

MIL-HDBK-264(SH)  
30 September 1980

## MILITARY HANDBOOK

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



MIL-HDBK-264(SH)  
30 September 1980

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

MIL-HDBK-264(SH)  
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.

MIL-HDBK-264(SH)  
30 September 1980

## 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).

MIL-HDBK-264(SH)  
30 September 1980

CONTENTS

Paragraph		Page
1.	SCOPE - - - - -	1
1.1	Scope - - - - -	1
1.2	Application - - - - -	1
2.	REFERENCED DOCUMENTS - - - - -	1
2.1	Issues of documents (not applicable) - - - - -	1
2.2	Other publications - - - - -	1
3.	DEFINITIONS - - - - -	1
3.1	Symbol nomenclature and definitions - - - - -	1 and 2
4.	GENERAL REQUIREMENTS - - - - -	5
4.1	Shapes - - - - -	5
4.1.1	Properties - - - - -	5
4.2	Effective breadth of plating - - - - -	5
4.2.1	Values - - - - -	5
4.3	Limitations for shape attachment to plate - - -	6

FIGURES

Figure		
1.	Typical structural shape (tee, angle) - - - - -	3
2.	Typical tee-beam and plate combination - - - - -	4

TABLES

Table		
I.	Effective breadths and equivalent areas (60t, 50t, 38t, 35t) - - - - -	7 and 8
II.	Properties of wide flange columns - - - - -	9 and 10
III.	Properties of structural steel tubes (standard iron pipe sizes) - - - - -	11
IV.	Properties of structural steel tubes (extra strong iron pipe sizes) - - - - -	12
V.	Properties of structural steel tubes (double-extra strong iron pipe sizes) - - - - -	13
VI.	Steel structural shape catalog (I-T and T) - - - -	14 thru 17
VII.	Steel structural shape catalog (C-L and L) - - - -	18 thru 22
VIII.	Properties of combined beam and plate, I-T and T (60t) - - - - -	23 thru 81
IX.	Properties of combined beam and plate, I-T and T (50t) - - - - -	82 thru 143
X.	Properties of combined beam and plate, I-T and T (38t) - - - - -	144 thru 207
XI.	Properties of combined beam and plate, I-T and T (35t) - - - - -	208 thru 273
XII.	Properties of combined beam and plate, C-L and L (60t) - - - - -	274 thru 316
XIII.	Properties of combined beam and plate, C-L and L (50t) - - - - -	317 thru 360
XIV.	Properties of tee-beams cut from wide flange shapes - - - - -	361 thru 410



MIL-HDBK-264 (SH)  
30 September 1980

## 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.

MIL-HDBK-264(SH)  
30 September 1980

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.

MIL-HDBK-264 (SH)  
30 September 1980

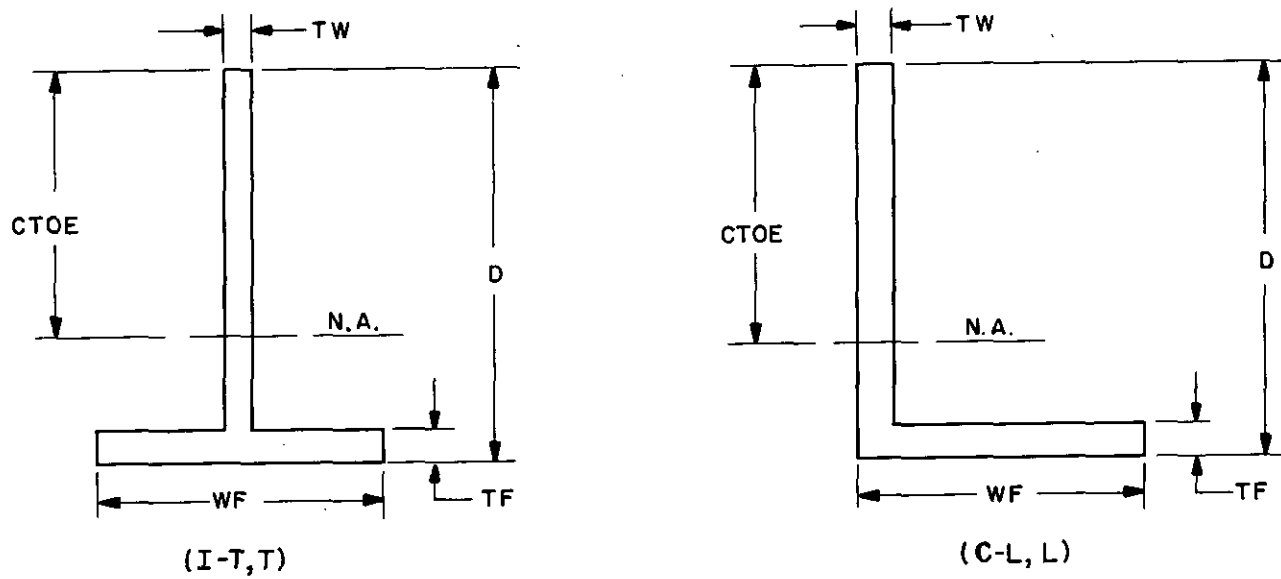


FIGURE 1. Typical structural shape (tee, angle).

MIL-HDBK-264(SH)  
30 September 1980

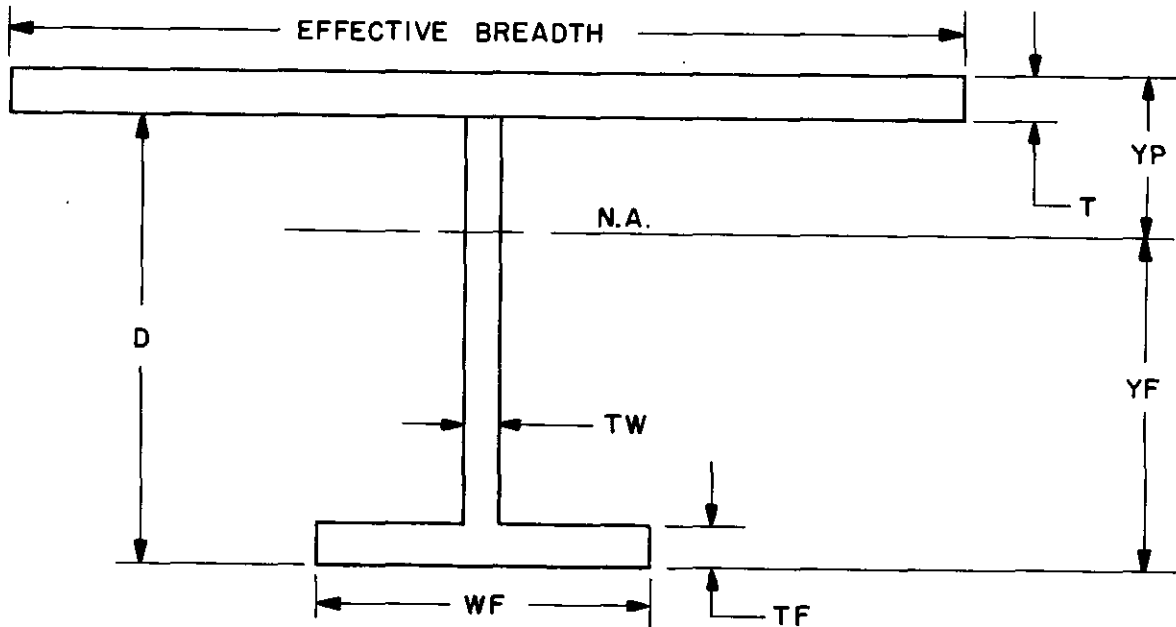


FIGURE 2. Typical tee-beam and plate combination.

MIL-HDBK-264(SH)  
30 September 1980

#### 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/in<sup>2</sup>a), F<sub>y</sub> is the tensile yield strength (lb/in<sup>2</sup>a) 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.

MIL-HDBK-264(SH)  
30 September 1980

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 <sup>2</sup>	DECIMAL	FRACTION	BREADTH	AREA	BREADTH	AREA	BREADTH	AREA	BREADTH	AREA
	IN	IN	IN	IN <sup>2</sup>	IN	IN <sup>2</sup>	IN	IN <sup>2</sup>	IN	IN <sup>2</sup>
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	5.96	.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

MIL-HDBK-264 (SH)  
30 September 1980

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

EFFECTIVE BREADTHS AND EQUIVALENT AREAS										
PLATE			60T		50T		38T		35T	
LBS/FT <sup>2</sup>	DECIMAL	FRACTION	BREADTH	AREA	BREADTH	AREA	BREADTH	AREA	BREADTH	AREA
	IN	IN	IN	IN <sup>2</sup>	IN	IN <sup>2</sup>	IN	IN <sup>2</sup>	IN	IN <sup>2</sup>
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

MIL-HDBK-264 (SH)  
30 September 1980

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 <sup>2</sup>	IN <sup>4</sup>	IN <sup>3</sup>	IN	IN <sup>4</sup>	IN <sup>3</sup>	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			D	FLANGE		TW	ALLOWABLE LENGTH
					I	S	R	I	S	R		WF	TF		
IN X	IN X	LBS/FT	LBS	IN2	IN4	IN3	IN	IN4	IN3	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	72.1	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		WT/FT	A	I	S	R	DIAMETER		WALL THICKNESS	ALLOWABLE LENGTH
OUTSIDE DIA	X WALL THICKNESS						OUTSIDE	INSIDE		
IN X IN		LBS	IN2	IN4	IN3	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	16.80	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 SIZE OUTSIDE DIA X WALL THICKNESS	WT/FT	A	I	S	R	DIAMETER		WALL THICKNESS	ALLOWABLE LENGTH	
IN X IN	LBS	IN <sup>2</sup>	IN <sup>4</sup>	IN <sup>3</sup>	IN	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	6.29	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 <sup>2</sup>	IN <sup>4</sup>	IN <sup>3</sup>	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	C/OE	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	.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	5.12	.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	T-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	T-T	3.16	4.56	12.2	6.28	.260	4.02	.405
6	X	6	X	20.0	T-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	.385
7	X	6	3/4	X	17.0	T	4.93	5.44	20.8	6.99	.285	.455
7	X	6	3/4	X	19.0	T	5.51	5.50	23.2	7.05	.310	.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	II	IV	WF	TF	
IN	X	IN	X	LBS/FT	IN2	IN	IN4	IN	IN	IN	IN	
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	15.0 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	6.50	.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 <sub>0</sub>	D	TW	WF	TF	
IN	X	IN	X	LBS/FT	IN <sup>2</sup>	IN	IN <sup>4</sup>	IN	IN	IN	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	6.75	.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	6.55	.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	16.76	.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

17

S T E E L												
STRUCTURAL SHAPE CATALOG (I-T AND T)												
NOMINAL SIZE						A	CTOE	IO	D	TW	WF	TF
IN X IN X LBS/FT						IN2	IN	IN4	IN	IN	IN	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	17.69	.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	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						IN <sup>2</sup>	IN	IN <sup>4</sup>	IN	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	

19

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						IN2	IN	IN4	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
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

22

30 September 1980

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

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

STRUCTURAL SHAPE CATALOG (C-L AND L)

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

23

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

(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	O	WF
IN X IN X LBS/FT						LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN
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
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
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
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
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
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
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

(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
IN X IN X LBS/FT						LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN
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
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
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
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
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
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
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

(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
IN X IN X LBS/FT						LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN
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
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
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
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
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
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
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

(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	IN2	IN	IN	IN
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
(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.																			
							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
28	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
	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

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

5 10 15

29

114 417 2500

MIL-HDBK-264 (SH)  
30 September 1980

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	IN2	IN	IN	IN	IN	IN	IN2				
30	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.)

MIL-HDBK-264 (SH)  
30 September 1980

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			YF	YP	BEAM DIMENSIONS						
			FLANGE	PLATE	I			R	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	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						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	
32	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	IN2	
33	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	5.08	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.)

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	ASH
IN X IN X LBS/FT				LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	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	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	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	.358	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	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	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	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	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	3.52
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	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	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	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	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	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	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	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	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	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	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	5.31

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

MIL-HDBK-264 (SH)  
30 September 1980

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 TN X LBS/FT						LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2			
35	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	
	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
IN X IN X LBS/FT						LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN2
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
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
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
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
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
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
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
8	X	5 1/4	X	18.0	I-T	12.00	17.6	50.6	110.8	3.23	6.3	2.2	3.93	8.14	5.25	.330
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

(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	IN	IN	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.)

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
IN X IN X LBS/FT						LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

(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	IN2	IN	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			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		
40	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.)

MIL-HDBK-264 (SH)  
30 September 1980



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

(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						WT/FT	SECTION MODULUS			BEAM DIMENSIONS										
							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		
42	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	.240	1.20	
	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					WT/FT	SECTION MODULUS				YF	YP	BEAM DIMENSIONS				
						FLANGE	PLATE	I	R			A	D	WF	TF	TH
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

(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				WT/FT	SECTION MODULUS				BEAM DIMENSIONS						
					FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	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	32.6	102.6	266.6	4.01	8.2	2.6	5.11	10.33	5.77	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	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	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	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	3.54
44	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	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	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	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	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	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	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	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	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	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	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	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	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	3.16
	14	X	5	X	26.0 I-T	18.87	41.9	137.7	461.1	5.20	11.0	3.3	5.55	13.91	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	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	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	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	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	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	IN2	IN	IN	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
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	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	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	IN2	IN	IN	IN	IN	IN2
7	X	8	X 21.5 T	20.94	30.8	86.6	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	ASH
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	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
48	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
	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	ASH	
IN X IN X LBS/FT					LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2		
49	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	1232.0	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	21.99	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

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

MIL-HDBK-264 (SF)  
30 September 1980

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	NF	TF	TW	ASH		
IN X IN X LBS/FT					LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2			
50	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
	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.)

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	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN		
	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
51	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	7.93	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						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		
52	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	74.0	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	IN2	IN	IN	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	IN	IN	IN	IN2
8	X	4	X	10.0 I-T	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 I-T	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 T	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 I-T	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 T	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 I-T	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 T	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 T	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 I-T	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 T	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 I-T	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 T	24.83	40.8	150.7	261.3	3.02	6.9	1.9	7.30	8.13	7.07	.630 .380 3.09
8	X	6 1/2	X	28.0 I-T	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 T	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 I-T	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 T	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 T	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 I-T	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 I-T	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 I-T	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 I-T	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 I-T	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 I-T	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 I-T	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 I-T	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 I-T	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.)

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

(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				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	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
58	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.)																

 MIL-HDBK-264 (SH)  
 30 September 1980

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
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN2	IN	IN	IN
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

(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	TH
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

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

MIL-HDBK-264 (SH)  
30 September 1980

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	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

(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 LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN	IN	IN2				
62	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	6 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		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
63	8	X 7 1/8	X 28.5 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	12.50	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.)																

MIL-HDBK-264(SH)  
30 September 1980

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	ASH
IN X IN X LBS/FT				LBS	IN3	IN3	IN4	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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

(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	IN2	IN	IN	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

65

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

MIL-HDBK-264 (SH)  
30 September 1980

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		LBS	IN3	IN3	IN4	IN	IN	IN	IN2	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
IN X IN X LBS/FT			LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	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
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
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
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
67	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
(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	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN	IN	IN2			
68	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	IN2	
60	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	.505	.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	33.8	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	ASH
IN X IN X LBS/FT				LBS	IN3	IN3	IN4	IN	IN	IN	IN2	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	40.28	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 = 40.800 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	IN2	IN	IN	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

(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 = 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
IN X IN X LBS/FT						LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

(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.																		
						SECTION MODULUS				BEAM DIMENSIONS								
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
NOMINAL SIZE					LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
73	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	AW
IN X IN X LBS/FT				LBS	IN3	IN3	IN4	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
74	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	.665	.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	ASH
IN X	IN X	LBS/FT		LBS	IN3	IN3	IN4	IN	IN	IN	IN2	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	11.83

75

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

MIL-HDBK-264 (SH)  
30 September 1980

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.																			
76	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	IN2	IN	IN	IN	IN	IN	IN2				
	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.)																		

 MIL-HDBK-264 (SH)  
 30 September 1980

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	IN3	IN3	IN4	IN	IN	IN	IN2	IN	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

(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		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	IN2	IN	IN	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	

(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	ASH
IN X IN X LBS/FT			LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	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

79

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

MIL-HDBK-264(SH)  
30 September 1980

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	ASH
IN X IN X LBS/FT		LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN2
18 X 11 1/8 X 97.0 I-T		65.20	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	O	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 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.																	
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	IN2	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
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
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
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
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
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
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

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

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

83

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						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	IN2	IN	IN	IN	IN2	
4	X	4	Y	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	2.7	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

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

84

MIL-HDBK-264(SH)  
30 September 1980

(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	TH
IN X IN X LBS/FT						LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN2
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
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
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
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
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
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
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

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

(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	28.5	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

(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 LBS	SECTION MODULUS				BEAM DIMENSIONS						
					FLANGE IN3	PLATE IN3	I IN4	R IN	YF IN	YP IN	A IN2	D IN	WF IN	TF IN	ASH IN2
IN	X	IN	X	LBS/FT											
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
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	.230
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	.245
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
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
															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
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
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
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
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
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
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
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
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
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
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
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
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
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
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	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 I-T	7.19	9.1	27.2	55.8	3.03	6.1	2.1	2.11	7.89	3.94	.205	.170
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

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

MIL-HDBK-264(SH)  
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 = 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	IN2	IN	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	ASH
IN X	IN X	LBS/FT		LBS	IN3	IN3	IN4	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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

(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					WT/FT	SECTION MODULUS				BEAM DIMENSIONS						
						FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	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	28.5	32.9	109.0	3.14	3.8	3.3	6.16	6.83	8.00	.530	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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
IN X IN X LBS/FT				LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

(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	ASH
IN X	IN X	LBS/FT		LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	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
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
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
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
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
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
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
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
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
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
94	5	X 5	X 19.0	11.69	11.9	26.6	45.2	2.20	3.8	1.7	3.44	5.15	5.03	.430	.270
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
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
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
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
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
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
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
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
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
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
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
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
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
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

(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	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.)

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	IN2	IN	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								
				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	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				YF	YP	BEAM DIMENSIONS					
					FLANGE	PLATE	I	R			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	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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

(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 = 16.750 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 TN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN	IN2		
99	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	.388	.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	553.5	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.)

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	IN2	IN	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	ASH
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	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
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
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
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
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
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
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
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
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
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
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
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
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
6	X	4	X	9.0 I-T	8.17	8.8	39.7	36.7	1.80	5.4	.9	1.81	5.90	3.94	.215
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
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
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
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
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
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
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
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
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
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
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

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

101

MTL-HDAR-264(SH)  
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 = 21.875 IN.) PLATE WEIGHT = 17.850 LBS. (.4375 IN.) EFFECTIVE PLATE AREA = 9.570 SQ. IN.																	
NOMINAL SIZE						WT/FT	SECTION MODULUS		I	R	YF	YP	BEAM DIMENSIONS				
							FLANGE	PLATE					A	D	WF	TF	TW
IN X IN X LBS/FT						LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN2
102	7	X	8	X	21.5	T	20.94	30.1	58.8	144.6	3.03	4.8	2.5	6.16	6.83	8.00	.530
	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
	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
	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
	8	X	5 1/2	X	13.0	T	12.83	18.7	62.7	119.2	2.99	6.4	1.9	3.77	7.85	5.50	.345
	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
	8	X	5 1/2	X	15.5	T	15.28	22.9	65.3	141.8	3.18	6.2	2.2	4.49	7.94	5.53	.440
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
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	
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	
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	
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	

(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	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	32.4	87.4	254.3	4.16	7.9	2.9	5.11	10.33	5.77	.440	.260
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

(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	ASH
IN X IN X LBS/FT				LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	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

104

MIL-HDBK-264(SH)  
30 September 1980

(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 = 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
IN X IN X LBS/FT						LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN
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
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
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
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
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
105	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
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
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
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
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					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			
106	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	20.0	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	IN2	IN	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.)

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	O	WF	TF	TW	ASH
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN2	IN	IN	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	.635	.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

109

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
IN X IN X LBS/FT						LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	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	.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	.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	.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	1.16
5	X	4	X	6.0	T	5.88	5.7	41.9	27.7	1.26	4.8	.7	1.73	4.34	3.96	.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	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	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	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	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	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	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	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	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	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	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	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	5.93	5.99	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	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	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	1.58
7	X	5	X	13.0	T	12.85	17.8	81.9	109.8	2.37	6.2	1.3	3.78	6.96	5.03	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	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	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	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				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	IN2	IN	IN	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
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
110	8	X	4	X	10.0 I-T	7.19	9.8	78.0	73.7	2.03	7.5	1.9	2.11	7.89	3.94	.205
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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

(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	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	33.3	132.8	290.0	3.72	8.7	2.2	5.11	10.33	5.77	.440	.269
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
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
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
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
11	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
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
	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
	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
	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
	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
	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
	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

(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	IN2	IN	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

113

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		
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	5.6	.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						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	24.0	T	23.53	35.2	108.7	200.2	2.75	5.7	1.8	6.92	6.90	8.03	.595	.340	2.35
114	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	13.67	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.)																		

(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							
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	ASH
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	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
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
10	X	8	X	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
10	X	8	X	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
11.5	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
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

(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	ASH
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	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	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	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	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	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	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	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	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	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	8.79
116	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	5.31
	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	5.64
	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	6.39
	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	7.57
	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	9.14
	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	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	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	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	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	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	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	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	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	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	11.83

(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 = 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	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 = 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		WT/FT	SECTION MODULUS		I	R	YF	YP	BEAM DIMENSIONS					
			FLANGE	PLATE					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 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	233.0	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.)

MIL-HDBK-264 (SH)  
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 = 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	YW
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	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
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
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
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
12	X	6 1/2	X	26.0 I-T	17.64	40.2	220.0	438.7	3.90	10.9	2.0	5.19	12.22	6.49	.380
12	X	6 1/2	X	30.0 I-T	20.27	46.5	227.5	502.6	4.12	10.8	2.2	5.96	12.34	6.52	.440
12	X	6 1/2	X	35.0 I-T	23.82	54.9	236.2	587.5	4.38	10.7	2.5	7.01	12.50	6.56	.520
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
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
12	X	8 1/8	X	50.0 I-T	32.11	75.1	242.8	738.9	4.73	9.8	3.0	9.44	12.19	8.08	.640
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
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
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
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
14	X	6 3/4	X	30.0 I-T	21.16	50.9	254.8	616.1	4.54	12.1	2.4	6.22	13.84	6.73	.385
14	X	6 3/4	X	34.0 I-T	23.54	58.3	263.9	700.9	4.79	12.0	2.7	6.92	13.98	6.75	.455
14	X	6 3/4	X	38.0 I-T	26.17	65.5	270.7	780.1	4.99	11.9	2.9	7.70	14.10	6.77	.515
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
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
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
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
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
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
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
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

(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		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	IN2	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
120	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	35.55	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
	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	IN	IN	IN	IN2
5	X	4	X	9.5 T	9.42	10.3	69.9	52.6	1.38	5.1	.8	2.77	5.12	4.02	.395	.250
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

(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				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
122	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.)																		

(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	ASH
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	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.)											

123

MIL-HDBK-264 (SH)  
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		WT/FT	SECTION MODULUS		I	R	YF	YP	BEAM DIMENSIONS					
			FLANGE	PLATE					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 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 68.0 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

124

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

MIL-HDBK-264 (SH)  
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 = 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
IN X IN X LBS/FT						LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN
IN X IN X LBS/FT						LBS	IN3	IN3	IN4	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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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	ASH	
IN X IN X LBS/FT						LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN2		
126	10	X	4	X	12.3 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	10.10	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	4.03	.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			WT/FT	SECTION MODULUS				BEAM DIMENSIONS						
				FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	ASH
IN X IN X LBS/FT			LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
18 X 7 5/8 X 71.0 I-T			50.75	156.2	579.0	2380.1	6.69	15.2	4.1	14.93	18.47	7.64	.810	.495
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
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
18 X 11 1/4 X 106.0 I-T			71.48	240.2	630.4	3409.3	7.58	14.2	5.4	21.02	18.73	11.20	.940	.590
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
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
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
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

(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		I	R	YF	YP	BEAM DIMENSIONS					
			FLANGE	PLATE					A	D	WF	TF	TW	ASH
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN2	IN	IN	IN	IN	IN2
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	IN2	IN	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	ASH
IN X IN X LBS/FT				LBS	IN3	IN3	IN4	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	.235
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	.260
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

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

MIL-HDBK-264 (SH)  
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 = 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	IN2	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	7.57	
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						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	IN	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.)

MIL-HDBK-264 (SH)  
30 September 1980

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

133

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	IN	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		I	R	YF	YP	BEAM DIMENSIONS					
			FLANGE	PLATE					A	O	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 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

(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	IN2	IN	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
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
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 38.0	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.)												

 MIL-HDBK-264(SH)  
 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 = 62.500 IN.) PLATE WEIGHT = 51.000 LBS. (1.2500 IN.) EFFECTIVE PLATE AREA = 78.125 SQ. IN.														
NOMINAL SIZE		WT/FT	SECTION MODULUS		I	R	YF	YP	BEAM DIMENSIONS					
			FLANGE	PLATE					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 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
136	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

(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 HEIGHT = 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	ASH
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	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.)

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	IN2	IN	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 = 112.500 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
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	8.08	.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	IN2	IN	IN	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

(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		WT/FT	SECTION MODULUS		I	R	YF	YP	BEAM DIMENSIONS					
			FLANGE	PLATE					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 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	ASH
IN X IN X LBS/FT				LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN2
16	X	10	3/8 X 69.0 I-T	59.17	202.6	1636.8	3379.8	3.94	16.7	2.1	17.40	16.75	10.37	.875	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	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	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	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	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	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	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	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	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	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	11.83

(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		WT/FT	SECTION MODULUS		I	R	YF	YP	BEAM DIMENSIONS					
			FLANGE	PLATE					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	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
IN X IN X LBS/FT						LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN
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
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
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
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
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
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
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

144

MIL-HDBK-264 (SH)  
30 September 1980

(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	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
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
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
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
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
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
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

(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						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	IN2	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
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
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
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
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
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
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

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

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

147

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 LBS/FT						LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
4	X	4	X	5.0	T	4.91	3.6	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

147

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

MIL-HDBK-264(SH)  
30 September 1980

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					WT/FT	SECTION MODULUS				BEAM DIMENSIONS						
						FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TH
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
8	X	5	1/2 X	13.0 T	12.83	16.7	19.7	73.3	3.45	4.4	3.7	3.77	7.85	5.50	.345	.250
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
8	X	5	1/4 X	18.0 I-T	12.00	16.2	20.2	75.4	3.57	4.7	3.7	3.53	8.14	5.25	.330	.230
8	X	5	1/4 X	21.0 I-T	13.87	19.1	21.1	85.5	3.64	4.5	4.0	4.08	8.28	5.27	.400	.250
8	X	6	1/2 X	24.0 I-T	15.11	21.3	20.5	85.4	3.54	4.0	4.2	4.44	7.93	6.50	.400	.245

(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
IN X IN X LBS/FT				LBS	IN3	IN3	IN4	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
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
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
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
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
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
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
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
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
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
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

(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						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	IN2	IN	IN	IN	IN	IN	IN2					
150	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	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	
	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					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	IN	IN	IN	IN2		
ISI	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	12.83	17.1	23.8	81.0	3.46	4.7	3.4	3.77	7.85	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
	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	12.48	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	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	IN2	IN	IN	IN	IN	IN2
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 31.8 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

(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.																			
153	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	3.8	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.)													

 MIL-HDBK-264 (SH)  
 30 September 1980

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	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	27.8	26.0	96.0	3.12	3.5	3.7	6.16	6.83	8.00	.530	.305 2.08
154	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	15.5 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.)

MIL-HDBK-264 (SH)  
30 September 1980

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					WT/FT	SECTION MODULUS				BEAM DIMENSIONS					
						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
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
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
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
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
12	X	6 1/2	X	26.0 I-T	17.64	35.7	47.2	254.7	5.35	7.1	5.4	5.19	12.22	6.49	.380
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
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
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
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
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
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
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
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
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
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	5.50	.345
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
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
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
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

(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	IN2	IN	IN	IN	IN	IN	IN2					
156	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	X	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	X	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	X	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	X	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				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	IN2	IN	IN	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	SECTION MODULUS			I	R	YF	YP	BEAM DIMENSIONS				
					FLANGE	PLATE						A	D	WF	TF	TW
IN X IN X LBS/FT				LBS	IN3	IN3		IN4	IN	IN	IN	IN2	IN	IN	IN	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
12	X	4	X 14.0 I-T	10.90	18.0	47.3		159.8	4.55	8.9	3.4	3.23	11.91	3.97	.225	.200
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

(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
IN X IN X LBS/FT						LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
(38T)						PLATE WEIGHT = 15.300 LBS. (.3750 IN.)									

MIL-HDBK-264 (SH)  
30 September 1980

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

0

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
IN X IN X LBS/FT						LBS	IN3	IN3	IN4	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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

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

MIL-HDBK-264 (SH)  
30 September 1980



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
IN X IN X LBS/FT				LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
161	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	26.09	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 50.0 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

(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	TH
IN X IN X LBS/FT						LBS	IN3	IN3	IN4	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
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
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
4	X	5	1/4	X	9.0	8.82	7.8	23.3	26.2	1.63	3.4	1.1	2.59	4.07	5.25	.330	.230
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
7	X	6	3/4	X	15.0	14.81	20.3	44.8	102.7	2.97	5.1	2.3	4.36	6.92	6.73	.385	.270
7	X	6	3/4	X	17.0	16.77	23.4	45.9	115.1	3.07	4.9	2.5	4.93	6.99	6.75	.455	.285
7	X	6	3/4	X	19.0	18.74	26.2	46.9	125.8	3.14	4.8	2.7	5.51	7.05	6.77	.515	.310
(38T) PLATE WEIGHT = 17.850 LBS. (.4375 IN.)																	

163

MIL-HDBK-264 (SH)  
30 September 1980

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	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	29.6	46.1	131.0	3.12	4.4	2.8	6.16	6.83	8.00	.530	.305
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

(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	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN	IN2	
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.)

MIL-HDBK-264 (SH)  
30 September 1980

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	ASH
IN X	IN X	LBS/FT		LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	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
16	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	IN2	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
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
4	X	4	X	7.5 T	7.42	6.2	26.3	22.8	1.40	3.7	.9	2.18	4.06	4.02	.315	.245
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

(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						WT/FT	SECTION MODULUS			BEAM DIMENSIONS									
							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	IN2		
168	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	68.6	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	2.10
	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		WT/FT	SECTION MODULUS		I	R	YF	YP	BEAM DIMENSIONS					
			FLANGE	PLATE					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 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
169	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	3.97	.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
	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		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	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.)

MIL-HDBK-264 (SH)  
30 September 1980

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	TH
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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	7.05	6.77	.515
															.310
															2.19

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

MIL-HDBK-264(SH)  
30 September 1980

171

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	SECTION MODULUS				BEAM DIMENSIONS						
						FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	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	30.7	70.7	158.3	2.95	5.2	2.2	6.16	6.83	8.00	.530	.305
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
172	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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

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

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

173

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	SECTION MODULUS				BEAM DIMENSIONS						
						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	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 2.38	
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	8.68	.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	16.16	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	18.07	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.)

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	WM	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.)

MIL-HDBK-264 (SH)  
30 September 1980

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	TH
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN	IN	IN2
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	.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	.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	.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	1.16
175	5	X	4	X	6.0 T	5.88	5.8	39.0	27.9	1.30	4.8	.7	1.73	4.94	.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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	2.19
(38T)				PLATE WEIGHT = 25.500 LBS. (.6250 IN.)											

 MIL-HDBK-264 (SI)  
 30 September 1980

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	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	31.1	84.0	169.4	2.84	5.4	2.0	6.16	6.83	8.00	.530	.305
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
176	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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

(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	TH
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	33.4	124.5	288.2	3.80	8.6	2.3	5.11	10.33	5.77	.440	.260
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

(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		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	IN2	IN	IN	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
178	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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	TH
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
(38T) PLATE WEIGHT = 28.050 LBS. (.6875 IN.)															

179

MIL-HDBK-264 (SH)  
30 September 1980

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	O	WF	TF	TW	ASH	
	IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2	
180	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.)

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 = 26.050 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	TH
IN X IN X LBS/FT				LBS	IN3	IN3	IN4	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
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
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
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
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
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
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
12	X	6 1/2	X 35.0 I-T	23.02	54.4	186.7	555.3	4.72	10.2	3.0	7.01	12.50	6.56	.520	.300
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

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

MIL-HDBK-264 (SI)  
30 September 1980

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	IN
182	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 = 20.500 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		
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	1.80	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.)																

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
IN X IN X LBS/FT			LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
10	X	8	X 33.0 I-T	28.94	41.1	163.1	344.1	3.54	8.4	2.1	6.16	9.73	7.96	.435
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
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

(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
IN X IN X LBS/FT				LBS	IN3	IN3	IN4	IN	IN	IN	IN2	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
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
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
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
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
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
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
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
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
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
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
	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
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
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
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
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
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
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
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
16	X	5 1/2	X 26.0 I-T	19.49	40.3	253.8	666.6	4.96	13.8	2.6	5.73	15.69	5.50	.345	.250
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
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
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
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
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
(38T)				PLATE WEIGHT = 30.600 LBS. (.7500 IN.)											

MIL-HDBK-264 (SH)  
30 September 1980

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		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	IN2	IN	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	.865	.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
186	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
	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
IN X IN X LBS/FT						LBS	IN3	IN3	IN4	IN	IN	IN	IN2	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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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.)										

187

MIL-HDBK-264 (SH)  
30 September 1980

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

188

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/FY	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.)

MIL-HDBK-264 (SH)  
30 September 1980

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				VF	YP	BEAM DIMENSIONS				
					FLANGE	PLATE	I	R			A	D	WF	TF	TH
IN X IN X LBS/FT				LBS	IN3	IN3	IN4	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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

(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	IN2	IN	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

190

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

MIL-HDBK-264 (SH)  
30 September 1980

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	IN2	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	.460	.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	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN
192	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	33.81	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
	(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	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	155.6	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

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

MIL-HDBK-264 (SH)  
30 September 1980

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	TW	ASH	
	IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
194	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.																										
													SECTION MODULUS						BEAM DIMENSIONS							
													NOMINAL SIZE	WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH
195	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.)

MIL-HDBK-264 (SH)  
30 September 1980

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	IN2	IN	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
21	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	TM
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	23.53	38.9	211.1	267.7	2.01	6.9	1.3	6.92	6.90	8.03	.595	.340
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

(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	
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	8.00	.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	8.03	.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.)

MIL-HDBK-264 (SH)  
30 September 1980

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				LBS	IN3	IN3	IN4	IN	IN	IN	IN2	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 36.0 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.)																

MIL-HDBK-264 (SH)  
30 September 1980

200



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		LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	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				WT/FT LBS	SECTION MODULUS				YF IN	YP IN	BEAM DIMENSIONS				
					FLANGE IN3	PLATE IN3	I IN4	R IN			A IN2	D IN	WF IN	TF IN	AW IN2
IN	X	IN	X	LBS/FT	IN3	IN3	IN4	IN	IN	IN	IN2	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	534.8	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		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	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

203

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

MIL-HDBK-264 (SH)  
30 September 1980

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	IN2	IN	IN	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.)

MIL-HDBK-264 (SH)  
30 September 1980

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			SECTION MODULUS				BEAM DIMENSIONS							
			WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TH
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	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
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
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
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
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
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	.480
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
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
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
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
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
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
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
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
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
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

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

208

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

MIL-HDBK-264 (SH)  
30 September 1980



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

209

PROPERTIES OF COMBINED BEAM AND PLATE T-T AND T																		
D (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	O	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	3.4	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

(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	VF	VP	A	O	WF	TF	TW
IN X IN X LBS/FT						LBS	IN3	IN3	IN4	IN	IN	TN	IN2	IN	IN	IN	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
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
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
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
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
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
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

(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	TH
IN X IN X LBS/FT						LBS	IN3	IN3	IN4	IN	IN	IN	IN2	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
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
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
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
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
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
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

(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					WT/FT	SECTION MODULUS				BEAM DIMENSIONS						
						FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TH
IN X IN X LBS/FT					LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
(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 = 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	ASH
IN X IN X LBS/FT				LBS	IN3	IN3	IN4	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	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	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	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	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	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	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	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	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	2.81
14	X	5	X 22.0 I-T	16.18	29.9	34.9	225.5	5.70	7.6	6.5	4.76	13.74	5.00	.335	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	3.92

(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
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN	IN	IN	IN2
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
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
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
4	X	5 1/4	X	9.0 T	8.82	7.2	10.5	18.6	1.86	2.6	1.8	2.59	4.07	5.25	.330	.230
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
7	X	6 3/4	X	15.0 T	14.81	18.7	19.9	69.5	3.12	3.7	3.5	4.36	6.92	6.73	.385	.270

(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	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	IN2	IN	IN	IN	IN	IN	IN2			
215	8	X	4	X	10.0 I-T	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 I-T	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 T	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 I-T	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 T	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 I-T	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 I-T	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 I-T	15.11	21.7	23.1	91.8	3.57	4.2	4.0	4.44	7.93	6.50	.400	.245	1.94
	10	X	4	X	12.0 I-T	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 I-T	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 I-T	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 I-T	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 I-T	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 I-T	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 I-T	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 I-T	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 I-T	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 I-T	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 I-T	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 I-T	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 I-T	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 I-T	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 I-T	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	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	IN2	IN	IN	IN	IN	IN2
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 = 10.938 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
IN	X	IN	X	LBS/FT		LBS	IN3	IN3	IN4	IN	IN	IN	IN2	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
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
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
4	X	5	1/4	9.0	T	8.82	7.4	12.6	20.3	1.84	2.8	1.6	2.59	4.07	5.25	.330
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
7	X	6	3/4	15.0	T	14.81	19.1	23.7	76.5	3.14	4.0	3.2	4.36	6.92	6.73	.385
7	X	6	3/4	17.0	T	16.77	21.9	24.3	84.1	3.17	3.8	3.5	4.93	6.99	6.75	.455
7	X	6	3/4	19.0	T	18.74	24.4	24.9	90.7	3.19	3.7	3.6	5.51	7.05	6.77	.515

(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 = 10.938 IN.) PLATE WEIGHT = 12.750 LBS. (.3125 IN.) EFFECTIVE PLATE AREA = 3.418 SQ. IN.																	
NOMINAL SIZE				WT/FT	SECTION MODULUS			I	R	YF	YP	BEAM DIMENSIONS					
					FLANGE	PLATE						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
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
218	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	26.0		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.)

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

(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					WT/FT	SECTION MODULUS				BEAM DIMENSIONS						
						FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	ASH
IN X IN X LBS/FT					LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	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
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
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
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
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
220	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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

(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	IN2	IN	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	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.								
223	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	3.9	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	8.17	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	IN2	IN	IN	IN	IN2	
224	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			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		
225	10	X	8	X	33.0 I-T	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 I-T	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 I-T	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 I-T	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 I-T	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 I-T	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 I-T	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 I-T	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 I-T	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 I-T	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 I-T	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 I-T	28.81	59.8	63.7	383.6	5.35	6.4	6.0	8.47	12.06	8.05	.575	.335	4.04
	12	X	8 1/8	X	50.0 I-T	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 I-T	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 I-T	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 I-T	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 I-T	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 I-T	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 I-T	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 I-T	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 I-T	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 I-T	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 I-T	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 I-T	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
IN X IN X LBS/FT				LBS	IN3	IN3	IN4	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
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
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
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
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
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

(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
IN X IN X LBS/FT						LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN
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
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
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
4	X	5	1/4	X	9.0	8.82	7.7	21.8	25.7	1.66	3.3	1.2	2.59	4.07	5.25	.330
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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	.445
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
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
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
7	X	6	3/4	X	15.0	14.81	20.2	41.7	100.1	3.01	5.0	2.4	4.36	6.92	6.73	.385
7	X	6	3/4	X	17.0	16.77	23.3	42.8	112.0	3.10	4.8	2.6	4.93	6.99	6.75	.455
7	X	6	3/4	X	19.0	18.74	26.0	43.6	122.1	3.16	4.7	2.8	5.51	7.05	6.77	.515

(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	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	29.4	42.9	126.9	3.14	4.3	3.0	6.16	6.83	8.00	.530	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	6.90	8.03	.595	2.35
228	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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
	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	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	11.31	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 3.20
12	X	6 1/2	X	26.0 I-T	17.64	37.6	76.7	319.4	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.)

MIL-HDBK-264 (SH)  
30 September 1980

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	IN2	IN	IN	IN	IN	IN	IN2					
230	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.)

MIL-HDBK-264 (SH)  
30 September 1980

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.																			
231	NOMINAL SIZE					WT/FT	SECTION MODULUS				BEAM DIMENSIONS								
							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					
	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	6.08	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	1.60
	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.)

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	IN	IN2	
232	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															
(3ST = 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	TH
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN2	IN	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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
14	X	5	X	26.0 I-T	18.87	41.4	108.0	431.2	5.49	10.4	4.0	5.55	13.91	5.03	.420
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
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
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
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
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

(3ST) PLATE WEIGHT = 20.400 LBS. (.5000 IN.)

MIL-HDBK-264 (SH)  
30 September 1980

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
																</												

(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.																		
235	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	IN2	IN	IN	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						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	IN2	IN	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	.530	.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	
236	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.)

MIL-HDBK-264 (SH)  
30 September 1980

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	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		10.96	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	7.01	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					
		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	46.4	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
(35T) PLATE WEIGHT = 22.950 LBS. (.5625 IN.)														

238

MIL-HDBK-264 (SH)  
30 September 1980

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						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	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN2			
239	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	4.03	.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.)																				

MIL-HDBK-264 (SH)  
30 September 1980

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					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	
240	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.)

MIL-HDBK-264 (SH)  
30 September 1980



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	IN2	IN	IN	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	78.2	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		WT/FT		SECTION MODULUS				BEAM DIMENSIONS						
				FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	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	47.1	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 X 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	7.00	.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 X 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 X 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 X 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	IN2	IN	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	.260	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						WT/FT	SECTION MODULUS		I	R	YF	YP	BEAM DIMENSIONS				
							FLANGE	PLATE					A	D	WF	TF	TW
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
(35T) PLATE WEIGHT = 28.050 LBS. (.6875 IN.)																	

 MIL-HDBK-264 (SH)  
 30 September 1980

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

245

MIL-HDBK-264(SH)  
30 September 1980

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	IN2	IN	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
246	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						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	
247	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						WT/FT	SECTION MODULUS				BEAM DIMENSIONS					
								FLANGE	PLATE	I	R	VF	YP	A	D	WF	TF
	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN	IN2	
248	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	.175	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	12.93	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	169.4	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	
	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	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN	IN2
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.)

MIL-HDBK-264(SH)  
30 September 1980

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	IN2	
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	16.0 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.)

251

MIL-HDBK-264(SH)  
30 September 1980

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
252	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.)																		

MIL-HDBK-264 (SH)  
30 September 1980

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	O	WF	TF	ASH
IN X	IN X	LBS/FT	LBS		IN3	IN3	IN4	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	IN2	IN	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

254

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

MIL-HDBK-264 (SH)  
30 September 1980

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				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	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	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	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	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	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	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	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	2.35
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	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	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	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	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	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	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	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	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	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	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	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	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	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	2.66
9	X	6	X	20.0 T	19.76	35.8	199.8	301.9	2.72	8.4	1.5	5.81	8.95	6.02	.525	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	TH	ASH		
IN X IN X LBS/FT						LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2		
256	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	
	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	4.18	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.																		
257	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	IN2	IN	IN	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	.355	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		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	IN2	IN	IN	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
IN X IN X LBS/FT							LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN
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
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
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
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
259	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
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
							(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 = 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	ASH
IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN2
12	X 4	X 19.0 I-T	14.20	29.0	268.3	347.7	2.68	12.0	1.3	4.18	12.16	4.01	.350	.235
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

(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 = 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	IN2	IN	IN	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	

261

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

MIL-HDBK-264 (SH)  
30 September 1980

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	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	26.19	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.)																		

MIL-HDBK-264 (SH)  
30 September 1980

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.																
263	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	IN2	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	7.52
	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		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	IN2
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	TH	ASH	
IN X IN X LBS/FT				LBS	IN3	IN3	IN4	IN	IN	IN	IN2	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	.360	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	.233	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	504.0	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.)

MIL-HDBK-264 (SH)  
30 September 1980

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	IN2	IN	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
266	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	TH
IN X IN X LBS/FT				LBS	IN3	IN3	IN4	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	8.29	10.10	8.02	.620	.350
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

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

268

(35T) PLATE WEIGHT = 61.200 LBS. (1.5000 IN.)

MTI-HDBK-264 (SH)  
30 September 1980

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				SECTION MODULUS				BEAM DIMENSIONS							
				WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	ASH
IN X IN X LBS/FT				LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN2
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	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	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	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	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	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	8.45
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	7.52
269	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	

(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		WT/FT	SECTION MODULUS		I	R	YF	YP	BEAM DIMENSIONS					
			FLANGE	PLATE					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 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	16.52	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	284.5	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	O	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 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			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	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					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 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

(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	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	IN	IN2				
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	3.4	3.3	1.14	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			

(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					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	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	

(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				WT/FT	SECTION MODULUS		I	R	YF	YP	BEAM DIMENSIONS						
					FLANGE	PLATE					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	
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
IN	X	IN	X	IN	X	LBS/FT	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN2
2	X	1 1/2	X	3/16	X	2.12 L	2.11	.8	4.3	1.4	.57	1.9	.3	.62	2.00	1.50
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
5	X	3	X	1/4	X	6.6 L	6.59	5.2	15.7	20.5	1.98	3.9	1.3	1.94	5.00	3.00
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
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

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

 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 = 16.875 IN.) PLATE HEIGHT = 11.475 LBS. (.2813 IN.) EFFECTIVE PLATE AREA = 4.746 SQ. IN.																
NOMINAL SIZE				WT/FT	SECTION MODULUS		I	R	YF	YP	BEAM DIMENSIONS					
					FLANGE	PLATE					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
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.)

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
280	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.)																		

 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 = 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	TH
IN X IN X IN X LBS/FT						LBS	IN3	IN3	IN4	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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
(60T)						PLATE WEIGHT = 14.025 LBS. (.3438 IN.)											

281

MIL-HDBK-264 (SH)  
30 September 1980

TABLE XII. Properties of combined beam and plate, C-L and L (60t). - Continued

282

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						WT/FT	SECTION MODULUS		I	R	YF	YP	BEAM DIMENSIONS					
							FLANGE	PLATE					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	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	

282

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

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 = 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 IN X LBS/FT					LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	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					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	IN	IN	IN	IN2		
284	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.)																					

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 = 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	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.																						
								SECTION MODULUS			BEAM DIMENSIONS											
NOMINAL SIZE								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	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

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

MIT-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 = 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	IN2	IN	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	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
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

(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	TH
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

(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				WT/FT	SECTION MODULUS				BEAM DIMENSIONS						
					FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	ASH
IN	X IN	X IN	X LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	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
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
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
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
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
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
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
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
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
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
290	5	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
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
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
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
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
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
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
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
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
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
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
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
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

(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					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	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	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	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	7.20	12.00	3.45	.600	.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	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	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	.610	.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.)

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 = 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
	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
292	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
	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						WT/FT	SECTION MODULUS				YF	YP	BEAM DIMENSIONS																		
							FLANGE	PLATE	I	R			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													
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	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	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	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	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	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	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	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	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	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				WT/FT	SECTION MODULUS				BEAM DIMENSIONS						
IN X	IN X	IN X	LBS/FT		FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	ASH
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	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	24.48	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	7.80	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						SECTION MODULUS				BEAM DIMENSIONS						
						WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF
IN X IN X IN X LBS/FT						LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN
295	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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

(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	ASH
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	3.38

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

MTL-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 = 37.500 IN.) PLATE HEIGHT = 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	IN	ASH	
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN	IN2	
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				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
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					WT/FT	SECTION MODULUS				YF	YP	BEAM DIMENSIONS				
						FLANGE	PLATE	I	R			A	D	WF	TF	ASH
IN X	IN X	IN X	LBS/FT		LBS	IN3	IN3	IN4	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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

(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				WT/FT	SECTION MODULUS				BEAM DIMENSIONS							
					FLANGE	PLATE	I	R	YF	YP	A	O	MF	TF	TW	ASH
IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	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

300

(60T) PLATE WEIGHT = 28.050 LBS. (.6075 IN.)

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 = 45.000 IN.) PLATE WEIGHT = 30.600 LBS. (.7500 IN.) EFFECTIVE PLATE AREA = 33.750 SQ. IN.																
NOMINAL SIZE					SECTION MODULUS				YF	YP	BEAM DIMENSIONS					
					WT/FT	FLANGE	PLATE	I	R		A	D	WF	TF	TW	ASH
IN X IN X IN X LBS/FT					LBS	IN3	IN3	IN4	IN	IN	IN2	IN	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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

(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					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	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
8	X	6	X	3/4	X	33.6 L	33.79	46.0	191.1	324.3	2.72	7.1	1.7	9.94	8.00	6.00	.750
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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	.501
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	.600
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
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
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
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
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

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

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 = 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							
IN	X	IN	X		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
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	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	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	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	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	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	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	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	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	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	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	12.60

303

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

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 = 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
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

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

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 = 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	ASH
IN X IN X IN Y	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	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.)				-----							

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 = 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	ASH
IN X IN X IN X LBS/FT	LBS			IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN2
18 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
18 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
18 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
18 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					WT/FT	SECTION MODULUS			I	R	YF	YP	BEAM DIMENSIONS				
						FLANGE	PLATE						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
307	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.)

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
IN	X	IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	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
12	X	3		X	X	30.0 C	25.34	42.0	368.2	498.3	2.70	11.7	1.3	7.45	12.00	3.17
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
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
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
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
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
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
13	X	4		X	X	31.8 C	24.09	50.8	441.9	637.9	3.08	12.6	1.4	7.09	13.00	4.00
13	X	4		X	X	35.0 C	27.27	54.9	448.5	684.7	3.17	12.5	1.5	8.02	13.00	4.07
13	X	4		X	X	40.0 C	32.28	61.3	458.0	757.3	3.30	12.3	1.7	9.49	13.00	4.19
13	X	4		X	X	50.0 C	42.30	73.9	473.3	895.1	3.52	12.1	1.9	12.44	13.00	4.41
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
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
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
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
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
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
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
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
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
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
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
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
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

(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				SECTION MODULUS				BEAM DIMENSIONS						
WT/FT				FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TH
LBS				IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN2
IN X	IN X	IN X	LBS/FT											
14	X 4	X	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	IN2	IN	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	X 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	X 4	X	X 35.0 C	27.27	55.7	506.5	709.3	2.91	12.7	1.4	8.02	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.)

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 = 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	ASH
IN X	IN X	IN X	LBS/FT	LBS		IN3	IN3	IN4	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	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	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	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	10.32
15	X 4	X	X 56.4 C	47.46		97.7	679.8	1374.1	3.92	14.1	2.0	13.96	15.00	4.13	.797	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	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	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	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	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	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	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	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	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	12.60

(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	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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

(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 = 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						
IN X	IN X	IN X	LBS/FT		FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	ASH
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	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				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
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	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	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	10.23
15	X	3	3/8	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	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	9.38
15	X	3	3/8	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	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	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	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	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	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	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	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	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	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	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	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	12.60

(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					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
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	1121.0	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				WT/FT	SECTION MODULUS				BEAM DIMENSIONS						
					FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	ASH
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	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

(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
LBS					IN3	IN3	IN4	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
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
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
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
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

(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.																		
SECTION MODULUS						BEAM DIMENSIONS												
						NOMINAL SIZE		WT/FT	FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF
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	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	

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

MIL-HDBK-264 (SH)  
30 September 1980

(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				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	3.2	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	

(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	ASH
IN	X	IN	X	IN	LBS/FT	IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	IN	IN2
2	X	1 1/2	X	3/16	L	2.11	.7	3.8	1.4	.61	1.9	.4	.62	2.00	1.50	.187
2	X	2	X	3/16	L	2.42	.9	4.1	1.7	.66	1.8	.4	.71	2.00	2.00	.187
2	X	1 1/2	X	1/4	L	2.76	.9	4.0	1.7	.66	1.8	.4	.81	2.00	1.50	.250
2	X	2	X	1/4	L	3.19	1.2	4.3	2.1	.71	1.8	.5	.94	2.00	2.00	.250
2 1/2	X	2	X	3/16	L	2.74	1.2	5.4	2.7	.84	2.2	.5	.81	2.50	2.00	.187
2 1/2	X	2	X	1/4	L	3.61	1.6	5.7	3.3	.89	2.2	.6	1.06	2.50	2.00	.250
3	X	2	X	3/16	L	3.06	1.6	6.8	4.1	1.01	2.6	.6	.90	3.00	2.00	.187
3	X	3	X	3/16	L	3.70	2.1	7.3	5.3	1.12	2.5	.7	1.09	3.00	3.00	.187
3	X	2	X	1/4	L	4.04	2.0	7.0	5.0	1.08	2.5	.7	1.19	3.00	2.00	.250
3	X	2 1/2	X	1/4	L	4.46	2.3	7.3	5.7	1.14	2.5	.8	1.31	3.00	2.50	.250
3	X	3	X	1/4	L	4.89	2.7	7.6	6.4	1.18	2.4	.8	1.44	3.00	3.00	.250
3 1/2	X	2 1/2	X	1/4	L	4.89	2.8	8.8	8.0	1.33	2.8	.9	1.44	3.50	2.50	.250
3 1/2	X	3	X	1/4	L	5.31	3.2	9.0	8.9	1.38	2.8	1.0	1.56	3.50	3.00	.250
4	X	3	X	1/4	L	5.74	3.8	10.5	11.9	1.57	3.1	1.1	1.69	4.00	3.00	.250
4	X	3 1/2	X	1/4	L	6.16	4.3	10.7	13.0	1.62	3.0	1.2	1.81	4.00	3.50	.250
4	X	4	X	1/4	L	6.59	4.7	10.9	14.1	1.67	3.0	1.3	1.94	4.00	4.00	.250
5	X	3	X	1/4	L	6.59	5.1	13.4	19.5	1.96	3.8	1.5	1.94	5.00	3.00	.250
5	X	3 1/2	X	1/4	L	7.01	5.7	13.7	21.2	2.02	3.7	1.5	2.06	5.00	3.50	.250
10	X	2 5/8	X		C	11.66	16.0	30.0	106.9	4.04	6.7	3.6	3.43	10.00	2.60	.436

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

MIL-HDBK-264(SH)  
30 September 1980

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	T	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	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	.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	.37
2	X 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	.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	.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	.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	.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	.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	.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	.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	.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	.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	.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	.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	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	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	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	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	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	2.40
(50T) PLATE WEIGHT = 11.475 LBS. ( .2813 IN.)																

MIL-HDBK-264 (SH)  
30 September 1980

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						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	IN2	
323	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.)

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
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 = 17.18 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
IN	X	IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN	IN
2	X	2		X	3/16	X	2.42	1.0	5.7	2.0	.54	2.0	.3	.71	2.00	2.00
2	X	1 1/2	X	1/4	X	2.77	2.76	1.0	5.6	2.0	.55	2.0	.4	.81	2.00	1.50
2	X	2		X	1/4	X	3.19	1.2	6.2	2.4	.60	2.0	.4	.94	2.00	2.00
2 1/2	X	2		X	3/16	X	2.74	1.3	7.9	3.1	.68	2.4	.4	.81	2.50	2.00
2 1/2	X	2		X	1/4	X	3.61	1.6	8.5	3.9	.75	2.4	.5	1.06	2.50	2.00
2 1/2	X	2		X	5/16	X	4.46	2.0	9.0	4.6	.80	2.3	.5	1.31	2.50	2.00
3	X	2		X	3/16	X	3.07	1.6	10.1	4.7	.83	2.9	.5	.90	3.00	2.00
3	X	3		X	3/16	X	3.70	2.2	11.3	6.1	.93	2.8	.5	1.09	3.00	3.00
3	X	2		X	1/4	X	4.04	2.1	10.9	5.8	.91	2.8	.5	1.19	3.00	2.00
3	X	2 1/2	X	1/4	X	4.5	4.46	2.4	11.5	6.7	.96	2.8	.6	1.31	3.00	2.50
3	X	3		X	1/4	X	4.89	2.8	12.1	7.6	1.02	2.7	.6	1.44	3.00	3.00
3	X	2		X	5/16	X	4.99	2.5	11.4	6.8	.96	2.7	.6	1.47	3.00	2.00
3	X	2 1/2	X	5/16	X	5.6	5.52	2.9	12.0	7.9	1.02	2.7	.7	1.62	3.00	2.50
3	X	3		X	5/16	X	6.05	3.4	12.5	8.8	1.07	2.6	.7	1.78	3.00	3.00
3 1/2	X	2 1/2	X	1/4	X	4.9	4.89	3.0	14.0	9.4	1.13	3.2	.7	1.44	3.50	2.50
3 1/2	X	3		X	1/4	X	5.31	3.4	14.6	10.6	1.19	3.1	.7	1.56	3.50	3.00
3 1/2	X	2 1/2	X	5/16	X	6.1	6.05	3.6	14.6	11.0	1.20	3.1	.8	1.78	3.50	2.50
3 1/2	X	3		X	5/16	X	6.58	4.1	15.1	12.4	1.26	3.0	.8	1.94	3.50	3.00
4	X	3		X	1/4	X	5.74	4.0	17.2	14.1	1.36	3.5	.8	1.69	4.00	3.00
4	X	3 1/2	X	1/4	X	6.2	6.16	4.5	17.7	15.6	1.42	3.5	.9	1.81	4.00	3.50
4	X	4		X	1/4	X	6.59	5.0	18.2	16.9	1.47	3.4	.9	1.94	4.00	4.00
4	X	3		X	5/16	X	7.12	4.9	17.7	16.6	1.44	3.4	.9	2.09	4.00	3.00
4	X	3 1/2	X	5/16	X	7.7	7.65	5.4	18.3	18.2	1.49	3.3	1.0	2.25	4.00	3.50

(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 = 17.168 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 IN X LBS/FT				LBS	IN3	IN3	IN4	IN	IN	IN	IN2	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				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	
327	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.)																		

MIL-HDBK-264(SH)  
30 September 1980

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						
		WT/FT	FLANGE		PLATE	I	R	YF	YP	A	D	WF	TF	TW	ASH	
			IN3	IN3												
IN X IN X IN X LBS/FT		LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	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 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 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 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.)																

 MIL-HDBK-264 (SH)  
 30 September 1980



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				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
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								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				
330	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.)																							

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

MIL-HDBK-264(SH)  
30 September 1980

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

(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	IN2	IN	IN	IN	IN	IN2
333	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	29.0	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.)																		

 MIL-HDBK-264 (SH)  
 30 September 1980

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	TF	TW	ASH
IN X IN X IN X LBS/FT						LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2
334	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	.385	2.04
	6	X 3	1/2 X 3/8	X 11.7	L	11.53	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.)

MIL-HDBK-264 (SH)  
30 September 1980

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	TF	TW	ASH		
IN X IN X IN X LBS/FT				LBS	IN3	IN3	IN4	IN	IN	IN	IN	IN2	IN	IN	IN	IN2		
335	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.)																		

335

MIL-HDBK-264 (SH)  
30 September 1980

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
IN	X	IN	X	IN	X	LBS/FT	IN3	IN3	IN4	IN	IN	IN	IN2	IN	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	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
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	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 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 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
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
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
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
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	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
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
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	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
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
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	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
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
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	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
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
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
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
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
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

(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	TF	ASH
IN	X	IN	X	IN	X	LBS	IN3	IN3	IN4	IN	IN	IN2	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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
(50T) PLATE WEIGHT = 22.950 LBS. (.5625 IN.)																

MIL-HDBK-264 (SH)  
30 September 1980

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	ASH
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	IN	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
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
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	10.00	3.40	.575	.377
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

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

MIL-HDBK-264(SH)  
30 September 1980

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						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	IN	IN2	
339	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	
	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.)																				

 MIL-HDBK-264(SH)  
 30 September 1980

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						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	IN2		
340	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
	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				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	
341	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	1335.4	6.41	14.0	4.6	12.99	18.00	4.10	.625	.600	10.80	

(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	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		
342	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.)

MIL-HDBK-264 (SH)  
30 September 1980

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					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	IN2	IN	IN	IN	IN	IN2	
343	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
	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	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	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	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	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	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	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	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	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	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	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	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	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	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				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
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

344

MIL-HDBK-264 (SH)  
30 September 1980

(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					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	
345	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
	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 1/2	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.)																		

 MIL-HDBK-264 (SH)  
 30 September 1980

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				I	R	YF	YP	BEAM DIMENSIONS				
					FLANGE	PLATE							A	D	WF	TF	ASH
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3			IN4	IN	IN	IN	IN2	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.)																	

MIL-HDBK-264 (SH)  
30 September 1980

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					
347	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
	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	1038.0	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				I	R	YF	YP	BEAM DIMENSIONS				
						FLANGE	PLATE							A	D	WF	TF	IN
IN	X	IN	X	IN	X	LBS/FT	LBS	IN3	IN3	IN4	IN	IN	IN	IN2	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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

(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	IN	IN2	IN	IN	IN	IN2
349	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
	12	X	3	X	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.)																

MIL-HDBK-264 (SH)  
30 September 1980

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	ASH
IN X	IN X	IN X	LBS/FT	LBS	IN3	IN3	IN4	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	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	92.2	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

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

TABLE XIII. Properties of combined beam and plate, C-L and L (50t). - Continued

351

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				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	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	31.4	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	4.30
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 23.8 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	9.30	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	.500	.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 = 40.800 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				WT/FT		SECTION MODULUS				BEAM DIMENSIONS						
IN	X	IN	X			FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	ASH
IN	X	IN	X	LBS/FT		IN3	IN3	IN4	IN	IN	IN	IN2	IN	IN	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	3/8	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 = 40.800 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				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
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	Y	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
15	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

(50T) PLATE WEIGHT = 40.800 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 = 56.250 IN.) PLATE HEIGHT = 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	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	
354	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
	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	280.7	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				WT/FT	SECTION MODULUS				BEAM DIMENSIONS						
					FLANGE	PLATE	I	R	YF	YP	A	D	WF	TF	TH
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
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
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
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
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
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
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
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
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
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
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
15	X	4	X	X 53.2 C	44.23	92.4	588.7	1287.7	4.11	13.9	2.2	13.01	15.00	4.06	.797
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
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
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
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
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
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
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
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
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
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

(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	IN	IN	IN2				
356	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.)																						

(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 = 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	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	IN	IN2
8	X 6	X 1	X 44.2 L	44.20	64.3	361.1	511.7	2.18	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	86.9	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.)

MIL-HDBK-264 (SH)  
30 September 1980

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					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
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	1089.3	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				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
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	TW	WF	TF		
IN X IN X LBS/FT							LBS	IN2	IN	IN4	IN	IN	IN	IN		
361	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	TW	WF	TF			
IN X IN X LBS/FT					LBS	IN2	IN	IN4	IN	IN	IN	IN			
362	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		
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	.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												
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 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

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	TH	WF	TF
IN X	IN X	LBS/FT			LBS	IN2	IN	IN4	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

366

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 <sup>2</sup>	IN	IN <sup>4</sup>	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	39.62	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	IN2	IN	IN4	IN	IN	IN	IN
8	X	4	X	9.4	T	9.4	2.76	5.40	18.89	8.00	.220	.265
9	X	4	X	10.1	T	10.1	2.98	5.96	26.00	9.00	.220	.265
10	X	4	X	10.9	T	10.9	3.20	6.52	34.57	10.00	.220	.265
11	X	4	X	11.6	T	11.6	3.42	7.07	44.72	11.00	.220	.265
12	X	4	X	12.4	T-T	12.4	3.64	7.61	56.51	11.99	.220	.265
CF W 12 X 19												
4	X	4	X	7.7	T	7.7	2.28	3.12	3.27	4.08	.235	.350
5	X	4	X	8.5	T	8.5	2.51	3.78	6.09	5.08	.235	.350
6	X	4	X	9.3	T	9.3	2.75	4.42	10.05	6.08	.235	.350
7	X	4	X	10.1	T	10.1	2.98	5.03	15.30	7.08	.235	.350
8	X	4	X	10.9	T	10.9	3.22	5.62	21.97	8.08	.235	.350
9	X	4	X	11.7	T	11.7	3.45	6.21	30.21	9.08	.235	.350
10	X	4	X	12.5	T	12.5	3.69	6.78	40.13	10.08	.235	.350
11	X	4	X	13.3	T	13.3	3.92	7.34	51.86	11.08	.235	.350
12	X	4	X	14.2	T-T	14.2	4.18	7.95	66.70	12.16	.235	.350
CF W 12 X 22												
4	X	4	X	9.1	T	9.1	2.68	3.19	3.82	4.16	.260	.425
5	X	4	X	10.0	T	10.0	2.94	3.87	7.07	5.16	.260	.425
6	X	4	X	10.9	T	10.9	3.20	4.51	11.65	6.16	.260	.425
7	X	4	X	11.8	T	11.8	3.46	5.13	17.71	7.16	.260	.425
8	X	4	X	12.7	T	12.7	3.72	5.74	25.41	8.16	.260	.425
9	X	4	X	13.5	T	13.5	3.98	6.33	34.90	9.16	.260	.425
10	X	4	X	14.4	T	14.4	4.24	6.91	46.31	10.16	.260	.425
11	X	4	X	15.3	T	15.3	4.50	7.49	59.81	11.16	.260	.425
12	X	4	X	16.3	T-T	16.3	4.80	8.14	78.15	12.31	.260	.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	.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	IN2	IN	IN4	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	T-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	T-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	T-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	T-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

371

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 <sup>2</sup>	IN	IN <sup>4</sup>	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	CTOE	IO	O	TW	WF	TF	
IN X IN X LBS/FT		LBS	IN2	IN	IN4	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

373

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES										
SIZE DESCRIPTION			WT/FT	A	CTOE	I <sub>O</sub>	D	TW	WF	TF
IN X	IN Y	LBS/FT	LBS	IN <sup>2</sup>	IN	IN <sup>4</sup>	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											
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 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

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	QTOE	IO	O	TW	WF	TF	
IN	X	IN	X	LBS/FT		LBS	IN <sup>2</sup>	IN	IN <sup>4</sup>	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	TH	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	T-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

377

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

378

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 14 X 120									
	14 X 14 3/4 X 74.0 I-T	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 I-T	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 I-T	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 I-T	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 I-T	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 I-T	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 I-T	131.0	38.52	12.11	785.36	15.72	.980	15.80	1.560	

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 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	I-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	I-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

380

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 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

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 <sup>2</sup>	IN	IN <sup>4</sup>	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 40

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

382

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 TH X LBS/FT						LBS	IN <sup>2</sup>	IN	IN <sup>4</sup>	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	Y	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
OF 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	Y	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	Y	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
OF 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	Y	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	X	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	IN2	IN	IN4	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	I-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 IN X LBS/FT				LBS	IN2	IN	IN4	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	TH	WF	TF	
IN X	IN Y	LBS/FT		LBS	IN2	IN	IN4	IN	IN	IN	IN	IN
OF 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	Y	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	96.51	11.03	.360	6.06	.605
12 Y	6	Y	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	X	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
OF 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 X	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

387

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 <sup>2</sup>	IN	IN <sup>4</sup>	IN	IN	IN	IN	
OF 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	
OF 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	
OF 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	94.67	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	IN2	IN	IN4	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	O	TW	WF	TF
IN	Y	IN	X	LBS/FT	LBS	IN2	IN	IN4	IN	IN	IN	IN
16	X	6	1/2	X	32.4	T	32.4	9.53	10.95	275.94	16.42	.380
18	X	6	1/2	X	35.0	T	35.0	10.29	12.07	376.70	18.42	.380
21	X	6	1/2	X	38.1	T-T	38.1	11.21	13.39	525.60	20.83	.380
CF W 21 X 57												
7	X	6	1/2	X	22.6	T	22.6	6.64	5.03	23.30	6.53	.405
9	X	6	1/2	X	25.3	T	25.3	7.45	6.38	49.86	8.53	.405
11	X	6	1/2	X	28.1	T	28.1	8.26	7.66	89.90	10.53	.405
13	X	6	1/2	X	30.8	T	30.8	9.07	8.88	145.43	12.53	.405
15	X	6	1/2	X	33.6	T	33.6	9.88	10.07	218.32	14.53	.405
17	X	6	1/2	X	36.4	T	36.4	10.69	11.23	310.37	16.53	.405
19	X	6	1/2	X	39.1	T	39.1	11.50	12.37	423.33	18.53	.405
21	X	6	1/2	X	42.6	T-T	42.6	12.53	13.79	598.84	21.06	.405
CF W 21 X 62												
8	X	8	1/4	X	27.9	T	27.9	8.22	6.56	51.53	8.50	.400
10	X	8	1/4	X	30.7	T	30.7	9.02	7.89	93.45	10.50	.400
12	X	8	1/4	X	33.4	T	33.4	9.82	9.16	151.77	12.50	.400
14	X	8	1/4	X	36.1	T	36.1	10.62	10.40	228.46	14.50	.400
16	X	8	1/4	X	38.8	T	38.8	11.42	11.60	325.38	16.50	.400
18	X	8	1/4	X	41.5	T	41.5	12.22	12.78	444.34	18.50	.400
21	X	8	1/4	X	44.9	T-T	44.9	13.22	14.21	626.28	20.99	.400
CF W 21 X 68												
9	X	8	1/4	X	30.8	T	30.8	9.05	6.62	56.64	8.57	.430
11	X	8	1/4	X	33.7	T	33.7	9.91	7.96	102.53	10.57	.430
13	X	8	1/4	X	36.6	T	36.6	10.77	9.24	166.32	12.57	.430
15	X	8	1/4	X	39.6	T	39.6	11.63	10.49	250.18	14.57	.430
17	X	8	1/4	X	42.5	T	42.5	12.49	11.70	356.12	16.57	.430
19	X	8	1/4	X	45.4	T	45.4	13.35	12.88	486.09	18.57	.430

PROPERTIES OF TEE BEAMS CUT FROM WIDE FLANGE SHAPES

TABLE XIV. Properties of tee-beams cut from wide flange shapes. - Continued

391

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 <sup>2</sup>	IN	IN <sup>4</sup>	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	
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 <sup>2</sup>	IN	IN <sup>4</sup>	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	IN	WF	TF	
IN X	IN X	LBS/FT		LBS	IN2	IN	IN4	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 X	IN X	LBS/FT	LBS	IN2	IN	IN4	IN	IN	IN	IN	IN	IN
CF W 24 X 94												
10 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
16 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
16 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

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	IN2	IN	IN4	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	I-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	I-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