10.02
13	X 4	X	X 31.8 C	24.09	52.3	538.9	679.9	2.60	13.0	1.3	7.09	13.00	4.00	.610	.375	4.88
13	X 4	X	X 35.0 C	27.27	56.6	554.0	731.9	2.68	12.9	1.3	8.02	13.00	4.07	.610	.447	5.81
13	X 4	X	X 40.0 C	32.28	63.3	575.4	813.1	2.81	12.8	1.4	9.49	13.00	4.19	.610	.560	7.28
13	X 4	X	X 50.0 C	42.30	76.6	610.1	969.2	3.02	12.7	1.6	12.44	13.00	4.41	.610	.787	10.23
15	X 3 3/8	X	X 33.9 C	27.03	61.7	655.8	916.6	3.00	14.9	1.4	7.95	15.00	3.40	.650	.400	6.00
15	X 3 3/8	X	X 40.0 C	33.15	71.0	685.6	1046.0	3.18	14.7	1.5	9.75	15.00	3.52	.650	.520	7.80
15	X 4	X	X 50.0 C	41.02	89.6	751.2	1301.0	3.51	14.5	1.7	12.06	15.00	4.00	.797	.625	9.38
15	X 3 3/8	X	X 50.0 C	43.15	86.1	724.9	1250.8	3.43	14.5	1.7	12.69	15.00	3.72	.650	.716	10.74
15	X 4	X	X 53.2 C	44.23	94.4	760.6	1364.4	3.57	14.5	1.8	13.01	15.00	4.06	.797	.688	10.32
15	X 4	X	X 56.4 C	47.46	99.2	769.9	1428.5	3.64	14.4	1.9	13.96	15.00	4.13	.797	.751	11.27
15	X 4	X	X 59.6 C	50.61	103.9	778.1	1489.5	3.70	14.3	1.9	14.89	15.00	4.19	.797	.813	12.20
15	X 4	X	X 62.8 C	53.82	108.6	785.9	1550.5	3.76	14.3	2.0	15.83	15.00	4.25	.797	.876	13.14
15	X 4	X	X 65.9 C	56.93	113.2	793.1	1609.2	3.82	14.2	2.0	16.74	15.00	4.31	.797	.937	14.06
15	X 4	X	X 69.1 C	60.13	117.8	800.1	1668.8	3.87	14.2	2.1	17.69	15.00	4.37	.797	1.000	15.00
15	X 4	X	X 75.0 C	66.06	126.5	812.5	1778.1	3.96	14.1	2.2	19.43	15.00	4.49	.797	1.116	16.74

(60T) PLATE WEIGHT = 51.000 LBS. (1.2500 IN.)																

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TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																
(60T = 75.000 IN.) PLATE WEIGHT = 51.000 LBS. (1.2500 IN.) EFFECTIVE PLATE AREA = 93.750 SQ. IN.																
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS								
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
18	X 4	X	X 42.7 C	34.98	90.4	898.6	1581.1	3.90	17.5	1.8	10.29	18.00	3.95	.625	.450	8.10
18	X 4	X	X 45.8 C	38.04	95.9	911.3	1669.7	3.99	17.4	1.8	11.19	18.00	4.00	.625	.500	9.00
18	X 4	X	X 51.9 C	44.16	106.7	933.9	1843.7	4.16	17.3	2.0	12.99	18.00	4.10	.625	.600	10.80
18	X 4	X	X 58.0 C	50.28	117.5	953.6	2013.5	4.31	17.1	2.1	14.79	18.00	4.20	.625	.700	12.60

(60T) PLATE WEIGHT = 51.000 LBS. (1.2500 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																	

(60T = 82.500 IN.) PLATE WEIGHT = 56.100 LBS. (1.3750 IN.) EFFECTIVE PLATE AREA = 113.438 SQ. IN.																	
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS									
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	IN X	LBS/FT	LBS	IN ³	IN ³	IN ⁴	IN	IN	IN	IN	IN ²	IN	IN	IN	IN	IN ²
12	X 4	X	X 45.0 C	36.90	66.3	577.6	795.0	2.53	12.0	1.4	10.85	12.00	4.01	.700	.712	8.54	
12	X 4	X	X 50.0 C	41.93	72.6	598.3	865.9	2.62	11.9	1.4	12.33	12.00	4.14	.700	.835	10.02	
13	X 4	X	X 50.0 C	42.30	77.9	665.0	1001.9	2.82	12.9	1.5	12.44	13.00	4.41	.610	.787	10.23	
15	X 3 3/8	X	X 40.0 C	33.15	72.1	742.4	1075.8	2.96	14.9	1.4	9.75	15.00	3.52	.650	.520	7.80	
15	X 4	X	X 50.0 C	41.02	90.9	823.9	1340.3	3.27	14.7	1.6	12.06	15.00	4.00	.797	.625	9.38	
15	X 3 3/8	X	X 50.0 C	43.15	87.4	795.0	1289.8	3.20	14.8	1.6	12.69	15.00	3.72	.650	.716	10.74	
15	X 4	X	X 53.2 C	44.23	95.7	837.0	1406.8	3.34	14.7	1.7	13.01	15.00	4.06	.797	.688	10.32	
15	X 4	X	X 56.4 C	47.46	100.7	849.8	1474.2	3.40	14.6	1.7	13.96	15.00	4.13	.797	.751	11.27	
15	X 4	X	X 59.6 C	50.61	105.5	861.2	1538.4	3.46	14.6	1.8	14.89	15.00	4.19	.797	.813	12.20	
15	X 4	X	X 62.8 C	53.82	110.3	872.1	1602.8	3.52	14.5	1.8	15.83	15.00	4.25	.797	.876	13.14	
15	X 4	X	X 65.9 C	56.93	114.9	882.1	1664.8	3.58	14.5	1.9	16.74	15.00	4.31	.797	.937	14.06	
15	X 4	X	X 69.1 C	60.13	119.7	891.9	1727.8	3.63	14.4	1.9	17.69	15.00	4.37	.797	1.000	15.00	
15	X 4	X	X 75.0 C	66.06	128.5	908.9	1843.7	3.73	14.3	2.0	19.43	15.00	4.49	.797	1.116	16.74	
18	X 4	X	X 42.7 C	34.98	91.5	984.8	1621.6	3.62	17.7	1.6	10.29	18.00	3.95	.625	.450	8.10	
18	X 4	X	X 45.8 C	38.04	97.0	1002.5	1714.0	3.71	17.7	1.7	11.19	18.00	4.00	.625	.500	9.00	
18	X 4	X	X 51.9 C	44.16	108.1	1034.3	1895.8	3.87	17.5	1.8	12.99	18.00	4.10	.625	.600	10.80	
18	X 4	X	X 58.0 C	50.28	119.0	1061.9	2073.9	4.02	17.4	2.0	14.79	18.00	4.20	.625	.700	12.60	

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(60T) PLATE WEIGHT = 56.100 LBS. (1.3750 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																	

(60T = 90.000 IN.) PLATE WEIGHT = 61.200 LBS. (1.5000 IN.) EFFECTIVE PLATE AREA = 135.000 SQ. IN.																	
NOMINAL SIZE				SECTION MODULUS								BEAM DIMENSIONS					
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
15	X 4	X	X 50.0 C	41.02	92.2	884.9	1377.5	3.06	14.9	1.6	12.06	15.00	4.00	.797	.625	9.38	
15	X 3 3/8	X	X 50.0 C	43.15	88.8	853.9	1326.9	3.00	14.9	1.6	12.69	15.00	3.72	.650	.716	10.74	
15	X 4	X	X 53.2 C	44.23	97.1	902.0	1446.8	3.13	14.9	1.6	13.01	15.00	4.06	.797	.688	10.32	
15	X 4	X	X 56.4 C	47.46	102.2	918.6	1517.0	3.19	14.8	1.7	13.96	15.00	4.13	.797	.751	11.27	
15	X 4	X	X 59.6 C	50.61	107.0	933.5	1584.0	3.25	14.8	1.7	14.89	15.00	4.19	.797	.813	12.20	
15	X 4	X	X 62.8 C	53.82	111.9	947.7	1651.3	3.31	14.8	1.7	15.83	15.00	4.25	.797	.876	13.14	
15	X 4	X	X 65.9 C	56.93	116.6	960.9	1716.2	3.36	14.7	1.8	16.74	15.00	4.31	.797	.937	14.06	
15	X 4	X	X 69.1 C	60.13	121.5	973.7	1782.4	3.42	14.7	1.8	17.69	15.00	4.37	.797	1.000	15.00	
15	X 4	X	X 75.0 C	66.06	130.5	996.0	1904.1	3.51	14.6	1.9	19.43	15.00	4.49	.797	1.116	16.74	
315	18	X 4	X	X 42.7 C	34.98	92.6	1056.4	1659.7	3.38	17.9	1.6	10.29	18.00	3.95	.625	.450	8.10
	18	X 4	X	X 45.8 C	38.04	98.2	1079.5	1755.3	3.47	17.9	1.6	11.19	18.00	4.00	.625	.500	9.00
	18	X 4	X	X 51.9 C	44.16	109.4	1121.8	1944.0	3.62	17.8	1.7	12.99	18.00	4.10	.625	.600	10.80
	18	X 4	X	X 58.0 C	50.28	120.6	1157.5	2129.2	3.77	17.7	1.8	14.79	18.00	4.20	.625	.700	12.60

(60T) PLATE WEIGHT = 61.200 LBS. (1.5000 IN.)

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																	
(60T = 105.000 IN.) PLATE WEIGHT = 71.400 LBS. (1.7500 IN.) EFFECTIVE PLATE AREA = 183.750 SQ. IN.																	
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS									
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	MF	TF	TW	ASH	
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
15	X	4	X	X 75.0 C	66.06	134.6	1139.3	2016.5	3.15	15.0	1.8	19.43	15.00	4.49	.797	1.116	16.74

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(60T) PLATE WEIGHT = 71.400 LBS. (1.7500 IN.)

TABLE XIII. Properties of combined beam and plate, C-L and L (50t).

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																
(50T = 6.250 IN.) PLATE WEIGHT = 5.100 LBS. (.1250 IN.) EFFECTIVE PLATE AREA = .781 SQ. IN.																
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS								
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
2	X 1 1/2	X 3/16	X 2.12 L	2.11	.7	1.4	.9	.82	1.4	.7	.62	2.00	1.50	.187	.187	.37
2	X 2	X 3/16	X 2.44 L	2.42	.8	1.4	1.1	.86	1.3	.8	.71	2.00	2.00	.187	.187	.37
2 1/2	X 2	X 3/16	X 2.75 L	2.74	1.1	1.8	1.8	1.06	1.6	1.0	.81	2.50	2.00	.187	.187	.47
3	X 2	X 3/16	X 3.07 L	3.06	1.4	2.3	2.7	1.26	1.9	1.2	.90	3.00	2.00	.187	.187	.56
3	X 3	X 3/16	X 3.71 L	3.70	1.8	2.4	3.2	1.32	1.8	1.4	1.09	3.00	3.00	.187	.187	.56

(50T) PLATE WEIGHT = 5.100 LBS. (.1250 IN.)

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																
150T = 7.813 IN.) PLATE WEIGHT = 6.375 LBS. (.1563 IN.) EFFECTIVE PLATE AREA = 1.221 SQ. IN.																
NOMINAL SIZE		SECTION MODULUS				BEAM DIMENSIONS										
IN X IN X IN X LBS/FT		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
		LBS	IN ³	IN ³	IN ⁴	IN	IN	IN	IN ²	IN	IN	IN	IN	IN ²		
2	X 1 1/2	X 3/16	X 2.12 L	2.11	.7	2.0	1.1	.77	1.6	.6	.62	2.00	1.50	.187	.187	.37
2	X 2	X 3/16	X 2.44 L	2.42	.9	2.0	1.3	.82	1.5	.6	.71	2.00	2.00	.187	.187	.37
2	1/2 X 2	X 3/16	X 2.75 L	2.74	1.1	2.6	2.1	1.02	1.9	.8	.81	2.50	2.00	.187	.187	.47
3	X 2	X 3/16	X 3.07 L	3.06	1.4	3.2	3.1	1.22	2.2	1.0	.90	3.00	2.00	.187	.187	.56
3	X 3	X 3/16	X 3.71 L	3.70	1.9	3.4	3.9	1.30	2.0	1.1	1.09	3.00	3.00	.187	.187	.56

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(50T) PLATE WEIGHT = 6.375 LBS. (.1563 IN.)

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TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																
(50T = 9.375 IN.) PLATE WEIGHT = 7.650 LBS. (.1875 IN.) EFFECTIVE PLATE AREA = 1.758 SQ. IN.																
NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS								
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN Y	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN	IN2		
2	Y 1 1/2 X	2.12 L	2.11	.7	2.6	1.2	.72	1.7	.5	.62	2.00	1.50	.187	.187	.37	
2	X 2 X	2.44 L	2.42	.9	2.7	1.5	.77	1.7	.5	.71	2.00	2.00	.187	.187	.37	
2	1/2 Y 2 X	2.75 L	2.74	1.2	3.5	2.4	.96	2.0	.7	.81	2.50	2.00	.187	.187	.47	
3	X 2 X	3.07 L	3.06	1.5	4.3	3.5	1.15	2.4	.8	.90	3.00	2.00	.187	.187	.56	
3	X 3 X	3.71 L	3.70	2.0	4.6	4.4	1.25	2.2	1.0	1.09	3.00	3.00	.187	.187	.56	

(50T) PLATE WEIGHT = 7.650 LBS. (.1875 IN.)

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																	
(50T = 10.938 IN.) PLATE WEIGHT = 8.925 LBS. (.2188 IN.) EFFECTIVE PLATE AREA = 2.393 SQ. IN.																	
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS									
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
2	X 1 1/2	X 3/16	X 2.12 L	2.11	.7	3.2	1.3	.66	1.8	.4	.62	2.00	1.50	.187	.187	.37	
2	X 2	X 3/16	X 2.44 L	2.42	.9	3.4	1.6	.71	1.8	.5	.71	2.00	2.00	.187	.187	.37	
2	1/2 X 2	X 3/16	X 2.75 L	2.74	1.2	4.5	2.6	.90	2.1	.6	.81	2.50	2.00	.187	.187	.47	
3	X 2	X 3/16	X 3.07 L	3.06	1.5	5.5	3.8	1.08	2.5	.7	.90	3.00	2.00	.187	.187	.56	
3	X 3	X 3/16	X 3.71 L	3.70	2.0	5.9	4.9	1.19	2.4	.8	1.09	3.00	3.00	.187	.187	.56	

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(50T) PLATE WEIGHT = 8.925 LBS. (.2188 IN.)

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																				
(50T = 12.500 IN.) PLATE WEIGHT = 10.200 LBS. (.2500 IN.) EFFECTIVE PLATE AREA = 3.125 SQ. IN.																				
NOMINAL SIZE		WT/FT		SECTION MODULUS				BEAM DIMENSIONS												
				FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH					
IN	X	IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
2	X	1 1/2	X	3/16	X	2.12 L	2.11	.7	3.8	1.4	.61	1.9	.4	.62	2.00	1.50	.187	.187	.37	
2	X	2	X	3/16	X	2.44 L	2.42	.9	4.1	1.7	.66	1.8	.4	.71	2.00	2.00	.187	.187	.37	
2	X	1 1/2	X	1/4	X	2.77 L	2.76	.9	4.0	1.7	.66	1.8	.4	.81	2.00	1.50	.250	.250	.50	
2	X	2	X	1/4	X	3.19 L	3.19	1.2	4.3	2.1	.71	1.8	.5	.94	2.00	2.00	.250	.250	.50	
2 1/2	X	2	X	3/16	X	2.75 L	2.74	1.2	5.4	2.7	.84	2.2	.5	.81	2.50	2.00	.187	.187	.47	
2 1/2	X	2	X	1/4	X	3.62 L	3.61	1.6	5.7	3.3	.89	2.2	.6	1.06	2.50	2.00	.250	.250	.63	
3	X	2	X	3/16	X	3.07 L	3.06	1.6	6.8	4.1	1.01	2.6	.6	.90	3.00	2.00	.187	.187	.56	
3	X	3	X	3/16	X	3.71 L	3.70	2.1	7.3	5.3	1.12	2.5	.7	1.09	3.00	3.00	.187	.187	.56	
3	X	2	X	1/4	X	4.1 L	4.04	2.0	7.0	5.0	1.08	2.5	.7	1.19	3.00	2.00	.250	.250	.75	
3	X	2 1/2	X	1/4	X	4.5 L	4.46	2.3	7.3	5.7	1.14	2.5	.8	1.31	3.00	2.50	.250	.250	.75	
3	X	3	X	1/4	X	4.9 L	4.89	2.7	7.6	6.4	1.18	2.4	.8	1.44	3.00	3.00	.250	.250	.75	
3 1/2	X	2 1/2	X	1/4	X	4.9 L	4.89	2.8	8.8	8.0	1.33	2.8	.9	1.44	3.50	2.50	.250	.250	.88	
3 1/2	X	3	X	1/4	X	5.4 L	5.31	3.2	9.0	8.9	1.38	2.8	1.0	1.56	3.50	3.00	.250	.250	.88	
4	X	3	X	1/4	X	5.8 L	5.74	3.8	10.5	11.9	1.57	3.1	1.1	1.69	4.00	3.00	.250	.250	1.00	
4	X	3 1/2	X	1/4	X	6.2 L	6.16	4.3	10.7	13.0	1.62	3.0	1.2	1.81	4.00	3.50	.250	.250	1.00	
4	X	4	X	1/4	X	6.6 L	6.59	4.7	10.9	14.1	1.67	3.0	1.3	1.94	4.00	4.00	.250	.250	1.00	
5	X	3	X	1/4	X	6.6 L	6.59	5.1	13.4	19.5	1.96	3.8	1.5	1.94	5.00	3.00	.250	.250	1.25	
5	X	3 1/2	X	1/4	X	7.0 L	7.01	5.7	13.7	21.2	2.02	3.7	1.5	2.06	5.00	3.50	.250	.250	1.25	
10	X	2 5/8	X		X	15.3 C	11.66	16.0	30.0	106.9	4.04	6.7	3.6	3.43	10.00	2.60	.436	.240	2.40	

(50T) PLATE WEIGHT = 10.200 LBS. (.2500 IN.)

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TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																	
(50T = 14.063 IN.) PLATE WEIGHT = 11.475 LBS. (.2813 IN.) EFFECTIVE PLATE AREA = 3.955 SQ. IN.																	
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS									
				WT/FT	FLANGE	PLATE	J	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2		
2	X 1	1/2 X	3/16 X	2.12 L	2.11	.8	4.3	1.5	.57	1.9	.3	.62	2.00	1.50	.187	.187	.37
2	X 2	X 3/16 X	2.44 L	2.42	.9	4.7	1.8	.62	1.9	.4	.71	2.00	2.00	.187	.187	.37	
2	Y 1	1/2 X	1/4 X	2.77 L	2.76	1.0	4.6	1.8	.62	1.9	.4	.81	2.00	1.50	.250	.250	.50
2	X 2	X 1/4 X	3.19 L	3.19	1.2	5.0	2.2	.67	1.8	.4	.94	2.00	2.00	.250	.250	.50	
2 1/2	X 2	X 3/16 X	2.75 L	2.74	1.2	6.3	2.9	.78	2.3	.5	.81	2.50	2.00	.187	.187	.47	
2 1/2	X 2	X 1/4 X	3.62 L	3.61	1.6	6.7	3.6	.84	2.2	.5	1.06	2.50	2.00	.250	.250	.63	
3	X 2	X 3/16 X	3.07 L	3.06	1.6	8.0	4.3	.94	2.7	.5	.90	3.00	2.00	.187	.187	.56	
3	X 3	X 3/16 X	3.71 L	3.70	2.1	8.7	5.6	1.05	2.6	.6	1.09	3.00	3.00	.187	.187	.56	
3	X 2	X 1/4 X	4.1 L	4.04	2.0	8.4	5.3	1.02	2.6	.6	1.19	3.00	2.00	.250	.250	.75	
3	X 2	1/2 X	1/4 X	4.5 L	4.46	2.4	8.8	6.1	1.08	2.6	.7	1.31	3.00	2.50	.250	.250	.75
3	X 3	X 1/4 X	4.9 L	4.89	2.7	9.1	6.8	1.13	2.5	.8	1.44	3.00	3.00	.250	.250	.75	
3 1/2	X 2	1/2 X	1/4 X	4.9 L	4.89	2.9	10.5	8.6	1.26	3.0	.8	1.44	3.50	2.50	.250	.250	.88
3 1/2	X 3	X 1/4 X	5.4 L	5.31	3.3	10.9	9.5	1.32	2.9	.9	1.56	3.50	3.00	.250	.250	.88	
4	X 3	X 1/4 X	5.8 L	5.74	3.9	12.7	12.8	1.50	3.3	1.0	1.69	4.00	3.00	.250	.250	1.00	
4	X 3	1/2 X	1/4 X	6.2 L	6.16	4.4	13.0	14.0	1.56	3.2	1.1	1.81	4.00	3.50	.250	.250	1.00
4	X 4	X 1/4 X	6.6 L	6.59	4.8	13.3	15.1	1.60	3.1	1.1	1.94	4.00	4.00	.250	.250	1.00	
5	X 3	X 1/4 X	6.6 L	6.59	5.2	16.3	20.9	1.88	4.0	1.3	1.94	5.00	3.00	.250	.250	1.25	
5	X 3	1/2 X	1/4 X	7.0 L	7.01	5.8	16.6	22.7	1.94	3.9	1.4	2.06	5.00	3.50	.250	.250	1.25
10	X 2	5/8 X	X 15.3 C	11.66	16.4	36.3	115.9	3.96	7.1	3.2	3.43	10.00	2.60	.436	.240	2.40	

(50T) PLATE WEIGHT = 11.475 LBS. (.2813 IN.)

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																
(50T = 15.625 IN.) PLATE WEIGHT = 12.750 LBS. (.3125 IN.) EFFECTIVE PLATE AREA = 4.883 SQ. IN.																
NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS								
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
2	X 1 1/2	X 3/16	X 2.12 L	2.11	.8	4.7	1.5	.53	2.0	.3	.62	2.00	1.50	.187	.187	.37
2	X 2	X 3/16	X 2.44 L	2.42	1.0	5.2	1.9	.58	2.0	.4	.71	2.00	2.00	.187	.187	.37
2	X 1 1/2	X 1/4	X 2.77 L	2.76	1.0	5.2	1.9	.58	1.9	.4	.81	2.00	1.50	.250	.250	.50
2	X 2	X 1/4	X 3.19 L	3.19	1.2	5.7	2.3	.63	1.9	.4	.94	2.00	2.00	.250	.250	.50
2	1/2 X 2	X 3/16	X 2.75 L	2.74	1.3	7.1	3.0	.73	2.4	.4	.81	2.50	2.00	.187	.187	.47
2	1/2 X 2	X 1/4	X 3.62 L	3.61	1.6	7.6	3.7	.79	2.3	.5	1.06	2.50	2.00	.250	.250	.63
3	X 2	X 3/16	X 3.07 L	3.06	1.6	9.1	4.5	.88	2.8	.5	.90	3.00	2.00	.187	.187	.56
3	X 3	X 3/16	X 3.71 L	3.70	2.1	10.1	5.9	.99	2.7	.6	1.09	3.00	3.00	.187	.187	.56
3	X 2	X 1/4	X 4.1 L	4.04	2.0	9.7	5.6	.96	2.7	.6	1.19	3.00	2.00	.250	.250	.75
3	X 2 1/2	X 1/4	X 4.5 L	4.46	2.4	10.2	6.4	1.02	2.7	.6	1.31	3.00	2.50	.250	.250	.75
3	X 3	X 1/4	X 4.9 L	4.89	2.7	10.6	7.2	1.07	2.6	.7	1.44	3.00	3.00	.250	.250	.75
3	1/2 X 2 1/2	X 1/4	X 4.9 L	4.89	2.9	12.3	9.0	1.19	3.1	.7	1.44	3.50	2.50	.250	.250	.88
3	1/2 X 3	X 1/4	X 5.4 L	5.31	3.3	12.7	10.1	1.25	3.0	.8	1.56	3.50	3.00	.250	.250	.88
4	X 3	X 1/4	X 5.8 L	5.74	4.0	14.9	13.5	1.43	3.4	.9	1.69	4.00	3.00	.250	.250	1.00
4	X 3 1/2	X 1/4	X 6.2 L	6.16	4.4	15.3	14.8	1.49	3.3	1.0	1.81	4.00	3.50	.250	.250	1.00
4	X 4	X 1/4	X 6.6 L	6.59	4.9	15.7	16.1	1.54	3.3	1.0	1.94	4.00	4.00	.250	.250	1.00
5	X 3	X 1/4	X 6.6 L	6.59	5.3	19.2	22.1	1.80	4.2	1.2	1.94	5.00	3.00	.250	.250	1.25
5	X 3 1/2	X 1/4	X 7.0 L	7.01	5.9	19.7	24.1	1.86	4.1	1.2	2.06	5.00	3.50	.250	.250	1.25
10	X 2 5/8	X	X 15.3 C	11.66	16.7	43.1	124.0	3.86	7.4	2.9	3.43	10.00	2.60	.436	.240	2.46

(50T) PLATE WEIGHT = 12.750 LBS. (.3125 IN.)

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TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																	
(50T = 15.625 IN.) PLATE WEIGHT = 12.750 LBS. (.3125 IN.) EFFECTIVE PLATE AREA = 4.883 SQ. IN.																	
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS									
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	YF	TW	ASH	
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
12	X 3	X	X 20.7 C	16.03	26.1	54.7	217.5	4.76	8.3	4.0	4.72	12.00	2.94	.501	.282	3.38	

(50T) PLATE WEIGHT = 12.750 LBS. (.3125 IN.)

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																			
(50T = 17.188 IN.) PLATE WEIGHT = 14.025 LBS. (.3438 IN.) EFFECTIVE PLATE AREA = 5.908 SQ. IN.																			
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS											
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN	X	IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN	IN2			
2	X	2	X	3/16	X	2.44 L	2.42	1.0	5.7	2.0	.54	2.0	.3	.71	2.00	2.00	.187	.187	.37
2	X	1 1/2	X	1/4	X	2.77 L	2.76	1.0	5.6	2.0	.55	2.0	.4	.81	2.00	1.50	.250	.250	.50
2	X	2	X	1/4	X	3.19 L	3.19	1.2	6.2	2.4	.60	2.0	.4	.94	2.00	2.00	.250	.250	.50
2 1/2	X	2	X	3/16	X	2.75 L	2.74	1.3	7.9	3.1	.68	2.4	.4	.81	2.50	2.00	.187	.187	.47
2 1/2	X	2	X	1/4	X	3.62 L	3.61	1.6	8.5	3.9	.75	2.4	.5	1.06	2.50	2.00	.250	.250	.63
2 1/2	X	2	X	5/16	X	4.5 L	4.46	2.0	9.0	4.6	.80	2.3	.5	1.31	2.50	2.00	.313	.313	.78
3	X	2	X	3/16	X	3.07 L	3.06	1.6	10.1	4.7	.83	2.9	.5	.90	3.00	2.00	.187	.187	.56
3	X	3	X	3/16	X	3.71 L	3.70	2.2	11.3	6.1	.93	2.8	.5	1.09	3.00	3.00	.187	.187	.56
3	X	2	X	1/4	X	4.1 L	4.04	2.1	10.9	5.8	.91	2.8	.5	1.19	3.00	2.00	.250	.250	.75
3	X	2 1/2	X	1/4	X	4.5 L	4.46	2.4	11.5	6.7	.96	2.8	.6	1.31	3.00	2.50	.250	.250	.75
3	X	3	X	1/4	X	4.9 L	4.89	2.8	12.1	7.6	1.02	2.7	.6	1.44	3.00	3.00	.250	.250	.75
3	X	2	X	5/16	X	5.0 L	4.99	2.5	11.4	6.8	.96	2.7	.6	1.47	3.00	2.00	.313	.313	.94
3	X	2 1/2	X	5/16	X	5.6 L	5.52	2.9	12.0	7.9	1.02	2.7	.7	1.62	3.00	2.50	.313	.313	.94
3	X	3	X	5/16	X	6.1 L	6.05	3.4	12.5	8.8	1.07	2.6	.7	1.78	3.00	3.00	.313	.313	.94
3 1/2	X	2 1/2	X	1/4	X	4.9 L	4.89	3.0	14.0	9.4	1.13	3.2	.7	1.44	3.50	2.50	.250	.250	.88
3 1/2	X	3	X	1/4	X	5.4 L	5.31	3.4	14.6	10.6	1.19	3.1	.7	1.56	3.50	3.00	.250	.250	.88
3 1/2	X	2 1/2	X	5/16	X	6.1 L	6.05	3.6	14.6	11.0	1.20	3.1	.8	1.78	3.50	2.50	.313	.313	1.10
3 1/2	X	3	X	5/16	X	6.6 L	6.58	4.1	15.1	12.4	1.26	3.0	.8	1.94	3.50	3.00	.313	.313	1.10
4	X	3	X	1/4	X	5.8 L	5.74	4.0	17.2	14.1	1.36	3.5	.8	1.69	4.00	3.00	.250	.250	1.00
4	X	3 1/2	X	1/4	X	6.2 L	6.16	4.5	17.7	15.6	1.42	3.5	.9	1.81	4.00	3.50	.250	.250	1.00
4	X	4	X	1/4	X	6.6 L	6.59	5.0	18.2	16.9	1.47	3.4	.9	1.94	4.00	4.00	.250	.250	1.00
4	X	3	X	5/16	X	7.2 L	7.12	4.9	17.7	16.6	1.44	3.4	.9	2.09	4.00	3.00	.313	.313	1.25
4	X	3 1/2	X	5/16	X	7.7 L	7.65	5.4	18.3	18.2	1.49	3.3	1.0	2.25	4.00	3.50	.313	.313	1.25

(50T) PLATE WEIGHT = 14.025 LBS. (.3438 IN.)

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																				

(50T = 17.188 IN.) PLATE WEIGHT = 14.025 LBS. (.3438 IN.) EFFECTIVE PLATE AREA = 5.908 SQ. IN.																				

NOMINAL SIZE						SECTION MODULUS						BEAM DIMENSIONS								
WT/FT						FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
LBS						IN3	IN3	IN4	IN	IN	IN	IN	IN	IN	IN	IN	IN2			
IN X IN X IN X LBS/FT						IN3	IN3	IN4	IN	IN	IN	IN	IN	IN	IN	IN	IN2			

4	X	4	X	5/16	X	8.2	L	8.18	6.0	19.7	19.7	1.54	3.3	1.1	2.41	4.00	4.00	.313	.313	1.25
5	X	3	X	1/4	X	6.6	L	6.59	5.4	22.3	23.2	1.72	4.3	1.0	1.94	5.00	3.00	.250	.250	1.25
5	X	3 1/2	X	1/4	X	7.0	L	7.01	6.0	22.9	25.3	1.78	4.2	1.1	2.06	5.00	3.50	.250	.250	1.25
5	X	3	X	5/16	X	8.2	L	8.18	6.5	23.0	27.2	1.81	4.2	1.2	2.41	5.00	3.00	.313	.313	1.57
5	X	3 1/2	X	5/16	X	8.7	L	8.71	7.2	23.6	29.6	1.87	4.1	1.3	2.56	5.00	3.50	.313	.313	1.57
6	X	3 1/2	X	5/16	X	9.8	L	9.78	9.2	29.0	44.4	2.25	4.8	1.5	2.88	6.00	3.50	.313	.313	1.88
6	X	4	X	5/16	X	10.3	L	10.31	10.1	29.6	47.7	2.31	4.7	1.6	3.03	6.00	4.00	.313	.313	1.88
6	X	3 1/2	X		X	15.3	C	11.07	10.6	29.7	49.6	2.33	4.7	1.7	3.26	6.00	3.50	.385	.340	2.04
10	X	2 5/8	X		X	15.3	C	11.66	16.9	50.5	131.3	3.75	7.7	2.6	3.43	10.00	2.60	.436	.240	2.40
10	X	3 1/2	X		X	21.9	C	16.36	23.8	53.5	170.5	3.99	7.2	3.2	4.81	10.00	3.45	.500	.325	3.25
12	X	3	X		X	20.7	C	16.03	26.6	63.8	231.7	4.67	8.7	3.6	4.72	12.00	2.94	.501	.282	3.38

(50T) PLATE WEIGHT = 14.025 LBS. (.3438 IN.)

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																		
(50T = 18.750 IN.) PLATE WEIGHT = 15.300 LBS. (.3750 IN.) EFFECTIVE PLATE AREA = 7.031 SQ. IN.																		
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS										
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TH	ASH		
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2	
2	X 2	X 1/4	X 3.19 L	3.19	1.3	6.8	2.5	.56	2.0	.4	.94	2.00	2.00	.250	.250	.50		
2	X 2	X 3/8	X 4.7 L	4.62	1.7	7.5	3.3	.63	1.9	.4	1.36	2.00	2.00	.375	.375	.75		
2 1/2	X 2	X 3/16	X 2.75 L	2.74	1.3	8.5	3.3	.65	2.5	.4	.81	2.50	2.00	.187	.187	.47		
2 1/2	X 2	X 1/4	X 3.62 L	3.61	1.7	9.3	4.1	.71	2.4	.4	1.06	2.50	2.00	.250	.250	.63		
2 1/2	X 2	X 5/16	X 4.5 L	4.46	2.0	9.9	4.8	.76	2.4	.5	1.31	2.50	2.00	.313	.313	.78		
2 1/2	X 2	X 3/8	X 5.3 L	5.26	2.3	10.3	5.4	.79	2.4	.5	1.55	2.50	2.00	.375	.375	.94		
3	X 2	X 3/16	X 3.07 L	3.06	1.7	11.0	4.8	.78	2.9	.4	.90	3.00	2.00	.187	.187	.56		
3	X 3	X 3/16	X 3.71 L	3.70	2.2	12.5	6.3	.88	2.9	.5	1.09	3.00	3.00	.187	.187	.56		
3	X 2	X 1/4	X 4.1 L	4.04	2.1	12.0	6.1	.86	2.9	.5	1.19	3.00	2.00	.250	.250	.75		
3	X 2 1/2	X 1/4	X 4.5 L	4.46	2.5	12.8	7.0	.92	2.8	.5	1.31	3.00	2.50	.250	.250	.75		
3	X 3	X 1/4	X 4.9 L	4.89	2.8	13.5	7.9	.97	2.8	.6	1.44	3.00	3.00	.250	.250	.75		
3	X 2	X 5/16	X 5.0 L	4.99	2.5	12.7	7.1	.92	2.8	.6	1.47	3.00	2.00	.313	.313	.94		
3	X 2 1/2	X 5/16	X 5.6 L	5.52	3.0	13.4	8.2	.97	2.8	.6	1.62	3.00	2.50	.313	.313	.94		
3	X 3	X 5/16	X 6.1 L	6.05	3.4	14.1	9.3	1.02	2.7	.7	1.78	3.00	3.00	.313	.313	.94		
3	X 2 1/2	X 3/8	X 6.6 L	6.53	3.4	13.9	9.3	1.02	2.7	.7	1.92	3.00	2.50	.375	.375	1.13		
3	X 3	X 3/8	X 7.2 L	7.17	3.9	14.5	10.4	1.07	2.7	.7	2.11	3.00	3.00	.375	.375	1.13		
3 1/2	X 2 1/2	X 1/4	X 4.9 L	4.89	3.0	15.7	9.8	1.07	3.3	.6	1.44	3.50	2.50	.250	.250	.88		
3 1/2	X 3	X 1/4	X 5.4 L	5.31	3.4	16.4	11.0	1.13	3.2	.7	1.56	3.50	3.00	.250	.250	.88		
3 1/2	X 2 1/2	X 5/16	X 6.1 L	6.05	3.6	16.4	11.5	1.14	3.2	.7	1.78	3.50	2.50	.313	.313	1.10		
3 1/2	X 3	X 5/16	X 6.6 L	6.58	4.1	17.1	12.9	1.20	3.1	.8	1.94	3.50	3.00	.313	.313	1.10		
3 1/2	X 2 1/2	X 3/8	X 7.2 L	7.17	4.2	16.9	13.0	1.19	3.1	.8	2.11	3.50	2.50	.375	.375	1.31		
3 1/2	X 3	X 3/8	X 7.9 L	7.81	4.8	17.6	14.6	1.25	3.0	.8	2.30	3.50	3.00	.375	.375	1.31		
4	X 3	X 1/4	X 5.8 L	5.74	4.1	19.4	14.7	1.30	3.6	.8	1.69	4.00	3.00	.250	.250	1.00		

(50T) PLATE WEIGHT = 15.300 LBS. (.3750 IN.)

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TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																					
(50T = 10.750 IN.) PLATE WEIGHT = 15.300 LBS. (.3750 IN.) EFFECTIVE PLATE AREA = 7.031 SQ. IN.																					
NOMINAL SIZE						SECTION MODULUS				BEAM DIMENSIONS											
IN X IN X IN X LBS/FT						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
						LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN2				
4	X	3	1/2	X	1/4	X	6.2	L	6.16	4.5	20.1	16.2	1.35	3.6	.8	1.81	4.00	3.50	.250	.250	1.00
4	X	4		X	1/4	X	6.6	L	6.59	5.0	20.6	17.7	1.40	3.5	.9	1.94	4.00	4.00	.250	.250	1.00
4	X	3		X	5/16	X	7.2	L	7.12	4.9	20.1	17.3	1.38	3.5	.9	2.09	4.00	3.00	.313	.313	1.25
4	X	3	1/2	X	5/16	X	7.7	L	7.65	5.5	20.8	19.0	1.43	3.5	.9	2.25	4.00	3.50	.313	.313	1.25
4	X	4		X	5/16	X	8.2	L	8.18	6.1	21.3	20.7	1.48	3.4	1.0	2.41	4.00	4.00	.313	.313	1.25
4	X	3		X	3/8	X	8.5	L	8.45	5.7	20.7	19.5	1.43	3.4	.9	2.48	4.00	3.00	.375	.375	1.50
4	X	3	1/2	X	3/8	X	9.1	L	9.08	6.4	21.3	21.5	1.49	3.4	1.0	2.67	4.00	3.50	.375	.375	1.50
4	X	4		X	3/8	X	9.8	L	9.72	7.1	21.8	23.3	1.54	3.3	1.1	2.86	4.00	4.00	.375	.375	1.50
5	X	3		X	1/4	X	6.6	L	6.59	5.5	25.4	24.1	1.64	4.4	1.0	1.94	5.00	3.00	.250	.250	1.25
5	X	3	1/2	X	1/4	X	7.0	L	7.01	6.0	26.2	26.4	1.70	4.4	1.0	2.06	5.00	3.50	.250	.250	1.25
5	X	3		X	5/16	X	8.2	L	8.18	6.6	26.3	28.4	1.73	4.3	1.1	2.41	5.00	3.00	.313	.313	1.57
5	X	3	1/2	X	5/16	X	8.7	L	8.71	7.3	27.0	31.0	1.80	4.2	1.1	2.56	5.00	3.50	.313	.313	1.57
5	X	3		X	3/8	X	9.8	L	9.72	7.7	26.9	32.1	1.80	4.2	1.2	2.86	5.00	3.00	.375	.375	1.88
5	X	3	1/2	X	3/8	X	10.4	L	10.36	8.5	27.6	35.1	1.87	4.1	1.3	3.05	5.00	3.50	.375	.375	1.88
5	X	5		X	3/8	X	12.3	L	12.27	11.1	29.3	43.2	2.02	3.9	1.5	3.61	5.00	5.00	.375	.375	1.88
6	X	3	1/2	X	5/16	X	9.8	L	9.78	9.4	33.3	46.5	2.17	5.0	1.4	2.88	6.00	3.50	.313	.313	1.88
6	X	4		X	5/16	X	10.3	L	10.31	10.2	34.0	50.1	2.23	4.9	1.5	3.03	6.00	4.00	.313	.313	1.88
6	X	3	1/2	X		X	15.3	C	11.07	10.8	34.1	52.2	2.25	4.8	1.5	3.26	6.00	3.50	.385	.340	2.04
6	X	3	1/2	X	3/8	X	11.7	L	11.63	10.9	34.0	52.6	2.24	4.8	1.5	3.42	6.00	3.50	.375	.375	2.25
6	X	4		X	3/8	X	12.3	L	12.27	11.9	34.7	56.6	2.31	4.7	1.6	3.61	6.00	4.00	.375	.375	2.25
7	X	4		X	3/8	X	13.6	L	13.55	14.6	41.3	79.7	2.69	5.4	1.9	3.98	7.00	4.00	.375	.375	2.63
10	X	2	5/8	X		X	15.3	C	11.66	17.2	58.4	137.7	3.63	8.0	2.4	3.43	10.00	2.60	.436	.240	2.40
10	X	3	1/2	X		X	21.9	C	16.36	24.2	61.7	180.4	3.90	7.5	2.9	4.81	10.00	3.45	.500	.325	3.25

(50T) PLATE WEIGHT = 15.300 LBS. (.3750 IN.)

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																	

(50T = 18.750 IN.) PLATE WEIGHT = 15.300 LBS. (.3750 IN.) EFFECTIVE PLATE AREA = 7.031 SQ. IN.																	

NOMINAL SIZE				SECTION MODULUS								BEAM DIMENSIONS					
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
12	X 3	X	X 20.7 C	16.03	27.0	73.6	244.5	4.56	9.1	3.3	4.72	12.00	2.94	.501	.282	3.38	
13	X 4	X	X 31.8 C	24.09	44.0	86.3	389.5	5.25	8.9	4.5	7.09	13.00	4.00	.610	.375	4.88	

(50T) PLATE WEIGHT = 15.300 LBS. (.3750 IN.)

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																		
(50T = 21.875 IN.) PLATE WEIGHT = 17.850 LBS. (.4375 IN.) EFFECTIVE PLATE AREA = 9.570 SQ. IN.																		
NOMINAL SIZE				WT/FT	SECTION MODULUS				BEAM DIMENSIONS									
					FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN	IN2
2	1/2	X 2	X 5/16 X 4.5 L	4.46	2.1	11.5	5.1	.69	2.5	.4	1.31	2.50	2.00	.313	.313	.78		
2	1/2	X 2	X 3/8 X 5.3 L	5.26	2.4	12.1	5.8	.72	2.5	.5	1.55	2.50	2.00	.375	.375	.94		
3	X 3	X 3/16 X 3.71 L	3.70	2.3	14.5	6.7	.79	3.0	.5	1.09	3.00	3.00	.187	.187	.56			
3	X 2	X 1/4 X 4.1 L	4.04	2.2	13.9	6.5	.78	3.0	.5	1.19	3.00	2.00	.250	.250	.75			
3	X 2 1/2	X 1/4 X 4.5 L	4.46	2.5	15.0	7.5	.83	2.9	.5	1.31	3.00	2.50	.250	.250	.75			
3	X 3	X 1/4 X 4.9 L	4.89	2.9	16.0	8.5	.88	2.9	.5	1.44	3.00	3.00	.250	.250	.75			
3	X 2	X 5/16 X 5.0 L	4.99	2.6	14.9	7.6	.83	2.9	.5	1.47	3.00	2.00	.313	.313	.94			
3	X 2 1/2	X 5/16 X 5.6 L	5.52	3.1	16.0	8.8	.89	2.9	.6	1.62	3.00	2.50	.313	.313	.94			
3	X 3	X 5/16 X 6.1 L	6.05	3.5	17.0	10.0	.94	2.8	.6	1.78	3.00	3.00	.313	.313	.94			
3	X 2 1/2	X 3/8 X 6.6 L	6.53	3.5	16.8	10.0	.93	2.8	.6	1.92	3.00	2.50	.375	.375	1.13			
3	X 3	X 3/8 X 7.2 L	7.17	4.0	17.7	11.3	.98	2.8	.6	2.11	3.00	3.00	.375	.375	1.13			
3	1/2	X 2 1/2	X 1/4 X 4.9 L	4.89	3.1	18.7	10.4	.97	3.4	.6	1.44	3.50	2.50	.250	.250	.88		
3	1/2	X 3	X 1/4 X 5.4 L	5.31	3.5	19.7	11.7	1.03	3.3	.6	1.56	3.50	3.00	.250	.250	.88		
3	1/2	X 2 1/2	X 5/16 X 6.1 L	6.05	3.7	19.8	12.3	1.04	3.3	.6	1.78	3.50	2.50	.313	.313	1.10		
3	1/2	X 3	X 5/16 X 6.6 L	6.58	4.2	20.8	13.9	1.10	3.3	.7	1.94	3.50	3.00	.313	.313	1.10		
3	1/2	X 2 1/2	X 3/8 X 7.2 L	7.17	4.3	20.6	14.0	1.10	3.3	.7	2.11	3.50	2.50	.375	.375	1.31		
3	1/2	X 3	X 3/8 X 7.9 L	7.81	4.9	21.6	15.8	1.15	3.2	.7	2.30	3.50	3.00	.375	.375	1.31		
4	X 3	X 1/4 X 5.8 L	5.74	4.2	23.6	15.7	1.18	3.8	.7	1.69	4.00	3.00	.250	.250	1.00			
4	X 3 1/2	X 1/4 X 6.2 L	6.16	4.6	24.5	17.3	1.23	3.7	.7	1.81	4.00	3.50	.250	.250	1.00			
4	X 4	X 1/4 X 6.6 L	6.59	5.1	25.4	18.9	1.28	3.7	.7	1.94	4.00	4.00	.250	.250	1.00			
4	X 3	X 5/16 X 7.2 L	7.12	5.0	24.8	18.6	1.26	3.7	.7	2.09	4.00	3.00	.313	.313	1.25			
4	X 3 1/2	X 5/16 X 7.7 L	7.65	5.6	25.7	20.5	1.32	3.6	.8	2.25	4.00	3.50	.313	.313	1.25			
4	X 4	X 5/16 X 8.2 L	8.18	6.2	26.6	22.4	1.37	3.6	.8	2.41	4.00	4.00	.313	.313	1.25			
4	X 3	X 3/8 X 8.5 L	8.45	5.8	25.6	21.1	1.32	3.6	.8	2.48	4.00	3.00	.375	.375	1.50			

(50T) PLATE WEIGHT = 17.850 LBS. (.4375 IN.)

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																			
(50T = 21.875 IN.) PLATE WEIGHT = 17.850 LBS. (.4375 IN.) EFFECTIVE PLATE AREA = 9.570 SQ. IN.																			
NOMINAL SIZE		SECTION MODULUS								BEAM DIMENSIONS									
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH					
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN	IN2	
4	X 3 1/2	X 3/8	X 9.1	L	9.98	6.5	26.6	23.3	1.38	3.6	.9	2.67	4.00	3.50	.375	.375	1.50		
4	X 4	X 3/8	X 9.8	L	9.72	7.2	27.4	25.4	1.43	3.5	.9	2.86	4.00	4.00	.375	.375	1.50		
5	X 3	X 1/4	X 6.6	L	6.59	5.6	31.4	25.7	1.49	4.6	.8	1.94	5.00	3.00	.250	.250	1.25		
5	X 3 1/2	X 1/4	X 7.0	L	7.01	6.2	32.5	28.2	1.56	4.6	.9	2.06	5.00	3.50	.250	.250	1.25		
5	X 3	X 5/16	X 8.2	L	8.18	6.8	32.8	30.5	1.60	4.5	.9	2.41	5.00	3.00	.313	.313	1.57		
5	X 3 1/2	X 5/16	X 8.7	L	8.71	7.5	33.9	33.4	1.66	4.5	1.0	2.56	5.00	3.50	.313	.313	1.57		
5	X 3	X 3/8	X 9.8	L	9.72	7.9	33.8	34.7	1.67	4.4	1.0	2.86	5.00	3.00	.375	.375	1.88		
5	X 3 1/2	X 3/8	X 10.4	L	10.36	8.7	34.9	38.0	1.74	4.3	1.1	3.05	5.00	3.50	.375	.375	1.88		
5	X 5	X 3/8	X 12.3	L	12.27	11.4	37.3	47.3	1.90	4.2	1.3	3.61	5.00	5.00	.375	.375	1.88		
6	X 3 1/2	X 5/16	X 9.8	L	9.78	9.6	42.1	50.2	2.01	5.2	1.2	2.88	6.00	3.50	.313	.313	1.88		
6	X 4	X 5/16	X 10.3	L	10.31	10.4	43.2	54.2	2.07	5.2	1.3	3.03	6.00	4.00	.313	.313	1.88		
6	X 3 1/2	X	X 15.3	C	11.07	11.0	43.4	56.5	2.10	5.1	1.3	3.26	6.00	3.50	.385	.340	2.04		
6	X 3 1/2	X 3/8	X 11.7	L	11.63	11.2	43.2	57.1	2.10	5.1	1.3	3.42	6.00	3.50	.375	.375	2.25		
6	X 4	X 3/8	X 12.3	L	12.27	12.2	44.3	61.6	2.16	5.0	1.4	3.61	6.00	4.00	.375	.375	2.25		
6	X 3 1/2	X	X 18.0	C	12.77	12.8	44.6	63.9	2.19	5.0	1.4	3.76	6.00	3.50	.475	.379	2.27		
7	X 4	X 3/8	X 13.6	L	13.55	15.0	52.8	86.9	2.53	5.8	1.6	3.98	7.00	4.00	.375	.375	2.63		
10	X 2 5/8	X	X 15.3	C	11.66	17.5	75.2	148.4	3.38	8.5	2.0	3.43	10.00	2.60	.436	.240	2.40		
10	X 3 1/2	X	X 21.9	C	16.36	24.8	79.6	197.5	3.71	8.0	2.5	4.81	10.00	3.45	.500	.325	3.25		
10	X 2 5/8	X	X 20.0	C	16.39	21.5	75.8	175.1	3.49	8.1	2.3	4.02	10.00	2.74	.436	.379	3.79		
10	X 3 1/2	X	X 24.9	C	18.73	27.7	80.7	215.3	3.78	7.8	2.7	5.51	10.00	3.40	.575	.377	3.77		
10	X 3 1/2	X	X 25.3	C	19.76	27.6	80.0	214.0	3.73	7.8	2.7	5.81	10.00	3.55	.500	.425	4.25		
10	X 4 1/2	X	X 28.5	C	21.34	31.6	82.5	238.3	3.88	7.5	2.9	6.28	10.00	3.95	.575	.425	4.25		

(50T) PLATE WEIGHT = 17.850 LBS. (.4375 IN.)

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L														

(50T = 21.875 IN.) PLATE WEIGHT = 17.850 LBS. (.4375 IN.) EFFECTIVE PLATE AREA = 9.570 SQ. IN.														
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS						
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF
IN X TN X IN X LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
12 X 3 X	X 20.7 C	16.03	27.7	95.0	266.7	4.32	9.6	2.8	4.72	12.00	2.94	.501	.282	3.38
12 X 3 X	X 25.0 C	20.33	31.8	95.8	297.3	4.37	9.3	3.1	5.98	12.00	3.05	.501	.387	4.64
13 X 4 X	X 31.8 C	24.09	45.3	110.8	432.0	5.09	9.5	3.9	7.09	13.00	4.00	.610	.375	4.88
15 X 3 3/8 X	X 33.9 C	27.03	53.0	128.0	578.6	5.75	10.9	4.5	7.95	15.00	3.40	.650	.400	6.00

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 (50T) PLATE WEIGHT = 17.850 LBS. (.4375 IN.)

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																				
(50T = 25.000 IN.) PLATE WEIGHT = 20.400 LBS. (.5000 IN.) EFFECTIVE PLATE AREA = 12.500 SQ. IN.																				
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS												
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH				
IN	X	IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
3	X	2 1/2	X	5/16	X	5.6	L	5.52	3.1	18.2	9.4	.82	3.0	.5	1.62	3.00	2.50	.313	.313	.94
3	X	3	X	5/16	X	6.1	L	6.05	3.6	19.4	10.6	.86	3.0	.5	1.78	3.00	3.00	.313	.313	.94
3	X	2 1/2	X	3/8	X	6.6	L	6.53	3.6	19.2	10.7	.86	2.9	.6	1.92	3.00	2.50	.375	.375	1.13
3	X	3	X	3/8	X	7.2	L	7.17	4.2	20.5	12.1	.91	2.9	.6	2.11	3.00	3.00	.375	.375	1.13
3	X	2 1/2	X	7/16	X	7.6	L	7.54	4.1	20.0	11.9	.90	2.9	.6	2.22	3.00	2.50	.438	.438	1.31
3	X	3	X	7/16	X	8.3	L	8.28	4.7	21.2	13.4	.95	2.9	.6	2.44	3.00	3.00	.438	.438	1.31
3	X	3	X	1/2	X	9.4	L	9.35	5.2	21.8	14.6	.98	2.8	.7	2.75	3.00	3.00	.500	.500	1.50
3 1/2	X	2 1/2	X	1/4	X	4.9	L	4.89	3.2	21.1	11.0	.89	3.5	.5	1.44	3.50	2.50	.250	.250	.88
3 1/2	X	3	X	1/4	X	5.4	L	5.31	3.6	22.5	12.4	.94	3.4	.6	1.56	3.50	3.00	.250	.250	.88
3 1/2	X	2 1/2	X	5/16	X	6.1	L	6.05	3.8	22.7	13.1	.96	3.4	.6	1.78	3.50	2.50	.313	.313	1.10
3 1/2	X	3	X	5/16	X	6.6	L	6.58	4.4	24.1	14.7	1.01	3.4	.6	1.94	3.50	3.00	.313	.313	1.10
3 1/2	X	2 1/2	X	3/8	X	7.2	L	7.17	4.4	23.9	14.9	1.01	3.4	.6	2.11	3.50	2.50	.375	.375	1.31
3 1/2	X	3	X	3/8	X	7.9	L	7.81	5.0	25.3	16.8	1.07	3.3	.7	2.30	3.50	3.00	.375	.375	1.31
4	X	3	X	1/4	X	5.8	L	5.74	4.2	27.2	16.5	1.08	3.9	.6	1.69	4.00	3.00	.250	.250	1.00
4	X	3 1/2	X	1/4	X	6.2	L	6.16	4.7	28.5	18.3	1.13	3.9	.6	1.81	4.00	3.50	.250	.250	1.00
4	X	4	X	1/4	X	6.6	L	6.59	5.2	29.7	20.0	1.18	3.8	.7	1.94	4.00	4.00	.250	.250	1.00
4	X	3	X	5/16	X	7.2	L	7.12	5.2	29.8	19.7	1.16	3.8	.7	2.09	4.00	3.00	.313	.313	1.25
4	X	3 1/2	X	5/16	X	7.7	L	7.65	5.8	30.3	21.8	1.21	3.8	.7	2.25	4.00	3.50	.313	.313	1.25
4	X	4	X	5/16	X	8.2	L	8.18	6.4	31.5	23.8	1.26	3.7	.8	2.41	4.00	4.00	.313	.313	1.25
4	X	3	X	3/8	X	8.5	L	8.45	6.0	30.3	22.5	1.22	3.8	.7	2.48	4.00	3.00	.375	.375	1.50
4	X	3 1/2	X	3/8	X	9.1	L	9.08	6.7	31.6	24.8	1.28	3.7	.8	2.67	4.00	3.50	.375	.375	1.50
4	X	4	X	3/8	X	9.8	L	9.72	7.4	32.7	27.2	1.33	3.7	.8	2.86	4.00	4.00	.375	.375	1.50
4	X	3	X	7/16	X	9.8	L	9.77	6.8	31.3	25.1	1.28	3.7	.8	2.87	4.00	3.00	.438	.438	1.75
4	X	3	X	1/2	X	11.1	L	11.05	7.5	32.1	27.3	1.32	3.6	.9	3.25	4.00	3.00	.500	.500	2.00
4	X	4	X	7/16	X	11.3	L	11.26	8.4	33.7	30.2	1.38	3.6	.9	3.31	4.00	4.00	.438	.438	1.75

(50T) PLATE WEIGHT = 20.400 LBS. (.5000 IN.)

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TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																					
(50T = 25.000 IN.) PLATE WEIGHT = 20.400 LBS. (.5000 IN.) EFFECTIVE PLATE AREA = 12.500 SQ. IN.																					
NOMINAL SIZE		SECTION MODULUS						BEAM DIMENSIONS													
		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH							
IN	X	IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2		
4	X	3	1/2	X	1/2	X	11.9	L	11.90	8.4	33.3	30.2	1.37	3.6	.9	3.50	4.00	3.50	.500	.500	2.00
4	X	4		X	1/2	X	12.8	L	12.75	9.3	34.4	33.0	1.42	3.5	1.0	3.75	4.00	4.00	.500	.500	2.00
5	X	3		X	1/4	X	6.6	L	6.59	5.7	36.9	27.0	1.37	4.8	.7	1.94	5.00	3.00	.250	.250	1.25
5	X	3	1/2	X	1/4	X	7.0	L	7.01	6.3	38.5	29.7	1.43	4.7	.8	2.06	5.00	3.50	.250	.250	1.25
5	X	3		X	5/16	X	8.2	L	8.18	6.9	39.0	32.2	1.47	4.7	.8	2.41	5.00	3.00	.313	.313	1.57
5	X	3	1/2	X	5/16	X	8.7	L	8.71	7.7	40.5	35.4	1.53	4.6	.9	2.56	5.00	3.50	.313	.313	1.57
5	X	3		X	3/8	X	9.8	L	9.72	8.0	40.5	36.9	1.55	4.6	.9	2.86	5.00	3.00	.375	.375	1.88
5	X	3	1/2	X	3/8	X	10.4	L	10.36	8.9	42.0	40.5	1.61	4.5	1.0	3.05	5.00	3.50	.375	.375	1.88
5	X	3		X	7/16	X	11.3	L	11.26	9.1	41.7	41.2	1.61	4.5	1.0	3.31	5.00	3.00	.438	.438	2.19
5	X	3	1/2	X	7/16	X	12.0	L	12.01	10.1	43.2	45.2	1.68	4.5	1.0	3.53	5.00	3.50	.438	.438	2.19
5	X	5		X	3/8	X	12.3	L	12.27	11.6	45.5	50.8	1.78	4.4	1.1	3.61	5.00	5.00	.375	.375	1.88
5	X	3		X	1/2	X	12.8	L	12.75	10.1	42.6	45.1	1.67	4.4	1.1	3.75	5.00	3.00	.500	.500	2.50
5	X	3	1/2	X	1/2	X	13.6	L	13.60	11.3	44.0	49.4	1.73	4.4	1.1	4.00	5.00	3.50	.500	.500	2.50
6	X	3	1/2	X	5/16	X	9.8	L	9.78	9.7	51.0	53.1	1.86	5.5	1.0	2.88	6.00	3.50	.313	.313	1.88
6	X	4		X	5/16	X	10.3	L	10.31	10.6	52.5	57.5	1.92	5.4	1.1	3.03	6.00	4.00	.313	.313	1.88
6	X	3	1/2	X		X	15.3	C	11.07	11.2	52.8	60.1	1.95	5.4	1.1	3.26	6.00	3.50	.385	.340	2.04
6	X	3	1/2	X	3/8	X	11.7	L	11.63	11.4	52.6	60.8	1.95	5.3	1.2	3.42	6.00	3.50	.375	.375	2.25
6	X	4		X	3/8	X	12.3	L	12.27	12.4	54.1	65.7	2.02	5.3	1.2	3.61	6.00	4.00	.375	.375	2.25
6	X	3	1/2	X		X	18.0	C	12.77	13.0	54.6	68.4	2.05	5.2	1.3	3.76	6.00	3.50	.475	.379	2.27
6	X	4		X	7/16	X	14.3	L	14.24	14.2	55.3	73.4	2.10	5.2	1.3	4.19	6.00	4.00	.438	.438	2.63
6	X	4		X	1/2	X	16.2	L	16.15	15.8	56.3	80.2	2.16	5.1	1.4	4.75	6.00	4.00	.500	.500	3.00
7	X	4		X	3/8	X	13.6	L	13.55	15.3	64.9	92.8	2.37	6.1	1.4	3.98	7.00	4.00	.375	.375	2.63
7	X	4		X	1/2	X	17.9	L	17.85	19.5	67.4	113.3	2.53	5.8	1.7	5.25	7.00	4.00	.500	.500	3.50

(50T) PLATE WEIGHT = 20.400 LBS. (.5000 IN.)

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																
(50T = 25.000 IN.) PLATE WEIGHT = 20.400 LBS. (.5000 IN.) EFFECTIVE PLATE AREA = 12.500 SQ. IN.																
NOMINAL SIZE				WT/FT	SECTION MODULUS				BEAM DIMENSIONS							
					FLANGE	PLATE	I	R	YF	YP	A	D	WF	IF	TW	ASH
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
8	X 4	X 1/2	X 19.6 L	19.55	23.4	78.6	153.2	2.90	6.6	1.9	5.75	8.00	4.00	.500	.500	4.00
8	X 6	X 1/2	X 23.0 L	22.95	30.7	83.9	190.9	3.15	6.2	2.3	6.75	8.00	6.00	.500	.500	4.00
9	X 4	X 1/2	X 21.3 L	21.25	27.6	89.9	200.4	3.27	7.3	2.2	6.25	9.00	4.00	.500	.500	4.50
10	X 2 5/8	X	X 15.3 C	11.66	17.8	92.9	157.0	3.14	8.8	1.7	3.43	10.00	2.60	.436	.240	2.40
10	X 3 1/2	X	X 21.9 C	16.36	25.3	98.9	211.5	3.50	8.4	2.1	4.81	10.00	3.45	.500	.325	3.25
10	X 2 5/8	X	X 20.0 C	16.39	22.0	93.8	187.2	3.29	8.5	2.0	4.82	10.00	2.74	.436	.379	3.79
10	X 3 1/2	X	X 24.9 C	18.73	28.3	100.3	231.7	3.59	8.2	2.3	5.51	10.00	3.40	.575	.377	3.77
10	X 3 1/2	X	X 25.3 C	19.76	28.2	99.3	230.5	3.55	8.2	2.3	5.81	10.00	3.55	.500	.425	4.25
10	X 4 1/2	X	X 28.5 C	21.34	32.3	102.6	257.8	3.71	8.0	2.5	6.28	10.00	3.95	.575	.425	4.25
10	X 3 1/2	X	X 28.3 C	22.13	31.1	100.7	249.7	3.62	8.0	2.5	6.51	10.00	3.50	.575	.477	4.77
12	X 3	X	X 20.7 C	16.03	28.2	118.3	284.7	4.07	10.1	2.4	4.72	12.00	2.94	.501	.282	3.38
12	X 3	X	X 25.0 C	20.33	32.6	119.0	319.8	4.16	9.8	2.7	5.98	12.00	3.05	.501	.387	4.64
12	X 3 1/2	X	X 30.9 C	24.48	40.0	123.8	378.1	4.38	9.4	3.1	7.20	12.00	3.45	.600	.450	5.40
12	X 3 1/2	X	X 32.9 C	26.52	42.0	124.2	392.2	4.40	9.3	3.2	7.80	12.00	3.50	.600	.500	6.00
12	X 4	X	X 35.0 C	26.91	46.0	127.5	422.4	4.55	9.2	3.3	7.92	12.00	3.77	.700	.467	5.60
13	X 4	X	X 31.8 C	24.09	46.3	138.1	468.3	4.89	10.1	3.4	7.09	13.00	4.00	.610	.375	4.88
13	X 4	X	X 35.0 C	27.27	49.6	138.7	493.8	4.90	9.9	3.6	8.02	13.00	4.07	.610	.447	5.81
15	X 3 3/8	X	X 33.9 C	27.03	54.4	159.1	628.1	5.54	11.6	3.9	7.95	15.00	3.40	.650	.400	6.00
18	X 4	X	X 42.7 C	34.98	78.8	198.5	1044.0	6.77	13.2	5.3	10.29	18.00	3.95	.625	.450	8.10
18	X 4	X	X 45.8 C	38.04	82.9	199.9	1083.8	6.76	13.1	5.4	11.19	18.00	4.00	.625	.500	9.00
(50T)					PLATE WEIGHT = 20.400 LBS. (.5000 IN.)											

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TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																				
(50T = 28.125 IN.) PLATE WEIGHT = 22.950 LBS. (.5625 IN.) EFFECTIVE PLATE AREA = 15.820 SQ. IN.																				
NOMINAL SIZE						SECTION MODULUS							BEAM DIMENSIONS							
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN	X	IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN2			
3	X	3	X	3/8	X	7.2 L	7.17	4.3	22.8	12.8	.85	3.0	.6	2.11	3.00	3.00	.375	.375	1.13	
3	X	2 1/2	X	7/16	X	7.6 L	7.54	4.2	22.3	12.6	.84	3.0	.6	2.22	3.00	2.50	.438	.438	1.31	
3	X	3	X	7/16	X	8.3 L	8.28	4.8	23.9	14.3	.88	3.0	.6	2.44	3.00	3.00	.438	.438	1.31	
3	X	3	X	1/2	X	9.4 L	9.35	5.3	24.7	15.6	.92	2.9	.6	2.75	3.00	3.00	.500	.500	1.50	
3 1/2	X	3	X	5/16	X	6.6 L	6.58	4.5	26.9	15.5	.94	3.5	.6	1.94	3.50	3.00	.313	.313	1.10	
3 1/2	X	2 1/2	X	3/8	X	7.2 L	7.17	4.5	26.7	15.8	.94	3.5	.6	2.11	3.50	2.50	.375	.375	1.31	
3 1/2	X	3	X	3/8	X	7.9 L	7.81	5.2	28.5	17.8	.99	3.4	.6	2.30	3.50	3.00	.375	.375	1.31	
336	4	X	3	X	1/4	X	5.8 L	5.74	4.3	30.1	17.3	.99	4.0	.6	1.69	4.00	3.00	.250	.250	1.00
	4	X	3 1/2	X	1/4	X	6.2 L	6.16	4.8	31.9	19.2	1.04	4.0	.6	1.81	4.00	3.50	.250	.250	1.00
	4	X	4	X	1/4	X	6.6 L	6.59	5.3	33.4	21.0	1.09	3.9	.6	1.94	4.00	4.00	.250	.250	1.00
	4	X	3	X	5/16	X	7.2 L	7.12	5.3	32.6	20.7	1.07	3.9	.6	2.09	4.00	3.00	.313	.313	1.25
	4	X	3 1/2	X	5/16	X	7.7 L	7.65	5.9	34.3	22.9	1.13	3.9	.7	2.25	4.00	3.50	.313	.313	1.25
	4	X	4	X	5/16	X	8.2 L	8.18	6.5	35.8	25.1	1.17	3.9	.7	2.41	4.00	4.00	.313	.313	1.25
	4	X	3	X	3/8	X	8.5 L	8.45	6.1	34.4	23.7	1.14	3.9	.7	2.48	4.00	3.00	.375	.375	1.50
	4	X	3 1/2	X	3/8	X	9.1 L	9.08	6.8	36.1	26.2	1.19	3.8	.7	2.67	4.00	3.50	.375	.375	1.50
	4	X	4	X	3/8	X	9.8 L	9.72	7.6	37.6	28.7	1.24	3.8	.8	2.86	4.00	4.00	.375	.375	1.50
	4	X	3	X	7/16	X	9.8 L	9.77	6.9	35.9	26.5	1.19	3.8	.7	2.87	4.00	3.00	.438	.438	1.75
	4	X	3	X	1/2	X	11.1 L	11.05	7.7	37.0	29.0	1.23	3.8	.8	3.25	4.00	3.00	.500	.500	2.00
	4	X	4	X	7/16	X	11.3 L	11.26	8.6	39.0	32.1	1.29	3.7	.8	3.31	4.00	4.00	.438	.438	1.75
4	X	3 1/2	X	1/2	X	11.9 L	11.90	8.6	38.6	32.1	1.29	3.7	.8	3.50	4.00	3.50	.500	.500	2.00	
4	X	4	X	1/2	X	12.8 L	12.75	9.5	40.1	35.1	1.34	3.7	.9	3.75	4.00	4.00	.500	.500	2.00	
5	X	3	X	1/4	X	6.6 L	6.59	5.8	41.7	28.2	1.26	4.9	.7	1.94	5.00	3.00	.250	.250	1.25	
5	X	3 1/2	X	1/4	X	7.0 L	7.01	6.4	43.7	31.0	1.32	4.9	.7	2.06	5.00	3.50	.250	.250	1.25	
5	X	3	X	5/16	X	8.2 L	8.18	7.0	44.6	33.8	1.36	4.8	.8	2.41	5.00	3.00	.313	.313	1.57	
5	X	3 1/2	X	5/16	X	8.7 L	8.71	7.8	46.6	37.1	1.42	4.8	.8	2.56	5.00	3.50	.313	.313	1.57	

(50T) PLATE WEIGHT = 22.950 LBS. (.5625 IN.)

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																	
(50T = 28.125 IN.) PLATE WEIGHT = 22.950 LBS. (.5625 IN.) EFFECTIVE PLATE AREA = 15.820 SQ. IN.																	
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS									
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN	X	IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN	IN	IN2
5	X 3	X 3/8	X 9.8	L	9.72	8.2	46.8	38.8	1.44	4.7	.8	2.86	5.00	3.00	.375	.375	1.88
5	X 3 1/2	X 3/8	X 10.4	L	10.36	9.1	48.8	42.6	1.50	4.7	.9	3.05	5.00	3.50	.375	.375	1.88
5	X 3	X 7/16	X 11.3	L	11.26	9.3	48.5	43.5	1.51	4.7	.9	3.31	5.00	3.00	.438	.438	2.19
5	X 3 1/2	X 7/16	X 12.0	L	12.01	10.3	50.4	47.7	1.57	4.6	.9	3.53	5.00	3.50	.438	.438	2.19
5	X 5	X 3/8	X 12.3	L	12.27	11.8	53.5	53.7	1.66	4.6	1.0	3.61	5.00	5.00	.375	.375	1.88
5	X 3	X 1/2	X 12.8	L	12.75	10.4	49.8	47.7	1.56	4.6	1.0	3.75	5.00	3.00	.500	.500	2.50
5	X 3 1/2	X 1/2	X 13.6	L	13.60	11.5	51.7	52.4	1.63	4.5	1.0	4.00	5.00	3.50	.500	.500	2.50
6	X 3 1/2	X 5/16	X 9.8	L	9.78	9.9	59.3	55.6	1.73	5.6	.9	2.88	6.00	3.50	.313	.313	1.88
6	X 4	X 5/16	X 10.3	L	10.31	10.8	61.3	60.3	1.79	5.6	1.0	3.03	6.00	4.00	.313	.313	1.88
6	X 3 1/2	X	X 15.3	C	11.07	11.4	61.9	63.2	1.82	5.5	1.0	3.26	6.00	3.50	.385	.340	2.04
6	X 3 1/2	X 3/8	X 11.7	L	11.63	11.6	61.7	64.0	1.82	5.5	1.0	3.42	6.00	3.50	.375	.375	2.25
6	X 4	X 3/8	X 12.3	L	12.27	12.6	63.7	69.3	1.89	5.5	1.1	3.61	6.00	4.00	.375	.375	2.25
6	X 3 1/2	X	X 18.0	C	12.77	13.3	64.4	72.1	1.92	5.4	1.1	3.76	6.00	3.50	.475	.379	2.27
6	X 4	X 7/16	X 14.3	L	14.24	14.4	65.5	77.6	1.97	5.4	1.2	4.19	6.00	4.00	.438	.438	2.63
6	X 4	X 1/2	X 16.2	L	16.15	16.1	66.9	85.2	2.03	5.3	1.3	4.75	6.00	4.00	.500	.500	3.00
7	X 4	X 3/8	X 13.6	L	13.55	15.5	77.0	97.8	2.22	6.3	1.3	3.98	7.00	4.00	.375	.375	2.63
7	X 4	X 1/2	X 17.9	L	17.85	19.8	80.6	120.3	2.39	6.1	1.5	5.25	7.00	4.00	.500	.500	3.50
8	X 4	X 1/2	X 19.6	L	19.55	23.8	94.3	162.9	2.75	6.8	1.7	5.75	8.00	4.00	.500	.500	4.00
8	X 6	X 1/2	X 23.0	L	22.95	31.2	101.3	204.4	3.01	6.5	2.0	6.75	8.00	6.00	.500	.500	4.00
9	X 4	X 1/2	X 21.3	L	21.25	28.1	108.2	213.3	3.11	7.6	2.0	6.25	9.00	4.00	.500	.500	4.50
10	X 2 5/8	X	X 15.3	C	11.66	18.1	111.0	164.0	2.92	9.1	1.5	3.43	10.00	2.60	.436	.240	2.40

(50T) PLATE WEIGHT = 22.950 LBS. (.5625 IN.)

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																
(50T = 28.125 IN.) PLATE WEIGHT = 22.950 LBS. (.5625 IN.) EFFECTIVE PLATE AREA = 15.820 SQ. IN.																
NOMINAL SIZE				WT/FT	SECTION MODULUS				BEAM DIMENSIONS							
					FLANGE	PLATE	I	R	YF	YP	A	D	WF	YF	TW	ASH
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2	
10	X 3 1/2	X	X 21.9 C	16.36	25.7	119.2	223.1	3.29	8.7	1.9	4.81	10.00	3.45	.500	.325	3.25
10	X 2 5/8	X	X 20.0 C	16.39	22.4	112.5	197.3	3.09	8.8	1.8	4.82	10.00	2.74	.436	.379	3.79
10	X 3 1/2	X	X 24.9 C	18.73	28.8	121.0	245.5	3.39	8.5	2.0	5.51	13.00	3.40	.575	.377	3.77
10	X 3 1/2	X	X 25.3 C	19.76	28.7	119.6	244.5	3.36	8.5	2.0	5.81	10.00	3.55	.500	.425	4.25
10	X 4 1/2	X	X 28.5 C	21.34	32.9	123.9	274.3	3.52	8.3	2.2	6.28	10.00	3.95	.575	.425	4.25
10	X 3 1/2	X	X 28.3 C	22.13	31.7	121.5	265.7	3.45	8.4	2.2	6.51	10.00	3.50	.575	.477	4.77
12	X 3	X	X 20.7 C	16.03	28.6	142.9	299.6	3.82	10.5	2.1	4.72	12.00	2.94	.501	.282	3.38
12	X 3	X	X 25.0 C	20.33	33.2	143.8	338.7	3.94	10.2	2.4	5.98	12.00	3.05	.501	.387	4.64
12	X 3 1/2	X	X 30.9 C	24.48	40.8	149.7	403.0	4.18	9.9	2.7	7.20	12.00	3.45	.600	.450	5.40
12	X 3	X	X 30.0 C	25.34	38.3	145.2	380.7	4.04	9.9	2.6	7.45	12.00	3.17	.501	.510	6.12
12	X 3 1/2	X	X 32.9 C	26.52	42.9	150.2	418.9	4.21	9.8	2.8	7.80	12.00	3.50	.600	.500	6.00
12	X 4	X	X 35.0 C	26.91	46.9	154.4	451.9	4.36	9.6	2.9	7.92	12.00	3.77	.700	.467	5.60
13	X 4	X	X 31.8 C	24.09	47.2	167.7	499.2	4.67	10.6	3.0	7.09	13.00	4.00	.610	.375	4.88
13	X 4	X	X 35.0 C	27.27	50.6	168.1	527.2	4.70	10.4	3.1	8.02	13.00	4.07	.610	.447	5.81
13	X 4	X	X 40.0 C	32.28	55.9	169.2	569.7	4.74	10.2	3.4	9.49	13.00	4.19	.610	.560	7.28
15	X 3 3/8	X	X 33.9 C	27.03	55.5	193.1	670.4	5.31	12.1	3.5	7.95	15.00	3.40	.650	.400	6.00
15	X 3 3/8	X	X 40.0 C	33.15	62.8	194.8	739.4	5.38	11.8	3.8	9.75	15.00	3.52	.650	.520	7.80
18	X 4	X	X 42.7 C	34.98	80.7	240.3	1121.2	6.55	13.9	4.7	10.29	18.00	3.95	.625	.450	8.10
18	X 4	X	X 45.8 C	38.04	84.9	241.5	1166.4	6.57	13.7	4.8	11.19	18.00	4.00	.625	.500	9.00

(50T) PLATE WEIGHT = 22.950 LBS. (.5625 IN.)

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																		
(50T = 31.250 IN.) PLATE WEIGHT = 25.500 LBS. (.6250 IN.) EFFECTIVE PLATE AREA = 19.531 SQ. IN.																		
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS										
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2		
4	X 3	1/2 X	5/16 X	7.7 L	7.65	6.0	37.7	24.0	1.05	4.0	.6	2.25	4.00	3.50	.313	.313	1.25	
4	X 4	X	5/16 X	8.2 L	8.18	6.6	39.6	26.2	1.09	4.0	.7	2.41	4.00	4.00	.313	.313	1.25	
4	X 3	X	3/8 X	8.5 L	8.45	6.3	38.0	24.8	1.06	4.0	.7	2.48	4.00	3.00	.375	.375	1.50	
4	X 3	1/2 X	3/8 X	9.1 L	9.08	7.0	40.1	27.5	1.11	3.9	.7	2.67	4.00	3.50	.375	.375	1.50	
4	X 4	X	3/8 X	9.8 L	9.72	7.7	42.0	30.1	1.16	3.9	.7	2.86	4.00	4.00	.375	.375	1.50	
4	X 3	X	7/16 X	9.8 L	9.77	7.1	39.8	27.8	1.11	3.9	.7	2.87	4.00	3.00	.438	.438	1.75	
4	X 3	X	1/2 X	11.1 L	11.05	7.9	41.3	30.5	1.16	3.9	.7	3.25	4.00	3.00	.500	.500	2.00	
4	X 4	X	7/16 X	11.3 L	11.26	8.8	43.8	33.7	1.22	3.9	.8	3.31	4.00	4.00	.438	.438	1.75	
4	X 3	1/2 X	1/2 X	11.9 L	11.90	8.8	43.4	33.8	1.21	3.8	.8	3.50	4.00	3.50	.500	.500	2.00	
4	X 4	X	1/2 X	12.8 L	12.75	9.7	45.3	37.0	1.26	3.8	.8	3.75	4.00	4.00	.500	.500	2.00	
339	4	X 4	X	5/8 X	15.7 L	15.67	11.5	47.5	42.8	1.33	3.7	.9	4.61	4.00	4.00	.625	.625	2.50
5	X 3	X	1/4 X	6.6 L	6.59	5.9	45.6	29.3	1.17	5.0	.6	1.94	5.00	3.00	.250	.250	1.25	
5	X 3	1/2 X	1/4 X	7.0 L	7.01	6.5	48.1	32.2	1.22	5.0	.7	2.06	5.00	3.50	.250	.250	1.25	
5	X 3	X	5/16 X	8.2 L	8.18	7.2	49.5	35.2	1.27	4.9	.7	2.41	5.00	3.00	.313	.313	1.57	
5	X 3	1/2 X	5/16 X	8.7 L	8.71	7.9	52.0	38.7	1.32	4.9	.7	2.56	5.00	3.50	.313	.313	1.57	
5	X 3	X	3/8 X	9.8 L	9.72	8.3	52.4	40.5	1.34	4.9	.8	2.86	5.00	3.00	.375	.375	1.88	
5	X 3	1/2 X	3/8 X	10.4 L	10.36	9.3	54.8	44.5	1.40	4.8	.8	3.05	5.00	3.50	.375	.375	1.88	
5	X 3	X	7/16 X	11.3 L	11.26	9.5	54.6	45.5	1.41	4.8	.8	3.31	5.00	3.00	.438	.438	2.19	
5	X 3	1/2 X	7/16 X	12.0 L	12.01	10.5	57.1	50.0	1.47	4.7	.9	3.53	5.00	3.50	.438	.438	2.19	
5	X 5	X	3/8 X	12.3 L	12.27	12.0	60.9	56.3	1.56	4.7	.9	3.61	5.00	5.00	.375	.375	1.88	
5	X 3	X	1/2 X	12.8 L	12.75	10.6	56.4	50.0	1.47	4.7	.9	3.75	5.00	3.00	.500	.500	2.50	
5	X 3	1/2 X	1/2 X	13.6 L	13.60	11.7	58.9	55.0	1.53	4.7	.9	4.00	5.00	3.50	.500	.500	2.50	
5	X 3	1/2 X	5/8 X	16.8 L	16.73	13.9	61.5	63.9	1.62	4.6	1.0	4.92	5.00	3.50	.625	.625	3.13	
6	X 3	1/2 X	5/16 X	9.8 L	9.78	10.0	67.0	57.9	1.61	5.8	.9	2.88	6.00	3.50	.313	.313	1.88	
6	X 4	X	5/16 X	10.3 L	10.31	11.0	69.5	62.8	1.67	5.7	.9	3.03	6.00	4.00	.313	.313	1.88	
				(50T)	PLATE WEIGHT = 25.500 LBS. (.6250 IN.)													

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																
(50T = 31.250 IN.) PLATE WEIGHT = 25.500 LBS. (.6250 IN.) EFFECTIVE PLATE AREA = 19.531 SQ. IN.																
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS								
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
6	X 3 1/2	X	X 15.3 C	11.07	11.6	70.4	65.9	1.70	5.7	.9	3.26	6.00	3.50	.385	.340	2.04
6	X 3 1/2	X 3/8	X 11.7 L	11.63	11.8	70.2	66.7	1.71	5.7	.9	3.42	6.00	3.50	.375	.375	2.25
6	X 4	X 3/8	X 12.3 L	12.27	12.8	72.7	72.3	1.77	5.6	1.0	3.61	6.00	4.00	.375	.375	2.25
6	X 3 1/2	X	X 18.0 C	12.77	13.5	73.7	75.4	1.80	5.6	1.0	3.76	6.00	3.50	.475	.379	2.27
6	X 4	X 7/16	X 14.3 L	14.24	14.7	75.3	81.3	1.85	5.5	1.1	4.19	6.00	4.00	.438	.438	2.63
6	X 4	X 1/2	X 16.2 L	16.15	16.4	77.3	89.5	1.92	5.5	1.2	4.75	6.00	4.00	.500	.500	3.00
6	X 4	X 9/16	X 18.1 L	18.06	18.0	78.9	97.2	1.98	5.4	1.2	5.31	6.00	4.00	.563	.563	3.38
6	X 4	X 5/8	X 20.0 L	19.92	19.6	80.2	104.3	2.03	5.3	1.3	5.86	6.00	4.00	.625	.625	3.75
340	7	X 4	X 3/8 X 13.6 L	13.55	15.8	88.7	102.0	2.08	6.5	1.1	3.98	7.00	4.00	.375	.375	2.63
	7	X 4	X 1/2 X 17.9 L	17.85	20.2	93.7	126.5	2.26	6.3	1.3	5.25	7.00	4.00	.500	.500	3.50
	7	X 4	X 5/8 X 22.1 L	22.05	24.2	97.0	147.5	2.38	6.1	1.5	6.48	7.00	4.00	.625	.625	4.38
8	X 4	X 1/2 X 19.6 L	19.55	24.2	110.3	171.3	2.60	7.1	1.6	5.75	8.00	4.00	.500	.500	4.00	
8	X 4	X 9/16 X 21.9 L	21.89	26.7	112.3	186.2	2.68	7.0	1.7	6.44	8.00	4.00	.563	.563	4.50	
8	X 6	X 1/2 X 23.0 L	22.95	31.7	119.2	216.0	2.87	6.8	1.8	6.75	8.00	6.00	.500	.500	4.00	
8	X 4	X 5/8 X 24.2 L	24.17	29.1	113.9	199.9	2.74	6.9	1.8	7.11	8.00	4.00	.625	.625	5.00	
8	X 6	X 9/16 X 25.7 L	25.72	35.1	121.1	234.5	2.94	6.7	1.9	7.57	8.00	6.00	.563	.563	4.50	
9	X 4	X 1/2 X 21.3 L	21.25	28.6	126.9	224.4	2.95	7.9	1.8	6.25	9.00	4.00	.500	.500	4.50	
9	X 4	X 9/16 X 23.8 L	23.81	31.5	129.1	244.0	3.03	7.7	1.9	7.00	9.00	4.00	.563	.563	5.07	
9	X 4	X 5/8 X 26.3 L	26.30	34.4	130.9	262.0	3.10	7.6	2.0	7.73	9.00	4.00	.625	.625	5.63	
10	X 2 5/8	X	X 15.3 C	11.66	18.3	128.7	169.9	2.72	9.3	1.3	3.43	10.00	2.60	.436	.240	2.40
10	X 3 1/2	X	X 21.9 C	16.36	26.0	139.7	233.0	3.09	9.0	1.7	4.81	10.00	3.45	.500	.325	3.25
10	X 2 5/8	X	X 20.0 C	16.39	22.7	131.4	205.8	2.91	9.1	1.6	4.82	10.00	2.74	.436	.379	3.79
10	X 3 1/2	X	X 24.9 C	18.73	29.2	142.2	257.2	3.20	8.8	1.8	5.51	10.00	3.40	.575	.377	3.77
10	X 3 1/2	X	X 25.3 C	19.76	29.1	140.6	256.4	3.18	8.8	1.8	5.81	10.00	3.55	.500	.425	4.25

(50T) PLATE WEIGHT = 25.500 LBS. (.6250 IN.)

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																	
(50T = 31.250 IN.) PLATE WEIGHT = 25.500 LBS. (.6250 IN.) EFFECTIVE PLATE AREA = 19.531 SQ. IN.																	
NOMINAL SIZE				SECTION MODULUS								BEAM DIMENSIONS					
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
10	X 4	1/2 X	X 28.5 C	21.34	33.3	146.1	288.5	3.34	8.7	2.0	6.28	10.00	3.95	.575	.425	4.25	
10	X 3	1/2 X	X 28.3 C	22.13	32.2	143.0	279.5	3.28	8.7	2.0	6.51	10.00	3.50	.575	.477	4.77	
10	X 4	X	X 33.6 C	26.44	37.9	147.0	319.8	3.42	8.4	2.2	7.78	10.00	4.10	.575	.575	5.75	
12	X 3	X	X 20.7 C	16.03	29.0	168.2	312.1	3.59	10.8	1.9	4.72	12.00	2.94	.501	.282	3.38	
12	X 3	X	X 25.0 C	20.33	33.7	169.5	354.7	3.73	10.5	2.1	5.98	12.00	3.05	.501	.387	4.64	
12	X 3	1/2 X	X 30.9 C	24.48	41.5	177.0	424.3	3.98	10.2	2.4	7.20	12.00	3.45	.600	.450	5.40	
12	X 3	X	X 30.0 C	25.34	39.0	171.4	400.9	3.85	10.3	2.3	7.45	12.00	3.17	.501	.510	6.12	
12	X 3	1/2 X	X 32.9 C	26.52	43.6	177.6	442.0	4.02	10.1	2.5	7.80	12.00	3.50	.600	.500	6.00	
12	X 4	X	X 35.0 C	26.91	47.7	183.0	477.4	4.17	10.0	2.6	7.92	12.00	3.77	.700	.467	5.60	
12	X 3	1/2 X	X 37.0 C	30.50	47.8	178.7	476.1	4.08	10.0	2.7	9.00	12.00	3.60	.600	.600	7.20	
12	X 4	X	X 40.0 C	31.93	52.7	184.0	517.5	4.23	9.8	2.8	9.39	12.00	3.89	.700	.590	7.08	
13	X 4	X	X 31.8 C	24.09	47.8	199.0	525.4	4.44	11.0	2.6	7.09	13.00	4.00	.610	.375	4.88	
13	X 4	X	X 35.0 C	27.27	51.4	199.3	556.7	4.49	10.8	2.8	8.02	13.00	4.07	.610	.447	5.81	
13	X 4	X	X 40.0 C	32.28	56.9	200.4	604.0	4.56	10.6	3.0	9.49	13.00	4.19	.610	.560	7.28	
15	X 3	3/8 X	X 33.9 C	27.03	56.3	229.3	706.7	5.07	12.5	3.1	7.95	15.00	3.40	.650	.400	6.00	
15	X 3	3/8 X	X 40.0 C	33.15	64.0	231.0	783.4	5.17	12.2	3.4	9.75	15.00	3.52	.650	.520	7.80	
15	X 4	X	X 50.0 C	41.02	80.2	241.1	940.4	5.46	11.7	3.9	12.06	15.00	4.00	.797	.625	9.38	
18	X 4	X	X 42.7 C	34.98	82.2	285.5	1188.6	6.31	14.5	4.2	10.29	18.00	3.95	.625	.450	8.10	
18	X 4	X	X 45.8 C	38.04	86.6	286.6	1239.0	6.35	14.3	4.3	11.19	18.00	4.00	.625	.500	9.00	
18	X 4	X	X 51.9 C	44.16	95.3	289.3	1336.4	6.41	14.0	4.6	12.99	18.00	4.10	.625	.600	10.80	

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MIL-HDBK-264(SH)
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(50T) PLATE WEIGHT = 25.500 LBS. (.6250 IN.)

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																	
(50T = 34.375 IN.) PLATE WEIGHT = 28.050 LBS. (.6875 IN.) EFFECTIVE PLATE AREA = 23.633 SQ. IN.																	
	NOMINAL SIZE				WT/FT	SECTION MODULUS				BEAM DIMENSIONS							
						FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TM	ASH
	IN X IN X IN X LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2		
4	X 4	X 3/8	X 9.8	L	9.72	7.9	45.7	31.5	1.09	4.0	.7	2.86	4.00	4.00	.375	.375	1.50
4	X 3	X 1/2	X 11.1	L	11.05	8.0	45.1	32.0	1.09	4.0	.7	3.25	4.00	3.00	.500	.500	2.00
4	X 4	X 7/16	X 11.3	L	11.26	8.9	48.1	35.3	1.15	4.0	.7	3.31	4.00	4.00	.438	.438	1.75
4	X 3 1/2	X 1/2	X 11.9	L	11.90	9.0	47.7	35.4	1.14	3.9	.7	3.50	4.00	3.50	.500	.500	2.00
4	X 4	X 1/2	X 12.8	L	12.75	9.9	50.0	38.8	1.19	3.9	.8	3.75	4.00	4.00	.500	.500	2.00
4	X 4	X 5/8	X 15.7	L	15.67	11.7	52.8	45.0	1.26	3.8	.9	4.61	4.00	4.00	.625	.625	2.50
5	X 3 1/2	X 5/16	X 8.7	L	8.71	8.1	56.5	40.2	1.24	5.0	.7	2.56	5.00	3.50	.313	.313	1.57
5	X 3	X 3/8	X 9.8	L	9.72	8.5	57.1	42.1	1.26	5.0	.7	2.86	5.00	3.00	.375	.375	1.88
5	X 3 1/2	X 3/8	X 10.4	L	10.36	9.4	60.2	46.3	1.32	4.9	.8	3.05	5.00	3.50	.375	.375	1.88
5	X 3	X 7/16	X 11.3	L	11.26	9.7	60.1	47.4	1.33	4.9	.8	3.31	5.00	3.00	.438	.438	2.19
5	X 3 1/2	X 7/16	X 12.0	L	12.01	10.7	63.1	52.1	1.39	4.9	.8	3.53	5.00	3.50	.438	.438	2.19
5	X 5	X 3/8	X 12.3	L	12.27	12.2	67.6	58.7	1.47	4.8	.9	3.61	5.00	5.00	.375	.375	1.88
5	X 3	X 1/2	X 12.8	L	12.75	10.8	62.4	52.2	1.38	4.9	.8	3.75	5.00	3.00	.500	.500	2.50
5	X 3 1/2	X 1/2	X 13.6	L	13.60	11.9	65.4	57.4	1.44	4.8	.9	4.00	5.00	3.50	.500	.500	2.50
5	X 3 1/2	X 5/8	X 16.8	L	16.73	14.2	69.0	67.0	1.53	4.7	1.0	4.92	5.00	3.50	.625	.625	3.13
6	X 3 1/2	X 5/16	X 9.8	L	9.78	10.2	73.6	59.9	1.50	5.9	.8	2.88	6.00	3.50	.313	.313	1.88
6	X 4	X 5/16	X 10.3	L	10.31	11.1	76.7	65.0	1.56	5.8	.8	3.03	6.00	4.00	.313	.313	1.88
6	X 3 1/2	X	X 15.3	C	11.07	11.8	78.0	68.3	1.59	5.8	.9	3.26	6.00	3.50	.385	.340	2.04
6	X 3 1/2	X 3/8	X 11.7	L	11.63	11.9	77.9	69.2	1.60	5.8	.9	3.42	6.00	3.50	.375	.375	2.25
6	X 4	X 3/8	X 12.3	L	12.27	13.0	81.0	75.1	1.66	5.8	.9	3.61	6.00	4.00	.375	.375	2.25
6	X 3 1/2	X	X 18.0	C	12.77	13.7	82.3	78.4	1.69	5.7	1.0	3.76	6.00	3.50	.475	.379	2.27
6	X 4	X 7/16	X 14.3	L	14.24	14.9	84.4	84.7	1.74	5.7	1.0	4.19	6.00	4.00	.438	.438	2.63
6	X 4	X 1/2	X 16.2	L	16.15	16.6	87.1	93.4	1.81	5.6	1.1	4.75	6.00	4.00	.500	.500	3.00
6	X 4	X 9/16	X 18.1	L	18.06	18.3	89.3	101.7	1.87	5.5	1.1	5.31	6.00	4.00	.563	.563	3.38
6	X 4	X 5/8	X 20.0	L	19.92	19.9	91.0	109.3	1.92	5.5	1.2	5.86	6.00	4.00	.625	.625	3.75

(50T) PLATE WEIGHT = 28.050 LBS. (.6875 IN.)

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																		
(50T = 34.375 IN.) PLATE WEIGHT = 20.050 LBS. (.6875 IN.) EFFECTIVE PLATE AREA = 23.633 SQ. IN.																		
NOMINAL SIZE				SECTION MODULUS								BEAM DIMENSIONS						
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	O	WF	TF	TW	ASH		
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2	
7	X 4	X 3/8	X 13.6 L	13.55	16.0	99.7	105.8	1.96	6.6	1.1	3.98	7.00	4.00	.375	.375	2.63		
7	X 4	X 1/2	X 17.9 L	17.85	20.5	106.4	131.9	2.14	6.4	1.2	5.25	7.00	4.00	.500	.500	3.50		
7	X 4	X 5/8	X 22.1 L	22.05	24.6	110.8	154.5	2.27	6.3	1.4	6.48	7.00	4.00	.625	.625	4.38		
8	X 4	X 1/2	X 19.6 L	19.55	24.6	126.0	178.6	2.47	7.3	1.4	5.75	8.00	4.00	.500	.500	4.00		
8	X 4	X 9/16	X 21.9 L	21.89	27.1	128.6	194.6	2.54	7.2	1.5	6.44	8.00	4.00	.563	.563	4.50		
8	X 6	X 1/2	X 23.0 L	22.95	32.1	137.3	226.2	2.73	7.0	1.6	6.75	8.00	6.00	.500	.500	4.00		
8	X 4	X 5/8	X 24.2 L	24.17	29.6	130.8	209.4	2.61	7.1	1.6	7.11	8.00	4.00	.625	.625	5.00		
8	X 6	X 9/16	X 25.7 L	25.72	35.6	139.8	246.2	2.81	6.9	1.8	7.57	8.00	6.00	.563	.563	4.50		
343	9	X 4	X 1/2	X 21.3 L	21.25	29.0	145.8	234.0	2.80	8.1	1.6	6.25	9.00	4.00	.500	.500	4.50	
	9	X 4	X 9/16	X 23.8 L	23.81	32.0	148.6	255.2	2.89	8.0	1.7	7.00	9.00	4.00	.563	.563	5.07	
	9	X 4	X 5/8	X 26.3 L	26.30	34.9	150.9	274.7	2.96	7.9	1.8	7.73	9.00	4.00	.625	.625	5.63	
	10	X 2 5/8	X 15.3 C	11.66	18.5	145.5	175.0	2.54	9.5	1.2	3.43	10.00	2.60	.436	.240	2.40		
	10	X 3 1/2	X 21.9 C	16.36	26.3	160.0	241.4	2.91	9.2	1.5	4.81	10.00	3.45	.500	.325	3.25		
	10	X 2 5/8	X 20.0 C	16.39	23.0	150.0	213.2	2.74	9.3	1.4	4.82	10.00	2.74	.436	.379	3.79		
	10	X 3 1/2	X 24.9 C	18.73	29.5	163.5	267.3	3.03	9.1	1.6	5.51	10.00	3.40	.575	.377	3.77		
	10	X 3 1/2	X 25.3 C	19.76	29.5	161.5	266.6	3.01	9.0	1.7	5.81	10.00	3.55	.500	.425	4.25		
	10	X 4 1/2	X 28.5 C	21.34	33.8	168.5	300.6	3.17	8.9	1.8	6.28	10.00	3.95	.575	.425	4.25		
	10	X 3 1/2	X 28.3 C	22.13	32.7	164.7	291.5	3.11	8.9	1.8	6.51	10.00	3.50	.575	.477	4.77		
	10	X 4	X 33.6 C	26.44	38.4	169.9	334.9	3.27	8.7	2.0	7.78	10.00	4.10	.575	.575	5.75		
	12	X 3	X 20.7 C	16.03	29.3	193.3	322.7	3.37	11.0	1.7	4.72	12.00	2.94	.501	.282	3.38		
	12	X 3	X 25.0 C	20.33	34.1	195.6	368.5	3.53	10.8	1.9	5.98	12.00	3.05	.501	.387	4.64		
	12	X 3 1/2	X 30.9 C	24.48	42.0	205.2	442.7	3.79	10.5	2.2	7.20	12.00	3.45	.600	.450	5.40		
	12	X 3	X 30.0 C	25.34	39.6	198.2	418.5	3.67	10.6	2.1	7.45	12.00	3.17	.501	.510	6.12		
	12	X 3 1/2	X 32.9 C	26.52	44.2	205.8	462.0	3.83	10.4	2.2	7.80	12.00	3.50	.600	.500	6.00		
				(50T)				PLATE WEIGHT = 20.050 LBS. (.6875 IN.)										

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																	

(50T = 34.375 IN.) PLATE WEIGHT = 28.050 LBS. (.6875 IN.) EFFECTIVE PLATE AREA = 23.633 SQ. IN.																	

NOMINAL SIZE				SECTION MODULUS								BEAM DIMENSIONS					
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X IN X IN X LBS/FT				LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2

12	X	4	X	X 35.0 C	26.91	48.3	212.6	499.5	3.98	10.3	2.3	7.92	12.00	3.77	.700	.467	5.60
12	X	3 1/2	X	X 37.0 C	30.60	48.6	207.3	499.2	3.91	10.3	2.4	9.00	12.00	3.60	.600	.600	7.20
12	X	4	X	X 40.0 C	31.93	53.6	213.7	543.5	4.06	10.1	2.5	9.39	12.00	3.89	.700	.590	7.08
13	X	4	X	X 31.8 C	24.09	48.4	231.4	548.0	4.22	11.3	2.4	7.09	13.00	4.00	.610	.375	4.88
13	X	4	X	X 35.0 C	27.27	52.1	231.9	582.1	4.29	11.2	2.5	8.02	13.00	4.07	.610	.447	5.81
13	X	4	X	X 40.0 C	32.20	57.8	233.2	634.0	4.37	11.0	2.7	9.49	13.00	4.19	.610	.560	7.28
15	X	3 3/8	X	X 33.9 C	27.03	57.1	267.3	737.9	4.83	12.9	2.8	7.95	15.00	3.40	.650	.400	6.00
15	X	3 3/8	X	X 40.0 C	33.15	65.0	269.1	821.8	4.96	12.6	3.1	9.75	15.00	3.52	.650	.520	7.80
15	X	4	X	X 50.0 C	41.02	81.6	281.1	992.1	5.27	12.2	3.5	12.06	15.00	4.00	.797	.625	9.38
18	X	4	X	X 42.7 C	34.98	83.4	333.7	1247.3	6.06	14.9	3.7	10.29	18.00	3.95	.625	.450	8.10
18	X	4	X	X 45.8 C	38.04	88.0	334.7	1302.7	6.12	14.8	3.9	11.19	18.00	4.00	.625	.500	9.00
18	X	4	X	X 51.9 C	44.16	97.1	337.3	1408.8	6.20	14.5	4.2	12.99	18.00	4.10	.625	.600	10.80

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(50T) PLATE WEIGHT = 28.050 LBS. (.6875 IN.)

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																		
(50T = 37.500 IN.) PLATE WEIGHT = 30.600 LBS. (.7500 IN.) EFFECTIVE PLATE AREA = 28.125 SQ. IN.																		
NOMINAL SIZE				SECTION MODULUS								BEAM DIMENSIONS						
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH		
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2	
4	X 4	X 1/2	X 12.8 L	12.75	10.1	54.1	40.6	1.13	4.0	.8	3.75	4.00	4.00	.500	.500	2.00		
4	X 4	X 5/8	X 15.7 L	15.67	12.0	57.7	47.2	1.20	3.9	.8	4.61	4.00	4.00	.625	.625	2.50		
4	X 4	X 3/4	X 18.5 L	18.49	13.7	60.2	52.9	1.26	3.9	.9	5.44	4.00	4.00	.750	.750	3.00		
5	X 3	X 7/16	X 11.3 L	11.26	9.9	64.8	49.2	1.25	5.0	.8	3.31	5.00	3.00	.438	.438	2.19		
5	X 3 1/2	X 7/16	X 12.0 L	12.01	10.9	68.3	54.1	1.31	5.0	.8	3.53	5.00	3.50	.438	.438	2.19		
5	X 5	X 3/8	X 12.3 L	12.27	12.4	73.5	60.9	1.39	4.9	.8	3.61	5.00	5.00	.375	.375	1.88		
5	X 3	X 1/2	X 12.8 L	12.75	11.0	67.7	54.3	1.30	4.9	.8	3.75	5.00	3.00	.500	.500	2.50		
5	X 3 1/2	X 1/2	X 13.6 L	13.60	12.2	71.3	59.7	1.36	4.9	.8	4.00	5.00	3.50	.500	.500	2.50		
345	5	X 3 1/2	X 5/8	X 16.8 L	16.73	14.5	75.8	69.9	1.45	4.8	.9	4.92	5.00	3.50	.625	.625	3.13	
	5	X 3 1/2	X 3/4	X 19.8 L	19.76	16.6	78.9	78.7	1.52	4.8	1.0	5.81	5.00	3.50	.750	.750	3.75	
6	X 3 1/2	X 5/16	X 9.8 L	9.78	10.4	79.3	61.9	1.41	6.0	.8	2.88	6.00	3.50	.313	.313	1.88		
6	X 4	X 5/16	X 10.3 L	10.31	11.3	83.0	67.1	1.47	5.9	.8	3.03	6.00	4.00	.313	.313	1.88		
6	X 3 1/2	X 1/2	X 15.3 C	11.07	11.9	84.6	70.6	1.50	5.9	.8	3.26	6.00	3.50	.385	.340	2.04		
6	X 3 1/2	X 3/8	X 11.7 L	11.63	12.1	84.7	71.6	1.51	5.9	.8	3.42	6.00	3.50	.375	.375	2.25		
6	X 4	X 3/8	X 12.3 L	12.27	13.2	88.3	77.7	1.56	5.9	.9	3.61	6.00	4.00	.375	.375	2.25		
6	X 3 1/2	X	X 18.0 C	12.77	13.9	90.0	81.1	1.59	5.8	.9	3.76	6.00	3.50	.475	.379	2.27		
6	X 4	X 7/16	X 14.3 L	14.24	15.1	92.7	87.7	1.65	5.8	.9	4.19	6.00	4.00	.438	.438	2.63		
6	X 4	X 1/2	X 16.2 L	16.15	16.9	96.1	97.0	1.72	5.7	1.0	4.75	6.00	4.00	.500	.500	3.00		
6	X 4	X 9/16	X 18.1 L	18.06	18.6	99.0	105.7	1.78	5.7	1.1	5.31	6.00	4.00	.563	.563	3.38		
6	X 4	X 5/8	X 20.0 L	19.92	20.2	101.3	113.8	1.83	5.6	1.1	5.86	6.00	4.00	.625	.625	3.75		
6	X 4	X 3/4	X 23.6 L	23.59	23.3	105.0	128.6	1.92	5.5	1.2	6.94	6.00	4.00	.750	.750	4.50		
7	X 4	X 3/8	X 13.6 L	13.55	16.2	109.7	109.3	1.85	6.8	1.0	3.98	7.00	4.00	.375	.375	2.63		
7	X 4	X 1/2	X 17.9 L	17.85	20.7	118.4	136.7	2.02	6.6	1.2	5.25	7.00	4.00	.500	.500	3.50		
7	X 4	X 5/8	X 22.1 L	22.05	24.9	124.2	160.8	2.16	6.5	1.3	6.48	7.00	4.00	.625	.625	4.38		
				(50T)	PLATE WEIGHT = 30.600 LBS. (.7500 IN.)													

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																	
(50T = 37.500 IN.) PLATE WEIGHT = 30.600 LBS. (.7500 IN.) EFFECTIVE PLATE AREA = 28.125 SQ. IN.																	
NOMINAL SIZE				WT/FT	SECTION MODULUS				BEAM DIMENSIONS								
					FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
7	X 4	X 3/4	X 26.2 L	26.14	28.8	128.3	182.1	2.25	6.3	1.4	7.69	7.00	4.00	.750	.750	5.25	
8	X 4	X 1/2	X 19.6 L	19.55	24.9	141.1	185.1	2.34	7.4	1.3	5.75	8.00	4.00	.500	.500	4.00	
8	X 4	X 9/16	X 21.9 L	21.89	27.5	144.6	202.2	2.42	7.4	1.4	6.44	8.00	4.00	.563	.563	4.50	
8	X 6	X 1/2	X 23.0 L	22.95	32.5	155.1	235.3	2.60	7.2	1.5	6.75	8.00	6.00	.500	.500	4.00	
8	X 4	X 5/8	X 24.2 L	24.17	30.0	147.4	218.0	2.49	7.3	1.5	7.11	8.00	4.00	.625	.625	5.00	
8	X 6	X 9/16	X 25.7 L	25.72	35.0	158.3	256.7	2.68	7.1	1.6	7.57	8.00	6.00	.563	.563	4.50	
8	X 4	X 3/4	X 28.7 L	28.69	34.7	151.9	247.0	2.60	7.1	1.6	8.44	8.00	4.00	.750	.750	6.00	
8	X 6	X 3/4	X 33.8 L	33.79	45.6	165.3	312.7	2.87	6.9	1.9	9.94	8.00	6.00	.750	.750	6.00	
9	X 4	X 1/2	X 21.3 L	21.25	29.3	164.2	242.6	2.66	8.3	1.5	6.25	9.00	4.00	.500	.500	4.50	
9	X 4	X 9/16	X 23.8 L	23.81	32.4	167.9	265.1	2.75	8.2	1.6	7.00	9.00	4.00	.563	.563	5.07	
9	X 4	X 5/8	X 26.3 L	26.30	35.4	170.9	285.9	2.82	8.1	1.7	7.73	9.00	4.00	.625	.625	5.63	
10	X 2 5/8	X	X 15.3 C	11.66	18.6	161.0	179.5	2.39	9.6	1.1	3.43	10.00	2.60	.436	.240	2.40	
10	X 3 1/2	X	X 21.9 C	16.36	26.6	179.6	248.9	2.75	9.4	1.4	4.81	10.00	3.45	.500	.325	3.25	
10	X 2 5/8	X	X 20.0 C	16.39	23.3	167.7	219.8	2.58	9.4	1.3	4.82	10.00	2.74	.436	.379	3.79	
10	X 3 1/2	X	X 24.9 C	18.73	29.8	184.2	276.1	2.87	9.3	1.5	5.51	10.00	3.40	.575	.377	3.77	
10	X 3 1/2	X	X 25.3 C	19.76	29.8	182.1	275.7	2.85	9.2	1.5	5.81	10.00	3.55	.500	.425	4.25	
10	X 4 1/2	X	X 28.5 C	21.34	34.2	190.6	311.4	3.01	9.1	1.6	6.28	10.00	3.95	.575	.425	4.25	
10	X 3 1/2	X	X 28.3 C	22.13	33.1	186.2	302.0	2.95	9.1	1.6	6.51	10.00	3.50	.575	.477	4.77	
10	X 4	X	X 33.6 C	26.44	38.9	192.9	348.2	3.11	8.9	1.8	7.78	10.00	4.10	.575	.575	5.75	
12	X 3	X	X 20.7 C	16.03	29.6	217.9	331.9	3.18	11.2	1.5	4.72	12.00	2.94	.501	.282	3.38	
12	X 3	X	X 25.0 C	20.33	34.5	221.5	380.5	3.34	11.0	1.7	5.98	12.00	3.05	.501	.387	4.64	
12	X 3 1/2	X	X 30.9 C	24.40	42.5	233.5	458.8	3.60	10.8	2.0	7.20	12.00	3.45	.600	.450	5.40	
12	X 3	X	X 30.0 C	25.34	40.1	225.3	433.9	3.49	10.8	1.9	7.45	12.00	3.17	.501	.510	6.12	

(50T) PLATE WEIGHT = 30.600 LBS. (.7500 IN.)

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																	
(50T = 37.500 IN.) PLATE WEIGHT = 30.600 LBS. (.7500 IN.) EFFECTIVE PLATE AREA = 28.125 SQ. IN.																	
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS									
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
12	X 3	1/2 X	X 32.9 C	26.52	44.8	234.5	479.5	3.65	10.7	2.0	7.80	12.00	3.50	.600	.500	6.00	
12	X 4	X	X 35.0 C	26.91	48.9	242.7	518.8	3.79	10.6	2.1	7.92	12.00	3.77	.700	.467	5.60	
12	X 3	1/2 X	X 37.0 C	30.60	49.2	236.5	519.6	3.74	10.6	2.2	9.00	12.00	3.60	.600	.600	7.20	
12	X 4	X	X 40.0 C	31.93	54.3	244.3	566.4	3.89	10.4	2.3	9.39	12.00	3.89	.700	.590	7.08	
12	X 4	X	X 45.0 C	36.90	59.6	246.1	611.5	3.96	10.3	2.5	10.85	12.00	4.01	.700	.712	8.54	
13	X 4	X	X 31.8 C	24.09	48.9	264.3	567.6	4.01	11.6	2.1	7.09	13.00	4.00	.610	.375	4.88	
13	X 4	X	X 35.0 C	27.27	52.7	265.1	604.3	4.09	11.5	2.3	8.02	13.00	4.07	.610	.447	5.81	
13	X 4	X	X 40.0 C	32.28	58.6	266.9	660.4	4.19	11.3	2.5	9.49	13.00	4.19	.610	.560	7.28	
347	15	X 3	3/8 X	X 33.9 C	27.03	57.7	306.2	765.0	4.61	13.3	2.5	7.95	15.00	3.40	.650	.400	6.00
	15	X 3	3/8 X	X 40.0 C	33.15	65.9	308.7	855.5	4.75	13.0	2.8	9.75	15.00	3.52	.650	.520	7.80
	15	X 4	X	X 50.0 C	41.02	82.8	322.9	1036.0	5.08	12.5	3.2	12.06	15.00	4.00	.797	.625	9.38
	15	X 3	3/8 X	X 50.0 C	43.15	78.9	313.5	992.9	4.93	12.6	3.2	12.69	15.00	3.72	.650	.716	10.74
	15	X 4	X	X 53.2 C	44.23	86.9	324.0	1078.7	5.12	12.4	3.3	13.01	15.00	4.06	.797	.688	10.32
18	X 4	X	X 42.7 C	34.98	84.5	384.2	1298.7	5.81	15.4	3.4	10.29	18.00	3.95	.625	.450	8.10	
18	X 4	X	X 45.8 C	38.04	89.2	385.3	1358.7	5.88	15.2	3.5	11.19	18.00	4.00	.625	.500	9.00	
18	X 4	X	X 51.9 C	44.16	98.6	388.0	1473.9	5.99	15.0	3.8	12.99	18.00	4.10	.625	.600	10.80	
18	X 4	X	X 58.0 C	50.28	107.7	391.2	1583.6	6.07	14.7	4.0	14.79	18.00	4.20	.625	.700	12.60	

(50T) PLATE WEIGHT = 30.600 LBS. (.7500 IN.)

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																		
(50T = 43.750 IN.) PLATE WEIGHT = 35.700 LBS. (.8750 IN.) EFFECTIVE PLATE AREA = 38.281 SQ. IN.																		
NOMINAL SIZE				WT/FT	SECTION MODULUS				BEAM DIMENSIONS									
					FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TM	ASH		
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2	
5	X 3	1/2 X 3/4	X 19.8 L	19.76	17.2	92.1	85.1	1.39	5.0	.9	5.81	5.00	3.50	.750	.750	3.75		
6	X 4	X 7/16	X 14.3 L	14.24	15.6	106.4	93.5	1.48	6.0	.9	4.19	6.00	4.00	.438	.438	2.63		
6	X 4	X 1/2	X 16.2 L	16.15	17.4	111.5	103.5	1.55	5.9	.9	4.75	6.00	4.00	.500	.500	3.00		
6	X 4	X 9/16	X 18.1 L	18.06	19.2	115.8	113.2	1.61	5.9	1.0	5.31	6.00	4.00	.563	.563	3.38		
6	X 4	X 5/8	X 20.0 L	19.92	20.9	119.5	122.1	1.66	5.9	1.0	5.86	6.00	4.00	.625	.625	3.75		
6	X 4	X 3/4	X 23.6 L	23.59	24.0	125.3	138.6	1.75	5.8	1.1	6.94	6.00	4.00	.750	.750	4.50		
7	X 4	X 3/8	X 13.6 L	13.55	16.6	126.4	115.7	1.65	7.0	.9	3.98	7.00	4.00	.375	.375	2.63		
7	X 4	X 1/2	X 17.9 L	17.85	21.3	139.5	145.5	1.83	6.8	1.0	5.25	7.00	4.00	.500	.500	3.50		
7	X 4	X 5/8	X 22.1 L	22.05	25.6	148.6	172.0	1.96	6.7	1.2	6.48	7.00	4.00	.625	.625	4.38		
7	X 4	X 3/4	X 26.2 L	26.14	29.6	155.1	195.7	2.06	6.6	1.3	7.69	7.00	4.00	.750	.750	5.25		
8	X 4	X 1/2	X 19.6 L	19.55	25.5	168.5	196.5	2.11	7.7	1.2	5.75	8.00	4.00	.500	.500	4.00		
8	X 4	X 9/16	X 21.9 L	21.89	28.2	174.0	215.3	2.19	7.6	1.2	6.44	8.00	4.00	.563	.563	4.50		
8	X 6	X 1/2	X 23.0 L	22.95	33.3	188.4	250.9	2.36	7.5	1.3	6.75	8.00	6.00	.500	.500	4.00		
8	X 4	X 5/8	X 24.2 L	24.17	30.8	178.6	232.8	2.26	7.6	1.3	7.11	8.00	4.00	.625	.625	5.00		
8	X 6	X 9/16	X 25.7 L	25.72	36.8	193.8	274.8	2.45	7.5	1.4	7.57	8.00	6.00	.563	.563	4.50		
8	X 4	X 3/4	X 28.7 L	28.69	35.6	185.8	265.3	2.38	7.4	1.4	8.44	8.00	4.00	.750	.750	6.00		
8	X 4	X 7/8	X 33.1 L	33.10	40.1	191.2	294.4	2.48	7.3	1.5	9.73	8.00	4.00	.875	.875	7.00		
8	X 6	X 3/4	X 33.8 L	33.79	46.8	205.1	338.1	2.65	7.2	1.6	9.94	8.00	6.00	.750	.750	6.00		
8	X 6	X 7/8	X 39.1 L	39.05	52.9	210.3	374.9	2.74	7.1	1.8	11.48	8.00	6.00	.875	.875	7.00		
9	X 4	X 1/2	X 21.3 L	21.25	30.0	198.3	257.3	2.40	8.6	1.3	6.25	9.00	4.00	.500	.500	4.50		
9	X 4	X 9/16	X 23.8 L	23.81	33.2	204.2	282.1	2.50	8.5	1.4	7.00	9.00	4.00	.563	.563	5.07		
9	X 4	X 5/8	X 26.3 L	26.30	36.3	209.1	305.2	2.58	8.4	1.5	7.73	9.00	4.00	.625	.625	5.63		

(50T) PLATE WEIGHT = 35.700 LBS. (.8750 IN.)

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																				
(50T = 43.750 IN.) PLATE WEIGHT = 35.700 LBS. (.8750 IN.) EFFECTIVE PLATE AREA = 38.281 SQ. IN.																				
NOMINAL SIZE				WT/FT	SECTION MODULUS				BEAM DIMENSIONS											
					FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH				
IN	X	IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN	IN2	
10	X	2	5/8	X	X	15.3	C	11.66	19.0	187.1	187.6	2.12	9.9	1.0	3.43	10.00	2.60	.436	.240	2.40
10	X	3	1/2	X	X	21.9	C	16.36	27.1	215.0	261.6	2.46	9.7	1.2	4.81	10.00	3.45	.500	.325	3.25
10	X	2	5/8	X	X	20.0	C	16.39	23.8	199.3	231.1	2.32	9.7	1.2	4.82	10.00	2.74	.436	.379	3.79
10	X	3	1/2	X	X	24.9	C	18.73	30.4	222.6	291.2	2.58	9.6	1.3	5.51	10.00	3.40	.575	.377	3.77
10	X	3	1/2	X	X	25.3	C	19.76	30.5	220.1	291.2	2.57	9.6	1.3	5.81	10.00	3.55	.500	.425	4.25
10	X	4	1/2	X	X	28.5	C	21.34	34.8	232.4	329.6	2.72	9.5	1.4	6.28	10.00	3.95	.575	.425	4.25
10	X	3	1/2	X	X	28.3	C	22.13	33.8	226.8	319.9	2.67	9.5	1.4	6.51	10.00	3.50	.575	.477	4.77
10	X	4		X	X	33.6	C	26.44	39.8	237.3	370.9	2.84	9.3	1.6	7.78	10.00	4.10	.575	.575	5.75
10	X	4		X	X	41.1	C	33.95	47.0	243.4	428.5	2.98	9.1	1.8	9.99	10.00	4.32	.575	.796	7.96
349	12	X	3		X	20.7	C	16.03	30.1	262.9	347.5	2.84	11.6	1.3	4.72	12.00	2.94	.501	.282	3.38
12	X	3		X	X	25.0	C	20.33	35.2	270.7	400.7	3.01	11.4	1.5	5.98	12.00	3.05	.501	.387	4.64
12	X	3	1/2	X	X	30.9	C	24.48	43.4	288.8	485.8	3.27	11.2	1.7	7.20	12.00	3.45	.600	.450	5.40
12	X	3		X	X	30.0	C	25.34	41.0	278.0	459.8	3.17	11.2	1.7	7.45	12.00	3.17	.501	.510	6.12
12	X	3	1/2	X	X	32.9	C	26.52	45.7	290.9	509.0	3.32	11.1	1.7	7.80	12.00	3.50	.600	.500	6.00
12	X	4		X	X	35.0	C	26.91	49.9	302.2	551.1	3.45	11.1	1.8	7.92	12.00	3.77	.700	.467	5.60
12	X	3	1/2	X	X	37.0	C	30.60	50.4	294.7	554.1	3.42	11.0	1.9	9.00	12.00	3.60	.600	.600	7.20
12	X	4		X	X	40.0	C	31.93	55.5	305.7	605.1	3.56	10.9	2.0	9.39	12.00	3.89	.700	.590	7.08
12	X	4		X	X	45.0	C	36.90	61.1	309.0	656.5	3.66	10.8	2.1	10.85	12.00	4.01	.700	.712	8.54
12	X	4		X	X	50.0	C	41.93	66.6	312.3	707.1	3.74	10.6	2.3	12.33	12.00	4.14	.700	.835	10.02
13	X	4		X	X	31.8	C	24.09	49.8	329.1	600.1	3.64	12.1	1.8	7.09	13.00	4.00	.610	.375	4.88
13	X	4		X	X	35.0	C	27.27	53.7	331.4	641.3	3.72	11.9	1.9	8.02	13.00	4.07	.610	.447	5.81
13	X	4		X	X	40.0	C	32.28	59.9	335.1	704.7	3.84	11.8	2.1	9.49	13.00	4.19	.610	.560	7.28
13	X	4		X	X	50.0	C	42.30	71.8	341.6	823.0	4.03	11.5	2.4	12.44	13.00	4.41	.610	.787	10.23
15	X	3	3/8	X	X	33.9	C	27.03	58.8	384.7	809.8	4.19	13.8	2.1	7.95	15.00	3.40	.650	.400	6.00
15	X	3	3/8	X	X	40.0	C	33.15	67.4	389.6	911.7	4.36	13.5	2.3	9.75	15.00	3.52	.650	.520	7.80
				(50T)	PLATE WEIGHT = 35.700 LBS. (.8750 IN.)															

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TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																			
(50T = 43.750 IN.) PLATE WEIGHT = 35.700 LBS. (.8750 IN.) EFFECTIVE PLATE AREA = 38.281 SQ. IN.																			
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS											
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH			
IN	X	IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
15	X	4	X	X	50.0	C	41.02	84.8	410.2	1115.3	4.71	13.2	2.7	12.06	15.00	4.00	.797	.625	9.38
15	X	3	3/8	X	50.0	C	43.15	81.0	397.3	1068.1	4.58	13.2	2.7	12.69	15.00	3.72	.650	.716	10.74
15	X	4	X	X	53.2	C	44.23	89.1	411.8	1162.3	4.76	13.1	2.8	13.01	15.00	4.06	.797	.688	10.32
15	X	4	X	X	56.4	C	47.46	93.4	413.6	1209.5	4.81	13.0	2.9	13.96	15.00	4.13	.797	.751	11.27
15	X	4	X	X	59.6	C	50.61	97.5	415.3	1253.9	4.86	12.9	3.0	14.89	15.00	4.19	.797	.813	12.20
18	X	4	X	X	42.7	C	34.98	86.2	489.4	1383.8	5.34	16.0	2.8	10.29	18.00	3.95	.625	.450	8.10
18	X	4	X	X	45.8	C	38.04	91.2	491.2	1452.0	5.42	15.9	3.0	11.19	18.00	4.00	.625	.500	9.00
18	X	4	X	X	51.9	C	44.16	101.0	495.1	1583.7	5.56	15.7	3.2	12.99	18.00	4.10	.625	.600	10.80
18	X	4	X	X	58.0	C	50.28	110.7	499.2	1709.8	5.68	15.4	3.4	14.79	18.00	4.20	.625	.700	12.60

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(50T) PLATE WEIGHT = 35.700 LBS. (.8750 IN.)

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																
(50T = 50.000 IN.) PLATE WEIGHT = 40.000 LBS. (1.0000 IN.) EFFECTIVE PLATE AREA = 50.000 SQ. IN.																
NOMINAL SIZE				SECTION MODULUS								BEAM DIMENSIONS				
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
6	X 4	X 3/4	X 23.6 L	23.59	24.8	142.3	147.8	1.61	6.0	1.0	6.94	6.30	4.00	.750	.750	4.50
7	X 4	X 5/8	X 22.1 L	22.05	26.3	169.0	182.2	1.80	6.9	1.1	6.48	7.00	4.00	.625	.625	4.38
7	X 4	X 3/4	X 26.2 L	26.14	33.4	178.5	207.9	1.90	6.8	1.2	7.69	7.30	4.00	.750	.750	5.25
8	X 4	X 1/2	X 19.6 L	19.55	26.1	191.1	206.8	1.93	7.9	1.1	5.75	8.00	4.00	.500	.500	4.00
8	X 4	X 9/16	X 21.9 L	21.59	28.9	198.9	227.0	2.01	7.9	1.1	6.44	8.30	4.00	.563	.563	4.50
8	X 6	X 1/2	X 23.0 L	22.95	34.0	217.4	264.6	2.16	7.8	1.2	6.75	8.30	6.00	.500	.500	4.00
8	X 4	X 5/8	X 24.2 L	24.17	31.5	205.5	245.9	2.07	7.8	1.2	7.11	8.00	4.00	.625	.625	5.00
8	X 6	X 9/16	X 25.7 L	25.72	37.7	225.3	290.4	2.25	7.7	1.3	7.57	8.00	6.00	.563	.563	4.50
8	X 4	X 3/4	X 28.7 L	28.69	36.5	216.2	281.2	2.19	7.7	1.3	8.44	8.00	4.00	.750	.750	6.00
8	X 4	X 7/8	X 33.1 L	33.10	41.2	224.3	313.2	2.29	7.6	1.4	9.73	9.00	4.00	.875	.875	7.00
8	X 6	X 3/4	X 33.8 L	33.79	47.9	242.4	359.7	2.45	7.5	1.5	9.94	8.00	6.00	.750	.750	6.00
8	X 4	X 1	X 37.4 L	37.40	45.5	230.5	342.1	2.37	7.5	1.5	11.00	8.00	4.00	1.000	1.000	8.00
8	X 6	X 7/8	X 39.1 L	39.05	54.1	250.3	400.6	2.55	7.4	1.6	11.48	8.00	6.00	.875	.875	7.00
8	X 6	X 1	X 44.2 L	44.20	60.0	256.4	437.6	2.64	7.3	1.7	13.00	8.00	6.00	1.000	1.000	8.00
9	X 4	X 1/2	X 21.3 L	21.25	30.7	227.5	270.2	2.19	8.8	1.2	6.25	9.00	4.00	.500	.500	4.50
9	X 4	X 9/16	X 23.5 L	23.81	34.0	236.1	296.8	2.28	8.7	1.3	7.00	9.30	4.00	.563	.563	5.07
9	X 4	X 5/8	X 26.3 L	26.30	37.1	243.3	321.8	2.36	8.7	1.3	7.73	9.00	4.00	.625	.625	5.63
10	X 3 1/2 X	X 21.9 C	16.36	27.6	243.9	272.8	2.23	9.9	1.1	4.81	10.00	3.45	.500	.325	3.25	
10	X 2 5/8 X	X 20.0 C	16.39	24.3	224.7	241.2	2.10	9.9	1.1	4.82	10.00	2.74	.436	.373	3.79	
10	X 3 1/2 X	X 24.9 C	18.73	31.0	255.0	304.3	2.34	9.8	1.2	5.51	10.00	3.40	.575	.377	3.77	
10	X 3 1/2 X	X 25.3 C	19.76	31.1	252.6	304.5	2.34	9.8	1.2	5.81	10.00	3.55	.530	.425	4.25	
10	X 4 1/2 X	X 28.5 C	21.34	35.5	268.9	345.1	2.48	9.7	1.3	6.28	10.00	3.95	.575	.425	4.25	

(50T) PLATE WEIGHT = 40.000 LBS. (1.0000 IN.)

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																				
(50T = 50.000 IN.) PLATE WEIGHT = 40.000 LBS. (1.0000 IN.) EFFECTIVE PLATE AREA = 50.000 SQ. IN.																				
NOMINAL SIZE				SECTION MODULUS								BEAM DIMENSIONS								
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH				
IN	X	IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN2			
10	X	3	1/2	X	X	28.3	C	22.13	34.5	262.3	335.3	2.44	9.7	1.3	6.51	10.00	3.50	.575	.477	4.77
10	X	4		X	X	33.6	C	26.44	40.7	277.5	390.1	2.60	9.6	1.4	7.78	10.00	4.10	.575	.575	5.75
10	X	4		X	X	41.1	C	33.95	48.1	287.9	453.4	2.75	9.4	1.6	9.99	10.00	4.32	.575	.796	7.96
12	X	3		X	X	20.7	C	16.03	30.6	300.6	360.8	2.57	11.8	1.2	4.72	12.00	2.94	.501	.282	3.38
12	X	3		X	X	25.0	C	20.33	35.8	313.7	417.6	2.73	11.7	1.3	5.98	12.00	3.05	.501	.387	4.64
12	X	3	1/2	X	X	30.9	C	24.48	44.2	339.3	508.2	2.98	11.5	1.5	7.20	12.00	3.45	.600	.450	5.40
12	X	3		X	X	30.0	C	25.34	41.8	326.0	481.4	2.89	11.5	1.5	7.45	12.00	3.17	.501	.510	6.12
12	X	3	1/2	X	X	32.9	C	26.52	46.6	343.1	533.3	3.04	11.4	1.6	7.80	12.00	3.50	.600	.500	6.00
12	X	4		X	X	35.0	C	26.91	50.7	357.9	577.7	3.16	11.4	1.6	7.92	12.00	3.77	.700	.467	5.60
12	X	3	1/2	X	X	37.0	C	30.60	51.4	349.8	582.6	3.14	11.3	1.7	9.00	12.00	3.60	.600	.600	7.20
12	X	4		X	X	40.0	C	31.93	56.6	364.5	636.9	3.27	11.3	1.7	9.39	12.00	3.89	.700	.590	7.08
12	X	4		X	X	45.0	C	36.90	62.4	370.3	693.8	3.38	11.1	1.9	10.85	12.00	4.01	.700	.712	8.54
12	X	4		X	X	50.0	C	41.93	68.1	375.7	749.9	3.47	11.0	2.0	12.33	12.00	4.14	.700	.835	10.02
13	X	4		X	X	31.6	C	24.09	50.6	389.4	626.6	3.31	12.4	1.6	7.09	13.00	4.00	.610	.375	4.88
13	X	4		X	X	35.0	C	27.27	54.6	394.2	671.5	3.40	12.3	1.7	8.02	13.00	4.07	.610	.447	5.81
13	X	4		X	X	40.0	C	32.28	61.0	401.0	741.0	3.53	12.2	1.8	9.49	13.00	4.19	.610	.560	7.28
13	X	4		X	X	50.0	C	42.30	73.3	412.4	871.8	3.74	11.9	2.1	12.44	13.00	4.41	.610	.787	10.23
15	X	3	3/8	X	X	33.9	C	27.03	59.7	460.0	845.9	3.82	14.2	1.8	7.95	15.00	3.40	.650	.400	6.00
15	X	3	7/8	X	X	40.0	C	33.15	68.6	469.3	957.1	4.00	14.0	2.0	9.75	15.00	3.52	.650	.520	7.80
15	X	4		X	X	50.0	C	41.02	86.4	498.6	1178.1	4.36	13.6	2.4	12.06	15.00	4.00	.797	.625	9.38
15	X	3	3/8	X	X	50.0	C	43.15	82.7	482.1	1129.6	4.24	13.7	2.3	12.69	15.00	3.72	.650	.716	10.74
15	X	4		X	X	53.2	C	44.23	90.8	501.3	1230.5	4.42	13.5	2.5	13.01	15.00	4.06	.797	.688	10.32
15	X	4		X	X	56.4	C	47.46	95.4	504.2	1283.2	4.48	13.5	2.5	13.96	15.00	4.13	.797	.751	11.27
15	X	4		X	X	59.6	C	50.61	99.7	506.8	1332.9	4.53	13.4	2.6	14.89	15.00	4.19	.797	.813	12.20
15	X	4		X	X	62.8	C	53.82	104.0	509.4	1382.3	4.58	13.3	2.7	15.83	15.00	4.25	.797	.876	13.14

(50T) PLATE WEIGHT = 40.000 LBS. (1.0000 IN.)

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																	
(50T = 50.000 IN.) PLATE WEIGHT = 40.800 LBS. (1.0000 IN.) EFFECTIVE PLATE AREA = 50.000 SQ. IN.																	
NOMINAL SIZE				SECTION MODULUS								BEAM DIMENSIONS					
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
15	X 4	X	X 65.9 C	56.93	108.2	511.8	1429.5	4.63	13.2	2.8	16.74	15.00	4.31	.797	.937	14.06	
15	X 4	X	X 69.1 C	60.13	112.5	514.3	1477.2	4.67	13.1	2.9	17.69	15.00	4.37	.797	1.000	15.00	
18	Y 4	X	X 42.7 C	34.98	87.6	595.3	1451.5	4.91	16.6	2.4	10.29	18.00	3.95	.625	.450	8.10	
18	Y 4	X	X 45.8 C	38.04	92.8	599.2	1526.6	4.99	16.5	2.5	11.19	18.00	4.00	.625	.500	9.00	
18	Y 4	X	X 51.9 C	44.16	103.0	605.8	1672.3	5.15	16.2	2.8	12.99	18.00	4.10	.625	.600	10.80	
18	Y 4	X	X 58.0 C	50.28	113.0	612.0	1812.6	5.29	16.0	3.0	14.79	18.00	4.20	.625	.700	12.60	

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(50T) PLATE WEIGHT = 40.800 LBS. (1.0000 IN.)

MIL-HDBK-264(SH)
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TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																	
(50T = 56.250 IN.) PLATE WEIGHT = 45.900 LBS. (1.1250 IN.) EFFECTIVE PLATE AREA = 63.281 SQ. IN.																	
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS									
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
8	X 6	X 1/2	X 23.0 L	22.95	34.8	241.2	277.2	1.99	8.0	1.1	6.75	8.00	6.00	.500	.500	4.00	
8	X 4	X 5/8	X 24.2 L	24.17	32.3	227.6	258.1	1.91	8.0	1.1	7.11	8.00	4.00	.625	.625	5.00	
8	X 6	X 9/16	X 25.7 L	25.72	38.5	251.8	304.7	2.07	7.9	1.2	7.57	8.00	6.00	.563	.563	4.50	
8	X 4	X 3/4	X 28.7 L	28.69	37.4	242.0	295.8	2.03	7.9	1.2	8.44	8.00	4.00	.750	.750	6.00	
8	X 4	X 7/8	X 33.1 L	33.10	42.2	253.2	330.2	2.13	7.8	1.3	9.73	8.00	4.00	.875	.875	7.00	
8	X 6	X 3/4	X 33.8 L	33.79	48.9	275.4	379.2	2.28	7.7	1.4	9.94	8.00	6.00	.750	.750	6.00	
8	X 4	X 1	X 37.4 L	37.40	46.7	262.1	361.6	2.21	7.7	1.4	11.00	8.00	4.00	1.000	1.000	8.00	
8	X 6	X 7/8	X 39.1 L	39.05	55.4	286.7	423.5	2.38	7.6	1.5	11.48	8.00	6.00	.875	.875	7.00	
8	X 6	X 1	X 44.2 L	44.20	61.4	295.6	464.0	2.47	7.6	1.6	13.00	8.00	6.00	1.000	1.000	8.00	
354	9	X 4	X 9/16	X 23.8 L	23.81	34.7	262.4	310.4	2.10	8.9	1.2	7.00	9.00	4.00	.563	.563	5.07
	9	X 4	X 5/8	X 26.3 L	26.30	37.9	272.1	336.9	2.18	8.9	1.2	7.73	9.00	4.00	.625	.625	5.63
10	X 3	1/2 X	X 24.9 C	19.73	31.6	288.7	316.4	2.14	10.0	1.1	5.51	10.00	3.40	.575	.377	3.77	
10	X 3	1/2 X	X 25.3 C	19.76	31.7	278.5	316.9	2.14	10.0	1.1	5.81	10.00	3.55	.500	.425	4.25	
10	X 4	1/2 X	X 28.5 C	21.34	36.2	298.9	359.2	2.27	9.9	1.2	6.28	10.00	3.95	.575	.425	4.25	
10	X 3	1/2 X	X 28.3 C	22.13	35.2	291.5	349.3	2.24	9.9	1.2	6.51	10.00	3.50	.575	.477	4.77	
10	X 4	X	X 33.6 C	26.44	41.5	311.9	407.3	2.39	9.8	1.3	7.78	10.00	4.10	.575	.575	5.75	
10	X 4	X	X 41.1 C	33.95	49.1	327.7	475.4	2.55	9.7	1.5	9.99	10.00	4.32	.575	.796	7.96	
12	X 3	X	X 20.7 C	16.03	31.1	330.0	373.0	2.34	12.0	1.1	4.72	12.00	2.94	.501	.282	3.38	
12	X 3	X	X 25.0 C	20.33	36.4	349.2	432.9	2.50	11.9	1.2	5.98	12.00	3.05	.501	.387	4.64	
12	X 3	1/2 X	X 30.9 C	24.48	44.9	382.9	527.8	2.74	11.7	1.4	7.20	12.00	3.45	.600	.450	5.40	
12	X 3	X	X 30.0 C	25.34	42.5	367.4	500.5	2.66	11.8	1.4	7.45	12.00	3.17	.501	.510	6.12	
12	X 3	1/2 X	X 32.9 C	26.52	47.4	388.7	554.7	2.79	11.7	1.4	7.80	12.00	3.50	.600	.500	6.00	
12	X 4	X	X 35.0 C	26.91	51.6	407.2	600.8	2.90	11.6	1.5	7.92	12.00	3.77	.700	.467	5.60	
12	X 3	1/2 X	X 37.0 C	30.60	52.3	399.2	607.4	2.90	11.6	1.5	9.00	12.00	3.60	.600	.600	7.20	
				(50T)	PLATE WEIGHT = 45.900 LBS. (1.1250 IN.)												

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																				
(50T = 56.250 IN.) PLATE WEIGHT = 45.900 LBS. (1.1250 IN.) EFFECTIVE PLATE AREA = 63.281 SQ. IN.																				
NOMINAL SIZE				SECTION MODULUS								BEAM DIMENSIONS								
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH				
IN	X	IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN	IN	IN2			
12	X	4	X	X	40.0	C	31.93	57.6	417.9	664.4	3.02	11.5	1.6	9.39	12.00	3.89	.700	.590	7.08	
12	X	4	X	X	45.0	C	36.90	63.5	427.2	725.8	3.13	11.4	1.7	10.85	12.00	4.01	.700	.712	8.54	
12	X	4	X	X	50.0	C	41.93	69.5	435.7	786.7	3.23	11.3	1.8	12.33	12.00	4.14	.700	.835	10.02	
13	X	4	X	X	31.8	C	24.09	51.3	442.3	649.5	3.04	12.7	1.5	7.09	13.00	4.00	.610	.375	4.88	
13	X	4	X	X	35.0	C	27.27	55.5	450.3	697.5	3.13	12.6	1.5	8.02	13.00	4.07	.610	.447	5.81	
13	X	4	X	X	40.0	C	32.28	62.0	461.6	771.9	3.26	12.5	1.7	9.49	13.00	4.19	.610	.560	7.28	
13	X	4	X	X	50.0	C	42.30	74.7	479.8	913.4	3.47	12.2	1.9	12.44	13.00	4.41	.610	.787	10.23	
355	15	X	3 3/8	X	X	33.9	C	27.03	60.6	528.4	876.4	3.51	14.5	1.7	7.95	15.00	3.40	.650	.400	6.00
	15	X	3 3/8	X	X	40.0	C	33.15	69.6	543.8	995.4	3.69	14.3	1.8	9.75	15.00	3.52	.650	.520	7.80
	15	X	4	X	X	50.0	C	41.02	87.8	584.1	1230.8	4.04	14.0	2.1	12.06	15.00	4.00	.797	.625	9.38
	15	X	3 3/8	X	X	50.0	C	43.15	84.2	564.2	1181.5	3.94	14.0	2.1	12.69	15.00	3.72	.650	.716	10.74
	15	X	4	X	X	53.2	C	44.23	92.4	588.7	1207.7	4.11	13.9	2.2	13.01	15.00	4.06	.797	.688	10.32
	15	X	4	X	X	56.4	C	47.46	97.1	593.3	1345.1	4.17	13.9	2.3	13.96	15.00	4.13	.797	.751	11.27
	15	X	4	X	X	59.6	C	50.61	101.5	597.4	1399.4	4.23	13.8	2.3	14.89	15.00	4.19	.797	.813	12.20
	15	X	4	X	X	62.8	C	53.82	106.0	601.4	1453.6	4.29	13.7	2.4	15.83	15.00	4.25	.797	.876	13.14
	15	X	4	X	X	65.9	C	56.93	110.4	605.1	1505.5	4.34	13.6	2.5	16.74	15.00	4.31	.797	.937	14.06
	15	X	4	X	X	69.1	C	60.13	114.8	608.8	1557.9	4.39	13.6	2.6	17.69	15.00	4.37	.797	1.000	15.00
15	X	4	X	X	75.0	C	66.06	123.1	615.4	1653.8	4.47	13.4	2.7	19.43	15.00	4.49	.797	1.116	16.74	
18	X	4	X	X	42.7	C	34.98	88.8	698.5	1507.4	4.53	17.0	2.2	10.29	18.00	3.95	.625	.450	8.10	
18	X	4	X	X	45.8	C	38.04	94.1	704.5	1588.2	4.62	16.9	2.3	11.19	18.00	4.00	.625	.500	9.00	
18	X	4	X	X	51.9	C	44.16	104.6	715.4	1745.6	4.78	16.7	2.4	12.99	18.00	4.10	.625	.600	10.80	
18	X	4	X	X	58.0	C	50.28	115.0	725.2	1898.1	4.93	16.5	2.6	14.79	18.00	4.20	.625	.700	12.60	

(50T) PLATE WEIGHT = 45.900 LBS. (1.1250 IN.)

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																				
(50T = 62.500 IN.) PLATE WEIGHT = 51.000 LBS. (1.2500 IN.) EFFECTIVE PLATE AREA = 78.125 SQ. IN.																				
NOMINAL SIZE				WT/FT	SECTION MODULUS				BEAM DIMENSIONS											
					FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH				
IN	X	IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN2			
8	X	6	X	3/4	X	33.8	L	33.79	50.1	303.7	397.5	2.12	7.9	1.3	9.94	8.00	6.00	.750	.750	6.00
8	X	4	X	1	X	37.4	L	37.40	47.9	289.3	380.0	2.06	7.9	1.3	11.00	8.00	4.00	1.000	1.000	8.00
8	X	6	X	7/8	X	39.1	L	39.05	56.6	318.7	444.9	2.23	7.9	1.4	11.48	8.00	6.00	.875	.875	7.00
8	X	6	X	1	X	44.2	L	44.20	62.8	330.7	488.3	2.31	7.8	1.5	13.00	8.00	6.00	1.000	1.000	8.00
10	X	4	X		X	41.1	C	33.95	50.2	361.8	495.9	2.37	9.9	1.4	9.99	10.00	4.32	.575	.796	7.96
12	X	3	1/2	X	X	30.9	C	24.48	45.7	418.7	546.1	2.53	11.9	1.3	7.20	12.00	3.45	.600	.450	5.40
12	X	3	X		X	30.0	C	25.34	43.3	401.3	518.3	2.46	12.0	1.3	7.45	12.00	3.17	.501	.510	6.12
12	X	3	1/2	X	X	32.9	C	26.52	48.2	426.8	574.4	2.59	11.9	1.3	7.80	12.00	3.50	.600	.500	6.00
12	X	4	X		X	35.0	C	26.91	52.4	448.6	622.0	2.69	11.9	1.4	7.92	12.00	3.77	.700	.467	5.60
12	X	3	1/2	X	X	37.0	C	30.60	53.3	441.5	630.0	2.69	11.8	1.4	9.00	12.00	3.60	.600	.600	7.20
12	X	4	X		X	40.0	C	31.93	58.6	464.2	689.3	2.81	11.8	1.5	9.39	12.00	3.89	.700	.590	7.08
12	X	4	X		X	45.0	C	36.90	64.7	477.7	754.6	2.91	11.7	1.6	10.85	12.00	4.01	.700	.712	8.54
12	X	4	X		X	50.0	C	41.93	70.8	489.9	819.6	3.01	11.6	1.7	12.33	12.00	4.14	.700	.835	10.02
13	X	4	X		X	31.8	C	24.09	52.1	486.4	670.4	2.80	12.9	1.4	7.09	13.00	4.00	.610	.375	4.88
13	X	4	X		X	35.0	C	27.27	56.3	498.1	720.9	2.89	12.8	1.4	8.02	13.00	4.07	.610	.447	5.81
13	X	4	X		X	40.0	C	32.28	63.0	514.7	799.7	3.02	12.7	1.6	9.49	13.00	4.19	.610	.560	7.28
13	X	4	X		X	50.0	C	42.30	76.0	541.4	950.2	3.24	12.5	1.8	12.44	13.00	4.41	.610	.787	10.23
15	X	3	3/8	X	X	33.9	C	27.03	61.4	587.5	903.6	3.24	14.7	1.5	7.95	15.00	3.40	.650	.400	6.00
15	X	3	3/8	X	X	40.0	C	33.15	70.7	610.4	1029.0	3.42	14.6	1.7	9.75	15.00	3.52	.650	.520	7.80
15	X	4	X		X	50.0	C	41.02	89.1	663.6	1276.5	3.76	14.3	1.9	12.06	15.00	4.00	.797	.625	9.38
15	X	3	3/8	X	X	50.0	C	43.15	85.6	640.6	1226.6	3.68	14.3	1.9	12.69	15.00	3.72	.650	.716	10.74
15	X	4	X		X	53.2	C	44.23	93.8	670.6	1337.4	3.83	14.3	2.0	13.01	15.00	4.06	.797	.688	10.32
15	X	4	X		X	56.4	C	47.46	98.6	677.6	1398.8	3.90	14.2	2.1	13.96	15.00	4.13	.797	.751	11.27

(50T) PLATE WEIGHT = 51.000 LBS. (1.2500 IN.)

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TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																

(50T = 62.500 IN.) PLATE WEIGHT = 51.000 LBS. (1.2500 IN.) EFFECTIVE PLATE AREA = 78.125 SQ. IN.																
NOMINAL SIZE				SECTION MODULUS								BEAM DIMENSIONS				
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2

15	X 4	X	X 59.6 C	50.61	103.2	683.8	1457.1	3.96	14.1	2.1	14.89	15.00	4.19	.797	.813	12.20
15	X 4	X	X 62.8 C	53.82	107.8	689.7	1515.4	4.02	14.1	2.2	15.83	15.00	4.25	.797	.876	13.14
15	X 4	X	X 65.9 C	56.93	112.3	695.2	1571.3	4.07	14.0	2.3	16.74	15.00	4.31	.797	.937	14.06
15	X 4	X	X 69.1 C	60.13	116.9	700.5	1628.0	4.12	13.9	2.3	17.69	15.00	4.37	.797	1.000	15.00
15	X 4	X	X 75.0 C	66.06	125.4	710.0	1731.8	4.21	13.8	2.4	19.43	15.00	4.49	.797	1.116	16.74
18	X 4	X	X 42.7 C	34.98	90.0	793.6	1555.4	4.19	17.3	2.0	10.29	18.00	3.95	.625	.450	8.10
18	X 4	X	X 45.8 C	38.04	95.4	803.0	1640.9	4.29	17.2	2.0	11.19	18.00	4.00	.625	.500	9.00
18	X 4	X	X 51.9 C	44.16	106.1	819.9	1808.3	4.46	17.0	2.2	12.99	18.00	4.10	.625	.600	10.80
18	X 4	X	X 58.0 C	50.28	116.7	834.7	1971.1	4.61	16.9	2.4	14.79	18.00	4.20	.625	.700	12.60

(50T) PLATE WEIGHT = 51.000 LBS. (1.2500 IN.)

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																
(50T = 68.750 IN.) PLATE WEIGHT = 56.100 LBS. (1.3750 IN.) EFFECTIVE PLATE AREA = 94.531 SQ. IN.																
NOMINAL SIZE				WT/FT	SECTION MODULUS				BEAM DIMENSIONS							
					FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
8	X 6	X 1	X 44.2 L	44.20	64.3	361.1	511.7	2.16	8.0	1.4	13.00	8.00	6.00	1.000	1.000	8.00
12	X 4	X	X 40.0 C	31.93	59.6	502.9	712.8	2.62	12.0	1.4	9.39	12.00	3.89	.700	.590	7.08
12	X 4	X	X 45.0 C	36.90	65.8	521.0	781.5	2.72	11.9	1.5	10.85	12.00	4.01	.700	.712	8.54
12	X 4	X	X 50.0 C	41.93	72.1	537.5	850.1	2.82	11.8	1.6	12.33	12.00	4.14	.700	.835	10.02
13	X 4	X	X 35.0 C	27.27	57.2	537.3	743.2	2.69	13.0	1.4	8.02	13.00	4.07	.610	.447	5.81
13	X 4	X	X 40.0 C	32.28	64.0	559.6	825.6	2.82	12.9	1.5	9.49	13.00	4.19	.610	.560	7.28
13	X 4	X	X 50.0 C	42.30	77.3	595.9	984.0	3.03	12.7	1.7	12.44	13.00	4.41	.610	.787	10.23
358	15	X 3 3/8 X	X 33.9 C	27.03	62.3	636.6	928.9	3.01	14.9	1.5	7.95	15.00	3.40	.650	.400	6.00
	15	X 3 3/8 X	X 40.0 C	33.15	71.7	667.8	1059.9	3.19	14.8	1.6	9.75	15.00	3.52	.650	.520	7.80
	15	X 4 X	X 50.0 C	41.02	90.4	734.7	1317.7	3.52	14.6	1.8	12.06	15.00	4.00	.797	.625	9.38
	15	X 3 3/8 X	X 50.0 C	43.15	85.9	709.1	1267.4	3.44	14.6	1.8	12.69	15.00	3.72	.650	.716	10.74
	15	X 4 X	X 53.2 C	44.23	95.2	744.8	1381.9	3.58	14.5	1.9	13.01	15.00	4.06	.797	.688	10.32
	15	X 4 X	X 56.4 C	47.46	100.1	754.7	1446.9	3.65	14.5	1.9	13.96	15.00	4.13	.797	.751	11.27
	15	X 4 X	X 59.6 C	50.61	104.8	763.4	1508.6	3.71	14.4	2.0	14.89	15.00	4.19	.797	.813	12.20
	15	X 4 X	X 62.8 C	53.82	109.5	771.8	1570.5	3.77	14.3	2.0	15.83	15.00	4.25	.797	.876	13.14
	15	X 4 X	X 65.9 C	56.93	114.1	779.5	1629.9	3.83	14.3	2.1	16.74	15.00	4.31	.797	.937	14.06
	15	X 4 X	X 69.1 C	60.13	118.8	787.0	1690.3	3.88	14.2	2.1	17.69	15.00	4.37	.797	1.000	15.00
15	X 4 X	X 75.0 C	66.06	127.5	800.1	1801.1	3.98	14.1	2.3	19.43	15.00	4.49	.797	1.116	16.74	
18	X 4 X	X 42.7 C	34.98	91.0	878.3	1598.1	3.90	17.6	1.8	10.29	18.00	3.95	.625	.450	8.10	
18	X 4 X	X 45.8 C	38.04	96.5	891.8	1687.7	4.00	17.5	1.9	11.19	18.00	4.00	.625	.500	9.00	
18	X 4 X	X 51.9 C	44.16	107.5	916.1	1863.6	4.16	17.3	2.0	12.99	18.00	4.10	.625	.600	10.80	
18	X 4 X	X 58.0 C	50.28	118.3	937.2	2035.4	4.31	17.2	2.2	14.79	18.00	4.20	.625	.700	12.60	

(50T) PLATE WEIGHT = 56.100 LBS. (1.3750 IN.)

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																	
(50T = 75.000 IN.) PLATE WEIGHT = 61.200 LBS. (1.5000 IN.) EFFECTIVE PLATE AREA = 112.500 SQ. IN.																	
NOMINAL SIZE				SECTION MODULUS								BEAM DIMENSIONS					
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
12	X 4	X	X 50.0 C	41.93	73.4	577.9	879.4	2.65	12.0	1.5	12.33	12.00	4.14	.700	.835	10.02	
13	X 4	X	X 50.0 C	42.30	78.7	642.5	1016.1	2.85	12.9	1.6	12.44	13.00	4.41	.610	.787	10.23	
15	X 3 3/8	X	X 40.0 C	33.15	72.7	715.5	1009.3	2.99	15.0	1.5	9.75	15.00	3.52	.650	.520	7.80	
15	X 4	X	X 50.0 C	41.02	91.6	796.5	1356.0	3.30	14.8	1.7	12.06	15.00	4.00	.797	.625	9.38	
15	X 3 3/8	X	X 50.0 C	43.15	88.2	768.7	1305.5	3.23	14.8	1.7	12.69	15.00	3.72	.650	.716	10.74	
15	X 4	X	X 53.2 C	44.23	96.5	810.0	1423.2	3.37	14.7	1.8	13.01	15.00	4.06	.797	.688	10.32	
15	X 4	X	X 56.4 C	47.46	101.5	823.1	1491.3	3.43	14.7	1.8	13.96	15.00	4.13	.797	.751	11.27	
359	15	X 4	X	X 59.6 C	50.61	106.3	834.7	1556.1	3.50	14.6	1.9	14.89	15.00	4.19	.797	.813	12.20
	15	X 4	X	X 62.8 C	53.82	111.2	845.9	1621.1	3.55	14.6	1.9	15.83	15.00	4.25	.797	.876	13.14
	15	X 4	X	X 65.9 C	56.93	115.8	856.2	1683.7	3.61	14.5	2.0	16.74	15.00	4.31	.797	.937	14.06
	15	X 4	X	X 69.1 C	60.13	120.6	866.2	1747.3	3.66	14.5	2.0	17.69	15.00	4.37	.797	1.000	15.00
	15	X 4	X	X 75.0 C	66.06	129.6	883.7	1864.3	3.76	14.4	2.1	19.43	15.00	4.49	.797	1.116	16.74
	18	X 4	X	X 42.7 C	34.98	92.1	951.2	1637.6	3.65	17.8	1.7	10.29	18.00	3.95	.625	.450	8.10
	18	X 4	X	X 45.8 C	38.04	97.7	969.3	1730.7	3.74	17.7	1.8	11.19	18.00	4.00	.625	.500	9.00
	18	X 4	X	X 51.9 C	44.16	108.8	1001.8	1914.1	3.91	17.6	1.9	12.99	18.00	4.10	.625	.600	10.80
	18	X 4	X	X 58.0 C	50.28	119.9	1030.3	2093.6	4.06	17.5	2.0	14.79	18.00	4.20	.625	.700	12.60

(50T) PLATE WEIGHT = 61.200 LBS. (1.5000 IN.)

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

PROPERTIES OF COMBINED BEAM AND PLATE C-L AND L																	

(50T = 87.500 IN.) PLATE WEIGHT = 71.400 LBS. (1.7500 IN.) EFFECTIVE PLATE AREA = 153.125 SQ. IN.																	
NOMINAL SIZE				SECTION MODULUS				BEAM DIMENSIONS									
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
15	X 4	X	X 62.8 C	53.82	114.5	967.6	1715.2	3.19	15.0	1.8	15.83	15.00	4.25	.797	.876	13.14	
15	X 4	X	X 65.9 C	56.93	119.4	983.6	1783.1	3.24	14.9	1.8	16.74	15.00	4.31	.797	.937	14.06	
15	X 4	X	X 69.1 C	60.13	124.3	999.2	1852.3	3.29	14.9	1.9	17.69	15.00	4.37	.797	1.000	15.00	
15	X 4	X	X 75.0 C	66.06	133.6	1026.5	1979.8	3.39	14.8	1.9	19.43	15.00	4.49	.797	1.116	16.74	
18	X 4	X	X 51.9 C	44.16	111.6	1139.4	2007.1	3.48	18.0	1.8	12.99	18.00	4.10	.625	.600	10.80	
18	X 4	X	X 58.0 C	50.28	122.9	1184.0	2199.6	3.62	17.9	1.9	14.79	18.00	4.20	.625	.700	12.60	

(50T) PLATE WEIGHT = 71.400 LBS. (1.7500 IN.)

TABLE XIV. Properties of tee-beams cut from wide flange shapes.

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES													
SIZE DESCRIPTION		WT/FT	A	CTOE	IO	D	TH	WF	TF				
IN X	IN X	LBS/FT	LBS	IN2	IN	IN4	IN	IN	IN	IN			
CF	W 04 X	13											
	4 X 4	X	8.4	I-T	8.4	2.47	3.09	3.93	4.16	.280	4.06	.345	
CF	W 05 X	16											
	5 X 5	X	9.9	I-T	9.9	2.92	3.87	6.35	5.01	.240	5.00	.360	
CF	W 05 X	19											
	5 X 5	X	11.7	I-T	11.7	3.44	3.98	7.72	5.15	.270	5.03	.430	
CF	W 06 X	9											
	6 X 4	X	6.2	I-T	6.2	1.81	4.22	6.53	5.90	.170	3.94	.215	
CF	W 06 X	12											
	6 X 4	X	8.3	I-T	8.3	2.44	4.26	9.16	6.03	.230	4.00	.280	
CF	W 06 X	16											
	6 X 4	X	10.7	I-T	10.7	3.16	4.56	12.20	6.28	.260	4.03	.405	
CF	W 06 X	15											
	6 X 6	X	9.8	I-T	9.8	2.88	4.49	10.02	5.99	.230	5.99	.260	

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES													
SIZE DESCRIPTION				WT/FT	A	CTOE	IO	D	TM	WF	TF		
IN	X	IN	X	LBS/FT	LBS	IN ²	IN	IN ⁴	IN	IN	IN	IN	IN
CF	W	06	X	20									
6	X	6	X	12.6	I-T	12.6	3.71	4.75	12.95	6.20	.260	6.02	.365
CF	W	06	X	25									
6	X	6	X	15.9	I-T	15.9	4.66	4.86	17.04	6.38	.320	6.08	.455
CF	W	08	X	10									
4	X	4	X	4.9	T	4.9	1.44	2.97	2.13	3.95	.170	3.94	.205
8	X	4	X	7.2	I-T	7.2	2.11	5.35	14.20	7.89	.170	3.94	.205
CF	W	08	X	13									
4	X	4	X	6.4	T	6.4	1.88	2.95	2.87	4.00	.230	4.00	.255
8	X	4	X	9.5	I-T	9.5	2.80	5.32	19.22	7.99	.230	4.00	.255
CF	W	08	X	15									
4	X	4	X	7.4	T	7.4	2.18	3.05	3.26	4.06	.245	4.02	.315
8	X	4	X	10.8	I-T	10.8	3.17	5.51	22.19	8.11	.245	4.02	.315
CF	W	08	X	18									
8	X	5 1/4	X	12.0	I-T	12.0	3.53	5.90	23.76	8.14	.230	5.25	.330

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES												
SIZE DESCRIPTION			WT/FT	A	CTOE	IO	D	TW	WF	TF		
IN X	IN X	LBS/FT	LBS	IN2	IN	IN4	IN	IN	IN	IN	IN	IN
CF	W 08 X	21										
	8 X	5 1/4 X	13.9	T-T	13.9	4.08	6.08	27.68	8.28	.250	5.27	.400
CF	W 08 X	24										
	8 X	6 1/2 X	15.1	T-T	15.1	4.44	6.08	25.71	7.93	.245	6.50	.400
CF	W 08 X	28										
	8 X	6 1/2 X	17.7	T-T	17.7	5.20	6.15	30.99	8.06	.285	6.54	.465
CF	W 08 X	31										
	8 X	8 X	19.2	T-T	19.2	5.63	6.25	31.63	8.00	.285	6.00	.435
CF	W 08 X	35										
	8 X	8 X	21.5	T-T	21.5	6.33	6.36	35.96	8.12	.310	6.02	.495
CF	W 08 X	40										
	8 X	8 X	24.8	T-T	24.8	7.29	6.40	42.97	8.25	.360	6.07	.560
CF	W 08 X	48										
	9 X	8 X	29.5	T-T	29.5	8.68	6.63	52.26	8.50	.400	6.11	.605

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES													
SIZE DESCRIPTION		WT/FT	A	CTOE	IO	D	TW	WF	TF				
IN X	IN X	LRS/FT								IN	IN	IN	IN
CF W	08 X	58											
9 X	8 1/4 X	36.4	I-T	36.4	10.71	6.69	69.83	8.75	.510	8.22	.810		
CF W	08 X	67											
9 X	8 1/4 X	42.0	I-T	42.0	12.34	6.86	83.89	9.00	.570	8.28	.935		
CF HP	08 X	36											
8 X	8 1/4 X	23.8	HP-T	23.8	7.00	5.87	44.28	8.02	.445	8.16	.445		
CF W	10 X	12											
5 X	4	X	5.9	T	5.9	1.73	3.55	4.30	4.94	.190	3.95	.210	
10 X	4	X	9.1	I-T	9.1	2.67	6.37	28.21	9.87	.190	3.95	.210	
CF W	10 X	15											
5 X	4	X	7.4	T	7.4	2.17	3.61	5.41	5.00	.230	4.00	.270	
10 X	4	X	11.3	I-T	11.3	3.32	6.49	35.78	9.99	.230	4.00	.270	
CF W	10 X	17											
5 X	4	X	8.4	T	8.4	2.46	3.72	6.02	5.06	.240	4.01	.330	
10 X	4	X	12.5	I-T	12.5	3.67	6.71	40.34	10.11	.240	4.01	.330	

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

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TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES														
SIZE DESCRIPTION				WT/FT	A	GTOE	IO	D	TH	WF	TF			
IN	X	IN	X	LBS/FT	LBS	IN ²	IN	IN ⁴	IN	IN	IN	IN	IN	
CF	W	10	X	19										
	5	X	4	X	9.4	T	9.4	2.77	3.83	6.66	5.12	.250	4.02	.395
	10	X	4	X	13.8	I-T	13.8	4.05	6.93	45.20	10.24	.250	4.02	.395
CF	W	10	X	22										
	10	X	5 3/4	X	15.0	I-T	15.0	4.42	7.28	47.39	10.17	.240	5.75	.360
CF	W	10	X	26										
	10	X	5 3/4	X	17.4	I-T	17.4	5.11	7.51	55.08	10.33	.260	5.77	.440
CF	W	10	X	30										
	10	X	5 3/4	X	20.2	I-T	20.2	5.95	7.59	65.54	10.47	.300	5.81	.510
CF	W	10	X	33										
	10	X	8	X	20.9	I-T	20.9	6.16	7.38	55.33	9.73	.290	7.96	.435
CF	W	10	X	39										
	10	X	8	X	24.4	I-T	24.4	7.19	7.61	64.66	9.92	.315	7.99	.530
CF	W	10	X	45										
	10	X	8	X	28.2	I-T	28.2	8.29	7.77	75.76	10.10	.350	8.02	.620

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES												
SIZE DESCRIPTION				WT/FT	A	CTOE	IO	D	TW	WF	TF	
IN X	IN X	LBS/FT		LBS	IN2	IN	IN4	IN	IN	IN	IN	
CF	W 10 X	49										
	10 X 10	X 29.9	I-T	29.9	8.80	7.80	74.56	9.98	.340	10.00	.560	
CF	W 10 X	54										
	10 X 10	X 32.9	I-T	32.9	9.67	7.95	83.32	10.09	.370	10.03	.615	
CF	W 10 X	60										
	10 X 10	X 36.9	I-T	36.9	10.86	7.99	96.68	10.22	.420	10.08	.680	
CF	W 10 X	68										
	10 X 10 1/4 X	41.9	I-T	41.9	12.33	8.11	112.81	10.40	.470	10.13	.770	
CF	W 10 X	77										
	11 X 10 1/4 X	47.7	I-T	47.7	14.02	8.22	132.83	10.60	.530	10.19	.870	
CF	W 10 X	88										
	11 X 10 1/4 X	54.8	I-T	54.8	16.12	8.34	159.36	10.84	.605	10.27	.990	
CF	W 10 X	100										
	11 X 10 1/4 X	62.4	I-T	62.4	18.37	8.49	189.34	11.10	.680	10.34	1.120	

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES												
SIZE DESCRIPTION				WT/FT	A	CTOE	IO	D	TW	WF	TF	
IN X	IN Y	LBS/FT		LBS	IN ²	IN	IN ⁴	IN	IN	IN	IN	
CF W 10 X 112												
11 X	10 1/2 X	70.2	I-T	70.2	20.65	8.64	221.95	11.36	.755	10.42	1.250	
CF HP 10 X 42												
10 X	10	X 27.5	HP-T	27.5	8.08	7.18	75.13	9.70	.415	10.08	.420	
CF HP 10 X 57												
10 X	10 1/4 X	37.7	HP-T	37.7	11.10	7.31	108.71	9.99	.565	10.23	.565	
CF W 12 X 14												
4 X	4	X 5.6	T	5.6	1.64	2.94	2.46	3.96	.200	3.97	.225	
5 X	4	X 6.3	T	6.3	1.84	3.57	4.59	4.96	.200	3.97	.225	
6 X	4	X 6.9	T	6.9	2.04	4.17	7.59	5.96	.200	3.97	.225	
7 X	4	X 7.6	T	7.6	2.24	4.75	11.58	6.96	.200	3.97	.225	
8 X	4	X 8.3	T	8.3	2.44	5.32	16.66	7.96	.200	3.97	.225	
9 X	4	X 9.0	T	9.0	2.64	5.88	22.94	8.96	.200	3.97	.225	
10 X	4	X 9.7	T	9.7	2.84	6.43	30.62	9.96	.200	3.97	.225	
11 X	4	X 10.3	T	10.3	3.04	6.97	39.92	10.96	.200	3.97	.225	
12 X	4	X 11.0	I-T	11.0	3.23	7.49	49.51	11.91	.200	3.97	.225	
CF W 12 X 16												
4 X	4	X 6.4	T	6.4	1.88	2.99	2.80	4.00	.220	3.99	.265	
5 X	4	X 7.1	T	7.1	2.10	3.62	5.22	5.00	.220	3.99	.265	
6 X	4	X 7.9	T	7.9	2.32	4.23	8.62	6.00	.220	3.99	.265	
7 X	4	X 8.6	T	8.6	2.54	4.82	13.14	7.00	.220	3.99	.265	

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES													
SIZE DESCRIPTION					WT/FT	A	CTOE	IO	D	TW	WF	TF	
IN	Y	IN	X	LBS/FT	LBS	IN ²	IN	IN ⁴	IN	IN	IN	IN	
8	X	4	X	9.4	T	9.4	2.76	5.40	18.89	8.00	.220	3.99	.265
9	X	4	X	10.1	T	10.1	2.98	5.96	26.00	9.00	.220	3.99	.265
10	X	4	X	10.9	T	10.9	3.20	6.52	34.57	10.00	.220	3.99	.265
11	X	4	X	11.6	T	11.6	3.42	7.07	44.72	11.00	.220	3.99	.265
12	X	4	Y	12.4	T-T	12.4	3.64	7.61	56.51	11.99	.220	3.99	.265
CF W 12 X 19													
4	X	4	X	7.7	T	7.7	2.28	3.12	3.27	4.08	.235	4.01	.350
5	X	4	X	8.5	T	8.5	2.51	3.78	6.09	5.08	.235	4.01	.350
6	X	4	X	9.3	T	9.3	2.75	4.42	10.05	6.08	.235	4.01	.350
7	X	4	X	10.1	T	10.1	2.98	5.03	15.30	7.08	.235	4.01	.350
8	X	4	Y	10.9	T	10.9	3.22	5.62	21.97	8.08	.235	4.01	.350
9	X	4	X	11.7	T	11.7	3.45	6.21	30.21	9.08	.235	4.01	.350
10	X	4	Y	12.5	T	12.5	3.69	6.78	40.13	10.08	.235	4.01	.350
11	X	4	X	13.3	T	13.3	3.92	7.34	51.86	11.08	.235	4.01	.350
12	X	4	X	14.2	T-T	14.2	4.18	7.95	66.70	12.16	.235	4.01	.350
CF W 12 X 22													
4	Y	4	X	9.1	T	9.1	2.68	3.19	3.82	4.16	.260	4.03	.425
5	X	4	X	10.0	T	10.0	2.94	3.87	7.07	5.16	.260	4.03	.425
6	X	4	X	10.9	T	10.9	3.20	4.51	11.65	6.16	.260	4.03	.425
7	X	4	X	11.8	T	11.8	3.46	5.13	17.71	7.16	.260	4.03	.425
8	X	4	X	12.7	T	12.7	3.72	5.74	25.41	8.16	.260	4.03	.425
9	X	4	Y	13.5	T	13.5	3.98	6.33	34.90	9.16	.260	4.03	.425
10	Y	4	X	14.4	T	14.4	4.24	6.91	46.31	10.16	.260	4.03	.425
11	Y	4	X	15.3	T	15.3	4.50	7.49	59.81	11.16	.260	4.03	.425
12	X	4	X	16.3	T-T	16.3	4.80	8.14	78.15	12.31	.260	4.03	.425
CF W 12 X 26													
7	X	6 1/2	X	5.5	T	5.5	1.61	3.50	6.57	7.00	.230	6.49	.380

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES														
SIZE DESCRIPTION				WT/FT	A	CTOE	IO	D	TW	WF	TF			
IN	X	IN	X	LBS/FT	LBS	IN2	IN	IN4	IN	IN	IN	IN		
8	X	6	1/2	X	6.3	T	6.3	1.84	4.00	9.81	8.00	.230	6.49	.380
9	X	6	1/2	X	7.0	T	7.0	2.07	4.50	13.97	9.00	.230	6.49	.380
10	X	6	1/2	X	7.8	T	7.8	2.30	5.00	19.17	10.00	.230	6.49	.380
12	X	6	1/2	X	17.6	I-T	17.6	5.19	8.82	80.16	12.22	.230	6.49	.380
CF W 12 X 30														
7	X	6	1/2	X	6.2	T	6.2	1.82	3.50	7.43	7.00	.260	6.52	.440
8	X	6	1/2	X	7.1	T	7.1	2.08	4.00	11.09	8.00	.260	6.52	.440
9	X	6	1/2	X	8.0	T	8.0	2.34	4.50	15.80	9.00	.260	6.52	.440
10	X	6	1/2	X	8.8	T	8.8	2.60	5.00	21.67	10.00	.260	6.52	.440
12	X	6	1/2	X	20.3	I-T	20.3	5.96	8.92	93.23	12.34	.260	6.52	.440
CF W 12 X 35														
7	X	6	1/2	X	7.1	T	7.1	2.10	3.50	8.58	7.00	.300	6.56	.520
8	X	6	1/2	X	8.2	T	8.2	2.40	4.00	12.80	8.00	.300	6.56	.520
9	X	6	1/2	X	9.2	T	9.2	2.70	4.50	18.23	9.00	.300	6.56	.520
10	X	6	1/2	X	10.2	T	10.2	3.00	5.00	25.00	10.00	.300	6.56	.520
13	X	6	1/2	X	23.8	I-T	23.8	7.01	9.03	111.42	12.50	.300	6.56	.520
CF W 12 X 40														
8	X	8		X	8.0	T	8.0	2.36	4.00	12.59	8.00	.295	8.01	.515
9	X	8		X	9.0	T	9.0	2.66	4.50	17.92	9.00	.295	8.01	.515
10	X	8		X	10.0	T	10.0	2.95	5.00	24.58	10.00	.295	8.01	.515
12	X	8		X	25.5	I-T	25.5	7.49	9.00	102.84	11.94	.295	8.01	.515
CF W 12 X 45														
8	X	8		X	9.1	T	9.1	2.68	4.00	14.29	8.00	.335	8.05	.575
9	X	8		X	10.3	T	10.3	3.02	4.50	20.35	9.00	.335	8.05	.575

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES												
SIZE DESCRIPTION			WT/FT	A	CTOE	IO	D	TW	WF	TF		
IN X	IN X	LBS/FT	LBS	IN ²	IN	IN ⁴	IN	IN	IN	IN	IN	IN
10 X	8	X 11.4	T	11.4	3.35	5.00	27.92	10.00	.335	8.05	.575	
12 X	8	X 28.8	T-T	28.8	8.47	9.03	118.79	12.06	.335	8.05	.575	
CF W	12 X	50										
8 X	8	X 10.1	T	10.1	2.96	4.00	15.79	8.00	.370	8.08	.640	
9 X	8	X 11.3	T	11.3	3.33	4.50	22.48	9.00	.370	8.08	.640	
10 X	8	X 12.6	T	12.6	3.70	5.00	30.83	10.00	.370	8.08	.640	
12 X	8	X 32.1	T-T	32.1	9.44	9.11	134.61	12.19	.370	8.08	.640	
CF W	12 X	53										
10 X	10	X 11.7	T	11.7	3.45	5.00	28.75	10.00	.345	10.00	.575	
12 X	10	X 33.0	I-T	33.0	9.71	9.31	128.99	12.06	.345	10.00	.575	
CF W	12 X	58										
10 X	10	X 12.2	T	12.2	3.60	5.00	30.00	10.00	.360	10.01	.640	
12 X	10	X 35.9	I-T	35.9	10.56	9.47	140.11	12.19	.360	10.01	.640	
CF W	12 X	65										
12 X	12	X 40.0	I-T	40.0	11.75	9.50	151.74	12.12	.390	12.00	.605	
CF W	12 X	72										
12 X	12	X 44.4	I-T	44.4	13.05	9.58	171.45	12.25	.430	12.04	.670	

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES											
SIZE DESCRIPTION		WT/FT	A	CTOE	IO	D	TW	WF	TF		
IN X TN X	LBS/FT	LBS	IN2	IN	IN4	IN	IN	IN	IN	IN	IN
CF W 12 X 79											
12 X 12	X 48.8 I-T	48.8	14.35	9.65	191.99	12.38	.470	12.08	.735		
CF W 12 X 87											
13 X 12 1/4 X	53.9 I-T	53.9	15.86	9.74	216.36	12.53	.515	12.13	.810		
CF W 12 X 96											
13 X 12 1/4 X	59.3 I-T	59.3	17.44	9.89	240.86	12.71	.550	12.16	.900		
CF W 12 X 106											
13 X 12 1/4 X	65.8 I-T	65.8	19.36	9.98	275.10	12.89	.610	12.22	.990		
CF W 12 X 120											
13 X 12 1/4 X	75.3 I-T	75.3	22.14	10.04	329.69	13.12	.710	12.32	1.105		
CF W 12 X 136											
13 X 12 1/2 X	85.4 I-T	85.4	25.11	10.22	387.02	13.41	.790	12.40	1.250		
CF W 12 X 152											
14 X 12 1/2 X	95.8 I-T	95.8	28.18	10.40	450.11	13.71	.870	12.48	1.400		

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES										
SIZE DESCRIPTION		WT/FT	A	GTOE	IO	O	TW	HF	TF	
IN X IN X LBS/FT		LBS	IN ²	IN	IN ⁴	IN	IN	IN	IN	IN
CF W 12 X 170										
14 X 12 1/2 X 107.4	I-T	107.4	31.58	10.59	524.90	14.03	.960	12.57	1.560	
CF W 12 X 190										
14 X 12 3/4 X 120.3	I-T	120.3	35.39	10.79	614.57	14.38	1.060	12.67	1.735	
CF W 12 X 210										
15 X 12 3/4 X 134.0	I-T	134.0	39.42	10.94	718.14	14.71	1.180	12.79	1.900	
CF W 12 X 230										
15 X 13 X 147.5	I-T	147.5	43.37	11.12	824.97	15.05	1.285	12.90	2.070	
CF W 12 X 252										
15 X 13 X 161.9	I-T	161.9	47.62	11.31	947.00	15.41	1.395	13.01	2.250	
CF W 12 X 279										
16 X 13 1/4 X 180.0	I-T	180.0	52.93	11.55	1110.33	15.85	1.530	13.14	2.470	
CF W 12 X 305										
16 X 13 1/4 X 196.9	I-T	196.9	57.93	11.85	1274.08	16.32	1.625	13.24	2.705	

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES											
SIZE DESCRIPTION		WT/FT	A	CTOE	I _O	D	TW	WF	TF		
IN X	IN X	LBS/FT	LBS	IN ²	IN	IN ⁴	IN	IN	IN	IN	IN
CF W	12 X	336									
17 X	13 1/2 X	218.2 I-T	218.2	64.16	12.12	1496.04	16.82	1.775	13.39	2.955	
CF HP	12 X	53									
12 X	12 X	34.6 HP-T	34.6	10.17	8.71	141.18	11.78	.435	12.05	.435	
CF HP	12 X	63									
12 X	12 1/4 X	41.2 HP-T	41.2	12.13	8.79	172.11	11.94	.515	12.13	.515	
CF HP	12 X	74									
12 X	12 1/4 X	49.0 HP-T	49.0	14.42	8.89	209.78	12.13	.605	12.22	.610	
CF HP	12 X	84									
12 X	12 1/4 X	55.6 HP-T	55.6	16.36	8.96	243.42	12.28	.685	12.30	.685	
CF HP	13 X	60									
13 X	13 X	39.1 HP-T	39.1	11.49	9.28	180.49	12.54	.460	12.90	.460	
CF HP	13 X	73									
13 X	13 X	48.4 HP-T	48.4	14.23	9.38	229.83	12.75	.565	13.01	.565	

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES												
SIZF DESCRIPTION				WT/FT	A	CTOE	IO	D	TW	WF	TF	
IN	X	IN	X	LRS/FT	LRS	IN2	IN	IN4	IN	IN	IN	
CF HP 13 X 87												
13	X	13	X	57.4 HP-T	57.4	16.88	9.48	279.85	12.95	.665	13.11	.665
CF HP 13 X 100												
13	X	13 1/4	X	66.6 HP-T	66.6	19.58	9.59	332.96	13.15	.765	13.21	.765
CF W 14 X 22												
5	X	5	X	9.2 T	9.2	2.72	3.77	5.61	4.87	.230	5.00	.335
6	X	5	X	10.0 T	10.0	2.95	4.44	9.50	5.87	.230	5.00	.335
7	X	5	X	10.8 T	10.8	3.18	5.08	14.71	6.87	.230	5.00	.335
8	X	5	X	11.6 T	11.6	3.41	5.70	21.40	7.87	.230	5.00	.335
9	X	5	X	12.4 T	12.4	3.64	6.31	29.71	8.87	.230	5.00	.335
10	X	5	X	13.2 T	13.2	3.87	6.90	39.76	9.87	.230	5.00	.335
11	X	5	X	13.9 T	13.9	4.10	7.49	51.68	10.87	.230	5.00	.335
12	X	5	X	14.7 T	14.7	4.33	8.06	65.60	11.87	.230	5.00	.335
13	X	5	X	15.5 T	15.5	4.56	8.63	81.64	12.87	.230	5.00	.335
14	X	5	X	16.2 I-T	16.2	4.76	9.12	97.41	13.74	.230	5.00	.335
CF W 14 X 26												
5	X	5	X	11.1 T	11.1	3.27	3.87	6.60	4.96	.255	5.03	.420
6	X	5	X	12.0 T	12.0	3.52	4.55	11.13	5.96	.255	5.03	.420
7	X	5	X	12.8 T	12.8	3.78	5.21	17.22	6.96	.255	5.03	.420
8	X	5	X	13.7 T	13.7	4.03	5.85	25.03	7.96	.255	5.03	.420
9	X	5	X	14.6 T	14.6	4.29	6.47	34.72	8.96	.255	5.03	.420
10	X	5	X	15.4 T	15.4	4.54	7.08	46.44	9.96	.255	5.03	.420
11	X	5	X	16.3 T	16.3	4.80	7.68	60.34	10.96	.255	5.03	.420
12	X	5	X	17.2 T	17.2	5.05	8.26	76.55	11.96	.255	5.03	.420

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

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TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES												
SIZE DESCRIPTION			WT/FT	A	CTOE	IO	O	TW	WF	TF		
IN	X	IN	LBS/FT	LBS	IN ²	IN	IN ⁴	IN	IN	IN	IN	IN
13	X	5	Y 18.0	T	18.0	5.31	8.84	95.22	12.96	.255	5.03	.420
14	X	5	X 18.9	I-T	18.9	5.55	9.39	115.47	13.91	.255	5.03	.420
CF W 14 X 30												
7	X	6 3/4	X 14.8	T	14.8	4.36	5.33	18.88	6.92	.270	6.73	.385
8	X	6 3/4	X 15.7	T	15.7	4.63	5.99	27.53	7.92	.270	6.73	.385
9	X	6 3/4	X 16.6	T	16.6	4.90	6.63	38.28	8.92	.270	6.73	.385
10	X	6 3/4	X 17.6	T	17.6	5.17	7.26	51.31	9.92	.270	6.73	.385
11	X	6 3/4	X 18.5	T	18.5	5.44	7.87	66.76	10.92	.270	6.73	.385
12	X	6 3/4	X 19.4	T	19.4	5.71	8.47	84.81	11.92	.270	6.73	.385
13	X	6 3/4	X 20.3	T	20.3	5.98	9.07	105.59	12.92	.270	6.73	.385
14	X	6 3/4	X 21.2	I-T	21.2	6.22	9.61	127.26	13.84	.270	6.73	.385
CF W 14 X 34												
7	X	6 3/4	X 16.8	T	16.8	4.93	5.44	20.84	6.99	.285	6.75	.455
8	X	6 3/4	X 17.7	T	17.7	5.22	6.12	30.38	7.99	.285	6.75	.455
9	X	6 3/4	X 18.7	T	18.7	5.50	6.78	42.24	8.99	.285	6.75	.455
10	X	6 3/4	X 19.7	T	19.7	5.79	7.42	56.60	9.99	.285	6.75	.455
11	X	6 3/4	X 20.6	T	20.6	6.07	8.05	73.65	10.99	.285	6.75	.455
12	X	6 3/4	X 21.6	T	21.6	6.36	8.66	93.55	11.99	.285	6.75	.455
13	X	6 3/4	X 22.6	T	22.6	6.64	9.27	116.47	12.99	.285	6.75	.455
14	X	6 3/4	X 23.5	I-T	23.5	6.92	9.86	142.30	13.98	.285	6.75	.455
CF W 14 X 38												
7	X	6 3/4	X 18.7	T	18.7	5.51	5.50	23.21	7.05	.310	6.77	.515
8	X	6 3/4	X 19.8	T	19.8	5.82	6.18	33.79	8.05	.310	6.77	.515
9	X	6 3/4	X 20.9	T	20.9	6.13	6.84	46.94	9.05	.310	6.77	.515
10	X	6 3/4	X 21.9	T	21.9	6.44	7.49	62.86	10.05	.310	6.77	.515
11	X	6 3/4	X 23.0	T	23.0	6.75	8.12	81.76	11.05	.310	6.77	.515
12	X	6 3/4	X 24.0	T	24.0	7.06	8.74	103.81	12.05	.310	6.77	.515

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES												
SIZE DESCRIPTION				WT/FT	A	CTOE	IO	D	TW	WF	TF	
IN X	IN X	LBS/FT		LBS	IN2	IN	IN4	IN	IN	IN	IN	
13 X	6 3/4 X	25.1	T	25.1	7.37	9.35	129.20	13.05	.310	6.77	.515	
14 X	6 3/4 X	26.2	I-T	26.2	7.70	9.99	159.65	14.10	.310	6.77	.515	
CF W 14 X 43												
8 X	8	X 8.3	T	8.3	2.44	4.00	13.01	8.00	.305	8.00	.530	
9 X	8	X 9.3	T	9.3	2.75	4.50	18.53	9.00	.305	8.00	.530	
10 X	8	X 10.4	T	10.4	3.05	5.00	25.42	10.00	.305	8.00	.530	
14 X	8	X 28.0	I-T	28.0	8.24	10.08	153.68	13.66	.305	8.00	.530	
CF W 14 X 48												
8 X	8	X 9.2	T	9.2	2.72	4.00	14.51	8.00	.340	8.03	.595	
9 X	8	X 10.4	T	10.4	3.06	4.50	20.66	9.00	.340	8.03	.595	
10 X	8	X 11.6	T	11.6	3.40	5.00	28.33	10.00	.340	8.03	.595	
14 X	8	X 31.5	I-T	31.5	9.26	10.15	175.23	13.79	.340	8.03	.595	
CF W 14 X 53												
8 X	8	X 10.1	T	10.1	2.96	4.00	15.79	8.00	.370	8.06	.660	
9 X	8	X 11.3	T	11.3	3.33	4.50	22.48	9.00	.370	8.06	.660	
10 X	8	X 12.6	T	12.6	3.70	5.00	30.83	10.00	.370	8.06	.660	
14 X	8	X 34.8	I-T	34.8	10.23	10.25	195.72	13.92	.370	8.06	.660	
CF W 14 X 61												
10 X	10	X 12.8	T	12.8	3.75	5.00	31.25	10.00	.375	10.00	.645	
14 X	10	X 38.8	I-T	38.8	11.41	10.55	208.15	13.89	.375	10.00	.645	

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES															
SIZE DESCRIPTION			WT/FT	A	CTOE	IO	D	TM	MF	TF					
IN	X	TN	X	LBS/FT	LBS	IN2	IN	IN4	IN	IN	IN	IN			
CF	W	14	X	68											
	10	X	10	X	14.1	T	14.1	4.15	5.00	34.58	10.00	.415	10.04	.720	
	14	X	10	X	43.4	I-T	43.4	12.75	10.64	236.38	14.04	.415	10.04	.720	
CF	W	14	X	74											
	10	X	10	X	15.3	T	15.3	4.50	5.00	37.50	10.00	.450	10.07	.785	
	14	X	10	X	47.4	I-T	47.4	13.93	10.71	261.93	14.17	.450	10.07	.785	
CF	W	14	X	82											
	10	X	10	1/4	X	17.3	T	17.3	5.10	5.00	42.50	10.00	.510	10.13	.855
	14	X	10	1/4	X	52.8	I-T	52.8	15.52	10.72	300.06	14.31	.510	10.13	.855
CF	W	14	X	90											
	14	X	14	1/2	X	55.0	I-T	55.0	16.17	11.13	270.42	14.02	.440	14.52	.710
CF	W	14	X	99											
	14	X	14	1/2	X	60.7	I-T	60.7	17.85	11.20	304.42	14.16	.485	14.57	.780
CF	W	14	X	109											
	14	X	14	1/2	X	66.7	I-T	66.7	19.63	11.31	339.30	14.32	.525	14.61	.860

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES												
SIZE DESCRIPTION			WT/FT	A	GTOE	IO	D	TH	WF	TF		
IN X	IN X	LBS/FT	LBS	IN ²	IN	IN ⁴	IN	IN	IN	IN	IN	IN
CF	W 14 X	120										
14 X	14 3/4 X	74.0	74.0	21.78	11.35	388.21	14.48	.590	14.67	.940		
CF	W 14 X	132										
15 X	14 3/4 X	81.5	81.5	23.96	11.46	436.47	14.66	.645	14.73	1.030		
CF	W 14 X	145										
15 X	15 1/2 X	89.1	89.1	26.20	11.61	474.85	14.78	.680	15.50	1.090		
CF	W 14 X	159										
15 X	15 1/2 X	97.9	97.9	28.80	11.71	535.71	14.98	.745	15.57	1.190		
CF	W 14 X	176										
15 X	15 3/4 X	109.0	109.0	32.05	11.82	616.82	15.22	.830	15.65	1.310		
CF	W 14 X	193										
15 X	15 3/4 X	119.4	119.4	35.12	12.01	691.39	15.48	.890	15.71	1.440		
CF	W 14 X	211										
16 X	15 3/4 X	131.0	131.0	38.52	12.11	785.36	15.72	.980	15.80	1.560		

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

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TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES											
SIZE DESCRIPTION			WT/FT	A	CTOE	IO	D	TW	WF	TF	
IN X	IN X	LBS/FT	LBS	IN2	IN	IN4	IN	IN	IN	IN	
CF	W 14 X	233									
16 X 16	X	145.0	I-T	145.0	42.65	12.30	900.08	16.04	1.070	15.89	1.720
CF	W 14 X	257									
16 X 16	X	160.7	I-T	160.7	47.26	12.48	1037.46	16.38	1.175	16.00	1.890
CF	W 14 X	283									
17 X 16	X	177.7	I-T	177.7	52.27	12.67	1197.10	16.74	1.290	16.11	2.070
CF	W 14 X	311									
17 X 16 1/4	X	196.0	T-T	196.0	57.63	12.88	1378.29	17.12	1.410	16.23	2.260
CF	W 14 X	342									
18 X 16 1/4	X	216.3	T-T	216.3	63.62	13.11	1593.57	17.54	1.540	16.36	2.470
CF	W 14 X	370									
18 X 16 1/2	X	234.9	I-T	234.9	69.08	13.31	1802.20	17.92	1.655	16.48	2.660
CF	W 14 X	398									
18 X 16 1/2	X	253.4	I-T	253.4	74.54	13.51	2023.02	18.29	1.770	16.59	2.845

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES											
SIZE DESCRIPTION		WT/FT	A	CTOE	IO	D	TW	WF	TF		
IN X	IN X	LBS/FT	LBS	IN ²	IN	IN ⁴	IN	IN	IN	IN	
CF	W 14 X	426									
19 X	16 3/4 X	271.9	I-T	271.9	79.98	13.73	2254.41	18.67	1.875	16.70	3.035
CF	W 14 X	455									
19 X	16 3/4 X	292.1	I-T	292.1	85.90	13.89	2522.59	19.02	2.015	16.84	3.210
CF	W 14 X	500									
20 X	17 X	322.3	I-T	322.3	94.79	14.20	2949.14	19.60	2.190	17.01	3.500
CF	W 14 X	550									
20 X	17 1/4 X	356.3	I-T	356.3	104.78	14.56	3467.57	20.24	2.380	17.20	3.820
CF	W 14 X	605									
21 X	17 1/2 X	394.2	I-T	394.2	115.94	14.92	4096.02	20.92	2.595	17.42	4.160
CF	W 14 X	665									
22 X	17 3/4 X	436.0	I-T	436.0	128.23	15.29	4848.14	21.64	2.830	17.65	4.520
CF	W 14 X	730									
22 X	18 X	481.4	I-T	481.4	141.60	15.71	5740.55	22.42	3.070	17.89	4.910

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

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TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES											
SIZE DESCRIPTION			WT/FT	A	CTOE	IO	D	TW	WF	TF	
IN X	IN X	LBS/FT	LBS	IN2	IN	IN4	IN	IN	IN	IN	
CF HP 14 X 73											
14 X	14 1/2 X	47.5 HP-T	47.5	13.98	10.14	256.30	13.61	.505	14.59	.505	
CF HP 14 X 89											
14 X	14 3/4 X	58.4 HP-T	58.4	17.16	10.25	323.18	13.83	.615	14.70	.615	
CF HP 14 X 102											
14 X	14 3/4 X	67.3 HP-T	67.3	19.80	10.34	381.07	14.01	.705	14.79	.705	
CF HP 14 X 117											
14 X	15 X	77.4 HP-T	77.4	22.77	10.44	448.86	14.21	.805	14.89	.805	
CF W 16 X 26											
6 X	5 1/2 X	11.1 T	11.1	3.27	4.44	10.29	5.85	.250	5.50	.345	
7 X	5 1/2 X	12.0 T	12.0	3.52	5.09	15.99	6.85	.250	5.50	.345	
8 X	5 1/2 X	12.8 T	12.8	3.77	5.72	23.32	7.85	.250	5.50	.345	
9 X	5 1/2 X	13.7 T	13.7	4.02	6.34	32.42	8.85	.250	5.50	.345	
10 X	5 1/2 X	14.5 T	14.5	4.27	6.94	43.44	9.85	.250	5.50	.345	
11 X	5 1/2 X	15.4 T	15.4	4.52	7.53	56.52	10.85	.250	5.50	.345	
12 X	5 1/2 X	16.2 T	16.2	4.77	8.10	71.80	11.85	.250	5.50	.345	
13 X	5 1/2 X	17.1 T	17.1	5.02	8.68	89.41	12.85	.250	5.50	.345	
14 X	5 1/2 X	17.9 T	17.9	5.27	9.24	109.48	13.85	.250	5.50	.345	
15 X	5 1/2 X	18.8 T	18.8	5.52	9.80	132.15	14.85	.250	5.50	.345	
16 X	5 1/2 X	19.5 I-T	19.5	5.73	10.27	153.43	15.69	.250	5.50	.345	

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES												
SIZE DESCRIPTION		WT/FT	A	CTOE	IO	D	TW	WF	TF			
IN X	IN X	LBS/FT	LBS	IN ²	IN	IN ⁴	IN	IN	IN	IN	IN	IN
CF W 16 X 31												
6 X	5 1/2 X	13.4	T	13.4	3.94	4.58	12.08	5.94	.275	5.53	.440	
7 X	5 1/2 X	14.3	T	14.3	4.22	5.25	18.74	6.94	.275	5.53	.440	
8 X	5 1/2 X	15.3	T	15.3	4.49	5.90	27.29	7.94	.275	5.53	.440	
9 X	5 1/2 X	16.2	T	16.2	4.77	6.53	37.92	8.94	.275	5.53	.440	
10 X	5 1/2 X	17.1	T	17.1	5.04	7.15	50.79	9.94	.275	5.53	.440	
11 X	5 1/2 X	18.1	T	18.1	5.32	7.75	66.06	10.94	.275	5.53	.440	
12 X	5 1/2 X	19.0	T	19.0	5.59	8.34	83.88	11.94	.275	5.53	.440	
13 X	5 1/2 X	20.0	T	20.0	5.87	8.93	104.41	12.94	.275	5.53	.440	
14 X	5 1/2 X	20.9	T	20.9	6.14	9.51	127.79	13.94	.275	5.53	.440	
15 X	5 1/2 X	21.8	T	21.8	6.42	10.08	154.18	14.94	.275	5.53	.440	
16 X	5 1/2 X	22.7	I-T	22.7	6.68	10.61	181.85	15.88	.275	5.53	.440	
CF W 16 X 36												
7 X	7 X	16.7	T	16.7	4.92	5.36	20.85	6.93	.295	6.99	.430	
8 X	7 X	17.7	T	17.7	5.22	6.03	30.45	7.93	.295	6.99	.430	
9 X	7 X	18.7	T	18.7	5.51	6.68	42.39	8.93	.295	6.99	.430	
10 X	7 X	19.7	T	19.7	5.81	7.32	56.86	9.93	.295	6.99	.430	
11 X	7 X	20.7	T	20.7	6.10	7.94	74.05	10.93	.295	6.99	.430	
12 X	7 X	21.7	T	21.7	6.40	8.55	94.12	11.93	.295	6.99	.430	
13 X	7 X	22.7	T	22.7	6.69	9.15	117.25	12.93	.295	6.99	.430	
14 X	7 X	23.8	T	23.8	6.99	9.74	143.59	13.93	.295	6.99	.430	
15 X	7 X	24.8	T	24.8	7.28	10.33	173.32	14.93	.295	6.99	.430	
16 X	7 X	25.7	I-T	25.7	7.56	10.87	204.15	15.86	.295	6.99	.430	
CF W 16 X 49												
7 X	7 X	18.8	T	18.8	5.51	5.49	22.63	7.01	.305	7.00	.505	
8 X	7 X	19.8	T	19.8	5.82	6.18	33.04	8.01	.305	7.00	.505	
9 X	7 X	20.8	T	20.8	6.12	6.85	46.00	9.01	.305	7.00	.505	

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES													
SIZE DESCRIPTION				WT/FT	A	CTOE	IO	D	TW	WF	TF		
TN	X	TH	X	LBS/FT	LBS	IN ²	IN	IN ⁴	IN	IN	IN	IN	IN
10	Y	7	Y	21.9	T	21.9	6.43	7.50	61.70	10.01	.305	7.00	.505
11	Y	7	X	22.9	T	22.9	6.73	8.14	80.36	11.01	.305	7.00	.505
12	X	7	X	23.9	T	23.9	7.04	8.76	102.14	12.01	.305	7.00	.505
13	Y	7	Y	25.0	T	25.0	7.34	9.38	127.25	13.01	.305	7.00	.505
14	Y	7	X	26.0	T	26.0	7.65	9.98	155.84	14.01	.305	7.00	.505
15	Y	7	Y	27.0	T	27.0	7.95	10.58	188.10	15.01	.305	7.00	.505
16	Y	7	X	28.1	T-T	28.1	8.26	11.18	224.39	16.01	.305	7.00	.505
GF W 14 X 45													
7	X	7	X	21.1	T	21.1	6.22	5.51	25.89	7.07	.345	7.04	.565
8	Y	7	X	22.3	T	22.3	6.56	6.19	37.72	8.07	.345	7.04	.565
9	Y	7	Y	23.5	T	23.5	6.91	6.86	52.43	9.07	.345	7.04	.565
10	Y	7	Y	24.7	T	24.7	7.25	7.51	70.25	10.07	.345	7.04	.565
11	X	7	X	25.8	T	25.8	7.60	8.14	91.40	11.07	.345	7.04	.565
12	Y	7	Y	27.0	T	27.0	7.94	8.77	116.09	12.07	.345	7.04	.565
13	Y	7	Y	28.2	T	28.2	8.29	9.38	144.52	13.07	.345	7.04	.565
14	Y	7	Y	29.3	T	29.3	8.63	9.99	176.90	14.07	.345	7.04	.565
15	Y	7	Y	30.5	T	30.5	8.98	10.59	213.42	15.07	.345	7.04	.565
16	Y	7	X	31.8	T-T	31.8	9.34	11.21	257.09	16.13	.345	7.04	.565
GF W 16 X 50													
7	Y	7	Y	23.5	T	23.5	6.92	5.54	29.04	7.13	.380	7.07	.630
8	Y	7	Y	24.8	T	24.8	7.30	6.23	42.23	8.13	.380	7.07	.630
9	Y	7	Y	26.1	T	26.1	7.68	6.90	58.61	9.13	.380	7.07	.630
10	X	7	X	27.4	T	27.4	8.06	7.55	78.45	10.13	.380	7.07	.630
11	Y	7	X	28.7	T	28.7	8.44	8.19	101.98	11.13	.380	7.07	.630
12	Y	7	Y	30.0	T	30.0	8.82	8.81	129.45	12.13	.380	7.07	.630
13	X	7	X	31.3	T	31.3	9.20	9.43	161.07	13.13	.380	7.07	.630
14	Y	7	X	32.6	T	32.6	9.58	10.13	197.06	14.13	.380	7.07	.630
15	Y	7	Y	33.9	T	33.9	9.96	10.63	237.65	15.13	.380	7.07	.630
16	Y	7	Y	35.2	T-T	35.2	10.39	11.30	289.30	16.26	.380	7.07	.630

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES												
SIZE DESCRIPTION		WT/FT	A	CTOE	IO	D	TW	WF	TF			
IN X	IN X	LBS/FT	LBS	IN ²	IN	IN ⁴	IN	IN	IN	IN	IN	IN
DE W 16 X 57												
7 X	7	X 26.8	T	26.8	7.89	5.58	33.54	7.22	.430	7.12	.715	
8 X	7	X 28.3	T	28.3	8.32	6.26	48.64	8.22	.430	7.12	.715	
9 X	7	X 29.7	T	29.7	8.75	6.93	67.39	9.22	.430	7.12	.715	
10 X	7	X 31.2	T	31.2	9.18	7.58	90.06	10.22	.430	7.12	.715	
11 X	7	X 32.7	T	32.7	9.61	8.22	116.94	11.22	.430	7.12	.715	
12 X	7	X 34.1	T	34.1	10.04	8.85	148.28	12.22	.430	7.12	.715	
13 X	7	X 35.6	T	35.6	10.47	9.46	184.35	13.22	.430	7.12	.715	
14 X	7	X 37.0	T	37.0	10.90	10.07	225.39	14.22	.430	7.12	.715	
15 X	7	X 38.5	T	38.5	11.33	10.67	271.65	15.22	.430	7.12	.715	
16 X	7	X 40.3	I-T	40.3	11.85	11.39	335.23	16.43	.430	7.12	.715	
DE W 16 X 67												
10 X	10 1/4	X 13.4	T	13.4	3.95	5.00	32.92	10.00	.395	10.24	.665	
16 X	10 1/4	X 44.2	I-T	44.2	12.99	12.11	342.86	16.33	.395	10.24	.665	
DE W 16 X 77												
17 X	10 1/4	X 51.0	I-T	51.0	15.00	12.19	404.08	16.52	.455	10.30	.760	
DE W 16 X 89												
17 X	10 1/4	X 59.2	I-T	59.2	17.40	12.30	480.24	16.75	.525	10.37	.875	
DE W 16 X 100												
17 X	10 1/2	X 66.7	T-T	66.7	19.62	12.43	552.31	16.97	.585	10.43	.985	

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES												
SIZE DESCRIPTION			WT/FT	A	CTOE	IO	D	TW	WF	TF		
IN X	JN X	LPS/FT	LBS	IN2	IN	IN4	IN	IN	IN	IN	IN	IN
CF W 18 X 35												
6 X	6	X	14.2	T	14.2	4.18	4.50	12.53	5.85	.300	6.00	.425
7 X	6	X	15.2	T	15.2	4.48	5.16	19.55	6.85	.300	6.00	.425
8 X	6	X	16.2	T	16.2	4.78	5.81	28.59	7.85	.300	6.00	.425
9 X	6	X	17.3	T	17.3	5.08	6.43	39.84	8.85	.300	6.00	.425
10 X	6	X	18.3	T	18.3	5.38	7.05	53.49	9.85	.300	6.00	.425
11 X	6	X	19.3	T	19.3	5.68	7.65	69.70	10.85	.300	6.00	.425
12 X	6	X	20.3	T	20.3	5.98	8.24	88.65	11.85	.300	6.00	.425
13 X	6	X	21.3	T	21.3	6.28	8.82	110.50	12.85	.300	6.00	.425
14 X	6	X	22.4	T	22.4	6.58	9.40	135.41	13.85	.300	6.00	.425
15 X	6	X	23.4	T	23.4	6.88	9.97	163.54	14.85	.300	6.00	.425
16 X	6	X	24.4	T	24.4	7.18	10.53	195.05	15.85	.300	6.00	.425
17 X	6	X	25.4	T	25.4	7.48	11.09	230.09	16.85	.300	6.00	.425
18 X	6	X	26.3	I-T	26.3	7.73	11.56	262.78	17.70	.300	6.00	.425
CF W 18 X 40												
6 X	6	X	16.5	T	16.5	4.87	4.64	14.08	5.95	.315	6.02	.525
7 X	6	X	17.6	T	17.6	5.18	5.33	21.93	6.95	.315	6.02	.525
8 X	6	X	18.7	T	18.7	5.50	6.00	32.05	7.95	.315	6.02	.525
9 X	6	X	19.8	T	19.8	5.81	6.64	44.65	8.95	.315	6.02	.525
10 X	6	X	20.8	T	20.8	6.13	7.28	59.92	9.95	.315	6.02	.525
11 X	6	X	21.9	T	21.9	6.44	7.90	78.07	10.95	.315	6.02	.525
12 X	6	X	23.0	T	23.0	6.76	8.51	99.27	11.95	.315	6.02	.525
13 X	6	X	24.0	T	24.0	7.07	9.10	123.70	12.95	.315	6.02	.525
14 X	6	X	25.1	T	25.1	7.39	9.69	151.54	13.95	.315	6.02	.525
15 X	6	X	26.2	T	26.2	7.70	10.28	182.96	14.95	.315	6.02	.525
16 X	6	X	27.3	T	27.3	8.02	10.85	218.14	15.95	.315	6.02	.525
17 X	6	X	28.3	T	28.3	8.33	11.42	257.24	16.95	.315	6.02	.525
18 X	6	X	29.3	I-T	29.3	8.63	11.96	298.17	17.90	.315	6.02	.525

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES												
SIZE DESCRIPTION			WT/FT	A	CTOE	IO	D	TW	WF	TF		
IN X	IN Y	LBS/FT	LBS	IN ²	IN	IN ⁴	IN	IN	IN	IN	IN	IN
DE W 18 X 46												
6 Y	6	Y	19.1	T	19.1	5.62	4.68	16.48	6.03	.360	6.06	.605
7 Y	6	Y	20.3	T	20.3	5.98	5.37	25.59	7.03	.360	6.06	.605
8 Y	6	Y	21.6	T	21.6	6.34	6.03	37.31	8.03	.360	6.06	.605
9 Y	6	X	22.8	T	22.8	6.70	6.68	51.89	9.03	.360	6.06	.605
10 Y	6	Y	24.0	T	24.0	7.06	7.32	69.55	10.03	.360	6.06	.605
11 Y	6	Y	25.2	T	25.2	7.42	7.94	90.51	11.03	.360	6.06	.605
12 Y	6	X	26.4	T	26.4	7.78	8.55	114.98	12.03	.360	6.06	.605
13 Y	6	Y	27.7	T	27.7	8.14	9.15	143.18	13.03	.360	6.06	.605
14 Y	6	X	28.9	T	28.9	8.50	9.74	175.29	14.03	.360	6.06	.605
15 Y	6	X	30.1	T	30.1	8.86	10.32	211.53	15.03	.360	6.06	.605
16 Y	6	Y	31.3	T	31.3	9.22	10.90	252.08	16.03	.360	6.06	.605
17 Y	6	X	32.6	T	32.6	9.58	11.47	297.13	17.03	.360	6.06	.605
18 Y	6	X	33.8	I-T	33.8	9.95	12.05	348.45	18.06	.360	6.06	.605
DE W 18 X 50												
8 Y	7 1/2	Y	23.5	T	23.5	6.91	6.18	38.27	8.00	.355	7.50	.570
9 Y	7 1/2	Y	24.7	T	24.7	7.26	6.86	53.39	9.00	.355	7.50	.570
10 Y	7 1/2	Y	25.9	T	25.9	7.62	7.52	71.75	10.00	.355	7.50	.570
11 Y	7 1/2	X	27.1	T	27.1	7.97	8.16	93.57	11.00	.355	7.50	.570
12 Y	7 1/2	X	28.3	T	28.3	8.33	8.79	119.07	12.00	.355	7.50	.570
13 Y	7 1/2	Y	29.5	T	29.5	8.68	9.41	148.48	13.00	.355	7.50	.570
14 X	7 1/2	Y	30.7	T	30.7	9.04	10.02	182.00	14.00	.355	7.50	.570
15 Y	7 1/2	X	31.9	T	31.9	9.39	10.62	219.84	15.00	.355	7.50	.570
16 Y	7 1/2	X	33.1	T	33.1	9.75	11.22	262.18	16.00	.355	7.50	.570
17 X	7 1/2	X	34.4	T	34.4	10.10	11.81	309.24	17.00	.355	7.50	.570
18 Y	7 1/2	X	35.6	I-T	35.6	10.46	12.39	360.93	17.99	.355	7.50	.570

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES												
SIZE DESCRIPTION		WT/FT	A	CTOE	IO	D	TW	WF	TF			
IN X	IN X	LBS/FT	LBS	IN ²	IN	IN ⁴	IN	IN	IN	IN	IN	IN
CF W 18 X 55												
8 X	7 1/2 X	26.0	T	26.0	7.64	6.21	42.63	8.06	.390	7.53	.630	
9 X	7 1/2 X	27.3	T	27.3	8.03	6.89	59.38	9.06	.390	7.53	.630	
10 X	7 1/2 X	28.6	T	28.6	8.42	7.55	79.71	10.06	.390	7.53	.630	
11 X	7 1/2 X	30.0	T	30.0	8.81	8.19	103.87	11.06	.390	7.53	.630	
12 X	7 1/2 X	31.3	T	31.3	9.20	8.82	132.10	12.06	.390	7.53	.630	
13 X	7 1/2 X	32.6	T	32.6	9.59	9.44	164.64	13.06	.390	7.53	.630	
14 X	7 1/2 X	33.9	T	33.9	9.98	10.05	201.71	14.06	.390	7.53	.630	
15 X	7 1/2 X	35.3	T	35.3	10.37	10.66	243.54	15.06	.390	7.53	.630	
16 X	7 1/2 X	36.6	T	36.6	10.76	11.25	290.35	16.06	.390	7.53	.630	
17 X	7 1/2 X	37.9	T	37.9	11.15	11.84	342.36	17.06	.390	7.53	.630	
18 X	7 1/2 X	39.3	I-T	39.3	11.56	12.46	403.10	18.11	.390	7.53	.630	
CF W 18 X 60												
8 X	7 1/2 X	28.3	T	28.3	8.33	6.27	46.38	8.12	.415	7.56	.695	
9 X	7 1/2 X	29.7	T	29.7	8.75	6.95	64.53	9.12	.415	7.56	.695	
10 X	7 1/2 X	31.2	T	31.2	9.16	7.61	86.56	10.12	.415	7.56	.695	
11 X	7 1/2 X	32.6	T	32.6	9.58	8.26	112.72	11.12	.415	7.56	.695	
12 X	7 1/2 X	34.0	T	34.0	9.99	8.90	143.28	12.12	.415	7.56	.695	
13 X	7 1/2 X	35.4	T	35.4	10.41	9.52	178.50	13.12	.415	7.56	.695	
14 X	7 1/2 X	36.8	T	36.8	10.82	10.14	218.62	14.12	.415	7.56	.695	
15 X	7 1/2 X	38.2	T	38.2	11.24	10.75	263.89	15.12	.415	7.56	.695	
16 X	7 1/2 X	39.6	T	39.6	11.65	11.34	314.53	16.12	.415	7.56	.695	
17 X	7 1/2 X	41.0	T	41.0	12.07	11.94	370.78	17.12	.415	7.56	.695	
18 X	7 1/2 X	42.6	I-T	42.6	12.53	12.59	440.73	18.24	.415	7.56	.695	
CF W 18 X 65												
8 X	7 1/2 X	30.7	T	30.7	9.03	6.29	50.79	8.18	.450	7.59	.750	
9 X	7 1/2 X	32.2	T	32.2	9.48	6.97	70.58	9.18	.450	7.59	.750	

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES												
SIZE DESCRIPTION				WT/FT	A	CTOE	IO	D	TW	WF	TF	
IN X	IN Y	LBS/FT		LBS	IN2	IN	IN4	IN	IN	IN	IN	
10 X	7 1/2 X	33.8	T	33.8	9.93	7.63	94.57	10.18	.450	7.59	.750	
11 X	7 1/2 X	35.3	T	35.3	10.38	8.28	123.05	11.18	.450	7.59	.750	
12 X	7 1/2 X	36.8	T	36.8	10.83	8.91	156.30	12.18	.450	7.59	.750	
13 X	7 1/2 X	38.4	T	38.4	11.28	9.54	194.60	13.18	.450	7.59	.750	
14 X	7 1/2 X	39.9	T	39.9	11.73	10.15	238.23	14.18	.450	7.59	.750	
15 X	7 1/2 X	41.4	T	41.4	12.18	10.76	287.43	15.18	.450	7.59	.750	
16 X	7 1/2 X	43.0	T	43.0	12.63	11.36	342.46	16.18	.450	7.59	.750	
17 X	7 1/2 X	44.5	T	44.5	13.08	11.95	403.58	17.18	.450	7.59	.750	
18 X	7 1/2 X	46.3	T-T	46.3	13.61	12.64	483.51	18.35	.450	7.59	.750	
OF W 18 X 71												
8 X	7 3/4 X	33.5	T	33.5	9.86	6.30	56.31	8.24	.495	7.64	.810	
9 X	7 3/4 X	35.2	T	35.2	10.35	6.97	78.11	9.24	.495	7.64	.810	
10 X	7 3/4 X	36.9	T	36.9	10.85	7.63	104.52	10.24	.495	7.64	.810	
11 X	7 3/4 X	38.6	T	38.6	11.34	8.27	135.84	11.24	.495	7.64	.810	
12 X	7 3/4 X	40.3	T	40.3	11.84	8.91	172.41	12.24	.495	7.64	.810	
13 X	7 3/4 X	41.9	T	41.9	12.33	9.53	214.50	13.24	.495	7.64	.810	
14 X	7 3/4 X	43.6	T	43.6	12.83	10.14	262.42	14.24	.495	7.64	.810	
15 X	7 3/4 X	45.3	T	45.3	13.32	10.75	316.45	15.24	.495	7.64	.810	
16 X	7 3/4 X	47.0	T	47.0	13.82	11.35	376.88	16.24	.495	7.64	.810	
17 X	7 3/4 X	48.7	T	48.7	14.31	11.94	443.97	17.24	.495	7.64	.810	
18 X	7 3/4 X	50.7	T-T	50.7	14.93	12.66	536.43	18.47	.495	7.64	.810	
OF W 18 X 76												
18 X	11 X	50.8	T-T	50.8	14.95	13.33	501.00	18.21	.425	11.04	.680	
OF W 18 X 86												
18 X	11 X	57.8	T-T	57.8	17.00	13.43	578.49	18.39	.480	11.09	.770	

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES												
SIZE DESCRIPTION			WT/FT	A	CTOE	IO	D	TW	WF	TF		
IN X	IN X	LBS/FT	LBS	IN ²	IN	IN ⁴	IN	IN	IN	IN	IN	IN
CF	W 18 X	97										
19 X	11 1/4 X	65.2	I-T	65.2	19.18	13.56	662.82	18.59	.535	11.15	.870	
CF	W 18 X	106										
19 X	11 1/4 X	71.5	I-T	71.5	21.02	13.58	738.57	18.73	.590	11.20	.940	
CF	W 18 X	119										
19 X	11 1/4 X	80.5	I-T	80.5	23.67	13.74	847.07	18.97	.655	11.27	1.060	
CF	W 21 X	44										
6 X	6 1/2 X	16.9	T	16.9	4.98	4.80	18.08	6.33	.350	6.50	.450	
8 X	6 1/2 X	19.3	T	19.3	5.68	6.08	38.95	8.33	.350	6.50	.450	
10 X	6 1/2 X	21.7	T	21.7	6.38	7.31	70.45	10.33	.350	6.50	.450	
12 X	6 1/2 X	24.1	T	24.1	7.08	8.49	114.21	12.33	.350	6.50	.450	
14 X	6 1/2 X	26.5	T	26.5	7.78	9.63	171.77	14.33	.350	6.50	.450	
16 X	6 1/2 X	28.8	T	28.8	8.48	10.76	244.61	16.33	.350	6.50	.450	
18 X	6 1/2 X	31.2	T	31.2	9.18	11.86	334.20	18.33	.350	6.50	.450	
21 X	6 1/2 X	34.0	T-T	34.0	10.00	13.13	461.62	20.66	.350	6.50	.450	
CF	W 21 X	50										
6 X	6 1/2 X	19.5	T	19.5	5.73	4.90	20.54	6.42	.380	6.53	.535	
8 X	6 1/2 X	22.1	T	22.1	6.49	6.21	44.12	8.42	.380	6.53	.535	
10 X	6 1/2 X	24.6	T	24.6	7.25	7.45	79.70	10.42	.380	6.53	.535	
12 X	6 1/2 X	27.2	T	27.2	8.01	8.65	129.07	12.42	.380	6.53	.535	
14 X	6 1/2 X	29.8	T	29.8	8.77	9.81	193.93	14.42	.380	6.53	.535	

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES														
SIZE DESCRIPTION		WT/FT	A	CTOE	IO	D	TM	WF	TF					
IN	Y	IN	X	LBS/FT		LBS	IN ²	IN	IN ⁴	IN	IN	IN		
16	Y	6	1/2	Y	32.4	T	32.4	9.53	10.95	275.94	16.42	.380	6.53	.535
18	Y	6	1/2	X	35.0	T	35.0	10.29	12.07	376.70	18.42	.380	6.53	.535
21	X	6	1/2	X	38.1	T-Y	38.1	11.21	13.39	525.60	20.83	.380	6.53	.535
CF W 21 X 57														
7	Y	6	1/2	X	22.6	T	22.6	6.64	5.03	23.30	6.53	.405	6.56	.650
9	Y	6	1/2	Y	25.3	T	25.3	7.45	6.38	49.86	8.53	.405	6.56	.650
11	X	6	1/2	Y	28.1	T	28.1	8.26	7.66	89.90	10.53	.405	6.56	.650
13	Y	6	1/2	Y	30.8	T	30.8	9.07	8.88	145.43	12.53	.405	6.56	.650
15	Y	6	1/2	Y	33.6	T	33.6	9.88	10.07	218.32	14.53	.405	6.56	.650
17	X	6	1/2	Y	36.4	T	36.4	10.69	11.23	310.37	16.53	.405	6.56	.650
19	X	6	1/2	Y	39.1	T	39.1	11.50	12.37	423.33	18.53	.405	6.56	.650
21	X	6	1/2	Y	42.6	T-T	42.6	12.53	13.79	598.84	21.06	.405	6.56	.650
CF W 21 X 62														
8	Y	8	1/4	X	27.9	T	27.9	8.22	6.56	51.53	8.50	.400	8.24	.615
10	Y	8	1/4	X	30.7	T	30.7	9.02	7.89	93.45	10.50	.400	8.24	.615
12	Y	8	1/4	Y	33.4	T	33.4	9.82	9.16	151.77	12.50	.400	8.24	.615
14	Y	8	1/4	X	36.1	T	36.1	10.62	10.40	228.46	14.50	.400	8.24	.615
16	Y	8	1/4	Y	38.8	T	38.8	11.42	11.60	325.38	16.50	.400	8.24	.615
18	X	8	1/4	X	41.5	T	41.5	12.22	12.78	444.34	18.50	.400	8.24	.615
21	X	8	1/4	X	44.9	T-T	44.9	13.22	14.21	626.28	20.99	.400	8.24	.615
CF W 21 X 68														
9	Y	8	1/4	X	30.8	T	30.8	9.05	6.62	56.64	8.57	.430	8.27	.685
11	Y	8	1/4	X	33.7	T	33.7	9.91	7.96	102.53	10.57	.430	8.27	.685
13	X	8	1/4	X	36.6	T	36.6	10.77	9.24	166.32	12.57	.430	8.27	.685
15	Y	8	1/4	X	39.6	T	39.6	11.63	10.49	250.18	14.57	.430	8.27	.685
17	Y	8	1/4	X	42.5	T	42.5	12.49	11.70	356.12	16.57	.430	8.27	.685
19	X	8	1/4	X	45.4	T	45.4	13.35	12.88	486.09	18.57	.430	8.27	.685

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES												
STEEL DESCRIPTION			WT/FT	A	CTOF	IO	D	TW	WF	TF		
IN X	IN X	LBS/FT	LBS	IN ²	IN	IN ⁴	IN	IN	IN	IN	IN	IN
21 X	8 1/4 X	49.2	I-T	49.2	14.46	14.36	690.98	21.13	.430	8.27	.685	
CF W 21 X 73												
9 X	8 1/4 X	33.1	T	33.1	9.72	6.66	60.88	8.62	.455	8.30	.740	
11 X	8 1/4 X	36.2	T	36.2	10.63	8.01	110.02	10.62	.455	8.30	.740	
13 X	8 1/4 X	39.2	T	39.2	11.54	9.33	178.30	12.62	.455	8.30	.740	
15 X	8 1/4 X	42.3	T	42.3	12.45	10.54	268.01	14.62	.455	8.30	.740	
17 X	8 1/4 X	45.4	T	45.4	13.36	11.76	381.30	16.62	.455	8.30	.740	
19 X	8 1/4 X	48.5	T	48.5	14.27	12.94	520.26	18.62	.455	8.30	.740	
21 X	8 1/4 X	52.6	I-T	52.6	15.47	14.47	744.47	21.24	.455	8.30	.740	
CF W 21 X 83												
9 X	8 1/4 X	37.5	T	37.5	11.03	6.69	70.12	8.72	.515	8.36	.835	
11 X	8 1/4 X	41.0	T	41.0	12.06	8.04	126.25	10.72	.515	8.36	.835	
13 X	8 1/4 X	44.5	T	44.5	13.09	9.33	204.11	12.72	.515	8.36	.835	
15 X	8 1/4 X	48.0	T	48.0	14.12	10.57	306.29	14.72	.515	8.36	.835	
17 X	8 1/4 X	51.5	T	51.5	15.15	11.79	435.23	16.72	.515	8.36	.835	
19 X	8 1/4 X	55.0	T	55.0	16.18	12.97	593.28	18.72	.515	8.36	.835	
21 X	8 1/4 X	59.8	I-T	59.8	17.58	14.55	858.47	21.43	.515	8.36	.835	
CF W 21 X 93												
9 X	8 1/2 X	42.2	T	42.2	12.40	6.72	80.21	8.81	.580	8.42	.930	
11 X	8 1/2 X	46.1	T	46.1	13.56	8.06	143.85	10.81	.580	8.42	.930	
13 X	8 1/2 X	50.1	T	50.1	14.72	9.35	231.97	12.81	.580	8.42	.930	
15 X	8 1/2 X	54.0	T	54.0	15.88	10.59	347.47	14.81	.580	8.42	.930	
17 X	8 1/2 X	57.9	T	57.9	17.04	11.80	493.10	16.81	.580	8.42	.930	
19 X	8 1/2 X	61.9	T	61.9	18.20	12.99	671.50	18.81	.580	8.42	.930	
22 X	8 1/2 X	67.4	I-T	67.4	19.83	14.61	982.37	21.62	.580	8.42	.930	

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES												
SIZE DESCRIPTION		WT/FT	A	CTOE	IO	D	TW	WF	TF			
IN X IN X LBS/FT		LBS	IN2	IN	IN4	IN	IN	IN	IN	IN		
CF W 21 X 101												
14 X 12 1/4 X	23.8	T	23.8	7.00	7.00	114.33	14.00	.500	12.29	.800		
16 X 12 1/4 X	27.2	T	27.2	8.00	8.00	170.67	16.00	.500	12.29	.800		
18 X 12 1/4 X	30.6	T	30.6	9.00	9.00	243.00	18.00	.500	12.29	.800		
20 X 12 1/4 X	34.0	T	34.0	10.00	10.00	333.33	20.00	.500	12.29	.800		
21 X 12 1/4 X	68.4	I-T	68.4	20.11	15.50	935.87	21.36	.500	12.29	.800		
CF W 21 X 111												
14 X 12 1/4 X	26.2	T	26.2	7.70	7.00	125.77	14.00	.550	12.34	.875		
16 X 12 1/4 X	29.9	T	29.9	8.80	8.00	187.73	16.00	.550	12.34	.875		
18 X 12 1/4 X	33.7	T	33.7	9.90	9.00	267.30	18.00	.550	12.34	.875		
20 X 12 1/4 X	37.4	T	37.4	11.00	10.00	366.67	20.00	.550	12.34	.875		
22 X 12 1/4 X	75.3	I-T	75.3	22.15	15.56	1043.43	21.51	.550	12.34	.875		
CF W 21 X 122												
14 X 12 1/2 X	28.6	T	28.6	8.40	7.00	137.20	14.00	.600	12.39	.960		
16 X 12 1/2 X	32.6	T	32.6	9.60	8.00	204.80	16.00	.600	12.39	.960		
18 X 12 1/2 X	36.7	T	36.7	10.80	9.00	291.60	18.00	.600	12.39	.960		
20 X 12 1/2 X	40.8	T	40.8	12.00	10.00	400.00	20.00	.600	12.39	.960		
22 X 12 1/2 X	82.7	I-T	82.7	24.33	15.66	1159.96	21.68	.600	12.39	.960		
CF W 21 X 132												
14 X 12 1/2 X	30.9	T	30.9	9.10	7.00	148.63	14.00	.650	12.44	1.035		
16 X 12 1/2 X	35.4	T	35.4	10.40	8.00	221.87	16.00	.650	12.44	1.035		
18 X 12 1/2 X	39.8	T	39.8	11.70	9.00	315.90	18.00	.650	12.44	1.035		
20 X 12 1/2 X	44.2	T	44.2	13.00	10.00	433.33	20.00	.650	12.44	1.035		
22 X 12 1/2 X	89.7	I-T	89.7	26.39	15.72	1273.85	21.83	.650	12.44	1.035		

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES										
SIZE DESCRIPTION			WT/FT	A	CTOE	IO	D	TW	WF	TF
TN X IN X LBS/FT			LBS	IN ²	IN	IN ⁴	IN	IN	IN	IN
CF W 21 X 147										
14 X 12 1/2 X	34.3	T	34.3	10.08	7.00	164.64	14.00	.720	12.51	1.150
16 X 12 1/2 X	39.2	T	39.2	11.52	8.00	245.76	16.00	.720	12.51	1.150
18 X 12 1/2 X	44.1	T	44.1	12.96	9.00	349.92	18.00	.720	12.51	1.150
20 X 12 1/2 X	49.0	T	49.0	14.40	10.00	480.00	20.00	.720	12.51	1.150
22 X 12 1/2 X	100.1	T-T	100.1	29.44	15.84	1445.15	22.06	.720	12.51	1.150
CF W 24 X 55										
8 X 7	X 21.8	T	21.8	6.41	5.79	36.81	7.79	.395	7.01	.505
10 X 7	X 24.5	T	24.5	7.20	7.04	69.47	9.79	.395	7.01	.505
12 X 7	X 27.2	T	27.2	7.99	8.25	115.79	11.79	.395	7.01	.505
14 X 7	X 29.9	T	29.9	8.78	9.42	177.54	13.79	.395	7.01	.505
16 X 7	X 32.5	T	32.5	9.57	10.56	256.44	15.79	.395	7.01	.505
18 X 7	X 35.2	T	35.2	10.36	11.68	354.16	17.79	.395	7.01	.505
20 X 7	X 37.9	T	37.9	11.15	12.78	472.36	19.79	.395	7.01	.505
22 X 7	X 40.6	T	40.6	11.94	13.87	612.67	21.79	.395	7.01	.505
24 X 7	X 43.0	T-T	43.0	12.65	14.83	757.88	23.57	.395	7.01	.505
CF W 24 X 62										
8 X 7	X 24.8	T	24.8	7.28	5.88	41.59	7.87	.430	7.04	.590
10 X 7	X 27.7	T	27.7	8.14	7.16	78.32	9.87	.430	7.04	.590
12 X 7	X 30.6	T	30.6	9.00	8.38	130.37	11.87	.430	7.04	.590
14 X 7	X 33.5	T	33.5	9.86	9.56	199.69	13.87	.430	7.04	.590
16 X 7	X 36.5	T	36.5	10.72	10.71	288.19	15.87	.430	7.04	.590
18 X 7	X 39.4	T	39.4	11.58	11.84	397.71	17.87	.430	7.04	.590
20 X 7	X 42.3	T	42.3	12.44	12.96	530.06	19.87	.430	7.04	.590
22 X 7	X 45.2	T	45.2	13.30	14.05	687.03	21.87	.430	7.04	.590
24 X 7	X 48.0	T-T	48.0	14.11	15.07	857.62	23.74	.430	7.04	.590

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES													
SIZE DESCRIPTION			WT/FT	A	CTOE	IO	D	TM	WF	TF			
IN X	IN X	LBS/FT	LBS	IN2	IN	IN4	IN	IN	IN	IN	IN	IN	
CF W 24 X 68													
10	X	9	X	30.9	T	30.9	9.10	7.48	81.81	9.87	.415	8.97	.585
12	X	9	X	33.7	T	33.7	9.93	8.77	136.84	11.87	.415	8.97	.585
14	X	9	X	36.6	T	36.6	10.76	10.02	210.29	13.87	.415	8.97	.585
16	X	9	X	39.4	T	39.4	11.59	11.23	304.15	15.87	.415	8.97	.585
18	X	9	X	42.2	T	42.2	12.42	12.41	420.29	17.87	.415	8.97	.585
20	X	9	X	45.0	T	45.0	13.25	13.57	560.54	19.87	.415	8.97	.585
22	X	9	X	47.9	T	47.9	14.08	14.71	726.68	21.87	.415	8.97	.585
24	X	9	X	50.5	I-T	50.5	14.85	15.76	906.49	23.73	.415	8.97	.585
CF W 24 X 76													
10	X	9	X	34.7	T	34.7	10.20	7.63	90.25	9.96	.440	8.99	.680
12	X	9	X	37.7	T	37.7	11.08	8.94	150.82	11.96	.440	8.99	.680
14	X	9	X	40.7	T	40.7	11.96	10.21	231.67	13.96	.440	8.99	.680
16	X	9	X	43.6	T	43.6	12.84	11.44	334.94	15.96	.440	8.99	.680
18	X	9	X	46.6	T	46.6	13.72	12.64	462.69	17.96	.440	8.99	.680
20	X	9	X	49.6	T	49.6	14.60	13.82	616.89	19.96	.440	8.99	.680
22	X	9	X	52.6	T	52.6	15.48	14.98	799.46	21.96	.440	8.99	.680
24	X	9	X	55.6	I-T	55.6	16.34	16.09	1007.74	23.92	.440	8.99	.680
CF W 24 X 84													
10	X	9	X	38.4	T	38.4	11.31	7.73	99.29	10.05	.470	9.02	.770
12	X	9	X	41.6	T	41.6	12.25	9.06	165.70	12.05	.470	9.02	.770
14	X	9	X	44.8	T	44.8	13.19	10.34	254.31	14.05	.470	9.02	.770
16	X	9	X	48.0	T	48.0	14.13	11.59	367.46	16.05	.470	9.02	.770
18	X	9	X	51.2	T	51.2	15.07	12.80	507.37	18.05	.470	9.02	.770
20	X	9	X	54.4	T	54.4	16.01	13.99	676.19	20.05	.470	9.02	.770
22	X	9	X	57.6	T	57.6	16.95	15.16	876.00	22.05	.470	9.02	.770
24	X	9	X	60.9	I-T	60.9	17.91	16.34	1115.11	24.10	.470	9.02	.770

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES													
SIZE DESCRIPTION			WT/FT	A	CTOE	IO	D	TW	WF	TF			
IN	IN	LBS/FT	LBS	IN2	IN	IN4	IN	IN	IN	IN	IN	IN	
CF W 24 X 94													
19	X	9	X	43.2	T	43.2	12.71	7.81	111.69	10.16	.515	9.07	.875
12	X	9	X	46.7	T	46.7	13.74	9.15	185.96	12.16	.515	9.07	.875
14	X	9	X	50.2	T	50.2	14.77	10.44	284.98	14.16	.515	9.07	.875
15	X	9	X	53.7	T	53.7	15.80	11.69	411.35	16.16	.515	9.07	.875
18	X	9	X	57.2	T	57.2	16.83	12.92	567.53	18.16	.515	9.07	.875
20	X	9	X	60.7	T	60.7	17.86	14.12	755.88	20.16	.515	9.07	.875
22	X	9	X	64.2	T	64.2	18.89	15.29	978.72	22.16	.515	9.07	.875
24	X	9	X	68.0	I-T	68.0	20.00	16.54	1260.01	24.31	.515	9.07	.875
CF W 24 X 104													
14	X	12 3/4	X	23.8	T	23.8	7.00	7.00	114.33	14.00	.500	12.75	.750
15	X	12 3/4	X	27.2	T	27.2	8.00	8.00	170.67	16.00	.500	12.75	.750
18	X	12 3/4	X	30.6	T	30.6	9.00	9.00	243.00	18.00	.500	12.75	.750
20	X	12 3/4	X	34.0	T	34.0	10.00	10.00	333.33	20.00	.500	12.75	.750
24	X	12 3/4	X	72.1	I-T	72.1	21.22	17.08	1288.37	24.06	.500	12.75	.750
CF W 24 X 117													
14	X	12 3/4	X	26.2	T	26.2	7.70	7.00	125.77	14.00	.550	12.80	.850
16	X	12 3/4	X	29.9	T	29.9	8.80	8.00	187.73	16.00	.550	12.80	.850
18	X	12 3/4	X	33.7	T	33.7	9.90	9.00	267.30	18.00	.550	12.80	.850
20	X	12 3/4	X	37.4	T	37.4	11.00	10.00	366.67	20.00	.550	12.80	.850
24	X	12 3/4	X	80.8	I-T	80.8	23.76	17.26	1456.33	24.26	.550	12.80	.850
CF W 24 X 131													
14	X	13	X	28.8	T	28.8	8.47	7.00	138.34	14.00	.605	12.89	.960
16	X	13	X	32.9	T	32.9	9.68	8.00	206.51	16.00	.605	12.89	.960

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

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MIL-HDBK-264 (SH)
30 September 1980

TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES												
SIZE DESCRIPTION			WT/FT	A	CTOE	IO	D	TW	WF	TF		
TN X	TN X	LBS/FT	LBS	IN ²	IN	IN ⁴	IN	IN	IN	IN	IN	IN
18 X	13	X 37.0	T	37.0	10.89	9.00	294.03	18.00	.605	12.89	.960	
20 X	13	X 41.1	T	41.1	12.10	10.00	403.33	20.00	.605	12.89	.960	
24 X	13	X 90.4	I-T	90.4	26.60	17.45	1648.31	24.48	.605	12.89	.960	
CF W 24 X 146												
14 X	13	X 30.9	T	30.9	9.10	7.00	148.63	14.00	.650	12.90	1.090	
16 X	13	X 35.4	T	35.4	10.40	8.00	221.87	16.00	.650	12.90	1.090	
18 X	13	X 39.8	T	39.8	11.70	9.00	315.90	18.00	.650	12.90	1.090	
20 X	13	X 44.2	T	44.2	13.00	10.00	433.33	20.00	.650	12.90	1.090	
25 X	13	X 100.1	T-T	100.1	29.43	17.73	1841.63	24.74	.650	12.90	1.090	
CF W 24 X 162												
14 X	13	X 33.6	T	33.6	9.87	7.00	161.21	14.00	.705	12.96	1.220	
16 X	13	X 38.4	T	38.4	11.28	8.00	240.64	16.00	.705	12.96	1.220	
18 X	13	X 43.1	T	43.1	12.69	9.00	342.63	18.00	.705	12.96	1.220	
20 X	13	X 47.9	T	47.9	14.10	10.00	470.00	20.00	.705	12.96	1.220	
25 X	13	X 110.7	T-T	110.7	32.57	17.96	2063.15	25.00	.705	12.96	1.220	
CF W 27 X 84												
11 X	10	X 38.4	T	38.4	11.30	8.56	136.97	11.36	.460	9.96	.640	
13 X	10	X 41.6	T	41.6	12.22	9.84	215.02	13.36	.460	9.96	.640	
15 X	10	X 44.7	T	44.7	13.14	11.08	315.86	15.36	.460	9.96	.640	
17 X	10	X 47.8	T	47.8	14.06	12.29	441.66	17.36	.460	9.96	.640	
19 X	10	X 50.9	T	50.9	14.98	13.47	594.50	19.36	.460	9.96	.640	
21 X	10	X 54.1	T	54.1	15.90	14.64	776.41	21.36	.460	9.96	.640	
23 X	10	X 57.2	T	57.2	16.82	15.78	989.38	23.36	.460	9.96	.640	
25 X	10	X 60.3	T	60.3	17.74	16.91	1235.36	25.36	.460	9.96	.640	
27 X	10	X 62.4	I-T	62.4	18.37	17.67	1421.75	26.71	.460	9.96	.640	

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES