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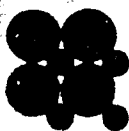


AD-A141 902

Damage Tolerant Design Handbook

A Compilation of Fracture and Crack-Growth Data
for High-Strength Alloys

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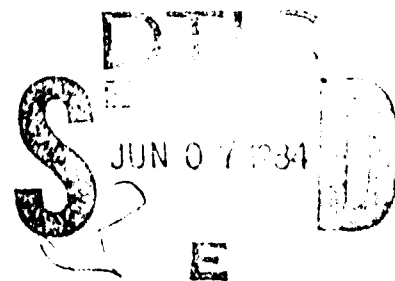


Metals and Ceramics Information Center
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Prepared by

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This edition entirely revamps the 1975 edition. This edition is arranged by alloy rather than by property as in the previous addition. The data are presented in eight chapters and four volumes. Plane-strain fracture toughness (K_{IC}), critical plane stress fracture toughness, apparent fracture toughness, R-curve, fatigue crack growth rates, sustained-load crack growth rate and threshold stress intensity (K_{ISCC}) data are presented for stainless steels, titanium alloys, nickel-base alloys, alloy steels, 2000-, 6000- and 7000-series aluminum alloys.		

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Volume 4

Damage Tolerant Design Handbook

A Compilation of Fracture and Crack Growth
Data for High-Strength Alloys

Compiled by

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Dayton, Ohio

Sponsored by

Materials Laboratory

Air Force Wright Aeronautical Laboratories

Wright-Patterson Air Force Base, Ohio 45433

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Metals and Ceramics Information Center

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This document was published by the Metals and Ceramics Information Center (MCIC), Battelle's Columbus Laboratories, 505 King Avenue, Columbus, Ohio 43201-2693. MCIC's objective is to provide a comprehensive current resource of technical information on the development and utilization of advanced metal- or ceramic-base metals.

MCIC is publishing this revised and expanded edition of the Damage Tolerant Design Handbook to increase the availability of information to the technical community. The loose leaf format was selected to facilitate updating the handbook as new information becomes available. This edition is a completely revised and expanded version of the original handbook first published by MCIC in 1972 and revised in 1973 and 1975.

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TABLE 1.4
ABBREVIATIONS FOR MATERIAL SYSTEMS

<u>Abbreviation</u>	<u>Materials</u>
ALUM	Aluminum Alloys
TITAN.	Titanium Alloys
NICKEL	Nickel-Base Alloys
STAIN. STEEL	Stainless Steel Alloys
ALLOY STEEL	Steel Alloys

TABLE 1.5
ABBREVIATIONS FOR ALLOY CONDITIONING AND HEAT TREATMENTS

<u>Abbreviation</u>	<u>Condition/Heat Treatment</u>
OQ	Oil Quenched
ABQ	Aus-Bay Quench
AC	Air Cool
WC	Water Quench
MA	Mill Anneal
BA	Beta Anneal
DA	Duplex Anneal
RA	Recrystallize Anneal
ST	Solution Treated
STA	Solution Treated And Aged

TABLE 1.6
ABBREVIATIONS FOR PRODUCT FORMS

<u>Abbreviations</u>	<u>Product Form</u>
S	Sheet
P	Plate
E	Extrusion
F	Forging
FB	Forged Bar
BT	Billet
BR	Round Bar
RB	Rolled Bar
C	Casting
W	Weldment
D	Disk
EB	Extruded Bar
B	Bar

TABLE 1.7

ABBREVIATIONS FOR ENVIRONMENTAL SYSTEMS

<u>Abbreviations</u>	<u>Environmental System</u>
R. T.	Room Temperature (65°F-80°F)
L. H. A.	Low Humidity Air (< 10% RH)
Dry Air	Low Humidity Air (< 10% RH)
H. H. A.	High Humidity Air (> 80% RH)
Lab. Air	Laboratory Air (% RH unspecified)
Dist. H ₂ O	Distilled Water
Dist. Water	Distilled Water
3.5 PCT NaCl	3.5% Salt Water Solution
JP.4	JP-4 Aircraft Fuel
JP.4 - Fuel	JP-4 Aircraft Fuel
S. T. W.	Sump Tank Water
S. S. W.	Simulated Sea Water
S. C. S.	Shop Cleaning Solvent
F. C. S.	Field Cleaning Solvent
Salt Fog	Salt Fog
Temp.	Temperature

TABLE 1.8

ABBREVIATIONS FOR SPECIMEN DESIGNS

<u>Abbreviations</u>	<u>Specimen Design*</u>
CT	Compact Tension
NB	3Pt. Notched Bend
WOL	Wedge Open Load
CCP	Center Cracked Panel
BWOL	Bolt Loaded-Wedge Open Load
CANT	Cantilever Beam
TDCB	Tapered Double Cantilever Beam
CHAR	Charpy
PTSC	Part Through Surface Crack
SENT	Single Edge Notch Tension
K _B BAR	K _B Bar
4-NB	4 Pt. Notched Bend
MCT	Modified Compact Tension
CNT	Center Notched Tension
DCB	Double Cantilever Beam
BDCB	Bolt Loaded Double Cantilever Beam

*Also note that when "SG" is used in conjunction with a specimen design, the specimen is side-grooved along the path of the crack.

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TABLE 8.9.1.1

MEAN PLANE STRAIN FRACTURE TOUGHNESS DATA OF
ALUMINUM ALLOY 7075 AT ROOM TEMPERATURE

CONDITION/HT	MEAN K _{IC} ± STANDARD (KSI SQRT(IN))	DEVIATION	(NUMBER OF SPECIMENS)		
PLATE					
CONDITION/HT	I-T	I-L	S-L		
T651	26.5 ± 2.0 (63)	22.5 ± 2.0 (75)	17.6 ± 2.7 (11)		
T7351	29.4 ± 2.2 (47)	26.2 ± 3.2 (36)	18.5 ± 0.4 (7)		
T7651	28.5 ± 1.5 (25)	23.1 ± 2.0 (45)	17.8 ± 1.5 (16)		
FORGING					
CONDITION/HT	I-T	I-L	S-L		
T6	24.3 ± 0.1 (2)	20.9 ± 1.7 (2)	16.8 ± 0.4 (4)		
T73	-----	-----	19.1 ± 0.5 (4)		
T7352	33.6 ± 3.1 (14)	26.6 ± 2.8 (13)	21.7 ± 3.2 (8)		
T73652	35.0 ± 1.8 (3)	26.6 ± 2.7 (3)	-----		
EXTRUSION					
CONDITION/HT	I-T	I-L	S-L		
T6	-----	19.9 ± 0.2 (3)	18.5 ± 0.2 (3)		
T651	31.1 ± 0.5 (4)	20.2 ± 0.2 (5)	-----		
T6510	27.5 ± 2.1 (12)	23.3 ± 1.6 (16)	20.0 ± 1.3 (3)		
T6511	27.9 ± 1.4 (2)	26.9 ± 1.8 (4)	-----		
T73510	-----	24.6 ± 2.3 (9)	20.3 ± 0.8 (2)		
T73511	39.6 ± 3.1 (4)	26.8 ± 1.1 (3)	21.9 ± 1.1 (2)		
T76511	35.7 ± 4.4 (6)	23.6 ± 2.8 (4)	-----		

TABLE 8.9.1.1.1 (con't)

MEAN PLANE STRAIN FRACTURE TOUGHNESS DATA OF
ALUMINUM ALLOY 7075 AT ROOM TEMPERATURE

CONDITION/HT	MEAN K _{IC} ± STANDARD (KSI SQRT(IN)) DEVIATION		(NUMBER OF SPECIMENS)	
	FORGED BAR			
	L-I	I-L	S-L	
T6510	29 2 ± 3 4 (13)	21 4 ± 1 8 (13)	18 7 ± 0 9 (7)	
CONDITION/HT	EXTRUDED BAR		S-L	
	L-I	I-L		
T73511-HIGH/ PURITY	43 0 ± 1 7 (2)	30 0 ± 0 1 (2)	---	
T73511-LOW/ PURITY	27 3 ± 0 2 (2)	21 7 ± 1 7 (2)	---	
T73511-MEDIUM/ PURITY	30 6 ± 0 2 (2)	21 9 ± 0 3 (2)	---	
CONDITION/HT	ROLLED BAR		S-L	
	L-I	I-L		
T651	34 1 ± 0 5 (2)	---	---	

TABLE 8.9.1.2

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7075

TEST CONDITIONSSPECIMEN
ORIENTATION L-TENVIRONMENT DRY AIR
AT R.T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ. (HZ)	DELTA K LEVELS: (KSI SQRT(IN))		FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)				
				2.5	5	10	20	50	100	
T73	FORGED BAR	0.10	4.00			2.04	26.3			
T73	FORGED BAR	0.30	4.00			1.98	42.3			
T73	FORGED BAR	0.50	4.00			9.84	71.0			
T651	PLATE	0.02	1.00-10.00			6.01	32.1			

TABLE 8.9.1.3

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 70/5

TEST CONDITION

SPECIMEN
ORIENTATION L-TENVIRONMENT
L-H A
A-T R

CONDITION/HIT	PRODUCT FORM	STRESS RATIO	FREQ (HZ)	DELTA K LEVELS (KSI SQRT(IN))	FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)				
				2.5	5	10	20	50	100
T6	PLATE	-1.00	10.00			5.52	87.9		
T6	PLATE	0.00	10.00			6.20	51.7		
T6	PLATE	0.50	10.00		1.33	13.9	476		
T6510	EXTRUSION	0.33	5.20			16.1			
T7351	PLATE	0.08	1.00		0.39	7.00			
T7351	PLATE	0.08	6.00		0.33	5.76			
T7351	PLATE	0.30	6.00			8.07			
T7351	PLATE	0.50	6.00		1.51	12.6			
T73511	EXTRUSION	0.08	0.10			6.61			
T73511	EXTRUSION	0.08	1.00		0.73	7.27			
T73511	EXTRUSION	0.70	6.00	0.16	1.73	19.0			
T73511	EXTRUSION	0.08	6.00			4.13	37.8		
T73511	EXTRUSION	0.08	6.00			7.08	42.3		

TABLE 8.9.1.3 (con't)

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7075

TEST CONDITIONSSPECIMEN
ORIENTATION: L-TENVIRONMENT: L.H.A.
AT R.T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ. (HZ)	DELTA K LEVELS:		FATIGUE CRACK GROWTH RATES					
				(KSI SQRT(IN))	(KSI SQRT(IN))	2.5	5	10	20	50	100
17352	FORGING	0.08	6.00					8.49			
176	SHEET	0.08	1.00				0.56	5.69			
176	SHEET	0.08	6.00				0.61	5.87	43.8		
176	SHEET	0.30	6.00				0.78	10.1			
17651	PLATE	0.08	1.00				0.91	8.57			
17651	PLATE	0.08	1.00				0.38	9.90	53.0		
17651	PLATE	0.08	6.00					5.20			
17651	PLATE	0.08	6.00					5.63			
17651	PLATE	0.30	6.00				0.66	8.75			
176511	EXTRUSION	0.08	6.00				0.73	5.67			
176511	EXTRUSION	0.30	6.00				0.50	7.97	72.6		

TABLE 8.9.1.4

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7075

TEST CONDITIONS

SPECIMEN

ORIENTATION: L-T

ENVIRONMENT: L. H. A.

AT 265 F

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ. (HZ)	DELTA K LEVELS:		FATIGUE CRACK GROWTH RATES					
				(KSI SQRT(IN))		2.5	5	10	20	50	100
T73511	EXTRUSION	0.08	6.00				1.75	8.31			
T7651	PLATE	0.08	1.00				1.18	7.61	62.2		
T7651	PLATE	0.08	6.00				1.20	8.03			

TABLE 8.9.1.5

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7075

TEST CONDITIONS

SPECIMEN
ORIENTATION: L-TENVIRONMENT: LAB AIR
AT R.T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ. (HZ)	DELTA K LEVELS: (KSI SQRT(IN))	FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)				
				2.5	5	10	20	50	100
T6	SHEET	0.02	1.00				103		
T6	SHEET	0.02	3.00				92.8		
T6	SHEET	0.02	10.00			14.0	60.0	5416.	
T6	SHEET	0.02	0.10-30.00			11.2	54.5	20650.	
T6	SHEET	0.50	1.00			40.6	1703.		
T6	SHEET	0.50	3.00			45.6			
T6	SHEET	0.50	10.00		5.90	30.3	284.		
T651	PLATE	0.02	0.10-30.00			8.32	58.5		
T651	PLATE	0.02	1.00-30.00		1.64	17.8	66.6		
T651	PLATE	0.33	7.50			14.9			
T651	PLATE	0.50	0.10-30.00		3.04	21.2	665		
T6510	EXTRUSION	0.33	5.20					25.0	
T6510	EXTRUDED BAR	0.33	5.20					18.0	

TABLE 8.9.1.5 (con't)
FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR
ALUMINUM 7075

TEST CONDITIONS

SPECIMEN
ORIENTATION: L-TENVIRONMENT: LAB AIR
AT R.T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ. (HZ)	DELTA K LEVELS: (KSI SQRT(IN))	2.5	5	10	20	50	100
T6511	EXTRUSION	-1.00	----			1.03	15.1			
T6511	EXTRUSION	-0.50	----			0.64	13.6	52.2		
T6511	EXTRUSION	0.01	----			0.97	13.2	72.1		
T6511	EXTRUSION	0.40	3.00- 5.00		0.14	2.93	28.2			
T6511	EXTRUSION	0.60	3.00- 5.00		0.17	4.73	34.3			
T6511	EXTRUSION	0.80	3.00- 5.00		0.40	6.29	118			
T73	PLATE	-1.00	20.00			0.61	9.81			
T73	PLATE	-0.50	20.00			0.53	8.52			
T73	PLATE	0.05	20.00		0.05	0.56	11.2			
T7351	PLATE	-1.00	10.00				5.00	52.0		
T7351	PLATE	0.02	0 10-20 00			0.29	5.65	59.4		
T7351	PLATE	0.02	1.00				5.04	44.0		
T7351	PLATE	0.02	10.00				5.09	46.0	1567	
T7351	PLATE	0.02	10.00				3.95	41.4		
T7351	PLATE	0.50	10.00				11.7	126.0		

TABLE 8.9.1.5 (con't)
FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR
ALUMINUM 70/5

TEST CONDITIONS

SPECIMEN
ORIENTATION: L-TENVIRONMENT: LAB AIR
AT R.T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ. (HZ)	DELTA K LEVELS: (KSI SQRT(IN))	FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)				
				2.5	5	10	20	50	100
17352	BILLET	0.02	1 00-30.00				32.5		
17352	FORGING	0.33	5.17			13.6			
173510	EXTRUSION	0.33	5.20			12.8			
173510	EXTRUSION	0.33	5.20			13.5	93.2		
173511-HIGH PURITY	EXTRUSION	0.10	30.00			6.39	31.3		
173511-LOW PURITY	EXTRUSION	0.10	30.00			8.26			
173511-MEDIUM PURITY	EXTRUSION	0.10	30.00			7.79			

TABLE 8.9.1.6

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7075

TEST CONDITIONS

SPECIMEN
ORIENTATION 1-TENVIRONMENT: H. H. A.
AT R. T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ. (HZ)	DELTA K LEVELS (KSI SQRT(IN))	2.5	5	10	20	50	100
T6	SHEET	0.00	9.00				16.8			
T6	SHEET	0.05	9.00			0.45	14.9			
T6	SHEET	0.50	9.00		0.13					
T6	SHEET	0.70	9.00			6.30	69.7			
T651	PLATE	0.33	13.30			1.35				
T651	PLATE	0.33	20.00			1.05	24.5			
T651	PLATE	0.33	25.00		0.06	4.29	27.8			
T651	PLATE	0.80	25.00		0.43					
T6511	EXTRUSION	0.05	9.00				14.2	51.4	2654	
T6511	EXTRUSION	0.50	9.00			3.07	24.2	176		
T73	FORGED BAR	0.10	1.00				1.93	28.0		
T73	FORGED BAR	0.30	1.00					46.2		
T73	FORGED BAR	0.50	1.00				13.7			

TABLE 8.9.1.6 (con't)

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7075

TEST CONDITIONS

SPECIMEN
ORIENTATION L-TENVIRONMENT: H.H.A.
AT R.T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ. (Hz)	DELTA K LEVELS: (KSI SQRT(IN))	2.5	5	10	20	50	100
FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)										
T7351	PLATE	0.10	12.00-30.00			0.62	10.8			
T7351	PLATE	0.25	12.00-30.00		0.08					
T7351	PLATE	0.33	25.00		0.10	1.63	11.5	85.9		
T7351	PLATE	0.33	25.00		0.07	1.25	12.2	94.3		
T7351	PLATE	0.33	25.00-50.00		0.10	0.89	13.2			
T7351	PLATE	0.33	200.00		0.12					
T7351	PLATE	0.50	12.00-30.00		0.16					
T7351	PLATE	0.50	12.00-30.00				13.4			
T73511-L-LOW PURITY	EXTRUSION	0.10	30.00					12.7		
T73511-M-MEDIUM PURITY	EXTRUSION	0.10	30.00						14.9	

TABLE 8.9.1.7

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7075

TEST CONDITIONS

SPECIMEN

ORIENTATION: L-T

ENVIRONMENT: S.C.S.
AT R.T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ. (HZ)	DELTA K LEVELS: (KSI SQRT(IN))	2.5	5	10	20	50	100
T73511	EXTRUSION	0.08	1.00					9.43		
T7651	PLATE	0.08	1.00					1.09	9.51	

TABLE 8.9.1.8
FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7075

TEST CONDITIONS

SPECIMEN
ORIENTATION 1-1

ENVIRONMENT 3.5% NaCl
AT R.T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ (Hz)	DELTA K LEVELS (KSI SQRT(IN))	FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)					
					2.5	5	10	20	50	100
T6	PLATE	0.100	0.10				22.9	130		
T6	PLATE	0.00	0.10				24.3	164		
T6	PLATE	0.00	1.00				29.8	177		
T6	PLATE	0.00	10.00				22.0	109		
T6	PLATE	0.50	0.10			5.62	41.0	540		

T651	PLATE	0.02	1.00-10.00				14.8	99.4		

T7351	PLATE	0.02	0.10						93.8	

TABLE 8.9.1.9

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7075

TEST CONDITIONS

SPECIMEN
ORIENTATION L-TENVIRONMENT: S.T.W.
AT R.T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ. (HZ)	DELTA K LEVELS: (KSI SQRT(IN))	FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)						
					2.5	5	10	20	50	100	
T6511	EXTRUSION	0.80	0.50- 1.00		.427	18.8	100				
T73	FORGED BAR	0.10	0.10- 1.00						29.2		
T73	FORGED BAR	0.30	0.10- 1.00						4.89	63.5	
T73	FORGED BAR	0.50	0.10- 1.00						18.4	164	
T7351	PLATE	0.08	6.00					0.47	9.33		
T73511	EXTRUSION	0.08	0.10					0.54	20.1		
T73511	EXTRUSION	0.08	1.00					0.85	18.8		
T73511	EXTRUSION	0.30	1.00						23.3		
T73511	EXTRUSION	0.50	1.00		0.20	5.24	28.0				
T7651	PLATE	0.08	1.00					0.86	13.9		
T7651	PLATE	0.08	1.00					1.16	9.40		
T7651	PLATE	0.30	1.00					2.17	12.8		
T7651	PLATE	0.50	1.00					3.04	15.3		

TABLE 8.9.1.10

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7075

TEST CONDITIONS

SPECIMEN
ORIENTATION T-LENVIRONMENT: DRY AIR
AT R.T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ. (HZ)	DELTA K LEVELS: (KSI SQRT(IN))	2.5	5	10	20	50	100
T651	PLATE	0.10	1.00				10.0			
T651	PLATE	0.50	0.10				39.7			
T651	PLATE	0.50	1.00			2.16	35.6			
T73	FORGED BAR	0.10	4.00			0.54	5.20			
T73	FORGED BAR	0.30	4.00			0.15	9.50			
T73	FORGED BAR	0.50	4.00			1.22	34.7			

TABLE 8.9.1.11
FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7075

TEST CONDITIONS:

SPECIMEN
ORIENTATION: T-L

ENVIRONMENT: L.H.A.
AT R.T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ (HZ)	DELTA K LEVELS (KSI SQRT(IN))	2.5	5	10	20	50	100
FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)										
T7351	PLATE	0.08	6.00		0.44	4.10				
T73511	EXTRUSION	0.08	6.00		0.63	5.45	63.9			
T76	SHEET	0.08	6.00			11.2	58.2			
T7631	PLATE	0.08	6.00			4.31				
T76511	EXTRUSION	0.08	6.00			4.39				

TABLE 8.9.1.12
FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR
ALUMINUM 7075

TEST CONDITIONS

SPECIMEN
ORIENTATION T-LENVIRONMENT LAB AIR
AT R T

CONDITION/IT	PRODUCT FORM	STRESS RATIO	FREQ (Hz)	DELTA K LEVELS (KSI SQRT(IN))	FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)				
				2 5	5	10	20	50	100
T6	SHEET	0.00	13.30			5.95	42.6		
T6	SHEET	0.33	13.30			11.2	174		
T73510	EXTRUSION	0.33	5.20			14.1			
T73511-HIGH PURITY	EXTRUSION	0.10	30.00			4.66	36.1		
T73511-LOW PURITY	EXTRUSION	0.10	30.00			8.56			
T7352	PLATE	0.02	---			0.47	6.28	66.2	4094
T7352	PLATE	0.02	---			1.08	10.2		
T7352	FORGING	0.02	---			1.86	14.4	126	
T7352	FORGING	0.02	---					27.5	
T7352	FORGING	0.33	5.17			11.2	68.5		

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7075

5401110605 1531

20140318
20140318

ENVIRONMENT: H. H. A
AT R. T.

STRESS RATIO	FREQ (HZ)	DELTA K LEVELS (KSI SQRT(IN))	FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)					
			2	5	10	20	50	100
0.50	1.00				0.54	11.3		
0.70	1.00				1.44	16.4		

TABLE 8.9.1.14

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7075

TEST CONDITIONSSPECIMEN
ORIENTATION T-LENVIRONMENT: WATER SATURATED JP-4 FUEL
AT R. T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ (HZ)	DELTA K LEVELS: (KSI SQRT(IN))	2.5	5	10	20	50	100
T651	PLATE	0.10	0.10				10.8	146		
T651	PLATE	0.50	0.10			3.88	26.7			
T651	PLATE	0.50	1.00			3.39	43.6			

TABLE 8.9.1.15

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7075

TEST CONDITIONS

SPECIMEN

ORIENTATION T-L

ENVIRONMENT

ALT. JP-4 FUEL
AT R. T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ. (HZ)	DELTA K LEVELS: (KSI SQRT(IN))		FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)			
				2.5	5	10	20	50	100
T651	PLATE	0.10	1.00			12.5			
T651	PLATE	0.50	1.00		2.52				

TABLE 8.9.1.16

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7075

TEST CONDITIONS

SPECIMEN

ORIENTATION: T-L

ENVIRONMENT: DIST. WATER

AT R. T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ. (HZ)	DELTA K LEVELS: (KSI SQRT(IN))	2.5	5	10	20	50	100
T651	PLATE	0.10	0.10				11.9			
T651	PLATE	0.10	1.00				17.3			
T651	PLATE	0.50	0.10			3.21	38.8			
T651	PLATE	0.50	1.00				36.6			

TABLE 8.9.1.17

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7075

TEST CONDITIONS

SPECIMEN

ORIENTATION T-L

ENVIRONMENT: S C S
AT R. T

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ. (HZ)	DELTA K LEVELS: (KSI SQRT(IN))		FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)					
				2.5	5	10	20	50	100		
T73511	EXTRUSION	0.08	6.00					9	50		
T7651	PLATE	0.08	1.00					0.76	9.79		

TABLE 8.9.1.18

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7075

TEST CONDITIONS

SPECIMEN

ORIENTATION: T-L

ENVIRONMENT: 3.5% NaCl
AT R.T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ. (HZ)	DELTA K LEVELS: (KSI SQRT(IN))		FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)			
				2.5	5	10	20	50	100
T651	PLATE	0.10	0.10			35.1			
T651	PLATE	0.10	1.00			22.7			
T651	PLATE	0.50	0.10			60.2			
T651	PLATE	0.50	1.00		6.03				

TABLE 8.9.1.19

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7075

TEST CONDITIONS:

SPECIMEN
ORIENTATION: T-LENVIRONMENT: S.T.W.
AT R.T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ. (HZ)	DELTA K LEVELS: (KSI SQRT(IN))	FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)				
				2.5	5	10	20	50	100
T651	PLATE	0.00	15.00		0.92				
T651	PLATE	0.10	0.10			44.1			
T651	PLATE	0.10	1.00			30.3			
T651	PLATE	0.50	1.00		8.63	75.9			
T73	FORGED BAR	0.10	1.00				1.26	19.7	
T73	FORGED BAR	0.30	1.00				2.38	25.5	
T73	FORGED BAR	0.50	1.00				4.83	39.9	
T7351	PLATE	0.08	1.00					18.0	
T73511	EXTRUSION	0.08	1.00					20.5	

TABLE 8.9.1.20

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7075

TEST CONDITIONS

SPECIMEN

ORIENTATION: S-T

ENVIRONMENT: 3.5% NaCl
AT R.T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ. (HZ)	DELTA K LEVELS: (KSI SQRT(IN))		FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)				
				2.5	5	10	20	50	100	
T651	PLATE	0.50	0.20							39.5
T7351	PLATE	0.50	0.13- 0.20							7.87

TABLE 8.9.1.21

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR
ALUMINUM 7075

TEST CONDITIONS

SPECIMEN
ORIENTATION: S-T

ENVIRONMENT: NITROGEN GAS
AT R.T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ. (HZ)	DELTA K LEVELS: (KSI SQRT(IN))	2.5	5	10	20	50	100
T651	PLATE	0.50	20.00			1.86				
T7351	PLATE	0.50	10.00-20.00			1.44	12.0			

TABLE 8.9.2.1 (con't)

CONDITION	ALUMINUM		YIELD STRENGTH (KSI)	TEST SPECIMEN ORIENT	TEMP (F)	7075		K(1C)		2.5* (K(1C)/TVB)**2 (IN)	K(1C) MEAN (KSI*SQRT IN)	STAN DEV	DATE	REFER
	PRODUCT-- FORM	THICK (IN)				WIDTH (IN)	SPECIMEN-- THICK (IN)	DESIGN	CRACK LENGTH (IN)					
T651	P	5.00	56.0	L-T	R.T.	2.006	0.999	CT	1.003	0.70	30.00		1978	MPC01
		4.00	61.0			4.016	1.998	CT	1.968	0.48	27.30		1978	MPC01
		4.00	61.0			3.982	1.998	CT	1.991	0.50	27.60		1978	MPC01
		3.00	66.8			2.002	0.999	CT	1.001	0.42	27.80		1978	MPC01
		2.50	69.7			2.000	0.999	CT	1.000	0.28	24.10		1978	MPC01
		2.00	70.0			2.000	0.828	CT	1.037	0.42	28.70		1972	84306
		3.00	70.2			2.500	1.250	CT	1.273	0.48	30.60		1971	84360
		3.00	70.2			2.490	1.250	CT	1.329	0.44	29.40		1971	84360
		2.00	72.2			1.996	0.999	CT	1.038	0.44	30.50		1978	MPC01
		2.00	72.2			1.994	0.999	CT	1.037	0.42	30.10		1978	MPC01
		2.00	73.3			1.989	0.999	CT	1.034	0.32	26.80		1978	MPC01
		2.00	73.9			3.007	1.000	CT	1.654	0.36	28.80		1978	MPC01
		2.50	74.6			2.490	1.246	CT	1.228	0.27	24.90		1971	84360
		2.50	74.6			2.500	1.250	CT	1.252	0.31	26.20		1971	84360
		1.37	75.4			3.008	1.388	NB	1.534	0.30	26.70		1978	MPC01
		1.37	75.4			3.029	1.387	NB	1.454	0.34	28.10		1978	MPC01
		1.37	75.4			2.973	1.384	NB	1.516	0.28	26.20		1978	MPC01
		1.37	75.4			2.978	1.386	NB	1.489	0.30	26.60		1978	MPC01
		1.37	75.4			3.013	1.385	NB	1.627	0.38	29.60		1978	MPC01
		1.37	75.4			1.989	0.997	CT	1.054	0.34	28.30		1978	MPC01
		1.37	75.4			1.983	0.997	CT	1.051	0.32	27.70		1978	MPC01
		1.37	75.4			3.000	1.388	NB	1.509	0.30	26.00		1973	86213
		1.37	75.4			3.000	1.386	NB	1.472	0.30	26.10		1973	86213
		1.37	75.4			3.014	1.388	NB	1.477	0.40	30.30		1978	MPC01
		1.37	75.4			3.000	1.384	NB	1.436	0.26	24.10		1973	86213
		2.50	75.5			2.559	1.255	CT	1.324	0.32	27.20		1975	MA012
		2.50	75.5			2.502	1.250	CT	1.248	0.35	28.20		1974	MA011
		2.00	75.7			2.500	1.248	CT	1.269	0.28	25.20		1971	84360
		2.00	75.7			2.490	1.251	CT	1.271	0.29	25.80		1971	84360
	1.75	76.1			1.500	0.750	CT	0.765	0.27	25.90		1978	MPC01	
	1.75	76.1			1.490	0.748	CT	0.775	0.25	24.50		1978	MPC01	
	1.50	76.1			1.514	0.748	CT	0.772	0.28	25.90		1978	MPC01	
	1.50	76.1			1.502	0.749	CT	0.766	0.27	25.60		1978	MPC01	
	0.62	76.2			1.496	0.642	CT	0.778	0.32	27.80		1978	MPC01	
	1.75	77.2			1.500	0.748	CT	0.765	0.27	25.60		1978	MPC01	
	2.50	77.2			1.990	1.001	CT	0.978	0.32	27.80		1973	86213	
	2.50	77.2			1.990	1.001	CT	0.975	0.32	27.80		1973	86213	
	1.75	77.2			1.506	0.747	CT	0.768	0.25	25.10		1978	MPC01	
	1.25	78.4			2.006	1.000	CT	1.023	0.24	24.70		1978	MPC01	

TABLE 8.9.2.1 (con't)

CONDITION	PRODUCT FORM	TEST THICK (IN)	TEST TEMP (°F)	SPECIMEN ORIENT	YIELD STRENGTH (KSI)	ALUMINUM			7075			K (IC)			DATE	REFER
						WIDTH (IN)	SPECIMEN		CRACK LENGTH (IN)	2.5* (IN)	K (IC)/(TYS)**2	K (IC) MEAN (K(1C) SORT IN)	STAN DEV			
							THICK (IN)	DESIGN								
1651	P	.90	81	L-T	76.8	1.498	0.510	CT	0.764	0.28	27.50	27.50		1978	MPC01	
					79.1	3.012	1.386	N8	1.476	0.24	25.20	25.20		1978	MPC01	
					79.1	2.988	1.386	N8	1.494	0.24	25.20	25.20		1978	MPC01	
					79.1	2.980	1.386	N8	1.460	0.25	25.60	25.60		1978	MPC01	
					79.1	3.000	1.375	N8	1.500	0.23	24.00	24.00		1973	86213	
					79.1	3.000	1.375	N8	1.437	0.26	25.60	25.60		1973	86213	
					79.1	3.000	1.386	N8	1.465	0.26	25.70	25.70		1973	86213	
					79.1	3.000	1.386	N8	1.476	0.24	24.70	24.70		1973	86213	
					79.1	3.014	1.387	N8	1.507	0.15	20.10	20.10		1978	MPC01	
					80.2	1.974	0.643	CT	0.772	0.28	27.60	27.60		1978	MPC01	
					80.6	1.500	0.752	CT	0.747	0.27	26.30	26.30		1973	86213	
					80.6	3.000	1.371	N8	1.563	0.25	25.40	25.40		1973	86213	
					80.6	3.029	1.371	N8	1.484	0.19	23.30	23.30		1978	MPC01	
					80.6	3.000	1.373	N8	1.550	0.25	25.60	25.60		1973	86213	
					80.6	1.500	0.752	CT	0.772	0.28	27.10	27.10		1973	86213	
					81.1	2.043	0.606	CT	1.042	0.27	26.80	26.80		1978	MPC01	
					81.2	1.490	0.750	CT	0.775	0.19	22.80	22.80		1978	MPC01	
					81.2	1.496	0.749	CT	0.778	0.19	22.80	22.80		1978	MPC01	
					81.5	2.000	1.001	CT	1.053	0.28	27.40	27.40		1973	86213	
					81.5	2.021	1.000	CT	1.051	0.27	26.90	26.90		1978	MPC01	
					81.5	2.010	1.000	CT	1.058	0.28	27.20	27.20		1973	86213	
					81.5	1.990	1.002	CT	1.039	0.26	26.30	26.30		1973	86213	
					81.5	1.785	1.002	CT	1.032	0.24	26.00	26.00		1978	MPC01	
					81.5	1.991	1.001	CT	1.055	0.27	27.50	26.5/	2.0	1978	MPC01	
1651	P	2.00	87	L-T	76.8	2.000	1.000	CT	1.010	0.36	29.00	29.00		1973	86213	
					76.8	2.000	1.000	CT	0.998	0.36	29.10	29.1/	0.1	1973	86213	
1651	P	2.50	84	L-T	72.3	0.990	0.503	CT	0.518	0.32	25.70	25.70		1973	86213	
					72.3	0.990	0.503	CT	0.504	0.28	24.00	24.9/	1.2	1973	86213	
1651	P	2.50	85	L-T	72.8	2.000	1.000	CT	1.020	0.32	25.90	25.90		1973	86213	
					72.8	2.000	1.001	CT	1.058	0.32	25.90	25.9/	0.0	1973	86213	
1651	P	1.37	88	T-S	73.4	1.000	0.500	CT	0.519	0.32	26.10	26.10		1973	86213	
					73.4	1.000	0.500	CT	0.496	0.34	27.20	26.7/	0.8	1973	86213	
1651	P	1.38	320	T-L	92.0	3.000	1.390	N8	1.580	0.19	25.10	25.10		1971	84288	

TABLE 8.9.2.1 (con't)

CONDITION	ALUMINUM				YIELD STRENGTH (KSI)	7075		K(1C)		K(1C) STAN DEV	DATE	REFER
	--PRODUCT--		TEST SPECIMEN ORIENT	THICK (IN)		SPECIMEN		CRACK LENGTH (IN)	2.5* (K(1C)/TVS)**2 (IN)			
	FORM	THICK (IN)				WIDTH (IN)	THICK (IN)					
T651	P	1.38 1.37	-	112	T-L	82.8 82.8	3.000 2.990	1.390 1.388	NB NB	1.520 1.517	0.19 0.19	1971 84288 1973 86213
	P	0.62 0.62	-	65	T-L	80.8 80.8	1.250 1.250	0.630 0.630	CT CT	0.600 0.600	0.18 0.17	1973 88140 1973 88140
T651	P	5.00 4.00 4.00 2.50 2.00 2.00 3.00 1.75 1.75 2.50 2.00 2.00 1.75 1.75 0.50 0.50 0.50 0.50 2.00 1.75 1.75 1.37 1.37 1.37 1.37 1.37 1.37 1.37 1.37 1.37 1.37	5.00 4.00 4.00 2.50 2.00 2.00 3.00 1.75 1.75 2.50 2.00 2.00 1.75 1.75 0.50 0.50 0.50 0.50 2.00 1.75 1.75 1.37 1.37 1.37 1.37 1.37 1.37 1.37 1.37 1.37 1.37	R T	T-L T-L							

TABLE 8.9.2.1 (con't)

CONDITION	ALUMINUM			7075		K(IIC)		DATE	REFER				
	---PRODUCT--- FORM	THICK (IN)	TEST SPECIMEN ORIENT (F)	YIELD STRENGTH (KSI)	WIDTH (IN)	THICK (IN)	DESIGN						
T651	P	1.75	R.T.	T-L	74.4	2.002	1.002	CT	1.021	0.19	21.30	1978	MPC01
		1.75			74.4	2.000	1.002	CT	1.033	0.21	21.70	1973	86213
		1.75			74.4	1.992	1.002	CT	1.036	0.22	23.00	1978	MPC01
		1.75			74.4	2.000	1.002	CT	1.030	0.23	22.40	1973	86213
		1.75			74.4	1.990	1.003	CT	1.034	0.24	22.90	1973	86213
		1.50			74.5	1.502	0.748	CT	0.796	0.25	24.10	1978	MPC01
		1.75			74.5	1.493	0.748	CT	0.821	0.19	21.90	1978	MPC01
		1.50			74.5	1.504	0.750	CT	0.782	0.24	23.60	1978	MPC01
		1.00			74.9	1.986	0.980	CT	1.092	0.22	22.50	1978	MPC01
		1.00			74.9	1.987	0.979	CT	1.093	0.21	22.30	1978	MPC01
		1.62			75.6	1.494	0.748	CT	0.762	0.18	20.90	1978	MPC01
		1.62			75.6	1.502	0.749	CT	0.766	0.18	21.10	1978	MPC01
		0.50			75.9	1.498	0.509	CT	0.764	0.25	24.80	1978	MPC01
		0.50			75.9	1.508	0.509	CT	0.754	0.24	24.20	1978	MPC01
		0.37			76.0	1.496	0.379	CT	0.763	0.21	22.50	1978	MPC01
		0.62			76.2	1.516	0.643	CT	0.773	0.27	25.80	1978	MPC01
		0.62			76.2	1.510	0.642	CT	0.770	0.25	25.10	1978	MPC01
		0.42			76.5	1.998	0.606	CT	0.979	0.19	21.80	1978	MPC01
		1.37			77.3	2.994	1.369	NB	1.527	0.16	20.30	1978	MPC01
		1.37			77.7	3.000	1.375	NB	1.484	0.16	19.80	1973	86213
		1.38			77.7	3.000	1.387	NB	1.484	0.33	19.70	1971	84288
		1.37			77.7	3.002	1.386	NB	1.534	0.21	22.90	1978	MPC01
		1.37			77.7	2.996	1.375	NB	1.468	0.18	21.00	1978	MPC01
		1.38			77.7	3.000	1.385	NB	1.676	0.34	19.30	1971	84288
		1.38			77.7	3.000	1.385	NB	1.566	0.36	21.10	1971	84288
		1.37			77.7	3.000	1.375	NB	1.469	0.18	21.00	1973	86213
		1.38			77.7	3.000	1.385	NB	1.575	0.36	21.30	1971	84288
		1.37			77.7	3.016	1.385	NB	1.508	0.15	19.80	1978	MPC01
		1.38			77.7	3.000	1.387	NB	1.469	0.35	20.80	1971	84288
		1.37			77.7	3.000	1.375	NB	1.484	0.17	20.20	1973	86213
		1.37			77.7	3.000	1.386	NB	1.519	0.21	22.60	1973	86213
		1.37			77.7	3.000	1.375	NB	1.519	0.21	22.60	1978	MPC01
		1.37			77.7	3.000	1.375	NB	1.500	0.15	19.60	1978	MPC01
		1.38			77.7	3.000	1.385	NB	1.584	0.33	19.90	1971	84288
		1.38			77.7	3.000	1.387	NB	1.484	0.33	20.00	1971	84288
		1.38			77.7	3.000	1.386	NB	1.519	0.38	22.60	1971	84288
		1.25			78.9	2.006	0.999	CT	1.023	0.16	20.70	1978	MPC01
		1.37			79.3	1.496	0.751	CT	0.778	0.27	26.40	1978	MPC01
		1.37			79.3	1.506	0.752	CT	0.768	0.27	26.20	1978	MPC01
1.37			79.3	1.498	0.752	CT	0.764	0.27	26.70	1978	MPC01		

TABLE 8.9.2.1 (con't)

ALUMINUM	7075	K (IC)	YIELD STRENGTH (KSI)	SPECIMEN ORIENT	SPECIMEN		W	B	A	CRACK LENGTH (IN)	2.5* K (IC)/TVS**2 (IN)	K (IC) MEAN DEV (KSI*SQRT IN)	STAN DEV	DATE	REFER									
					WIDTH (IN)	THICK (IN)																		
4 00	R T	8-L	56.8		2.983	1.499	CT	1.551	0.36	21.60		1978 MPC01												
4 00			56.8		3.031	1.500	CT	1.546	0.38	22.50		1978 MPC01												
2 50			65.2		1.996	0.999	CT	0.998	0.18	18.00		1978 MPC01												
2 50			65.8		2.006	1.002	CT	1.043	0.19	18.70		1978 MPC01												
2 50			65.8		1.994	1.001	CT	1.057	0.18	18.00		1978 MPC01												
2 50			65.8		2.010	1.002	CT	1.036	0.20	18.50		1978 MPC01												
2 50			65.8		2.000	1.001	CT	1.046	0.18	17.60		1978 MPC01												
1 75			70.2		0.992	0.500	CT	0.496	0.10	14.60		1978 MPC01												
1 75			70.2		1.000	0.500	CT	0.497	0.11	14.70		1978 MPC01												
1 75			70.2		1.000	0.500	CT	0.503	0.11	14.80		1978 MPC01												
4 00			74.8		1.250	0.630	CT	0.600	0.26	24.00		1978 MPC01												
4 00			74.8		1.250	0.630	CT	0.600	0.27	24.40		1978 MPC01												
4 00			67.3		1.000	0.500	CT	0.491	0.20	19.10		1978 MPC01												
4 00			67.3		1.000	0.500	CT	0.492	0.20	18.80		1978 MPC01												
4 00			56.8		2.983	1.499	CT	1.551	0.36	21.60		1978 MPC01												
4 00			56.8		3.031	1.500	CT	1.546	0.38	22.50		1978 MPC01												
2 50			65.2		1.996	0.999	CT	0.998	0.18	18.00		1978 MPC01												
2 50			65.8		2.006	1.002	CT	1.043	0.19	18.70		1978 MPC01												
2 50			65.8		1.994	1.001	CT	1.057	0.18	18.00		1978 MPC01												
2 50			65.8		2.010	1.002	CT	1.036	0.20	18.50		1978 MPC01												
2 50			65.8		2.000	1.001	CT	1.046	0.18	17.60		1978 MPC01												
1 75			70.2		0.992	0.500	CT	0.496	0.10	14.60		1978 MPC01												
1 75			70.2		1.000	0.500	CT	0.497	0.11	14.70		1978 MPC01												
1 75			70.2		1.000	0.500	CT	0.503	0.11	14.80		1978 MPC01												
4 00			74.8		1.250	0.630	CT	0.600	0.26	24.00		1978 MPC01												
4 00			74.8		1.250	0.630	CT	0.600	0.27	24.40		1978 MPC01												
4 00			67.3		1.000	0.500	CT	0.491	0.20	19.10		1978 MPC01												
4 00			67.3		1.000	0.500	CT	0.492	0.20	18.80		1978 MPC01												
4 00			56.8		2.983	1.499	CT	1.551	0.36	21.60		1978 MPC01												
4 00			56.8		3.031	1.500	CT	1.546	0.38	22.50		1978 MPC01												
2 50			65.2		1.996	0.999	CT	0.998	0.18	18.00		1978 MPC01												
2 50			65.8		2.006	1.002	CT	1.043	0.19	18.70		1978 MPC01												
2 50			65.8		1.994	1.001	CT	1.057	0.18	18.00		1978 MPC01												
2 50			65.8		2.010	1.002	CT	1.036	0.20	18.50		1978 MPC01												
2 50			65.8		2.000	1.001	CT	1.046	0.18	17.60		1978 MPC01												
1 75			70.2		0.992	0.500	CT	0.496	0.10	14.60		1978 MPC01												
1 75			70.2		1.000	0.500	CT	0.497	0.11	14.70		1978 MPC01												
1 75			70.2		1.000	0.500	CT	0.503	0.11	14.80		1978 MPC01												

TABLE 8.9.2.1 (con't)

CONDITION	ALUMINUM 7075				K(1C)				REFER						
	--PRODUCT-- FORM	THICK (IN)	TEST SPECIMEN ORIENT	YIELD STRENGTH (KSI)	SPECIMEN		CRACK LENGTH (IN)	2.5* (K(1C)/TYS)**2 (IN)		K(1C) MEAN (KSI*SQRT IN)	STAN DEV				
					WIDTH (IN)	THICK (IN)						DESIGN			
-----A-----															
T651	P	1.75	R. T.	S-L	70.2	1.000	0.500	CT	0.496	0.11	15.00	17.6/	2.7	1973	86213
T651	P	2.00	82	S-L	64.1	1.000	0.500	CT	0.492	0.14	15.30			1973	86213
					64.1	1.000	0.498	CT	0.493	0.14	15.40			1973	86213
					64.1	1.000	0.500	CT	0.485	0.14	15.20	15.3/	0.1	1973	86213
T651	P	2.00	84	S-L	64.7	1.500	0.750	CT	0.727	0.22	19.10			1973	86213
					64.7	1.490	0.750	CT	0.731	0.21	18.70			1973	86213
					65.2	2.000	0.999	CT	0.998	0.19	18.00			1973	86213
					65.8	0.990	0.502	CT	0.509	0.20	18.40			1973	86213
					65.8	0.990	0.502	CT	0.505	0.18	17.80			1973	86213
					66.6	1.490	0.746	CT	0.707	0.16	17.10			1973	86213
					66.6	1.490	0.749	CT	0.715	0.20	18.90	18.3/	0.7	1973	86213
T651	P	2.50	85	S-L	64.2	2.000	1.001	CT	1.004	0.21	18.60			1973	86213
					64.2	2.000	1.001	CT	0.991	0.23	19.40	19.0/	0.6	1973	86213
T651	P	1.75	88	S-L	61.8	1.000	0.500	CT	0.493	0.20	17.50			1973	86213
					61.8	1.000	0.500	CT	0.485	0.21	17.70			1973	86213
					61.8	1.000	0.500	CT	0.496	0.19	17.10			1973	86213
					67.3	1.000	0.500	CT	0.486	0.22	20.00			1973	86213
					67.3	1.000	0.501	CT	0.518	0.21	19.40			1973	86213
T651	P	1.37	90	S-L	67.3	1.000	0.501	CT	0.488	0.19	18.70	18.4/	1.2	1973	86213
					66.7	1.990	1.002	CT	0.972	0.15	16.40			1973	86213
T651	E	3.00	R. T.	L-T	69.5	2.990	1.498	CT	1.548	0.50	31.20			1973	86213
					69.5	2.990	1.499	CT	1.550	0.51	31.30			1973	86213
					77.2	3.000	1.500	CT	1.595	0.39	30.30			1973	86213
					77.2	3.000	1.499	CT	1.577	0.42	31.50	31.1/	0.5	1973	86213
T651	E	3.50	82	L-T	83.0	2.000	0.999	CT	1.027	0.38	32.20			1973	86213
					83.0	2.000	0.999	CT	1.032	0.38	32.30	32.3/	0.1	1973	86213
T651	E	5.00	R. T.	T-L	62.6	2.990	1.499	CT	1.540	0.26	20.10			1973	86213
					64.7	2.990	1.499	CT	1.548	0.25	20.50			1973	86213
					64.7	2.990	1.500	CT	1.542	0.25	20.30			1973	86213
					69.5	3.000	1.499	CT	1.566	0.21	20.20			1973	86213
					69.5	3.000	1.499	CT	1.573	0.20	19.90	20.2/	0.2	1973	86213

TABLE 8.9.2.1 (con't)

CONDITION	ALUMINUM				7075				K(1C)		K(1C) STAN				DATE	REFER
	--PRODUCT--		TEST SPECIMEN ORIENT	YIELD STRENGTH (KSI)	-----SPECIMEN-----		CRACK LENGTH (IN)	2.5* K(1C)/TVS)**2 (KSI*SQRT IN)	K(1C) MEAN (KSI*SQRT IN)	DEV (KSI*SQRT IN)	STAN					
	FORM	THICK (IN)			THICK (IN)	WIDTH (IN)										
T651	E	3.50	82	T-L	68.9	2.000	0.999	CT	0.994	0.17	18.20	18.30	18.3/	0.1	1973	86213
		3.50			68.9	2.000	0.999	CT	0.976	0.18					1973	86213
T651	E	3.00	82	S-L	64.4	2.000	1.000	CT	1.005	0.26	20.70	20.1/	0.8		1973	86213
		3.00			64.4	2.000	1.000	CT	1.014	0.23	19.50				1973	86213
T651	E	5.00	82	L-R	73.6	3.000	1.498	CT	1.548	0.58	33.50				1973	86213
		5.00			73.6	3.000	1.498	CT	1.549	0.53	34.00				1973	86213
		3.50			74.9	2.000	1.000	CT	1.065	0.46	32.30	33.9/	1.6		1973	86213
T651	E	5.00	82	R-L	64.4	3.000	1.499	CT	1.588	0.28	21.70				1973	86213
		5.00			64.4	3.000	1.498	CT	1.585	0.28	21.40				1973	86213
		3.50			68.2	2.000	1.000	CT	1.059	0.20	19.40				1973	86213
		3.50			68.2	2.000	1.000	CT	1.043	0.19	19.00	20.4/	1.4		1973	86213
T651	RB	5.00	R.T.	L-T	72.4	2.990	1.496	CT	1.603	0.56	34.40				1973	86213
		5.00			72.4	2.990	1.496	CT	1.595	0.54	33.70	34.1/	0.5		1973	86213
T651	RB	3.00	82	L-T	78.7	3.000	1.499	CT	1.636	0.38	30.50				1973	86213
		3.00			78.7	3.000	1.500	CT	1.628	0.37	30.40	30.5/	0.1		1973	86213
T651	RB	5.00	R.T.	T-L	62.6	2.990	1.495	CT	1.523	0.22	18.60				1973	86213
T651	RB	3.00	82	S-L	66.0	1.990	1.002	CT	0.962	0.18	17.80				1973	86213
		3.00			66.0	1.990	1.001	CT	0.964	0.18	17.80	17.8/	0.0		1973	86213
T651	RB	3.50	82	L-R	76.9	2.000	1.000	CT	1.063	0.49	34.20				1973	86213
		3.50			76.9	2.000	1.000	CT	1.044	0.48	33.60	33.9/	0.4		1973	86213
T6510	E	3.50	R.T.	L-S	73.6	1.990	1.000	NB	1.063	0.64	37.20				1973	86213
		3.50			73.3	1.990	1.000	NB	0.989	0.72	40.40	38.8/	2.3		1973	86213
T6510	E	3.50	R.T.	L-T	79.7	2.000	1.000	CT	1.035	0.44	31.80				1973	86213
		3.50			75.7	2.000	1.000	CT	0.995	0.44	31.80				1973	86213
		0.84			80.4	1.000	0.500	NB	0.502	0.26	26.10				1973	86213
		0.84			80.4	1.000	0.499	NB	0.471	0.29	27.50				1973	86213
		0.84			80.6	0.990	0.500	NB	0.476	0.26	26.00				1973	86213

TABLE 8.9.2.1 (con't)

CONDITION	ALUMINUM				7075				K (IC)				K (IC) STAN DEV	DATE	REFER	
	--PRODUCT-- FORM	THICK (IN)	TEST TEMP (F)	SPECIMEN ORIENT	YIELD (KSI)	WIDTH (IN)	THICK (IN)	DESIGN	CRACK LENGTH (IN)	2.5* (IN)	K (IC)/TYB**2 (KSI*SQRT IN)	K (IC) MEAN				
T6510	E	0.84	R. T.	L-T	81.2	1.000	0.500	NB	0.505	0.30	28.20	28.20	1973	86213		
		0.84			81.2	1.000	0.499	NB	0.505	0.27	26.70	26.70	1973	86213		
		0.68			81.8	1.500	0.637	NB	0.765	0.26	26.60	26.60	1973	86213		
		0.68			82.4	1.500	0.639	NB	0.722	0.28	27.60	27.60	1973	86213		
		0.68			86.4	1.490	0.664	NB	0.729	0.22	25.80	25.80	1973	86213		
		0.68			86.4	1.490	0.667	NB	0.740	0.22	25.60	25.60	1973	86213		
T6510	E	0.68			86.4	1.490	0.653	NB	0.696	0.24	26.90	27.5/	2.1	1973	86213	
		3.50	R. T.	T-L	66.7	1.000	0.500	NB	0.500	0.26	21.50	21.50	1973	86213		
		3.50			67.2	1.990	1.000	CT	1.003	0.27	21.90	21.90	1973	86213		
		3.50			67.2	0.990	0.500	NB	0.469	0.25	31.10	31.10	1973	86213		
		3.50			67.2	0.990	0.500	NB	0.495	0.24	20.90	20.90	1973	86213		
		3.50			67.2	1.990	1.000	CT	0.974	0.27	22.10	22.10	1973	86213		
T6510	E	0.84			77.0	1.000	0.500	NB	0.461	0.26	24.70	24.70	1973	86213		
		0.84			77.0	0.990	0.501	NB	0.467	0.23	23.60	23.60	1973	86213		
		0.84			77.6	1.000	0.500	NB	0.461	0.19	21.40	21.40	1973	86213		
		0.84			77.6	1.000	0.500	NB	0.475	0.25	24.40	24.40	1973	86213		
		0.84			77.6	1.000	0.500	NB	0.482	0.23	23.70	23.70	1973	86213		
		0.84			77.8	1.000	0.500	NB	0.512	0.29	26.90	26.90	1973	86213		
T6510	E	0.84			78.0	1.000	0.500	NB	0.467	0.24	24.20	24.20	1973	86213		
		0.84			78.0	1.000	0.499	NB	0.488	0.24	24.00	24.00	1973	86213		
		0.68			78.7	1.490	0.664	NB	0.684	0.23	24.00	24.00	1973	86213		
		0.68			78.8	1.490	0.660	NB	0.691	0.22	23.20	23.20	1973	86213		
		0.68			78.8	1.490	0.660	NB	0.700	0.25	24.80	23.3/	1.6	1973	86213	
		3.50	R. T.	S-L	61.7	1.990	1.000	CT	0.941	0.24	19.20	19.20	1973	86213		
T6510	FB	3.50			61.7	2.000	1.001	CT	0.965	0.24	21.50	20.0/	1.3	1973	86213	
		3.50			72.5	0.500	0.251	NB	0.274	0.22						
		3.50	R. T.	L-S	73.6	1.995	0.999	NB	1.097	0.70	39.50	39.50	1978	MPC01		
T6510	FB	3.50			73.3	1.992	1.000	NB	0.976	0.67	39.60	39.6/	0.1	1978	MPC01	
		3.50	R. T.	L-T	74.6	2.006	0.998	NB	1.063	0.46	32.40	32.40	1978	MPC01		
		3.50			75.7	1.994	1.000	CT	1.037	0.44	31.90	31.90	1978	MPC01		
T6510	FB	3.50			75.7	2.004	1.000	CT	1.002	0.44	32.10	32.10	1978	MPC01		
		5.00			77.4	4.036	1.987	CT	2.018	0.52	37.50	37.50	1978	MPC01		
		3.09			78.2	3.007	1.499	CT	1.563	0.34	29.30	29.30	1978	MPC01		
		1.18			78.9	2.518	1.104	CT	1.284	0.22	24.30	24.30	1978	MPC01		
T6510	FB	0.68			81.8	1.506	0.637	NB	0.783	0.27	27.70	27.70	1978	MPC01		

TABLE 8.9.2.1 (con't)

CONDITION	ALUMINUM				7075				K(IIC)				DATE	REFER
	---PRODUCT---		TEST SPECIMEN ORIENT	YIELD STRENGTH (KSI)	-----SPECIMEN-----		CRACK LENGTH (IN)	2.5* (K(IIC)/TYS)**2 (IN)	K(IIC) MEAN (KSI*SQRT IN)	STAN DEV				
	FORM	THICK (IN)			THICK (IN)	WIDTH (IN)					DESIGN			
T6510	FB	0.68	R. T.	L-T	1.492	0.659	NB	0.716	0.27	27.20	1978	MPC01		
		2.75			1.991	0.999	CT	1.075	0.30	29.90	1978	MPC01		
		2.81			2.976	1.499	CT	1.977	0.34	31.40	1978	MPC01		
		0.68			1.502	0.623	NB	0.691	0.22	26.20	1978	MPC01		
		0.68			1.500	0.667	NB	0.735	0.21	25.40	1978	MPC01		
		0.68			1.498	0.664	NB	0.734	0.22	26.10	29.2/	3.4	1978	MPC01
T6510	FB	5.00	R. T.	T-L	5.024	2.500	CT	2.562	0.27	20.70	1978	MPC01		
		3.50			0.998	0.500	NB	0.509	0.27	22.10	1978	MPC01		
		3.50			1.984	1.000	CT	0.972	0.25	22.00	1978	MPC01		
		3.50			2.012	1.000	CT	1.006	0.25	22.00	1978	MPC01		
		3.50			0.990	0.500	NB	0.495	0.24	20.90	1978	MPC01		
		3.50			1.000	0.500	NB	0.470	0.24	21.20	1978	MPC01		
		3.09			3.970	2.001	CT	2.144	0.22	20.80	1978	MPC01		
		2.81			2.987	1.498	CT	1.953	0.18	18.80	1978	MPC01		
		2.75			2.508	1.250	CT	1.279	0.15	17.60	1978	MPC01		
		1.18			2.487	1.104	CT	1.293	0.22	22.80	1978	MPC01		
		0.68			1.482	0.664	NB	0.667	0.21	23.20	1978	MPC01		
		0.68			1.502	0.660	NB	0.676	0.19	22.90	1978	MPC01		
		0.68			1.491	0.660	NB	0.686	0.22	24.10	21.4/	1.9	1978	MPC01
		T6510	FB	5.00	R. T.	S-L	3.000	1.500	CT	1.530	0.28	20.30	1978	MPC01
				3.50			2.015	1.001	CT	0.967	0.24	19.30	1978	MPC01
3.50					2.015	1.000	CT	0.927	0.22	18.80	1978	MPC01		
T6511	E	1.25	R. T.	L-T	3.011	1.217	NB	1.596	0.32	28.90	1978	MPC01		
		1.25			3.029	1.219	NB	1.575	0.27	26.90	27.9/	1.4	1978	MPC01
		1.25	83	L-T	3.000	1.217	NB	1.547	0.30	27.40	27.40		1973	86213
		1.25			3.000	1.219	NB	1.525	0.26	25.40	26.4/	1.4	1973	86213
		1.25	R. T.	T-L	3.014	1.170	NB	1.567	0.27	25.90	25.90		1978	MPC01
		1.25			3.016	1.170	NB	1.538	0.28	25.20	25.20		1978	MPC01

TABLE 8.9.2.1 (con't)

CONDITION	ALUMINUM										7075										K(1C)		DATE	REFER
	--PRODUCT--		YIELD STRENGTH (KSI)	TEST SPECIMEN		THICKNESS		WIDTH		THICKNESS		CRACK LENGTH		2.5* (K(1C)/TVB)**2 (IN)	K(1C) MEAN (KSI*SQRT IN)	STAN DEV								
	FORM	THICK (IN)		TEMP (F)	ORIENT	THICK (IN)	THICK (IN)	THICK (IN)	THICK (IN)	THICK (IN)	THICK (IN)	THICK (IN)	THICK (IN)											
T73	FB	----	64.4	1.500	0.750	CT	0.750	0.27	21.10	21.5/	0.7	1972	82879											
		----	64.4	1.500	0.750	CT	0.750	0.29	22.10			1972	82879											
T7351	P		53.2	2.490	1.256	CT	1.271	0.87	31.20			1972	84363											
		4.00	53.2	2.490	1.248	CT	1.243	0.86	31.10			1972	84363											
		4.00	53.2	2.500	1.258	CT	1.223	0.86	31.00			1972	84363											
		1.25	54.5	2.493	1.247	CT	1.286	1.01	34.80			1977	MA005											
		1.25	54.5	2.493	1.250	CT	1.281	1.13	36.70			1977	MA005											
		3.50	55.1	2.008	0.998	CT	1.004	0.60	27.20			1978	MP001											
		3.00	56.6	2.010	0.998	CT	1.005	0.60	27.90			1978	MP001											
		1.25	57.8	2.493	1.250	CT	1.303	0.74	31.60			1977	MA005											
		1.25	57.8	2.502	1.250	CT	1.263	0.59	28.10			1977	MA005											
		2.00	58.0	2.990	0.994	CT	1.587	0.69	30.40			1972	84306											
		2.00	58.0	2.990	0.996	CT	1.576	0.75	31.70			1972	84306											
		2.00	58.0	2.990	0.993	CT	1.575	0.78	32.30			1972	84306											
		1.37	59.1	2.002	1.004	NB	1.101	0.55	28.00			1978	MP001											
		1.37	59.1	2.000	1.012	NB	1.100	0.52	27.70			1978	MP001											
		1.37	59.1	2.004	1.002	NB	1.082	0.50	26.60			1978	MP001											
		2.50	59.6	2.000	1.000	CT	0.971	0.59	29.00			1973	86213											
		2.50	60.0	2.010	0.999	CT	1.005	0.44	25.70			1978	MP001											
		1.00	61.7	1.028	0.514	MOL	----	0.68	32.20			1980	MR001											
		1.00	61.7	1.028	0.514	MOL	----	0.65	31.70			1980	MR001											
		1.00	62.0	2.000	1.000	CT	----	0.59	29.00			1982	NC003											
		1.00	62.0	2.000	1.000	CT	----	0.59	29.00			1982	NC003											
		1.00	62.2	1.983	1.000	CT	1.031	0.46	26.80			1978	MP001											
		1.50	64.2	1.996	0.999	CT	1.018	0.46	27.90			1978	MP001											
		2.00	64.7	2.990	0.805	CT	1.530	0.43	27.00			1972	84306											
		2.00	64.7	2.000	0.821	CT	1.074	0.41	26.30			1972	84306											
		2.00	64.7	2.000	0.819	CT	1.070	0.40	25.80			1972	84306											
		2.00	64.7	3.000	0.827	CT	1.512	0.50	29.10			1972	84306											
		2.00	64.7	3.000	0.805	CT	1.547	0.44	27.20			1972	84306											
		2.00	64.7	2.000	0.823	CT	1.074	0.44	27.30			1972	84306											
		1.00	65.9	1.989	0.976	CT	1.074	0.52	30.40			1978	MP001											
		1.00	65.9	1.994	0.975	CT	1.077	0.50	30.30			1978	MP001											
		1.37	66.3	2.986	1.375	NB	1.493	0.44	28.30			1978	MP001											
		1.37	66.3	3.020	1.374	NB	1.480	0.52	30.60			1978	MP001											
		1.37	66.3	3.022	1.374	NB	1.481	0.48	29.50			1978	MP001											

TABLE 8.9.2.1 (con't)

CONDITION	ALUMINUM				7075				K(1C)		K(1C) STAN K(1C) MEAN DEV (KSI*SQRT IN)	DATE	REFER
	--PRODUCT-- FORM	THICK (IN)	TEST TEMP (F)	SPECIMEN ORIENT	YIELD STRENGTH (KSI)	-----SPECIMEN-----		CRACK LENGTH (IN)	2.5* (K(1C)/TYS)**2 (IN)				
						WIDTH (IN)	THICKNESS (IN)						
T7351	P	1.37	R.T.	L-T	66.3	3.012	1.375	NB	1.536	0.48	29.40	1978	MPC01
		1.37			66.3	3.027	1.374	NB	1.483	0.46	29.00	1978	MPC01
		1.37			66.3	2.018	1.001	CT	1.029	0.48	29.60	1978	MPC01
		1.37			66.3	2.022	1.001	CT	1.011	0.46	28.70	1978	MPC01
		1.37			66.3	3.028	1.375	NB	1.514	0.44	28.20	1978	MPC01
		1.37			66.3	2.020	1.002	CT	1.030	0.46	29.10	1978	MPC01
		1.37			66.3	3.000	1.375	NB	1.440	0.41	26.80	1973	86213
		1.37			66.3	3.000	1.375	NB	1.585	0.53	30.60	1973	86213
		1.37			66.3	3.000	1.375	NB	1.545	0.50	29.70	1973	86213
		1.37			66.3	3.000	1.374	NB	1.554	0.56	31.30	1973	86213
T7351		1.37			66.3	3.000	1.374	NB	1.506	0.52	30.30	1973	86213
		1.37			66.3	3.000	1.374	NB	1.485	0.54	30.80	1973	86213
		2.00			67.1	3.007	1.001	CT	1.624	0.52	31.20	1978	MPC01
											29.4/ 2.2		
T7351	P	2.50	82	L-T	64.8	1.490	0.749	CT	0.778	0.43	26.90	1973	86213
		2.50			64.8	1.490	0.748	CT	0.768	0.44	27.20	1973	86213
T7351	P	2.00	83	L-T	57.3	2.000	1.000	CT	0.967	0.66	29.40	1973	86213
		2.00			57.3	2.000	1.000	CT	0.985	0.61	28.40	1973	86213
T7351	P	1.37	- 320	T-L	66.0	3.000	1.385	NB	1.480	0.52	30.10	1973	86213
		1.37			66.0	3.000	1.387	NB	1.522	0.45	28.10	1973	86213
		1.37			66.0	3.000	1.385	NB	1.530	0.50	29.50	1973	86213
T7351	P	1.37	- 112	T-L	59.1	3.000	1.387	NB	1.562	0.57	28.20	1973	86213
T7351	P	3.50	R.T.	T-L	54.9	1.992	0.998	CT	0.976	0.42	22.70	1978	MPC01
		1.38			56.8	1.500	0.750	NB	0.792	0.58	27.30	1972	82880
		1.38			56.8	2.000	1.000	NB	1.015	0.56	27.00	1972	82880
		1.38			56.8	1.500	0.750	NB	0.782	0.55	26.60	1972	82880
		1.38			56.8	3.000	1.380	NB	1.538	0.61	28.10	1972	82880
		1.38			56.8	2.000	1.000	NB	1.035	0.59	27.70	1972	82880
		1.38			56.8	3.000	1.390	NB	1.498	0.59	27.60	1972	82880
		1.38			56.8	2.000	1.000	NB	1.065	0.65	28.90	1972	82880
		1.38			56.8	1.500	0.750	NB	0.763	0.54	26.50	1972	82880
		1.38			56.8	3.000	1.380	NB	1.557	0.65	28.90	1972	82880
	3.00				57.1	1.990	0.999	CT	1.015	0.34	21.60	1978	MPC01
	1.37				58.5	2.000	1.012	NB	1.069	0.70	33.10	1973	86213
	1.37				58.5	1.985	1.012	NB	1.032	0.80	31.10	1978	MPC01

CONDITION	ALUMINUM				7075				K(1C)				K(1C) STAN DEV	DATE	REFER
	---PRODUCT---		TEST SPECIMEN ORIENT	YIELD (KSI)	-----SPECIMEN-----		CRACK LENGTH (IN)	2.5* (K(1C)/TYS)**2 (IN)	K(1C) MEAN (KSI) SORT IN)						
	FORM	THICK (IN)			TEMP (F)	WIDTH (IN)				THICK (IN)	DESIGN				
T7351	P	1.37	R. T.	T-L	58.5	2.018	1.011	NB	1.029	0.75	32.30	1978	MP001		
		1.37			58.5	2.000	1.011	NB	1.075	0.79	32.80	1973	86213		
		1.37			58.5	2.014	1.011	NB	1.027	0.65	30.20	1978	MP001		
		2.00			59.0	2.000	1.011	NB	1.030	0.76	32.30	1973	86213		
		2.00			59.0	2.990	0.995	CT	1.564	0.47	25.60	1972	84306		
		1.00			61.7	1.028	0.995	CT	1.551	0.44	24.80	1972	84306		
		1.00			61.7	1.028	0.914	WOL	----	0.40	24.90	1980	MP001		
		1.00			62.2	1.996	0.914	WOL	----	0.40	24.79	1980	MP001		
		1.00			62.2	1.996	0.979	CT	1.038	0.32	22.70	1978	MP001		
		1.00			64.2	2.004	0.978	CT	1.082	0.32	23.00	1978	MP001		
		1.50			64.2	1.994	0.999	CT	1.017	0.30	22.60	1978	MP001		
		1.37			64.6	3.006	1.373	NB	1.503	0.40	25.90	1978	MP001		
		1.37			64.6	2.002	1.000	CT	1.021	0.36	25.10	1978	MP001		
		1.37			64.6	1.992	1.001	CT	1.016	0.36	24.80	1978	MP001		
		1.37			64.6	2.012	1.001	CT	1.026	0.36	24.80	1978	MP001		
		1.37			64.6	3.025	1.375	NB	1.482	0.34	24.20	1978	MP001		
		1.37			64.6	3.025	1.373	NB	1.482	0.36	24.90	1978	MP001		
T7351	P	1.37			64.6	3.024	1.375	NB	1.542	0.32	23.80	1978	MP001		
		1.37			64.6	3.000	1.375	NB	1.528	0.39	25.40	1973	86213		
		2.00			66.0	3.000	0.827	CT	1.519	0.31	23.10	1972	84306		
		2.00			66.0	3.000	0.806	CT	1.538	0.28	22.00	1972	84306		
		2.00			66.0	3.000	0.827	CT	1.536	0.30	23.00	1972	84306		
		2.00			67.6	3.020	1.000	CT	1.631	0.28	23.10	26.2/	3.2	1978	MP001
		2.00	83	T-L	56.5	2.000	0.999	CT	0.961	0.43	23.40	1973	86213		
		T7351	P	2.00	R. T.	S-L	60.0	1.500	0.499	CT	0.762	0.23	18.20	1972	84306
				1.37			61.2	1.010	0.500	CT	0.485	0.22	18.70	1978	MP001
				1.37			61.2	0.996	0.500	CT	0.488	0.21	18.00	1978	MP001
				1.37			61.2	1.000	0.500	CT	0.492	0.22	18.20	1973	86213
				1.37			61.2	1.000	0.501	CT	0.500	0.24	19.00	1978	MP001
		1.37			61.2	1.000	0.500	CT	0.488	0.24	18.80	1973	86213		
		1.37			61.2	1.000	0.501	CT	0.497	0.24	18.80	18.5/	0.4	1973	86213
		T7351	P	2.00	84	S-L	54.3	1.490	0.750	CT	0.724	0.32	19.40	1973	86213
				2.00			54.3	1.500	0.750	CT	0.730	0.33	19.60	1973	86213
				2.50			59.8	0.990	0.502	CT	0.509	0.26	19.10	1973	86213
2.50			59.8	0.990	0.502	CT	0.509	0.23	18.20	19.1/	0.6	1973	86213		

TABLE 8.9.2.1 (con't)

CONDITION	--PRODUCT--		TEST SPECIMEN ORIENT	YIELD STRENGTH (KSI)	ALUMINUM		7075		K(IIC)		CRACK		2.5* (IN)	K(IIC) STAN		DATE	REFER
	FORM	THICK (IN)			-----SPECIMEN-----		WIDTH (IN)	THICK (IN)	DESIGN	LENGTH (IN)	K(IIC) (IN)	K(IIC) (IN)		K(IIC) MEAN (KSI*SQRT IN)	DEV		
T7351	E	4.65	86	S-L	55.6	2.000	0.999	CT	1.008	0.31	19.70	19.4/	0.7	1973	86213		
T73510	E	0.68	R.T.	L-T	65.0	1.500	0.620	NB	0.695	0.58	31.30			1969	77140		
T73510	E	3.50	R.T.	T-L	56.8	1.000	0.500	NB	0.515	0.39	22.40			1969	77140		
		3.50			58.6	0.990	0.500	NB	0.471	0.40	23.50			1969	77140		
		3.50			58.6	0.990	0.500	NB	0.485	0.36	22.20			1969	77140		
		3.50			58.6	1.990	1.001	CT	0.949	0.42	23.90			1969	77140		
		3.50			58.6	1.990	1.001	CT	0.946	0.41	23.80			1969	77140		
		3.50			59.8	0.990	0.500	NB	0.470	0.42	24.50			1969	77140		
		3.50			59.8	0.990	0.500	NB	0.465	0.42	24.60			1969	77140		
		0.68			63.6	1.490	0.660	NB	0.673	0.51	28.60			1973	86213		
		0.68			63.6	1.490	0.658	NB	0.678	0.49	28.10	24.6/	2.3	1973	86213		
T73510	E	3.50	R.T.	S-L	54.8	2.000	1.001	CT	0.944	0.36	20.80			1969	77140		
		3.50			54.8	2.000	1.001	CT	0.929	0.32	19.70	20.3/	0.8	1969	77140		
T73511	E	3.50	R.T.	L-T	66.0	4.000	1.629	CT	1.934	0.80	37.20			1973	85836		
		3.50			66.0	4.000	1.998	CT	2.009	1.07	43.30			1973	85836		
		3.50			66.0	4.000	1.998	CT	1.970	0.95	40.80			1973	85836		
		3.50			66.0	4.000	1.998	CT	1.969	0.78	36.90	39.6/	3.1	1973	85836		
T73511	E	3.17	82	L-T	64.3	1.500	0.748	CT	0.766	0.72	34.60			1973	86213		
		3.17			64.3	1.500	0.749	CT	0.792	0.73	34.80	34.7/	0.1	1973	86213		
T73511	E	1.25	83	L-T	63.6	3.000	1.214	NB	1.520	0.76	35.00			1973	86213		
		1.25			63.6	3.000	1.213	NB	1.460	0.73	34.30			1973	86213		
		1.25			67.6	3.000	1.218	NB	1.485	0.87	39.90			1973	86213		
		1.25			67.6	3.000	1.220	NB	1.445	0.80	38.20	36.9/	2.6	1973	86213		
T73511	E	3.50	R.T.	T-L	66.0	3.500	1.750	CT	1.840	0.43	27.40			1973	85836		
		3.50			66.0	3.500	1.752	CT	1.855	0.37	25.50			1973	85836		
		3.50			66.0	3.500	1.747	CT	1.738	0.44	27.50	26.8/	1.1	1973	85836		
T73511	E	1.25	83	T-L	62.2	3.000	1.170	NB	1.467	0.61	30.60			1973	86213		

TABLE 8.9.2.1 (con't)

CONDITION	ALUMINUM				K(IIC)									
	7075		K(IIC)											
	---PRODUCT---	TEST SPECIMEN	YIELD	-----SPECIMEN-----	CRACK	2.5*	K(IIC)	STAN	DATE	REFER				
FORM	THICK	ORIENT	STRENGTH	WIDTH	THICK	DESIGN	LENGTH	(K(IIC)/TVS)**2			MEAN	DEV		
	(IN)	(F)	(KSI)	(IN)	(IN)	(IN)	(IN)	(KSI*SQRT IN)						
				W	B	A								
T73511	E	1.25	83	T-L	3.000	1.168	NB	1.437	0.59	30.20		1973	86213	
		1.25			3.000	1.165	NB	1.487	0.70	35.00		1973	86213	
		1.25			3.000	1.170	NB	1.440	0.68	34.70	32.6/	2.6	1973	86213
T73511	E	3.50	265	T-L	4.000	2.001	CT	2.065	0.49	28.80		1973	86210	
		3.50			4.000	2.002	CT	2.054	0.50	29.20	29.0/	0.3	1973	86210
T73511	E	3.50	R.T.	S-L	2.000	1.002	CT	1.009	0.29	22.60		1973	85836	
		3.50			2.000	0.996	CT	0.993	0.25	21.10	21.9/	1.1	1973	85836
T73511-HIGH/ PURITY	EB	1.50	R.T.	L-T	2.500	1.250	CT	----	1.04	44.20	43.0/	1.7	1980	WA001
		1.50			2.500	1.250	CT	----	0.93	41.80			1980	WA001
T73511-HIGH/ PURITY	EB	1.50	R.T.	T-L	2.500	1.250	CT	----	0.57	30.00	30.0/	0.1	1980	WA001
		1.50			2.500	1.250	CT	----	0.56	29.90			1980	WA001
T73511-LOW/ PURITY	EB	1.50	R.T.	L-T	2.500	1.250	CT	----	0.43	27.10	27.3/	0.2	1980	WA001
		1.50			2.500	1.250	CT	----	0.44	27.40			1980	WA001
T73511-LOW/ PURITY	EB	1.50	R.T.	T-L	2.500	1.250	CT	----	0.28	20.90	21.7/	1.7	1980	WA001
		1.50			2.500	1.250	CT	----	0.35	22.90			1980	WA001
T73511-MEDIUM/ PURITY	EB	1.50	R.T.	L-T	2.500	1.250	CT	----	0.49	30.40	30.6/	0.2	1980	WA001
		1.50			2.500	1.250	CT	----	0.50	30.70			1980	WA001
T73511-MEDIUM/ PURITY	EB	1.50	R.T.	T-L	2.500	1.250	CT	----	0.30	21.70	21.9/	0.3	1980	WA001
		1.50			2.500	1.250	CT	----	0.31	22.10			1980	WA001
T7352	F	5.00	R.T.	L-T	3.000	1.502	NB	1.577	1.12	35.10		1970	77720	
		5.00			3.000	1.503	NB	1.507	1.00	33.20		1970	77720	
		5.00			3.000	1.499	NB	1.607	1.21	36.90		1970	77720	

TABLE 8.9.2.1 (con't)

CONDITION	ALUMINUM				7075		K (IC)		DATE	REFER				
	--PRODUCT--		YIELD STRENGTH (KSI)	TEST SPECIMEN ORIENT	-----SPECIMEN-----		CRACK LENGTH (IN)	2.5* CRACK (K(IC)/TVS)**2 (IN)						
	FORM	THICK (IN)			THICK (IN)	DESIGN								
T7352	F	6.00	R. T.	L-T	3.990	2.002	NB	2.160	1.63	39.30	1970	77720		
		6.00			3.990	2.002	NB	2.138	1.67	39.70	1970	77720		
		4.00			3.000	1.500	NB	1.585	0.69	31.20	1970	77720		
		4.00			3.000	1.498	NB	1.610	0.74	32.40	1970	77720		
		4.00			3.000	1.500	NB	1.677	0.84	34.60	1970	77720		
		2.00			1.490	0.751	NB	0.722	0.61	32.20	1970	77720		
		2.00			1.500	0.754	NB	0.747	0.54	30.30	1970	77720		
		2.00			1.500	0.752	NB	0.748	0.59	31.60	1970	77720		
		3.00			1.990	0.998	NB	0.983	0.63	33.10	1970	77720		
		3.00			2.000	1.000	NB	0.993	0.54	30.60	1970	77720		
		3.00			1.990	0.999	NB	0.955	0.53	30.50	33.6/	3.1	1970	77720
T7352	F	6.00	R. T.	T-L	4.000	2.002	NB	2.118	0.86	27.80	1970	77720		
		6.00			4.000	2.003	NB	2.173	0.85	27.60	1970	77720		
		5.00			3.000	1.500	NB	1.553	0.78	28.30	1970	77720		
		5.00			3.000	1.501	NB	1.505	0.72	27.10	1970	77720		
		5.00			3.000	1.500	NB	1.537	0.79	28.60	1970	77720		
		4.00			3.000	1.500	NB	1.702	0.65	28.20	1970	77720		
		4.00			3.000	1.499	NB	1.598	0.57	26.30	1970	77720		
		4.00			3.000	1.499	NB	1.732	0.51	24.90	1970	77720		
		3.00			2.494	1.252	CT	1.387	0.85	33.20	1975	MA012		
		3.00			1.990	1.000	NB	0.968	0.37	22.80	1970	77720		
		2.00			2.000	1.000	NB	0.992	0.39	23.90	1970	77720		
T7352		2.00			1.500	0.751	NB	0.728	0.33	23.70	1970	77720		
		2.00			1.500	0.753	NB	0.750	0.34	24.20	26.6/	2.8	1970	77720
T7352	F	6.00	R. T.	S-T	1.400	0.700	NB	0.700	0.39	22.00	1972	82675		
		6.00			1.400	0.700	NB	0.700	0.36	21.30	21.7/	0.9	1972	82675
T7352	F	6.00	R. T.	S-L	2.000	1.000	CT	0.999	0.88	26.90	1970	77720		
		6.00			2.000	1.000	CT	0.997	0.74	24.10	1970	77720		
		6.00			2.000	1.000	CT	1.027	0.79	25.40	1970	77720		
		5.00			1.000	0.500	NB	0.478	0.40	19.60	1970	77720		
		5.00			1.000	0.500	NB	0.493	0.37	19.00	1970	77720		
		5.00			1.000	0.500	NB	0.458	0.34	18.30	1970	77720		
T7352		6.00			1.400	0.700	NB	0.700	0.32	20.10	1972	82675		
		6.00			1.400	0.700	NB	0.700	0.32	20.20	21.7/	3.2	1972	82675
	E	7.04	84	T-L	2.000	0.997	CT	1.005	0.33	19.70	1973	86213		

TABLE 8.9.2.1 (con't)

CONDITION	ALUMINUM				7075		K(IIC)		YIELD (KSI)	TEST SPECIMEN ORIENT	TEMP (F)	THICK (IN)	STRENGTH (KSI)	SPECIMEN		CRACK LENGTH (IN)	2.5* (K(IIC)/TVB)**2 (IN)	K(IIC) MEAN (KSI*SQRT IN)	STAN DEV	DATE	REFER
	THICK		WIDTH		THICK		DESIGN														
	FORM		W		B		A														
	--PRODUCT--		(IN)		(IN)		(IN)														
17352	E	4.65	84	T-L		58.9	2.000	1.000	CT	1.006	0.28	19.60	1973 86213								
		4.65				58.9	2.000	0.999	CT	0.990	0.27	19.30	1973 86213								
17352	E	7.04	84	S-L		48.6	2.000	1.000	CT	0.968	0.37	18.70	1973 86213								
		7.04				48.6	2.000	0.999	CT	0.956	0.35	18.30	1973 86213								
		4.65				53.5	2.000	0.998	CT	0.934	0.28	18.00	1973 86213								
		4.65				53.5	2.000	0.998	CT	1.020	0.38	20.90	1973 86213								
17352	BT	2.35	R.T.	L-T		54.5	2.500	1.251	CT	1.212	0.85	31.80	1974 MA011								
173652	F	6.00	R.T.	L-T		70.0	4.000	2.001	CT	2.075	0.60	34.40	1973 85836								
		6.00				70.0	4.000	2.005	CT	1.985	0.57	33.50	1973 85836								
		6.00				70.0	4.000	2.005	CT	1.960	0.70	37.00	1973 85836								
173652	F	6.00	R.T.	T-L		67.0	3.500	1.745	CT	1.786	0.43	27.80	1973 85836								
		6.00				67.0	3.500	1.745	CT	1.825	0.45	28.50	1973 85836								
		6.00				67.0	3.500	1.746	CT	1.764	0.31	23.50	1973 85836								
173652	F	6.00	R.T.	S-L		57.0	2.000	1.003	CT	1.029	0.46	24.60	1973 85836								
17651	P	2.00	R.T.	L-T		62.4	4.000	1.989	CT	2.124	0.53	28.60	1973 86213								
		2.00				62.4	3.967	1.981	CT	2.142	0.44	26.40	1978 MPC01								
		2.00				62.4	4.000	1.987	CT	2.126	0.48	27.30	1973 86213								
		2.00				62.4	4.011	1.987	CT	2.126	0.46	27.30	1978 MPC01								
		2.00				62.4	4.008	1.989	CT	2.124	0.50	28.60	1978 MPC01								
		2.00				62.4	4.000	1.981	CT	2.142	0.45	26.40	1973 86213								
		2.00				62.9	4.000	1.959	CT	2.204	0.55	29.60	1973 86213								
		2.00				62.9	4.000	1.961	CT	2.204	0.55	29.50	1973 86213								
		2.00				63.0	2.000	0.751	CT	1.027	0.47	27.50	1972 84306								
		2.00				63.0	2.000	0.755	CT	1.040	0.48	27.70	1972 84306								
		2.00				63.0	2.000	0.753	CT	1.046	0.50	28.40	1972 84306								
		2.30				64.0	2.500	1.245	CT	1.293	0.52	29.20	1973 85836								
		2.00				64.7	3.000	0.805	CT	1.534	0.41	26.20	1973 86213								
		2.00				64.7	2.000	0.827	CT	1.045	0.48	28.40	1973 86213								
		2.00				64.7	2.000	0.828	CT	1.028	0.49	28.70	1973 86213								

TABLE 8.9.2.1 (con't)

CONDITION	ALUMINUM				7075		K(1C)		K(1C) STAN K(1C) MEAN DEV (KSI*SQRT IN)	DATE	REFER	
	--PRODUCT-- FORM	THICK (IN)	TEST TEMP (F)	SPECIMEN ORIENT	YIELD (KSI)	-----SPECIMEN-----		CRACK LENGTH (IN)				
						WIDTH (IN)	THICK (IN)					DESIGN
						W	B	A				
T7451	P	2 00	R T	L-T	64.7	2.000	0.920	CT	1.020	0.47	28.20	1973 R6213
		2 30			65.0	2.500	1.243	CT	1.290	0.53	30.10	1973 R583A
		2 30			65.0	2.500	1.244	CT	1.280	0.52	30.00	1973 R583A
		2 50			66.0	2.500	1.253	CT	1.280	0.55	30.90	1973 R583A
		2 50			66.0	2.500	1.254	CT	1.277	0.56	31.30	1973 R583A
		2 50			66.0	2.500	1.257	CT	1.296	0.54	30.70	1973 R583A
		2 00			68.2	1.986	0.900	CT	1.112	0.40	27.40	1978 MPC01
		2 00			68.2	1.995	0.901	CT	1.137	0.40	27.40	1978 MPC01
		2 00			68.7	3.004	1.000	CT	1.592	0.48	30.60	1978 MPC01
		2 00			69.2	2.005	0.901	CT	1.123	0.36	26.90	1978 MPC01
T7651	P	0 50		82	62.2	1.000	0.490	CT	0.514	0.47	26.90	1973 R6213
		0 50			62.2	1.000	0.490	CT	0.519	0.46	26.80	1973 R6213
		0 50			62.2	1.000	0.492	CT	0.523	0.42	25.60	1973 R6213
		0 50			67.2	1.000	0.486	CT	0.522	0.37	25.70	1973 R6213
		0 50			67.2	1.000	0.487	CT	0.531	0.38	26.30	1973 R6213
		1 00			67.7	2.000	0.993	CT	1.072	0.36	25.80	1973 R6213
		1 00			67.7	2.000	0.993	CT	1.036	0.37	26.00	1973 R6213
		1 00			67.7	2.000	0.993	CT	1.052	0.37	26.20	1973 R6213
		1 00			68.8	2.000	1.001	CT	1.047	0.38	26.90	1973 R6213
		1 00			68.8	2.000	1.001	CT	1.083	0.39	27.10	1973 R6213
T7651	P	1 00			68.8	2.000	1.001	CT	1.045	0.39	27.20	1973 R6213
		1 00			68.9	2.000	1.001	CT	1.093	0.38	27.00	1973 R6213
		1 00			68.9	2.000	1.001	CT	1.036	0.38	26.80	1973 R6213
		1 00			68.9	2.000	1.001	CT	1.104	0.40	27.60	1973 R6213
		0 50		84	66.8	1.000	0.496	CT	0.498	0.37	25.60	1973 R6213
		0 50			66.8	1.000	0.496	CT	0.506	0.35	25.10	1973 R6213
		2 00			67.6	4.000	1.992	CT	2.053	0.35	25.20	1973 R6213
		2 00			67.6	4.000	1.992	CT	2.041	0.33	24.40	1973 R6213
		2 00			67.6	4.000	1.993	CT	2.082	0.34	24.90	1973 R6213
		1 00			68.8	3.000	1.005	CT	1.575	0.43	28.50	1973 R6213
T7651	P	1 00			68.8	3.000	1.005	CT	1.584	0.34	28.30	1973 R6213
		2 00			69.0	2.000	0.999	CT	1.034	0.36	26.30	1973 R6213
		2 00			69.0	2.000	0.999	CT	1.036	0.38	26.90	1973 R6213
		1 00		88	72.2	2.000	0.999	CT	1.023	0.31	25.30	1973 R6213
		1 00			72.2	2.000	1.000	CT	1.047	0.31	25.50	1973 R6213
		1 00			72.2	2.000	1.000	CT	1.041	0.30	25.20	1973 R6213
		1 00			72.2	2.000	1.000	CT	1.041	0.30	25.30	1973 R6213
		1 00			72.2	2.00	1.000	CT	1.041	0.30	25.30	1973 R6213
		1 00			72.2	2.00	1.000	CT	1.041	0.30	25.30	1973 R6213
		1 00			72.2	2.00	1.000	CT	1.041	0.30	25.30	1973 R6213

TABLE 8.9.2.1 (con't)
ALUMINUM 7075

CONDITION	--PRODUCT-- FORM	THICK (IN)	TEST TEMP (F)	SPECIMEN ORIENT	YIELD STRENGTH (KSI)	SPECIMEN			CRACK LENGTH (IN)	2.5* (K(1C)/TYS)**2 (IN)	K(1C) (KSI*SQRT IN)	K(1C) MEAN DEV (IN)	DATE	REFER
						W	B	M						
T7651	P	2.00	R.T.	T-L	61.2	3.017	0.802	CT	1.569	0.34	22.80		1978	MPC01
		2.00			61.3	2.971	0.801	CT	1.545	0.32	22.30		1978	MPC01
		2.60			62.0	1.500	0.500	CT	---	0.51	28.00		1974	90011
		2.00			62.0	4.000	1.992	CT	2.167	0.40	24.80		1973	86213
		2.00			62.0	4.017	1.992	CT	2.167	0.40	24.80		1978	MPC01
		2.60			62.0	1.500	0.500	CT	---	0.44	26.00		1974	90011
		2.00			62.6	2.990	0.798	CT	1.555	0.30	22.40		1978	MPC01
		2.00			62.6	3.026	0.800	CT	1.513	0.30	22.10		1978	MPC01
		2.00			62.8	2.992	0.800	CT	1.526	0.30	22.40		1978	MPC01
		1.75			63.8	4.000	1.753	NB	2.120	0.34	23.40		1973	86213
		1.50			64.0	3.022	1.403	CT	1.632	0.34	23.90		1978	MPC01
		2.00			64.0	2.000	0.754	CT	1.013	0.32	22.80		1972	84306
		2.00			64.0	2.000	0.754	CT	1.023	0.35	24.00		1972	84306
		2.00			64.1	4.035	1.961	CT	2.219	0.38	25.50		1978	MPC01
		2.00			64.1	4.035	1.959	CT	2.219	0.38	25.60		1978	MPC01
		2.00			64.1	4.000	1.959	CT	2.219	0.38	25.00		1973	86213
		2.00			64.1	4.000	1.961	CT	2.219	0.40	25.50		1973	86213
		2.30			65.0	2.500	1.250	CT	---	0.31	23.00		1974	90011
		2.30			65.0	2.500	1.250	CT	---	0.31	23.00		1974	90011
		0.75			65.6	2.992	0.763	CT	1.496	0.25	21.30		1978	MPC01
		2.00			66.0	2.000	0.811	CT	1.054	0.27	21.50		1972	84306
		2.50			66.0	2.500	1.255	CT	1.293	0.34	24.30		1973	85836
		2.00			66.0	3.000	0.803	CT	1.558	0.28	22.00		1972	84306
		2.00			66.0	3.000	0.806	CT	1.549	0.29	22.20		1972	84306
		2.00			66.0	2.000	0.809	CT	1.074	0.27	21.70		1972	84306
		2.50			66.0	2.500	1.255	CT	1.276	0.31	23.30		1973	85836
		2.00			66.0	2.000	0.810	CT	1.047	0.23	19.90		1972	84306
		0.56			67.0	1.490	0.506	CT	0.831	0.42	27.60		1972	84306
		0.56			67.0	1.490	0.507	CT	0.836	0.37	25.70		1972	84306
		2.00			67.2	1.004	0.499	CT	0.502	0.28	23.50		1978	MPC01
		2.00			67.2	1.008	0.500	CT	0.494	0.32	24.60		1978	MPC01
		2.00			67.4	0.998	0.500	CT	0.479	0.21	20.10		1978	MPC01
		2.00			67.4	1.002	0.500	CT	0.481	0.24	21.30		1978	MPC01
		2.00			67.4	1.496	0.750	CT	0.733	0.22	20.80		1978	MPC01
		2.00			67.4	3.007	1.500	CT	1.654	0.25	22.20		1978	MPC01
		2.00			67.4	1.515	0.749	CT	0.727	0.22	20.30		1978	MPC01
		2.00			67.4	1.013	0.500	CT	0.476	0.21	20.00		1978	MPC01
		2.00			67.4	1.002	0.500	CT	0.481	0.21	20.20		1978	MPC01
		2.00			67.4	1.494	0.749	CT	0.717	0.24	21.10		1978	MPC01

8.9-48

TABLE 8.9.2.1 (con't)

CONDITION	ALUMINUM			7075			K(1C)			DATE	REFER		
	--PRODUCT-- FORM	THICK (IN)	YIELD STRENGTH (KSI)	-----SPECIMEN-----			CRACK LENGTH (IN)	2.5* (K(1C)/TYS)**2 (IN)	K(1C) MEAN (KSI*SQRT IN)				
				TEST TEMP (F)	SPECIMEN ORIENT	WIDTH (IN)						THICK (IN)	DESIGN
T7651	P	1.75	R.T	S-L	0.992	0.500	CT	0.496	0.18	17.00	1978	MPC01	
		1.75			1.010	0.500	CT	0.485	0.19	17.60	1978	MPC01	
		2.00			1.010	0.500	CT	0.485	0.15	16.20	1978	MPC01	
		2.00			1.004	0.500	CT	0.492	0.15	16.30	1978	MPC01	
		2.00			1.006	0.498	CT	0.493	0.14	15.40	1978	MPC01	
		2.00			1.498	0.749	CT	0.764	0.21	18.80	1978	MPC01	
		2.00			1.506	0.749	CT	0.768	0.19	18.10	1978	MPC01	
		2.00			1.492	0.749	CT	0.776	0.19	18.20	1978	MPC01	
		2.00			1.000	0.378	CT	0.447	0.14	15.20	1972	84306	
		2.00			1.000	0.378	CT	0.450	0.17	17.10	1972	84306	
		2.30			1.490	0.750	CT	0.758	0.19	19.40	1973	86210	
		2.30			1.500	0.751	CT	0.768	0.20	19.90	1973	86210	
T7651	P	2.50	1.490	0.749	CT	0.774	0.20	19.80	1973	86210			
		2.50	1.500	0.751	CT	0.766	0.20	19.60	17.8/	1.5	1973	86210	
		2.00	82	S-L	1.500	0.750	CT	0.737	0.25	19.10	1973	86213	
		2.00	1.500		0.750	CT	0.742	0.28	19.70	1973	86213		
		2.00	1.500		0.751	CT	0.789	0.28	20.00	1973	86213		
		2.00	1.500		0.751	CT	0.794	0.30	20.60	1973	86213		
		2.00	1.500		0.751	CT	0.738	0.25	18.90	1973	86213		
		2.00	1.500		0.751	CT	0.744	0.25	18.90	1973	86213		
		2.00	1.500		0.751	CT	0.732	0.26	19.20	1973	86213		
		2.00	1.500		0.751	CT	0.730	0.24	18.80	1973	86213		
		2.00	1.500		0.751	CT	0.743	0.26	19.90	1973	86213		
		2.00	1.500		0.751	CT	0.731	0.25	19.30	19.4/	0.6	1973	86213
T7651 (SP)	P	2.00	82		L-T	4.990	2.019	CT	2.757	1.09	43.60	1973	86213
		2.00	4.990			1.498	CT	2.599	1.05	42.70	1973	86213	
		2.00	4.000	2.019		CT	2.120	0.97	41.20	1973	86213		
		2.00	4.000	2.021		CT	2.122	0.93	40.20	1973	86213		
		2.00	5.000	1.496		CT	2.610	1.09	43.60	1973	86213		
		2.00	2.000	0.999		CT	1.024	0.96	41.00	42.1/	1.4	1973	86213
T7651 (SP)	P	2.00	84	L-T	3.000	0.998	CT	1.503	0.79	37.20	1973	86213	
		2.00	3.000		1.500	CT	1.578	1.05	42.80	1973	86213		
		2.00	3.000		1.000	CT	1.503	0.71	35.20	1973	86213		
		2.00	3.000		1.500	CT	1.568	0.96	40.80	39.0/	3.4	1973	86213

TABLE 8.9.2.1 (con't)

CONDITION	ALUMINUM										7075		K(1C)		K(1C) STAN DEV	DATE	REFER
	--PRODUCT-- FORM	THICK (IN)	TEST TEMP (F)	SPECIMEN ORIENT	YIELD STRENGTH (KSI)	-----SPECIMEN-----			CRACK LENGTH (IN)	2.5* (IN)	K(1C)/TYS**2 (IN)	K(1C) MEAN (KSI*SQRT IN)					
						WIDTH (IN)	THICK (IN)	DESIGN									
T76511	E	7.04	R.T.	L-T	70.0	2.490	1.169	CT	1.298	0.54		32.50		1973	86210		
		7.04			70.0	2.490	1.234	CT	1.298	0.65		34.80		1973	86210		
		1.44			73.0	3.000	1.401	CT	1.556	0.48		32.10		1973	86213		
		1.44			73.0	3.000	1.400	CT	1.574	0.49		32.40		1973	86213		
		7.04			73.5	4.000	1.502	CT	----	0.79		41.30		1973	91123		
T76511		2.50			73.5	----	1.700	CT	1.950	0.79		41.30	35.7/	4.4	1973	86212	
	E	1.25	83	L-T	66.5	3.000	1.215	NB	1.477	0.64		33.70		1973	86213		
		1.25			66.5	3.000	1.212	NB	1.528	0.59		32.30		1973	86213		
		1.25			67.8	3.000	1.250	NB	1.502	0.65		34.70		1973	86213		
		1.25			67.8	3.000	1.217	NB	1.495	0.87		39.90	35.2/	3.3	1973	86213	
T76511	E	2.00	86	L-T	69.4	4.000	1.961	CT	2.079	0.50		31.10		1973	86213		
T76511	E	7.04	R.T.	T-L	70.0	2.500	1.254	CT	1.300	0.23		21.10		1973	86210		
		7.04			70.0	2.500	1.253	CT	1.299	0.23		21.20		1973	86210		
		1.44			70.7	3.000	1.401	CT	1.565	0.34		26.20		1973	86213		
		1.44			70.7	3.000	1.400	CT	1.516	0.33		25.70	23.6/	2.8	1973	86213	
T76511	E	1.25	83	T-L	64.4	3.000	1.166	NB	1.450	0.50		28.90		1973	86213		
		1.25			64.4	3.000	1.170	NB	1.437	0.54		29.80		1973	86213		
		1.25			66.0	3.000	1.170	NB	1.467	0.72		35.50		1973	86213		
		1.25			66.0	3.000	1.170	NB	1.485	0.76		36.40	32.7/	3.8	1973	86213	
T76511	E	1.44	84	S-L	65.7	2.000	0.822	CT	0.994	0.27		21.70		1973	86213		
		1.44			65.7	2.000	0.821	CT	0.991	0.26		21.30	21.5/	0.3	1973	86213	

TABLE 8.9.2.2

CONDITION	--PRODUCT--		TEST SPEC OR THICK TEMP (IN) (F)	YIELD STR (KSI)	ALUMINUM				7075				K(C)									
	FORM	THICK (IN)			---SPECIMEN---		CRACK LENGTH CROSS STRESS				K(C)											
					W	B	INIT (IN)	FINAL (IN)	ONSET (KSI)	MAX (KSI)	K(APP) (KSI*SQRT IN)	STAN DEV (KSI*SQRT IN)	K(C)	STAN DEV (KSI*SQRT IN)	K(C)	STAN DEV (KSI*SQRT IN)	DATE	REFER				
																			2A(O)	2A(F)	S(O)	S(MAX)
T6	S	0.09	R. T.	L-T	75.9	12.000	0.090	1.040	1.460	---	46.60	59.84	71.22	1969	75599							
					75.9	12.000	0.090	2.340	2.860	---	33.70	66.17	74.04	1969	75599							
					75.9	12.000	0.090	1.060	1.560	---	44.80	58.09	70.87	1969	75599							
					75.9	12.000	0.090	1.560	1.880	---	41.20	65.17	71.89	1969	75599							
					75.9	12.000	0.090	4.500	5.460	11.40	22.50	65.60	75.82	1969	75599							
					75.9	12.000	0.090	1.080	1.420	---	46.10	60.35	69.45	1969	75599							
					75.9	12.000	0.090	1.820	1.920	---	40.00	68.61	70.58	1969	75599							
					75.9	12.000	0.090	1.400	1.860	---	43.60	65.20	75.65	1969	75599							
					75.9	12.000	0.090	3.880	4.720	15.30	25.20	66.55	76.00	1969	75599							
					75.9	12.000	0.090	2.800	3.460	---	29.90	64.90	73.51	1969	75599							
					75.9	12.000	0.090	1.100	1.440	---	44.00	58.14	66.77	1969	75599							
					75.9	12.000	0.090	1.960	2.380	---	35.90	64.05	71.15	1969	75599							
					75.9	12.000	0.090	2.020	2.180	---	38.60	69.98	72.92	1969	75599							
					75.9	12.000	0.090	2.440	3.060	---	33.20	66.71	75.85	1969	75599							
					75.9	12.000	0.090	3.520	4.200	17.00	28.00	69.57	77.89	1969	75599							
					75.9	12.000	0.090	3.180	3.600	---	28.20	65.90	71.04	1969	75599							
					75.9	12.000	0.090	3.060	3.580	---	28.20	64.43	70.80	1969	75599							
					T6	S	0.09	R. T.	L-T	75.9	12.000	0.090	2.040	2.320	---	35.60	64.89	69.57	1969	75599		
75.9	12.000	0.090	2.620	3.500						---	29.60	61.88	73.29	1969	75599							
75.9	12.000	0.090	2.100	2.300						---	34.90	64.61	67.88	1969	75599							
75.9	12.000	0.090	4.940	5.620						13.00	21.10	65.79	72.81	1969	75599							
75.9	12.000	0.090	3.440	3.700						21.70	27.70	67.86	70.99	1969	75599							
75.9	12.000	0.090	3.800	4.380						14.50	23.20	60.46	66.39	1969	75599							
75.9	12.000	0.090	3.560	4.260						13.70	25.10	62.80	70.49	1969	75599							
75.9	12.000	0.090	2.140	2.400						27.80	36.10	67.52	71.87	1969	75599							
75.9	12.000	0.090	2.240	2.740						27.80	33.30	63.84	64.6/ 3.2	71.39	71.9/ 2.8	1969	75599					
75.9	12.000	0.100	1.980	2.530						---	35.80	64.22	73.39	1969	75599							
T6	S	0.10	R. T.	L-T						75.9	1.500	0.100	0.500	0.570	---	44.90	42.76*	46.72*	1962	62306		
										75.9	3.500	0.100	0.500	0.760	---	53.70	48.20*	60.44*	1962	62306		
T6	S	0.10	R. T.	L-T						75.9	3.500	0.100	0.500	0.760	---	53.70	48.20*	60.44*	1962	62306		
										75.9	3.500	0.100	0.770	1.140	---	46.40	52.61	66.49*	1962	62306		
T6	S	0.10	R. T.	L-T						75.9	6.000	0.100	2.000	2.450	---	33.50	63.81	73.42	1962	62306		
										75.9	6.000	0.100	2.000	2.450	---	33.50	63.81	73.42	1962	62306		

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV.

TABLE 8.9.2.2 (con't)

CONDITION	ALUMINUM		7075		K(C)		CRACK LENGTH CROSS STRESS				K(N/P) STAN		K(C) STAN	
	--PRODUCT--		--SPECIMEN--		W		THICK		INIT		K(APP)		K(C)	
	FORM		THICK		B		(IN)		(IN)		(KSI)		(KSI*SQRT IN)	
	THICK	TEMP	OR	YIELD	W	THICK	(IN)	(IN)	2A(D)	2A(F)	S(D)	S(MAX)	MEAN	DEV
	(IN)	(F)		(KSI)										DATE
														REFER
BUCKLING OF CRACK EDGES RESTRAINED														
T6	S	0 10	R T	L-T	75.9	24.000	0.100	1.990	2.360	---	37.00	65.70	71.67	1962 62306
		0 10			75.9	24.000	0.100	18.000	18.340	---	8.00	68.76	71.36	1962 62306
T6	S	0 10	R T	L-T	75.9	36.000	0.100	18.000	19.100	---	11.50	72.72	76.82	1962 62306
		0 10			75.9	36.000	0.100	1.080	1.980	---	45.80	59.69	72.24	1962 62306
		0 10			75.9	36.000	0.100	9.930	11.180	---	17.50	72.55	78.03	1962 62306
		0 10			75.9	36.000	0.100	0.500	0.770	---	57.00	50.52	62.71	1962 62306
		0 10			75.9	36.000	0.100	4.000	4.630	---	27.30	68.96	74.38	1962 62306
T6	S	0 10	R T	L-T	75.9	48.000	0.100	1.960	2.350	---	35.40	62.18	68.11	1962 62306
T6	P	0 25	R T	L-T	76.2	15.030	0.246	7.500	8.500	---	16.60	67.70	76.38	1965 62310
		0 25			76.2	15.060	0.246	7.500	8.500	---	16.70	68.06	76.75	1965 62310
T6	S	0 06	R T	T-L	75.5	3.030	0.063	0.830	---	---	44.51	53.31*	---	1966 86734
T6	S	0 06	R T	T-L	75.5	4.500	0.063	1.230	---	---	38.20	55.68	---	1966 86734
		0 06			75.5	4.500	0.063	1.130	---	---	38.20	52.97	54.3/ 1.9	1966 86734
T6	S	0 06	R T	T-L	75.5	6.000	0.064	1.700	---	---	33.00	56.76	---	1966 86734
T6	S	0 06	R T	T-L	75.5	7.000	0.061	3.120	---	---	23.40	59.24	---	1966 86734
T6	S	0 06	R T	T-L	75.5	8.000	0.061	3.440	---	---	23.90	62.89	---	1966 86734
T6	S	0 06	R T	T-L	75.5	10.000	0.061	3.260	---	---	28.10	68.11	---	1966 86734
		0 06			75.5	10.000	0.064	2.500	---	---	30.00	61.85	65.0/ 4.4	1966 86734
T6	S	0 06	R T	T-L	75.5	12.000	0.061	3.000	---	---	26.60	60.08	---	1966 86734
		0 06			75.5	12.000	0.064	3.500	---	---	25.15	62.27	61.2/ 1.5	1966 86734
T6	S	0 06	R T	T-L	75.5	15.000	0.063	4.000	---	---	24.30	63.73	---	1966 86734
T6	S	0 06	R T	T-L	75.5	16.000	0.061	3.400	---	---	28.00	66.57	---	1966 86734

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV

TABLE 8.9.2.2 (con't)

CONDITION	ALUMINUM		7075		K(C)		CRACK LENGTH CROSS STRESS										K(C) STAN		K(C) STAN	K(C) MEAN DEV (KSI*80RT IN)	K(C) STAN	K(C) MEAN DEV (KSI*80RT IN)	DATE REFER
	--PRODUCT-- FORM	THICK (IN)	TEST TEMP (F)	SPEC OR (KSI)	YIELD STR (KSI)	--SPECIMEN--		CRACK LENGTH		GROSS STRESS		K(APP) MEAN DEV (KSI*80RT IN)	K(APP) MEAN DEV (KSI*80RT IN)	K(C) STAN	K(C) MEAN DEV (KSI*80RT IN)								
						WIDTH (IN)	THICK (IN)	INIT (IN)	FINAL (IN)	ONSET (KSI)	MAX (KSI)												
						W	B	2A(O)	2A(F)	8(O)	8(MAX)												
BUCKLING OF CRACK EDGES RESTRAINED																							
T6	S	0.06	R. T.	T-L	75.5	18.000	0.064	5.500	---	---	---	---	21.05	65.69	---	---	---	---	---	1966 86734			
T6	S	0.06	R. T.	T-L	75.5	20.000	0.061	3.600	---	---	---	---	27.10	65.76	---	---	---	---	---	1966 86734			
T6	S	0.06	R. T.	T-L	75.5	21.000	0.064	6.250	---	---	---	---	20.30	67.32	---	---	---	---	---	1966 86734			
T6	S	0.06	R. T.	T-L	75.5	22.000	0.061	3.520	---	---	---	---	27.30	65.23	---	---	---	---	---	1966 86734			
T6	S	0.06	R. T.	T-L	75.5	24.000	0.064	8.000	8.640	---	---	---	15.90	60.57	63.75	---	---	---	---	1966 86734			
		0.06			75.5	24.000	0.064	6.002	---	---	---	---	20.00	---	---	---	---	---	---	1966 86734			
		0.06			75.5	24.000	0.061	8.000	8.680	---	---	---	20.10	76.57	80.84	---	---	---	---	1966 86734			
		0.06			75.5	24.000	0.061	8.000	8.660	---	---	---	16.80	64.00	67.46	---	---	---	---	1966 86734			
		0.06			75.5	24.000	0.064	8.000	8.700	---	---	---	17.60	67.04	70.90	---	---	---	---	1966 86734			
		0.06			75.5	24.000	0.063	8.000	9.200	---	---	---	19.70	75.04	82.49	---	---	---	---	1966 86734			
		0.06			75.5	24.000	0.064	6.000	---	---	---	---	17.55	---	---	---	---	---	---	1966 86734			
		0.06			75.5	24.000	0.061	8.000	8.900	---	---	---	21.90	83.42	86.84	---	---	---	---	1966 86734			
		0.06			75.5	24.000	0.062	8.000	8.360	---	---	---	18.40	70.09	72.15	---	---	---	---	1966 86734			
		0.06			75.5	24.000	0.064	8.000	8.900	---	---	---	18.90	72.00	77.33	---	---	---	---	1966 86734			
		0.06			75.5	24.000	0.064	8.000	8.620	---	---	---	17.30	65.90	69.25	---	---	---	---	1966 86734			
		0.06			75.5	24.000	0.064	8.000	8.940	---	---	---	15.80	60.19	62.85	---	---	---	---	1966 86734			
		0.06			75.5	24.000	0.064	6.000	---	---	---	---	20.00	---	---	---	69.5/ 7.4	73.4/ 8.2	---	1966 86734			
BUCKLING OF CRACK EDGES NOT RESTRAINED																							
T6	S	0.08	- 320	L-T	85.0	12.000	0.078	1.500	---	---	---	---	22.74	35.25	---	---	---	---	---	1966 86734			
		0.08			85.0	12.000	0.078	2.400	---	---	---	---	17.45	34.74	---	---	---	---	---	1966 86734			
		0.08			85.0	12.000	0.078	4.000	---	---	---	---	12.76	34.37	34.8/ 0.4	---	---	---	---	1966 86734			
T6	S	0.04	R. T.	L-T	69.0	6.000	0.039	0.500	---	---	---	---	55.10	49.04*	---	---	---	---	---	1966 86734			
		0.04			69.0	6.000	0.039	0.850	---	---	---	---	46.40	54.29	---	---	---	---	---	1966 86734			
		0.04			70.0	6.000	0.040	0.820	---	---	---	---	46.40	53.28	---	---	---	---	---	1966 86734			
		0.04			70.0	6.000	0.040	0.500	---	---	---	---	50.80	45.21	---	---	---	---	---	1966 86734			

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV.

TABLE 8.9.2.2 (con't)

CONDITION	ALUMINUM		7075		K(C)											
	--PRODUCT-- FORM	THICK (IN)	TEST SPEC TEMP OR (F)	YIELD STR (KSI)	SPECIMEN		CRACK LENGTH				GROSS STRESS		K(I)		K(I)	
					WIDTH (IN)	THICK (IN)	INIT (IN)	FINAL (IN)	ONSET (KSI)	MAX (KSI)	K(I)	MAX (KSI)	K(I)	MAX (KSI)	K(I)	MAX (KSI)
					W	B	2A(D)	2A(F)	S(D)	S(MAX)						
BUCKLING OF CRACK EDGES NOT RESTRAINED																
T6	S	0.04	R. T.	70.0	6.000	0.040	0.740	---	---	---	50.40	54.85*	---	---	---	1966 86734
		0.04		70.0	6.000	0.040	2.560	---	---	---	17.79	40.30	---	---	---	1966 86734
		0.04		70.0	6.000	0.040	0.920	---	---	---	44.20	53.92	49.4/	6.3	---	1966 86734
T6	S	0.06	R. T.	72.8	2.000	0.065	0.626	0.890	---	---	43.60	46.05*	---	---	58.92*	1973 86213
		0.06		72.8	2.000	0.065	0.626	0.890	---	---	44.50	47.00*	---	---	60.14*	1973 86213
		0.06		73.0	2.000	0.061	0.625	1.060	---	---	46.30	48.80*	---	---	72.83*	1973 86213
		0.06		73.0	2.000	0.061	0.625	1.080	---	---	46.30	48.80*	---	---	74.16*	1973 86213
		0.06		73.0	2.000	0.061	0.625	1.080	---	---	43.90	48.38*	---	---	73.52*	1973 86213
		0.06		73.0	2.000	0.064	0.625	0.800	---	---	44.20	46.59*	---	---	55.3*	1973 86213
		0.06		74.6	2.000	0.064	0.622	0.780	---	---	48.60	51.12*	---	---	59.47*	1973 86213
		0.06		74.6	2.000	0.064	0.622	0.830	---	---	50.00	52.59*	---	---	64.03*	1973 86213
		0.06		74.6	2.000	0.065	0.626	0.820	---	---	48.30	51.01*	---	---	61.30*	1973 86213
		0.06		74.6	2.000	0.064	0.623	0.840	---	---	47.30	49.75*	---	---	61.12*	1973 86213
		0.06		75.2	2.000	0.063	0.622	0.820	---	---	46.60	48.92*	---	---	59.14*	1973 86213
		0.06		75.2	2.000	0.063	0.622	0.750	---	---	46.70	49.12*	---	---	55.59*	1973 86213
		0.06		75.6	2.000	0.062	0.621	0.900	---	---	43.60	45.77*	---	---	59.43*	1973 86213
		0.06		75.6	2.000	0.062	0.618	0.880	---	---	43.20	45.26*	---	---	57.86*	1973 86213
		0.06		75.6	2.000	0.062	0.622	0.870	---	---	44.40	46.70*	---	---	58.94*	1973 86213
		0.06		76.1	2.000	0.064	0.624	0.850	---	---	43.90	46.27*	---	---	57.24*	1973 86213
		0.06		76.1	2.000	0.064	0.624	0.880	---	---	44.00	46.38*	---	---	58.93*	1973 86213
T6	S	0.06	R. T.	75.7	15.810	0.063	3.010	3.930	---	---	27.60	61.39	---	---	67.28	1973 86213
		0.06		75.7	15.810	0.063	5.980	6.190	---	---	14.80	56.56	---	---	57.96	1973 86213
		0.06		75.7	15.820	0.063	4.010	4.460	---	---	23.90	62.48	---	---	66.59	1973 86213
		0.06		75.7	15.820	0.063	6.000	7.160	---	---	16.80	56.69	---	---	64.72	1973 86213
		0.06		75.7	15.820	0.063	1.000	1.500	---	---	46.50	58.42	59.1/	2.7	71.78	65.7/ 5.0 1973 86213
T6	S	0.08	R. T.	76.1	29.940	0.078	15.000	---	---	---	13.10	75.68	---	---	---	1966 86734
		0.08		76.1	30.020	0.079	15.000	---	---	---	12.80	73.87	74.8/	1.3	---	1966 86734
T6	S	0.10	R. T.	74.0	35.000	0.102	1.270	---	---	---	46.20	65.31	---	---	---	1956 84367
		0.10		74.0	35.000	0.102	2.530	---	---	---	35.60	71.20	---	---	---	1956 84367
		0.10		74.0	35.000	0.102	6.000	---	---	---	22.30	69.73	---	---	---	1956 84367
		0.10		74.0	35.000	0.102	8.900	---	---	---	15.30	59.60	---	---	---	1956 84367

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV

TABLE 8.9.2.2 (con't)

CONDITION	ALUMINUM		7075		K(C)														
	--PRODUCT--		--SPECIMEN--		CRACK LENGTH		CROSS STRESS		K(APP)		K(C)		STAN		K(C)		STAN		
	FORM	THICK (IN)	TEST TEMP (F)	SPEC OR STR (KSI)	WIDTH (IN)	THICK (IN)	INIT (IN)	FINAL (IN)	ONSET (KSI)	MAX (KSI)	K(APP) (KSI)	K(APP) (KSI)	MEAN (KSI)	DEV (KSI)	STAN (KSI)	K(C) (KSI)	MEAN (KSI)	DEV (KSI)	
																			W
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T6	S	0.10	R. T.	L-T	74.0	0.102	17.900	---	---	9.80	62.36	---	---	---	---	---	---	---	1956 84367
		0.10			74.0	0.102	18.000	---	---	12.00	76.76	67.5/	6.3	---	---	---	---	1956 84367	
T6	S	0.12	R. T.	L-T	73.2	0.123	1.000	1.520	---	40.20	54.14*	---	---	---	---	---	---	1973 86213	
		0.12			73.2	0.123	1.060	1.560	---	37.80	52.91	---	---	---	---	---	---	1973 86213	
		0.12			73.2	0.123	1.060	1.550	---	37.00	51.79	---	---	---	---	---	---	1973 86213	
		0.12			76.6	0.123	1.000	1.490	---	40.60	54.68	---	---	---	---	---	---	1973 86213	
		0.12			76.6	0.123	1.000	1.360	---	40.70	54.81	---	---	---	---	---	---	1973 86213	
		0.12			76.6	0.123	1.000	1.490	---	40.50	54.54	---	---	---	---	---	---	1973 86213	
		0.12			76.6	0.123	1.000	1.530	---	41.00	55.22*	---	---	---	---	---	---	1973 86213	
		0.12			78.2	0.129	1.140	1.460	---	34.10	50.18	---	---	---	---	---	---	1973 86213	
		0.12			78.2	0.129	1.160	1.460	---	33.50	50.05	52.7/	2.1	59.89*	---	---	---	1973 86213	
T6	S	0.12	R. T.	L-T	75.8	0.125	1.607	2.590	---	34.30	60.62	---	---	---	---	---	---	1973 86213	
		0.12			76.3	0.125	1.578	2.487	---	35.30	61.60	61.1/	0.7	93.20*	---	---	---	1973 86213	
T6	S	0.16	R. T.	L-T	78.6	0.161	7.500	---	---	12.30	50.21	---	---	---	---	---	---	1966 86734	
		0.16			78.6	0.163	7.500	---	---	11.10	49.31	47.8/	3.5	---	---	---	---	1966 86734	
T6	P	0.50	R. T.	L-T	73.5	0.521	7.500	7.920	---	12.80	52.34	---	---	---	---	---	---	1965 62310	
T6	P	0.50	R. T.	L-T	73.5	0.518	7.500	9.920	---	13.20	53.85	---	---	---	---	---	---	1965 62310	
T6	F	0.16	R. T.	L-T	62.0	0.156	2.400	---	---	33.60	69.69	---	---	---	---	---	---	1966 86734	
		0.16			62.0	0.157	1.790	---	---	36.80	63.97	---	---	---	---	---	---	1966 86734	
		0.16			62.0	0.155	0.750	---	---	38.60	42.16	---	---	---	---	---	---	1966 86734	
		0.16			62.0	0.158	2.680	---	---	37.30	83.18*	58.6/	14.5	---	---	---	---	1966 86734	
T6	E	0.12	R. T.	L-T	80.1	0.125	4.840	5.140	---	20.10	58.77	---	---	---	---	---	---	1962 62309	
		0.12			80.1	0.126	4.800	4.980	---	19.70	57.30	---	---	---	---	---	---	1962 62309	
		0.12			80.1	0.126	4.840	5.100	---	20.20	59.06	58.4/	0.9	61.04	60.2/	1.4	1962 62309		
T6	E	0.25	R. T.	L-T	77.2	0.251	4.800	5.500	---	19.20	55.85	---	---	---	---	---	---	1962 62309	
		0.25			77.2	0.251	4.790	5.180	---	19.30	56.06	56.0/	0.1	58.90	59.9/	1.4	1962 62309		

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV.

TABLE 8.9.2.2 (con't)

CONDITION	ALUMINUM		7075		K(C)											
	--PRODUCT-- FORM	THICK (IN)	TEST SPEC OR (F)	YIELD STR (KSI)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K(APP)		K(C)		STAN	
					WIDTH (IN)	THICK (IN)	INIT (IN)	FINAL (IN)	ONSET (KSI)	MAX (KSI)	K(APP) (KSI)	MEAN (KSI)	K(C) (KSI)	MEAN (KSI)	DEV (KSI)	STAN (KSI)
					W	B	2A(D)	2A(F)	S(D)	S(MAX)						
BUCKLING OF CRACK EDGES NOT RESTRAINED																
T6	S	0.04	R.T.	68.0	6.000	0.039	0.500	0.650	---	49.00	43.61	---	49.87*	---	---	1966 86734
		0.04		68.0	6.000	0.039	1.180	---	---	36.70	51.19	---	---	---	---	1966 86734
		0.04		68.0	6.000	0.039	0.726	---	---	43.20	46.55	---	---	---	---	1966 86734
		0.04		68.0	6.000	0.039	0.500	0.990	---	59.50	49.40*	---	53.75*	---	---	1966 86734
		0.04		68.0	6.000	0.039	0.800	0.630	---	50.50	44.95*	---	50.58*	---	---	1966 86734
		0.04		68.0	6.000	0.039	0.500	0.620	---	54.30	48.33*	---	53.94*	---	---	1966 86734
		0.04		69.0	6.000	0.039	0.500	0.810	---	52.20	46.46*	---	59.35*	---	---	1966 86734
		0.04		69.0	6.000	0.040	2.520	---	---	17.64	39.48	---	---	---	---	1966 86734
		0.04		69.0	6.000	0.040	0.500	0.650	---	52.40	46.64*	45.2/ 4.9	53.33*	---	---	1966 86734
T6	S	0.06	R.T.	69.3	2.000	0.067	0.633	0.940	---	46.20	49.09*	---	65.28*	---	---	1973 86213
		0.06		69.3	2.000	0.067	0.623	1.000	---	43.50	45.76*	---	64.83*	---	---	1973 86213
		0.06		70.9	2.000	0.066	0.623	0.920	---	43.40	45.74*	---	60.24*	---	---	1973 86213
		0.06		70.9	2.000	0.067	0.623	1.010	---	43.40	45.63*	---	65.27*	---	---	1973 86213
		0.06		71.0	2.000	0.067	0.623	0.950	---	44.90	47.23*	---	64.01*	---	---	1973 86213
		0.06		71.0	2.000	0.067	0.624	0.900	---	45.30	47.75*	---	61.77*	---	---	1973 86213
		0.06		71.4	2.000	0.069	0.625	0.870	---	42.30	44.58*	---	56.15*	---	---	1973 86213
		0.06		71.4	2.000	0.069	0.628	0.910	---	41.90	44.34*	---	57.64*	---	---	1973 86213
		0.06		71.8	2.000	0.061	0.625	1.000	---	43.00	45.32*	---	64.09*	---	---	1973 86213
		0.06		71.8	2.000	0.061	0.625	1.040	---	42.80	45.11*	---	66.12*	---	---	1973 86213
		0.06		71.8	2.000	0.061	0.625	1.000	---	44.30	46.69*	---	66.03*	---	---	1973 86213
		0.06		72.2	2.000	0.067	0.632	0.970	---	43.60	46.33*	---	63.27*	---	---	1973 86213
		0.06		72.2	2.000	0.067	0.623	1.210	---	46.00	48.39*	---	83.17*	---	---	1973 86213
		0.06		72.7	2.000	0.065	0.622	0.730	---	50.40	53.01*	---	58.88*	---	---	1973 86213
		0.06		72.7	2.000	0.066	0.621	0.730	---	50.80	53.33*	---	60.47*	---	---	1973 86213
		0.06		73.1	2.000	0.063	0.625	0.880	---	41.10	43.32*	---	55.05*	---	---	1973 86213
		0.06		73.1	2.000	0.063	0.627	0.840	---	40.20	42.46*	---	51.95*	---	---	1973 86213
		0.06		73.1	2.000	0.063	0.622	0.880	---	40.80	42.92*	---	54.63*	---	---	1973 86213
		0.06		73.2	2.000	0.064	0.628	0.850	---	48.40	51.22*	---	63.11*	---	---	1973 86213
		0.06		73.2	2.000	0.064	0.628	0.870	---	47.80	50.59*	---	63.45*	---	---	1973 86213
		0.06		73.5	2.000	0.065	0.625	0.920	---	41.90	44.16*	---	58.16*	---	---	1973 86213
		0.06		73.5	2.000	0.067	0.623	1.080	---	43.20	45.44*	---	69.19*	---	---	1973 86213
		0.06		73.5	2.000	0.065	0.625	0.840	---	41.50	43.74*	---	53.63*	---	---	1973 86213
		0.06		73.5	2.000	0.065	0.625	0.810	---	41.10	43.32*	---	51.69*	---	---	1973 86213
		0.06		73.5	2.000	0.067	0.624	1.090	---	45.20	47.64*	---	73.06*	---	---	1973 86213

*NOTE- NET SECTION STRESS EXCEEDS BOX OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV.

TABLE 8.9.2.2 (con't)

CONDITION	--PRODUCT--		TEST SPEC OR THICK TEMP (IN) (F)	YIELD STR (KSI)	ALUMINUM		7075		K(C)							
	FORM	THICK (IN)			--SPECIMEN--		CRACK LENGTH		GROSS STRESS							
					WIDTH (IN)	THICK (IN)	INIT (IN)	FINAL (IN)	ONSET (KSI)	MAX (KSI)	K (APP) STAN K (APP) MEAN DEV (KSI*SQRT IN)	K (C) STAN K (C) MEAN DEV (KSI*SQRT IN)				
					W	B	2A(O)	2A(F)	S(O)	S(MAX)						
T6	S	0.06	R. T.	T-L	73.7	2.000	0.066	0.629	0.910	---	43.80	46.35*	60.26*	1973	86213	
					73.7	2.000	0.066	0.627	0.930	---	43.20	45.63*	60.50*	1973	86213	
					74.2	2.000	0.065	0.623	1.090	---	45.10	47.44*	72.89*	1973	86213	
					74.2	2.000	0.066	0.624	1.000	---	45.10	47.54*	67.22*	1973	86213	
					74.2	2.000	0.065	0.621	1.060	---	47.00	49.34*	73.93*	1973	86213	
					74.2	2.000	0.066	0.624	1.040	---	47.00	49.34*	72.61*	1973	86213	
					74.4	2.000	0.065	0.628	0.920	---	47.30	50.06*	65.65*	1973	86213	
					74.4	2.000	0.065	0.628	0.920	---	44.40	46.99*	61.63*	1973	86213	
T6	S	0.06	R. T.	T-L	71.8	3.000	0.061	1.050	---	---	35.50	49.37	---	1973	86213	
					71.8	3.000	0.061	1.080	---	---	34.80	49.33	---	1973	86213	
					71.8	3.000	0.061	1.050	---	---	36.50	50.76	---	1973	86213	
					71.8	3.000	0.061	1.040	---	---	35.70	49.97	---	1973	86213	
					71.8	3.000	0.061	1.120	---	---	34.30	49.85	---	1973	86213	
					73.5	3.030	0.063	0.750	0.770	---	45.50	51.34	50.1/ 0.8	1966	86734	
					70.5	3.990	0.062	1.720	2.050	---	29.30	54.55	63.22*	1973	86213	
					70.5	4.000	0.062	1.720	2.080	---	29.00	53.96	54.3/ 0.4	1973	86213	
T6	S	0.06	R. T.	T-L	75.5	4.500	0.063	1.130	1.130	---	40.00	55.46	55.46	1966	86734	
					75.5	4.500	0.063	1.130	1.330	---	40.00	55.46	55.5/ 0.0	1966	86734	
T6	S	0.06	R. T.	T-L	75.5	6.000	0.063	1.500	1.770	---	35.20	56.21	62.06	1966	86734	
T6	S	0.06	R. T.	T-L	75.5	10.000	0.064	2.250	2.500	---	30.10	58.42	62.06	1966	86734	
T6	S	0.06	R. T.	T-L	75.5	12.000	0.063	3.000	3.500	---	24.10	54.43	59.67	1966	86734	
T6	S	0.06	R. T.	T-L	75.5	15.000	0.063	3.750	4.250	---	21.80	55.05	59.29	1966	86734	
T6	S	0.06	R. T.	T-L	72.9	15.810	0.063	3.010	3.500	---	25.40	56.50	61.42	1973	86213	
					72.9	15.810	0.063	5.980	6.960	---	15.80	53.20	59.52	1973	86213	
					72.9	15.810	0.063	3.010	4.000	---	25.70	57.17	67.09	1973	86213	
					72.9	15.820	0.063	1.000	1.400	---	42.90	53.90	63.93	1973	86213	
					72.9	15.820	0.063	4.000	4.720	---	20.40	53.25	54.8/ 1.9	1973	86213	

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV.

TABLE 8.9.2.2 (con't)

CONDITION	ALUMINUM				7075				K(C)				CRACK LENGTH CROSS STRESS										K(C) BTAN																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	--PRODUCT-- FORM	THICK (IN)	TEST SPEC OR TEMP (F)	YIELD STR (KSI)	---SPECIMEN---				CRACK LENGTH CROSS STRESS				K(C) BTAN				K(C) (KSI*SQRT IN)	K(C) BTAN MEAN DEV (KSI*SQRT IN)	DATE REFER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
					W	THICK (IN)	B	INIT (IN)	FINAL (IN)	ONSET (KSI)	MAX (KSI)	K(APP) (KSI*SQRT IN)	MEAN DEV (KSI*SQRT IN)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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T6	S	0 06	R T	T-L	75.5	18.000	0.064	4.500	5.000	---	19.60	54.21	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---</

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV.

TABLE 8.9.2.2 (con't)

CONDITION	ALUMINUM		7075		K(C)																											
	--PRODUCT-- FORM	THICK (IN)	TEST SPEC OR	YIELD STR (KSI)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K(APP)		STAN		K(C)																	
					W (IN)	B (IN)	THICK (IN)	INIT (IN)	FINAL (IN)	ONSET (KSI)	MAX (KSI)	K(APP) (KSI+SORT IN)	MEAN (KSI+SORT IN)	DEV (KSI+SORT IN)	K(C)	BTAN (KSI+SORT IN)																
																	BUCKLING OF CRACK EDGES NOT RESTRAINED															
T6	S	0.12	R. T.	T-L	74.1	0.122	1.720	1.960	---	27.90	51.91	49.4/	3.6	57.77	54.3/	4.9	1973 86213															
		0.12			74.1	0.122	1.710	1.890	---	25.30	46.86			50.78			1973 86213															
T6	S	0.16	R. T.	T-L	76.5	0.164	7.500	8.080	---	8.90	36.33	35.5/	1.2	38.94	37.8/	1.6	1966 86734															
		0.16			76.5	0.164	7.500	7.950	---	8.50	34.69			36.61			1966 86734															
T6	P	0.25	R. T.	T-L	76.0	0.247	7.500	8.600	---	11.70	47.76	50.4/	3.7	54.36	57.2/	3.8	1966 86734															
		0.25			76.0	0.246	7.500	8.500	---	13.00	53.06			59.88			1966 86734															
T6	P	0.50	R. T.	T-L	73.3	0.514	7.500	9.450	---	9.40	38.37	38.6/	0.3	48.88	49.3/	0.6	1966 86734															
		0.50			73.3	0.514	7.500	9.500	---	9.50	38.78			49.73			1966 86734															
BUCKLING OF CRACK EDGES RESTRAINED																																
T651	S	0.05	R. T.	L-T	78.3	0.048	1.610	1.950	---	32.20	52.53			58.52			1971 84340															
		0.05			78.3	0.053	1.610	1.850	---	33.40	54.48			58.87			1971 84340															
		0.05			78.3	0.052	1.620	1.790	---	34.00	55.65			58.84			1971 84340															
		0.05			78.3	0.053	1.620	1.880	---	36.30	59.42			64.59			1971 84340															
		0.05			78.3	0.053	1.610	2.110	---	37.50	61.17			71.36			1971 84340															
		0.05			78.3	0.052	1.600	1.920	---	37.90	61.61	57.5/	3.8	68.26	63.4/	5.5	1971 84340															
T651	S	0.10	R. T.	L-T	78.3	0.101	2.440	---	---	28.60	59.44			---			1971 84340															
		0.10			78.3	0.101	0.800	---	---	45.40	51.21			---			1971 84340															
		0.10			78.3	0.103	0.810	---	---	46.50	52.79			---			1971 84340															
		0.10			78.3	0.102	2.420	---	---	29.10	60.17			---			1971 84340															
		0.10			78.3	0.104	1.610	---	---	33.50	54.65			---			1971 84340															
		0.10			78.3	0.103	1.610	---	---	33.10	53.99	55.4/	3.6	---	---	---	1971 84340															
T651	S	0.12	R. T.	L-T	75.4	0.125	1.160	1.680	22.80	35.90	53.48			73.05*			1965 62310															
		0.12			75.4	0.125	1.170	1.440	20.80	35.20	52.76			62.01*			1965 62310															
		0.12			79.1	0.125	1.170	1.550	20.90	29.50	44.21			55.48			1965 62310															
		0.12			79.1	0.125	1.200	1.460	22.60	33.20	50.68			59.18*			1965 62310															

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV.

TABLE 8.9.2.2 (con't)

CONDITION	ALUMINUM		7075		K(C)		CRACK LENGTH CROSS STRESS										K(C) STAN			
	---PRODUCT---		TEST SPEC		YIELD		---SPECIMEN---		WIDTH		THICK		INIT		FINAL		ONSET		MAX	
	FORM	THICK	TEMP	DR	(KSI)	(F)	(IN)	(IN)	(IN)	(IN)	(KSI)	(KSI)	(IN)	(IN)	(KSI)	(KSI)	(KSI)	(KSI)	(KSI)	(KSI)
							W	B	2A(O)	2A(F)	S(O)	S(MAX)								

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV

TABLE 8.9.2.2 (con't)

CONDITION	ALUMINUM		7075		K(C)														
	--PRODUCT--		CRACK LENGTH		GROSS STRESS														
	FORM	THICK (IN)	TEST SPEC OR (F)	YIELD STR (ksi)	W	B	2A(D)	2A(F)	INIT (IN)	FINAL (IN)	ONSET (ksi)	MAY (ksi)	K(APP) (ksi)	K(APP) (ksi)	STAN DEV (IN)	K(C) MEAN (IN)	STAN DEV (IN)	REFER DATE	
T651	P	0.31	R. T.	L-T	81.2	7.950	0.316	2.310	---	---	---	28.80	57.90	---	---	---	---	1971 84340	
		0.31			81.2	7.970	0.314	0.740	---	---	---	47.10	51.05	---	---	---	---	1971 84340	
		0.31			81.2	8.000	0.313	1.550	---	---	---	34.90	55.75	---	---	---	---	1971 84340	
		0.31			81.2	8.010	0.316	2.360	---	---	---	29.20	59.43	---	---	---	---	1971 84340	
		0.31			81.2	8.010	0.315	0.770	---	---	---	45.60	50.44	---	---	---	---	1971 84340	
T651	P	0.50	R. T.	L-T	78.0	4.000	0.499	1.877	2.814	---	---	21.20	42.29	---	---	66.51*	---	1973 86213	
		0.50			79.2	4.000	0.500	1.637	2.786	---	---	24.90	44.61	---	---	76.89*	---	1973 86213	
	P	0.75	R. T.	L-T	77.5	8.000	0.763	1.580	3.360	---	---	23.30	37.62	---	---	60.22	---	1971 84340	
	T651	P	1.00	R. T.	L-T	76.6	20.000	1.000	7.000	11.100	8.80	17.10	61.41	---	---	---	89.01	---	1965 62310
			1.00			76.6	20.000	1.000	7.000	10.690	8.50	17.40	62.48	---	---	---	87.25	---	1965 62310
		1.00			76.6	20.000	1.000	7.000	10.770	8.60	16.60	59.61	---	---	---	83.85	---	1965 62310	
		1.00			76.6	20.000	1.000	7.000	10.590	8.70	18.00	64.64	---	---	---	89.45	---	1965 62310	
		1.00			78.5	20.000	1.000	7.000	10.300	8.90	13.80	49.56	---	---	---	66.81	---	1965 62310	
T651		1.00			78.5	20.000	1.000	7.000	10.650	8.90	14.20	50.99	---	---	---	70.95	---	1965 62310	
		1.00			78.5	20.000	1.000	7.000	10.600	8.80	13.40	48.12	---	---	---	66.65	---	1965 62310	
		1.00			78.5	20.000	1.000	7.000	10.890	8.80	13.90	49.92	---	---	---	70.72	---	1965 62310	
		1.00			80.3	20.000	1.000	7.000	10.660	8.90	13.40	48.12	---	---	---	67.01	---	1965 62310	
		1.00			80.3	20.000	1.000	7.000	11.320	9.10	13.40	48.12	---	---	---	71.18	---	1965 62310	
T651		1.00			80.3	20.000	1.000	7.000	10.830	8.60	13.80	49.56	---	---	---	70.09	---	1965 62310	
		1.00			80.3	20.000	1.000	7.000	11.170	8.80	13.70	49.20	---	---	---	71.78	75.4/ 9 1	1965 62310	
	T651	S	0.12	R. T.	T-L	73.4	3.000	0.124	1.120	1.300	20.20	35.30	51.30	---	---	---	57.22*	---	1973 86213
			0.12			73.4	3.000	0.122	1.000	1.180	20.50	36.40	49.02	---	---	---	54.89*	---	1973 86213
			0.12			73.4	3.000	0.125	1.140	1.320	20.50	30.10	44.29	---	---	---	49.38	---	1973 86213
		0.12			73.4	3.000	0.123	1.000	1.250	---	37.50	50.50	---	---	---	58.99*	---	1973 86213	
		0.12			76.0	3.000	0.127	1.000	1.300	20.20	29.60	39.86	---	---	---	47.98	---	1973 86213	
T651		0.12			76.0	3.000	0.127	1.100	1.380	17.60	28.70	41.19	---	---	---	48.79	---	1973 86213	
		0.12			76.0	3.000	0.127	1.000	1.350	21.70	30.30	40.81	---	---	---	50.60	---	1973 86213	
		0.12			76.0	3.000	0.127	1.090	1.300	18.40	30.60	43.65	---	---	---	49.60	---	1973 86213	
		0.12			77.7	3.000	0.124	1.160	1.440	14.20	27.00	40.22	---	---	---	47.56	---	1973 86213	
		0.12			77.7	3.000	0.125	1.000	1.290	---	30.00	40.40	---	---	---	48.34	---	1973 86213	

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV.

TABLE 8.9.2.2 (con't)

CONDITION	ALUMINUM		7075		K(C)											
	--PRODUCT-- FORM	THICK (IN)	TEST SPEC OR (F)	YIELD STR (KSI)	SPECIMEN			CRACK LENGTH			GROSS STRESS			K(APP) STAN		
					WIDTH (IN)	THICK (IN)	B	INIT (IN)	FINAL (IN)	ONSET (KSI)	MAX (KSI)	K(APP) (KSI)	STAN (KSI)	MEAN (KSI)	DEV (KSI)	REFER
					W			2A(D)	2A(F)	S(O)	S(MAX)					
BUCKLING OF CRACK EDGES NOT RESTRAINED																
T651	S	0.12	R. T.	T-L	77.7	3.000	0.124	1.000	1.160	---	33.00	44.44	49.16	48.7/	1.2	1973 86213
		0.12			77.7	3.000	0.123	1.180	1.320	18.40	28.40	42.83	44.0/	4.1		1973 86213
T651	P	0.25	R. T.	T-L	74.2	3.000	0.253	1.000	1.520	---	24.60	33.13	45.44			1973 86213
		0.25			74.2	3.000	0.253	1.330	1.680	---	21.30	35.15	43.34			1973 86213
		0.25			74.2	3.000	0.253	1.010	1.220	---	25.70	34.84	39.71			1973 86213
		0.25			74.2	3.000	0.253	1.260	1.710	---	20.60	32.60	42.70			1973 86213
		0.25			74.2	3.000	0.253	1.040	1.330	---	24.10	33.31	39.77			1973 86213
		0.25			74.2	3.000	0.254	1.000	1.440	---	25.00	33.67	44.04			1973 86213
		0.25			74.2	3.000	0.253	1.090	1.390	---	23.90	34.09	40.87			1973 86213
		0.25			74.2	3.000	0.254	1.000	1.390	---	25.50	34.34	47.96			1973 86213
		0.25			74.2	3.000	0.252	1.000	1.380	---	25.50	34.34	43.35			1973 86213
		0.25			74.2	3.000	0.254	1.000	1.490	---	26.20	35.29	47.54			1973 86213
		0.25			74.2	3.000	0.253	1.000	1.440	---	26.60	35.82	46.86			1973 86213
		0.25			74.2	3.000	0.253	1.000	1.430	---	24.70	33.37	43.25			1973 86213
		0.25			74.2	3.000	0.253	1.130	1.420	---	22.50	32.90	39.17			1973 86213
		0.25			74.2	3.000	0.253	1.000	1.330	---	25.10	33.80	41.42			1973 86213
		0.25			74.2	3.000	0.253	1.240	1.660	---	23.90	36.75	47.23			1973 86213
		0.25			74.2	3.000	0.254	1.000	1.610	---	25.50	34.34	49.72	43.9/	3.3	1973 86213
T651	P	0.25	R. T.	T-L	74.2	3.990	0.253	1.700	2.060	---	21.10	38.93	45.73			1973 86213
T651	P	0.25	R. T.	T-L	72.0	4.000	0.247	1.330	1.940	---	26.60	41.30	54.59			1973 86213
		0.25			72.0	4.000	0.247	1.460	2.180	---	25.60	42.30	58.52			1973 86213
		0.25			75.4	4.000	0.249	1.330	2.020	---	24.00	40.37	55.29			1973 86213
		0.25			75.4	4.000	0.249	1.440	2.050	---	25.70	42.06	55.40			1973 86213
		0.25			74.2	4.000	0.253	1.430	2.020	---	23.80	38.77	50.62			1973 86213
		0.25			74.2	4.000	0.253	1.330	1.850	---	24.20	37.57	47.71			1973 86213
		0.25			74.2	4.000	0.253	1.710	2.110	---	21.00	38.90	46.50			1973 86213
		0.25			74.2	4.000	0.253	1.420	1.820	---	24.20	39.24	47.08			1973 86213
		0.25			74.2	4.000	0.253	1.330	1.780	---	24.60	38.19	47.02			1973 86213
		0.25			74.2	4.000	0.253	1.390	1.720	---	24.10	38.52	44.84			1973 86213
		0.25			75.4	4.000	0.251	1.330	1.840	---	25.50	39.59	50.05	50.7/	4.6	1973 86213
T651	P	0.50	R. T.	T-L	73.0	4.000	0.500	1.720	2.000	---	17.10	31.82	36.04			1973 86213
		0.50			73.0	4.000	0.500	1.710	1.860	---	17.10	31.67	33.87	35.0/	1.9	1973 86213

TABLE 8.9.2.2 (con't)

CONDITION	ALUMINUM		7075		K(C)		CRACK LENGTH CROSS STRESS				K(APP) STAN		K(C) STAN	
	--PRODUCT--		--SPECIMEN--		W		THICK		INIT		MAX		K(C)	
	FORM		WIDTH		B		(IN)		(IN)		(KSI)		(KSI*SQRT IN)	
	THICK	TEST SPEC	OR	YIELD	THICK	THICK	(IN)	(IN)	(IN)	(IN)	(KSI)	(KSI)	MEAN	DEV
	(IN)	(F)		(KSI)	(IN)	(IN)	2A(D)	2A(F)	S(D)	S(MAX)			IN)	IN)
BUCKLING OF CRACK EDGES NOT RESTRAINED														
T651	P	0.50	R. T.	T-L	77.2	14.950	0.514	4.970	6.950	---	13.00	39.02	49.76	1973 86213
		0.50			77.2	14.980	0.514	5.000	6.550	---	12.60	37.95	45.96	1973 86213
T651	P	1.00	R. T.	T-L	73.6	20.000	1.000	7.000	9.150	---	8.80	31.60	38.45	1973 86213
		1.00			73.6	20.000	1.000	7.000	8.150	---	8.70	31.24	34.76	1973 86213
		1.00			73.6	20.000	1.000	7.000	9.000	---	9.40	33.76	40.53	1973 86213
		1.00			73.6	20.000	1.000	7.000	8.330	---	9.10	32.68	36.95	1973 86213
		1.00			76.0	20.000	1.000	7.000	9.070	---	8.70	31.24	37.75	1973 86213
		1.00			76.0	20.000	1.000	7.000	9.030	---	8.40	30.17	36.32	1973 86213
		1.00			76.0	20.000	1.000	7.000	8.670	---	8.10	29.09	33.91	1973 86213
		1.00			76.0	20.000	1.000	7.000	8.980	---	8.60	30.88	35.72	1973 86213
		1.00			77.4	20.000	1.000	7.000	7.650	---	8.00	28.73	30.53	1973 86213
		1.00			77.4	20.000	1.000	7.000	8.250	---	7.70	27.65	31.04	1973 86213
		1.00			77.4	20.000	1.000	7.000	9.250	---	8.10	29.09	35.71	1973 86213
		1.00			77.4	20.000	1.000	7.000	7.470	---	8.10	29.09	30.40	1973 86213

BUCKLING OF CRACK EDGES NOT RESTRAINED

T73	S	0.06	R. T.	L-T	57.8	2.000	0.066	0.628	1.070	---	39.90	42.22*	63.33*	1973 86213
		0.06			57.8	2.000	0.066	0.626	0.950	---	39.60	41.82*	56.45*	1973 86213
		0.06			60.0	2.000	0.062	0.625	1.240	---	42.00	44.27*	78.18*	1973 86213
		0.06			60.0	2.000	0.062	0.625	1.280	---	41.60	43.85*	80.58*	1973 86213
		0.06			60.0	2.000	0.062	0.625	1.400	---	41.60	43.85*	91.56*	1973 86213
		0.06			62.5	2.000	0.065	0.624	0.940	---	42.30	44.98*	59.77*	1973 86213
		0.06			62.5	2.000	0.065	0.622	0.920	---	42.00	44.18*	58.30*	1973 86213
		0.06			61.0	2.010	0.062	0.623	0.830	---	40.30	42.36*	51.55*	1973 86213
		0.06			61.0	2.010	0.061	0.625	0.800	---	40.60	42.76*	50.54*	1973 86213
T73	S	0.06	89	L-T	60.0	16.000	0.063	4.000	4.800	13.90	29.40	76.67	85.52	1973 86213
		0.06			60.0	16.000	0.063	4.000	4.380	14.20	29.20	76.15	80.34	1973 86213
T73	S	0.06	R. T.	T-L	58.3	2.000	0.065	0.627	0.970	---	39.60	41.82*	57.46*	1973 86213
		0.06			58.3	2.000	0.065	0.628	0.980	---	39.00	41.27*	57.10*	1973 86213

*NOTE- NET SECTION STRESS EXCEEDS BOX OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV

TABLE 9.2.2 (con't)

CONDITION	ALUMINUM										7075		K(C)											
	--PRODUCT--		TEST SPEC		YIELD		THICK		W		B		CRACK LENGTH		GROSS STRESS		K(APP)		STAN		K(C)		STAN	
	FORM	THICK (IN)	TEMP (F)	OR	STR (KSI)	WIDTH (IN)	THICK (IN)	INIT (IN)	FINAL (IN)	ONSET (KSI)	MAX (KSI)	K (KSI)	MEAN (KSI)	DEV (KSI)	K (KSI)	MEAN (KSI)	DEV (KSI)	K (KSI)	MEAN (KSI)	DEV (KSI)	K (KSI)	MEAN (KSI)	DEV (KSI)	
T73	S	0.06	0.06	R.T.	T-L	59.0	2.000	0.062	0.625	1.210	---	40.10	42.27*	72.50*	1973	86213								
		0.06	0.06			59.0	2.000	0.062	0.625	1.260	---	40.30	42.48*	76.52*	1973	86213								
		0.06	0.06			59.0	2.000	0.062	0.625	1.260	---	40.30	42.48*	76.52*	1973	86213								
		0.06	0.06			60.9	2.000	0.062	0.626	0.820	---	38.60	40.77*	48.99*	1973	86213								
		0.06	0.06			63.8	2.000	0.066	0.627	0.920	---	40.90	43.20*	56.77*	1973	86213								
		0.06	0.06			63.8	2.000	0.066	0.626	0.900	---	40.90	43.20*	55.77*	1973	86213								
T73	S	0.06	0.06	R.T.	T-L	60.9	2.010	0.062	0.627	0.860	---	39.20	41.37*	51.50*	1973	86213								
		0.06	0.06			60.9	2.010	0.061	0.625	0.900	---	37.70	39.71*	51.33*	1973	86213								
		0.06	0.06	R.T.	T-L	59.0	3.000	0.062	1.050	---	---	36.20	50.35*	---	1973	86213								
		0.06	0.06			59.0	3.000	0.062	1.070	---	---	35.30	49.72*	---	1973	86213								
		0.06	0.06			59.0	3.000	0.062	1.060	---	---	35.70	49.97*	---	1973	86213								
		0.06	0.06			59.0	3.000	0.062	1.060	---	---	35.80	50.11*	---	1973	86213								
T7351	S	0.05	0.05	R.T.	L-T	69.1	7.990	0.054	1.610	2.110	---	46.10	75.20*	87.73*	1971	84340								
		0.05	0.05			69.1	7.990	0.054	1.610	2.210	---	46.60	76.02*	91.16*	1971	84340								
		0.05	0.05			69.1	7.990	0.054	1.610	2.150	---	40.60	66.23	78.13*	1971	84340								
		0.05	0.05			69.1	7.990	0.055	1.640	2.060	---	42.90	70.70	80.49*	1971	84340								
		0.05	0.05			69.1	7.990	0.055	1.620	2.160	---	45.20	73.99*	87.22*	1971	84340								
		0.05	0.05			69.1	8.000	0.053	1.610	2.310	---	42.40	69.16	85.19*	1971	84340								
T7351	S	0.06	0.06	R.T.	L-T	58.2	8.000	0.061	2.350	3.550	20.50	33.80	68.63*	91.15*	1970	79089								
		0.06	0.06			58.2	8.000	0.060	3.170	4.200	16.50	27.70	68.58	86.36*	1970	79089								
		0.06	0.06			58.2	8.000	0.061	3.970	5.000	16.40	23.80	70.47*	89.49*	1970	79089								
		0.06	0.06			58.2	8.000	0.062	0.780	1.400	30.20	45.90	51.11*	69.38*	1970	79089								
		0.06	0.06			58.2	8.000	0.061	4.760	5.620	10.30	18.40	65.27	81.49*	1970	79089								
		0.06	0.06			58.2	8.000	0.060	6.400	6.600	6.00	9.10	51.90	56.24*	1970	79089								

TABLE 8.9.2.2 (con't)

[illegible]

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV.

TABLE 8.9.2.2 (con't)

CONDITION	ALUMINUM		7075		K(C)																			
	--PRODUCT-- FORM	THICK (IN)	TEST TEMP (F)	SPEC DR	YIELD (KSI)	W	THICK (IN)	B	2A(D)	2A(F)	S(O)	S(MAX)	CRACK INIT (IN)	LENGTH FINAL (IN)	CROSS ONSET (KSI)	STRESS MAX (KSI)	K(APP) (KSI*SQRT IN)	STAN DEV	K(C) (KSI*SQRT IN)	K(C) MEAN	STAN DEV	DATE	REFER	
BUCKLING OF CRACK EDGES RESTRAINED																								
T7351	P	0.25	R. T.	L-T	60.5	15.920	0.248	11.450	13.500	---	11.40	74.00	---	11.40	74.00	---	107.94*	---	107.94*	---	---	---	1970	79089
		0.25			60.5	15.950	0.252	3.160	---	---	35.80	81.75	---	35.80	81.75	---	---	---	---	---	---	1970	79089	
		0.25			60.5	16.020	0.252	6.470	8.600	---	24.80	88.09	---	24.80	88.09	---	81.3/	7.1	111.77*	---	---	---	1970	79089
T7351	P	0.25	R. T.	L-T	60.5	36.120	0.259	18.000	24.880	10.20	15.00	94.73	---	15.00	94.73	---	136.84	---	136.84	---	---	---	1970	79089
		0.25			60.5	36.120	0.253	28.830	33.100	4.50	7.80	94.01	---	7.80	94.01	---	155.42*	---	155.42*	---	---	---	1970	79089
		0.25			60.5	36.120	0.259	7.350	9.250	17.40	25.90	90.32	---	25.90	90.32	---	93.0/	2.4	102.92	119.9/24.0	---	---	1970	79089
T7351	P	0.31	R. T.	L-T	68.7	2.000	0.319	0.430	0.750	---	51.00	43.15*	---	51.00	43.15*	---	60.71*	---	60.71*	---	---	---	1971	84340
		0.31			68.7	2.000	0.315	0.390	0.670	---	52.80	42.32*	---	52.80	42.32*	---	58.25*	---	58.25*	---	---	---	1971	84340
T7351	P	0.31	R. T.	L-T	68.7	7.950	0.312	0.760	---	---	51.20	56.26*	---	51.20	56.26*	---	---	---	---	---	---	---	1971	84340
		0.31			68.7	7.950	0.316	0.770	---	---	50.70	56.08*	---	50.70	56.08*	---	---	---	---	---	---	---	1971	84340
		0.31			68.7	8.000	0.316	1.590	---	---	42.70	69.17	---	42.70	69.17	---	---	---	---	---	---	---	1971	84340
		0.31			68.7	8.000	0.314	1.560	---	---	41.60	66.69	---	41.60	66.69	---	---	---	---	---	---	---	1971	84340
		0.31			68.7	8.000	0.317	2.370	---	---	34.30	70.01	---	34.30	70.01	---	---	---	---	---	---	---	1971	84340
T7351	P	0.31	R. T.	L-T	68.7	8.000	0.313	2.370	---	---	33.90	69.19	---	33.90	69.19	---	68.8/	1.4	---	---	---	---	1971	84340
		0.31			68.7	22.000	0.313	4.430	5.450	---	31.40	84.96	---	31.40	84.96	---	95.51	---	95.51	---	---	---	1971	84340
T7351	P	0.31	R. T.	L-T	68.7	32.000	0.311	6.420	10.180	---	28.60	93.15	---	28.60	93.15	---	122.07	---	122.07	---	---	---	1971	84340
BUCKLING OF CRACK EDGES NOT RESTRAINED																								
T7351	S	0.20	R. T.	L-T	69.1	7.990	0.201	1.640	2.350	---	39.20	64.60	---	39.20	64.60	---	79.60*	---	79.60*	---	---	---	1971	84340
		0.20			69.1	8.000	0.200	1.630	2.400	---	44.20	72.59*	---	44.20	72.59*	---	90.92*	---	90.92*	---	---	---	1971	84340
		0.25			64.6	3.000	0.113	1.000	1.800	19.50	39.40	53.06*	---	39.40	53.06*	---	86.41*	---	86.41*	---	---	---	1973	86213
		0.25			57.5	3.000	0.125	1.080	2.000	17.80	33.90	48.05*	---	33.90	48.05*	---	84.97*	---	84.97*	---	---	---	1973	86213
		0.25			57.5	3.000	0.125	1.000	1.670	17.40	37.80	50.91*	---	37.80	50.91*	---	76.44*	---	76.44*	---	---	---	1973	86213

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV

TABLE 8.9.2.2 (con't)

CONDITION	--PRODUCT-- FORM	THICK (IN)	TEST SPEC TEMP OR (F)	YIELD STR (KSI)	ALUMINUM				7075				K(C)			
					SPECIMEN				CRACK LENGTH				GROSS STRESS			
					WIDTH (IN)	THICK (IN)	INIT (IN)	FINAL (IN)	ONSET (KSI)	MAX (KSI)	K (APP) (KSI*SQRT IN)	STAN DEV	K (C) (KSI*SQRT IN)	STAN DEV	K (C) (KSI*SQRT IN)	STAN DEV
					W	B	2A(D)	2A(F)	S(D)	S(MAX)						
BUCKLING OF CRACK EDGES NOT RESTRAINED																
17351	P	0.25	R. T.	L-T	60.6	3.000	0.125	1.000	1.620	16.60	38.60	51.99*	75.72*		1973	86213
		0.25			60.6	3.000	0.124	1.070	1.960	16.40	35.60	50.15*	86.79*		1973	86213
		0.25			60.6	3.000	0.125	1.140	1.800	18.30	35.10	51.65*	76.98*		1973	86213
		0.25			60.6	3.000	0.126	1.000	1.740	19.20	37.80	50.91*	79.82*		1973	86213
		0.25			64.6	3.000	0.127	1.090	1.810	16.50	38.50	54.92*	84.98*		1973	86213
		0.25			64.6	3.000	0.125	1.000	1.660	19.50	40.30	54.27*	81.00*		1973	86213
		0.25			64.6	3.000	0.125	1.090	1.770	19.50	37.30	53.20*	80.27*		1973	86213
17351	P	0.50	R. T.	L-T	62.1	7.960	0.501	2.430	3.250	18.60	30.20	62.64	76.23*		1970	79089
17351	P	0.50	R. T.	L-T	70.6	8.000	0.458	1.630	2.300	---	40.50	66.52	81.16*		1971	84340
		0.50			62.1	8.000	0.502	5.630	5.900	8.10	12.10	53.72	58.19		1970	79089
		0.50			62.1	8.000	0.501	6.900	6.950	5.10	6.20	44.09	45.28		1970	79089
		0.50			62.1	8.000	0.503	5.250	5.420	8.70	14.30	57.27	59.90		1970	79089
		0.50			62.1	8.010	0.502	4.470	4.600	11.70	19.00	62.94	64.86		1970	79089
		0.50			62.1	8.010	0.502	3.140	4.150	16.50	27.30	67.10	84.11*		1970	79089
		0.50			62.1	8.010	0.501	2.850	3.420	15.00	27.20	62.65	71.23		1970	79089
		0.50			62.1	8.010	0.504	1.630	---	20.30	35.50	58.30	---		1970	79089
		0.50			62.1	8.020	0.506	3.170	3.850	15.00	27.20	67.30	78.35*		1970	79089
		0.50			62.1	8.020	0.507	0.820	---	---	46.10	52.66*	---		1970	79089
		0.50			62.1	8.020	0.507	7.340	---	2.60	3.90	36.34	---		1970	79089
		0.50			62.1	8.090	0.508	3.980	4.500	15.60	23.40	69.15	77.65*		1970	79089
		0.50			62.1	8.100	0.507	4.070	5.080	16.10	21.20	63.87	80.55*		1970	79089
		0.50			62.1	8.100	0.508	3.150	5.000	16.80	27.20	66.85	101.36*		1970	79089
		0.50			62.1	8.110	0.506	1.650	2.200	21.30	39.20	64.77	76.37*		1970	79089
		0.50			62.1	8.110	0.508	3.610	4.200	13.40	23.40	63.69	72.52		1970	79089
		0.50			62.1	8.110	0.505	2.400	3.450	16.70	32.20	66.13	84.61*		1970	79089
		0.50			62.1	8.110	0.506	1.220	---	33.10	43.40	60.93*	---		1970	79089
		0.50			62.1	8.110	0.507	3.270	3.900	15.40	25.20	63.61	73.10		1970	79089
		0.50			62.1	8.110	0.506	4.840	5.500	9.80	17.70	63.44	74.76*		1970	79089
		0.50			62.1	8.120	0.508	6.450	6.500	5.80	8.00	45.19	46.04		1970	79089
		0.50			62.1	8.120	0.508	6.070	---	6.90	10.40	51.67	---		1970	79089
		0.50			62.1	8.130	0.507	4.750	4.950	10.80	16.90	59.22	62.07		1970	79089
		0.50			62.1	8.130	0.507	2.030	---	24.80	35.00	65.02	---		1970	79089
		0.50			62.1	8.140	0.508	1.610	2.450	26.00	38.90	63.40	80.88*	61.5/10.5	1970	79089

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV.

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV.

TABLE 8.9.2.2 (con't)

CONDITION	--PRODUCT-- FORM	THICK (IN)	TEST SPEC DR (F)	YIELD STR (KSI)	ALUMINUM					7075					K(C)				
					---SPECIMEN---					CRACK LENGTH					CROSS STRESS				
					W	B	THICK (IN)	INIT (IN)	FINAL (IN)	ONSET (KSI)	MAX (KSI)	K(APP) (KSI*SQRT IN)	STAN DEV	K(C)	K(C)*SQRT IN)	MEAN DEV	STAN DEV	DATE	REFER
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T7351	P	1.00	R. T.	L-T	61.1	16.030	1.008	1.800	-----	19.20	25.90	43.89		----				1970 79089	
		1.00			61.1	16.030	1.007	4.730	5.200	12.70	17.30	49.86		52.92			1970 79089		
		1.00			61.1	16.030	1.017	6.430	6.600	10.70	15.30	54.09	49.5/	4.2	55.15	56.0/	3.5	1970 79089	
		1.00			61.1	16.030	0.999	8.040	8.090	9.90	14.00	59.21		59.54			1970 79089		
T7351	P	1.00			61.1	16.030	1.004	11.070	11.070	6.80	7.10	43.26		43.26			1970 79089		
		1.00			61.1	16.030	1.014	12.730	13.150	4.20	5.30	42.10		45.52			1970 79089		
		1.00			61.1	16.030	1.016	14.420	-----	2.10	2.50	29.85		----			1970 79089		
		1.00			61.1	16.030	1.012	9.600	9.600	9.10	10.50	52.99	45.5/11.2	52.99	50.3/	7.4	1970 79089		
		1.00			57.5	20.000	1.000	7.000	10.000	11.00	24.20	86.90		114.06*			----	57210	
		1.00			57.5	20.000	1.000	7.000	10.790	11.60	23.70	85.11		119.93*			----	57210	
T7351	P	1.00			57.5	20.000	1.000	7.000	9.950	10.90	23.60	84.75		110.74*			----	57210	
		1.00			57.5	20.000	1.000	7.000	10.000	10.70	23.40	84.03		110.29*			----	57210	
		1.00			60.6	20.000	1.000	7.000	9.970	10.80	23.80	85.47		111.87			----	57210	
		1.00			60.6	20.000	1.000	7.000	9.970	10.80	23.30	83.67		109.52			----	57210	
		1.00			60.6	20.000	1.000	7.000	10.250	10.60	23.40	84.03		112.78			----	57210	
		1.00			60.6	20.000	1.000	7.000	9.820	11.20	23.80	85.47		110.39			----	57210	
		1.00			64.6	20.000	1.000	7.000	9.240	10.20	19.40	69.67		85.46			----	57210	
		1.00			64.6	20.000	1.000	7.000	9.240	-----	19.40	69.67		85.46			----	57210	
		1.00			64.6	20.000	1.000	7.000	9.800	10.00	19.80	71.10		91.67			----	57210	
		1.00			64.6	20.000	1.000	7.000	9.450	10.40	20.30	72.90		91.11			----	57210	
		1.00			64.6	20.000	1.000	7.000	9.450	-----	20.30	72.90		91.11			----	57210	
		1.00			64.6	20.000	1.000	7.000	9.800	-----	19.70	70.74		91.21			----	57210	
		1.00			64.6	20.000	1.000	7.000	9.670	10.40	19.60	70.39		89.70			----	57210	
		1.00			64.6	20.000	1.000	7.000	9.670	-----	19.60	70.39	77.9/	7.3	89.70	96.7/10.9	1973 86213		
		T7351	P	1.00	R. T.	L-T	61.1	36.120	1.026	7.110	9.480	----	17.00	58.21		68.54			1970 79089
		T7351	P	1.00	R. T.	L-T	61.1	36.130	1.017	17.000	19.160	7.90	10.20	61.31		68.23			1970 79089
1.00					61.1	36.190	1.011	28.900	31.160	3.70	4.20	50.73	56.0/	7.5	63.14	65.7/	3.6	1970 79089	
T7351	S	0.12	R. T.	T-L	63.6	3.000	0.114	1.080	1.460	15.10	34.20	48.48*		60.96*			1973 86213		
		0.12			54.0	3.000	0.124	1.000	1.720	17.50	33.60	45.23*		70.08*			1973 86213		
		0.12			54.0	3.000	0.125	1.090	1.720	14.90	31.80	45.36*		66.32*			1973 86213		

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV

TABLE 8.9.2.2 (con't)

CONDITION		--PRODUCT--		TEST SPEC		YIELD	ALUMINUM		7075		K(C)		CRACK LENGTH CROSS STRESS										K(APP) STAN				K(C) STAN			
		FORM	THICK	TEMP	OR		STR	WIDTH	THICK	INIT	FINAL	DNSET	MAX	K(APP)	MEAN	DEV	K(C)	MEAN	DEV	DATE	REFER									
		(IN)	(F)	(KSI)	(IN)	(IN)	B	2A(O)	2A(F)	S(O)	S(MAX)																			

BUCKLING OF CRACK EDGES NOT RESTRAINED																														
T7351	S	0.12	R.T.	T-L	54.0	3.000	0.125	1.000	1.840	16.70	32.90	44.31*	74.04*	1973	86213															
					54.0	3.000	0.125	1.100	1.700	18.00	32.40	46.51*	66.74*	1973	86213															
					55.1	3.000	0.124	1.120	1.630	15.30	32.30	46.94*	63.75*	1973	86213															
					55.1	3.000	0.124	1.000	1.500	17.60	34.70	46.73*	63.34*	1973	86213															
					55.1	3.000	0.125	1.160	1.600	15.10	31.50	46.92*	61.03*	1973	86213															
					55.1	3.000	0.124	1.000	1.590	15.10	35.30	47.54*	68.00*	1973	86213															
T7351	P	0.12	R.T.	T-L	63.6	3.000	0.127	1.000	1.410	17.30	35.30	47.54*	61.09*	1973	86213															
					63.6	3.000	0.127	1.000	1.420	15.80	35.10	47.27*	61.10*	1973	86213															
					63.6	3.000	0.126	1.090	1.480	16.70	34.20	48.78*	61.69*	1973	86213															
					59.4	3.000	0.253	1.090	1.600	---	32.10	45.79*	62.21*	1973	86213															
					59.4	3.000	0.253	1.080	1.530	---	32.60	46.21*	60.58*	1973	86213															
					59.4	3.000	0.252	1.170	1.620	---	30.80	46.16*	60.42*	1973	86213															
T7351	P	0.25	R.T.	T-L	59.4	3.000	0.253	1.160	1.570	---	31.00	46.18*	59.00*	1973	86213															
					59.4	3.000	0.253	1.110	1.560	---	31.70	45.79*	59.98*	1973	86213															
					59.4	3.000	0.252	1.110	1.580	---	31.60	45.64*	60.51*	1973	86213															
					59.4	3.990	0.251	1.710	2.400	---	26.90	49.86	68.24*	1973	86213															
					59.0	4.000	0.248	1.450	1.900	---	34.50	56.73*	69.55*	1973	86213															
					59.0	4.000	0.248	1.480	1.900	---	33.60	56.04*	67.74*	1973	86213															
T7351	P	0.50	R.T.	T-L	62.1	36.070	0.497	7.310	---	---	15.10	52.50	---	1970	79089															
T7351	P	1.00	R.T.	T-L	63.6	20.000	1.000	7.000	8.650	---	10.70	38.42	44.72	1973	86213															
					63.6	20.000	1.000	7.000	8.790	---	11.20	40.22	47.40	1973	86213															
					63.6	20.000	1.000	7.000	8.920	---	10.90	39.14	46.66	1973	86213															

BUCKLING OF CRACK EDGES NOT RESTRAINED																														
T76	S	0.06	R.T.	L-T	73.6	3.000	0.064	1.210	2.127	---	37.60	57.74*	103.37*	1973	86213															
					73.6	3.000	0.064	1.170	2.082	---	37.10	55.60*	98.67*	1973	86213															

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV.

TABLE 8.9.2.2 (con't)

CONDITION	ALUMINUM	7075	K(C)	CRACK LENGTH CROSS STRESS										K(APP) STAN				K(C) STAN	K(C) MEAN DEV	(KSI*SQRT IN)	K(C) STAN	K(C) MEAN DEV	DATE	REFER
				---SPECIMEN---				CRACK LENGTH		CROSS STRESS		K(APP)		STAN										
				WIDTH	THICK	INIT	FINAL	ONSET	MAX	K(APP)	MAX	K(APP)	MEAN	DEV	DEV									
				(IN)	(IN)	(IN)	(IN)	(KSI)	(KSI)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)									
BUCKLING OF CRACK EDGES NOT RESTRAINED																								
T76	S	0.09	R. T.	L-T	3.000	0.094	1.180	1.853	---	33.50	50.52	75.98*	1973	86213										
		0.09			3.000	0.094	1.160	2.071	---	35.80	53.33*	94.37*	1973	86213										
T76	S	0.12	R. T.	L-T	3.000	0.127	1.260	2.121	---	33.40	52.86	91.40*	1973	86213										
		0.12			3.000	0.127	1.100	2.027	---	37.10	53.25*	94.73*	1973	86213										
T76	S	0.06	R. T.	T-L	3.000	0.064	1.220	1.937	---	31.30	48.36	75.06*	1973	86213										
		0.06			3.000	0.064	1.180	1.893	---	33.10	49.91	77.07*	1973	86213										
T76	S	0.09	R. T.	T-L	3.000	0.093	1.140	1.907	---	33.20	48.85	78.03*	1973	86213										
		0.09			3.000	0.093	1.220	1.987	---	31.20	48.20	77.44*	1973	86213										
T76	S	0.12	R. T.	T-L	3.000	0.126	1.190	1.837	---	33.40	49.45	74.97*	1973	86213										
		0.12			3.000	0.126	1.230	1.952	---	31.60	49.12	76.62*	1973	86213										
BUCKLING OF CRACK EDGES NOT RESTRAINED																								
T7651	P	0.25	R. T.	L-T	4.000	0.251	1.563	2.514	---	31.30	54.22	83.79*	1973	86213										
		0.25			4.000	0.250	1.523	2.650	---	31.20	53.06	89.52*	1973	86213										
T7651	P	0.25	R. T.	T-L	4.000	0.251	1.553	2.548	---	24.80	42.76	67.53*	1973	86213										
		0.25			4.000	0.251	1.530	2.388	---	24.60	41.99	61.94*	1973	86213										

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV.

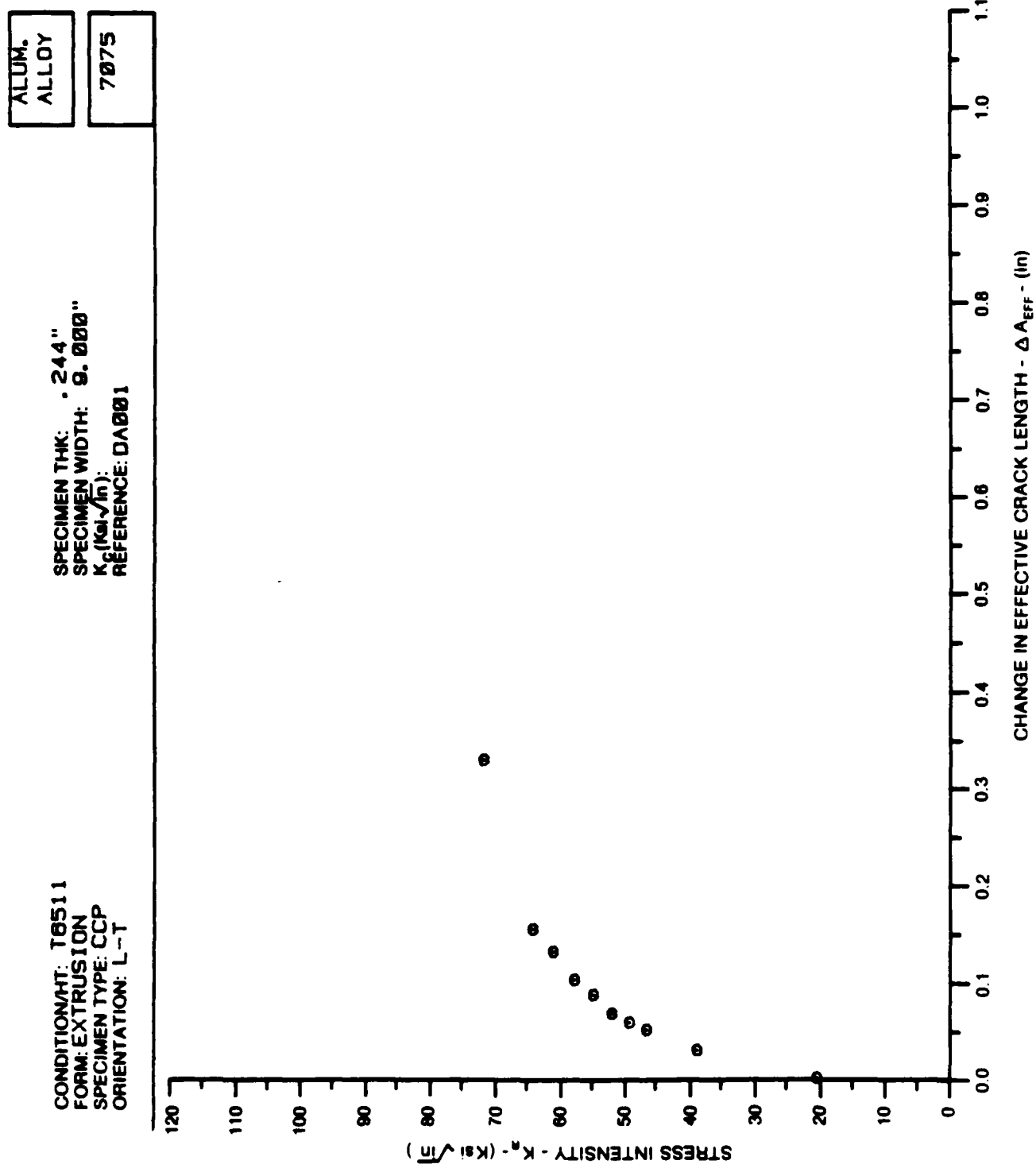


Figure 8.9.2.3

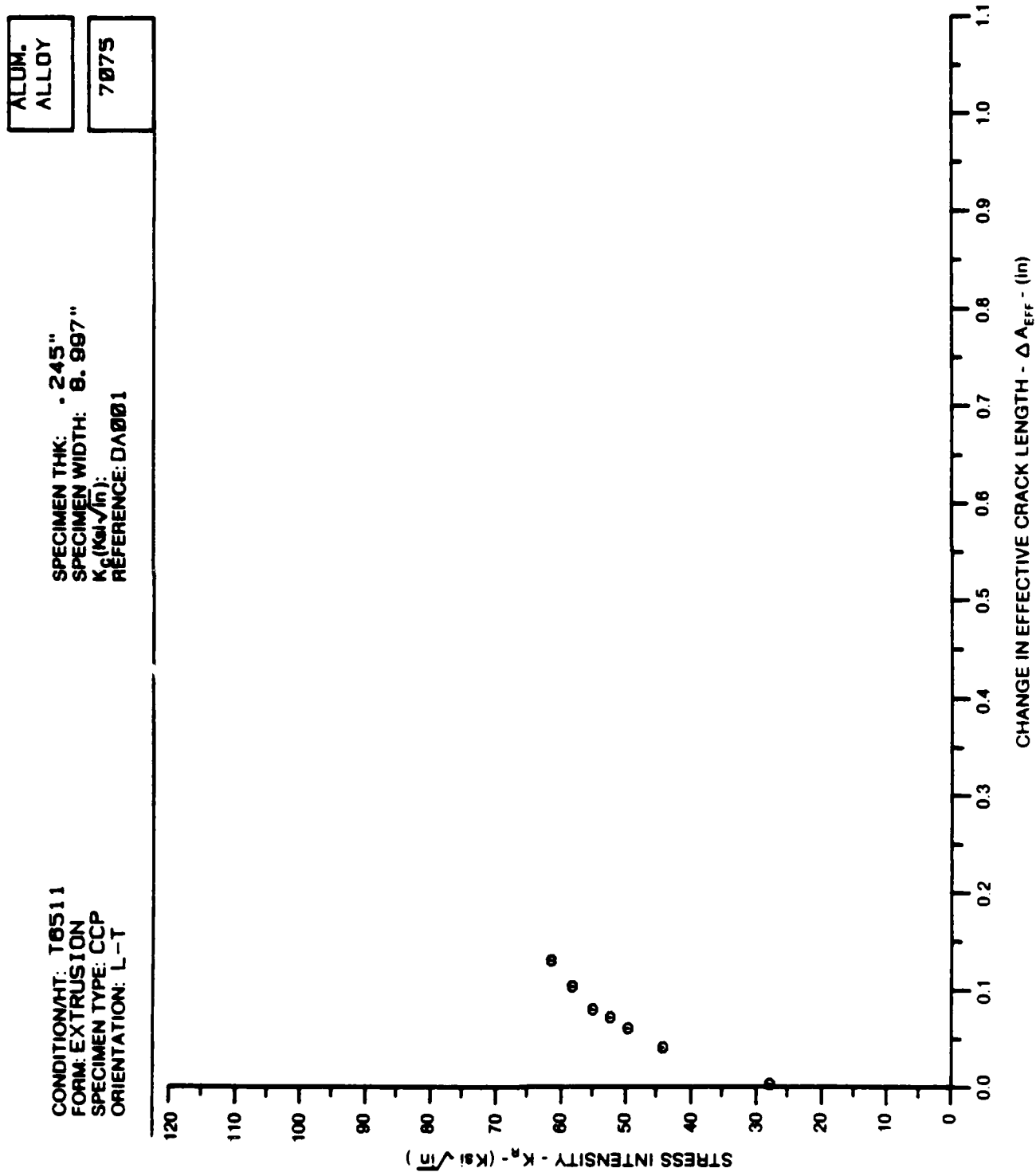


Figure 8.9.2.4

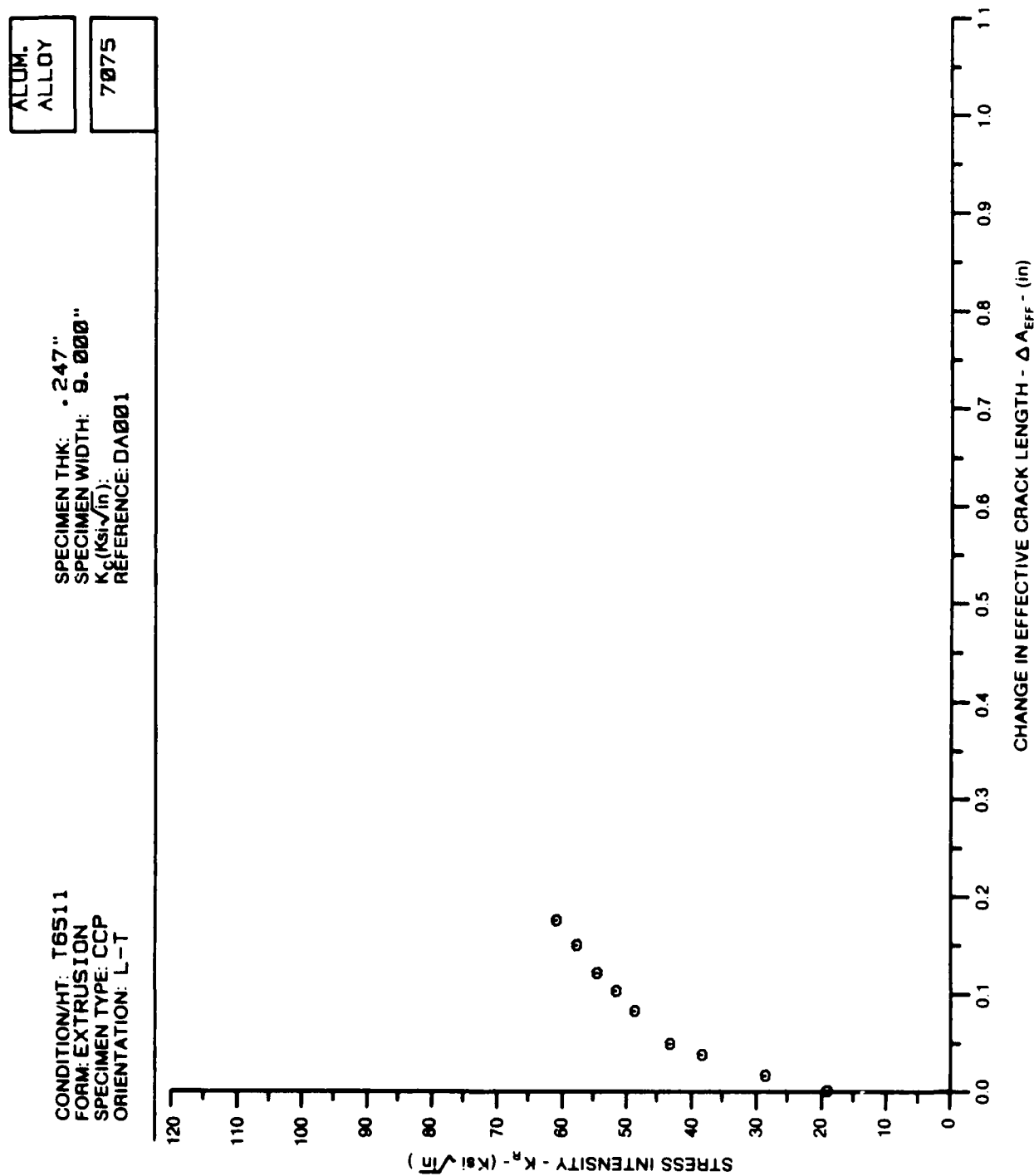


Figure 8.9.2.5

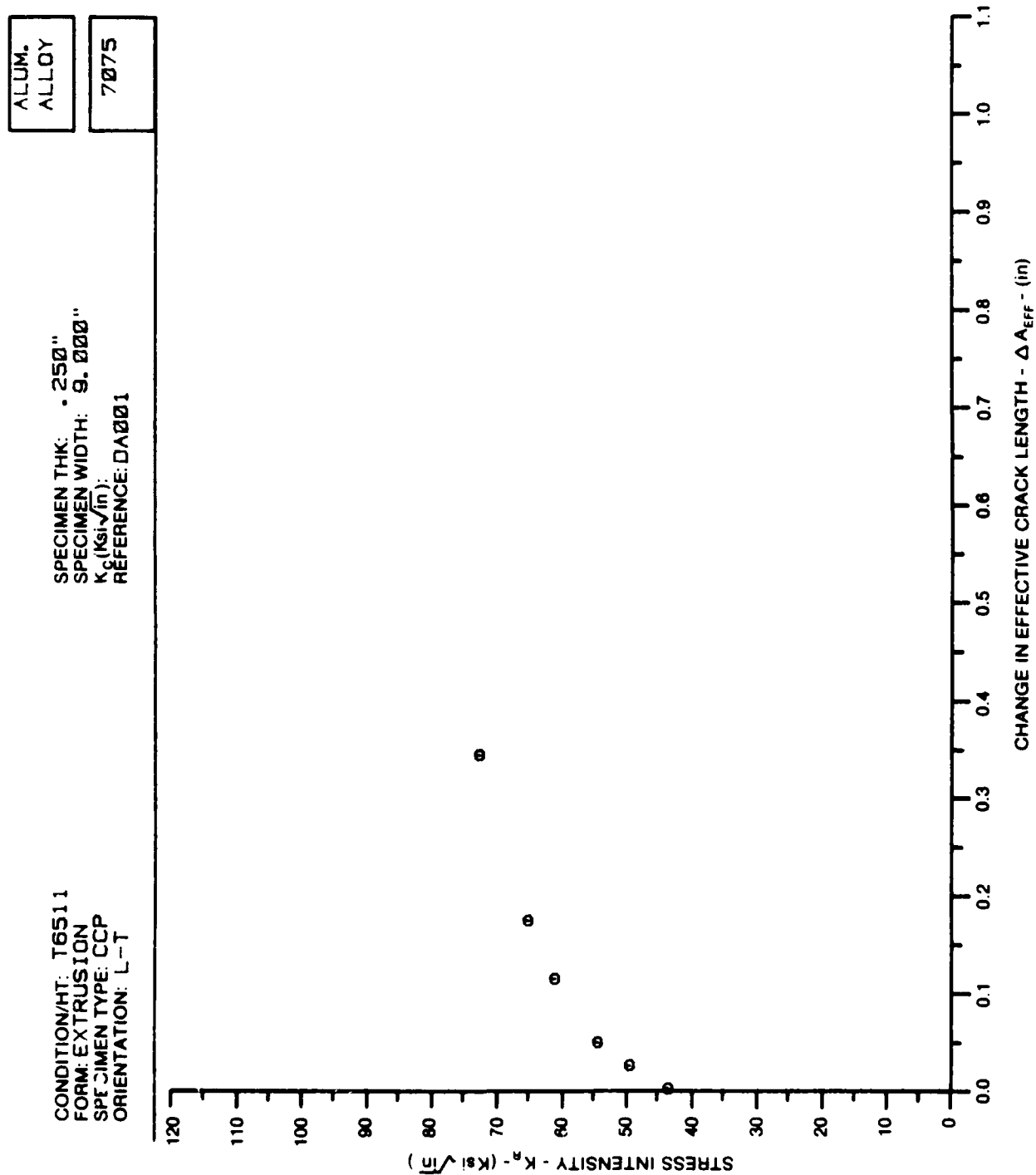


Figure 8.9.2.6

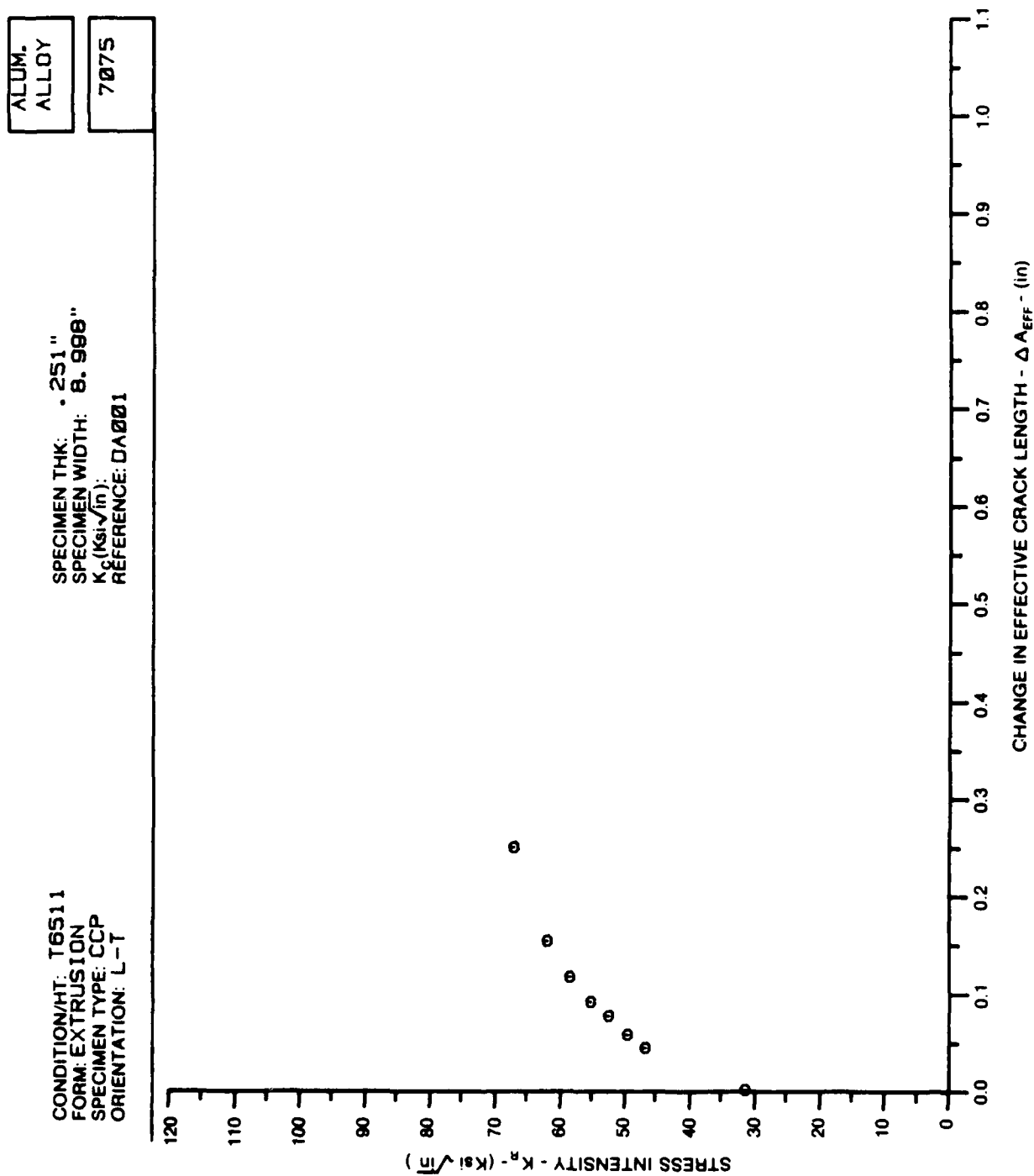


Figure 8.9.2.7

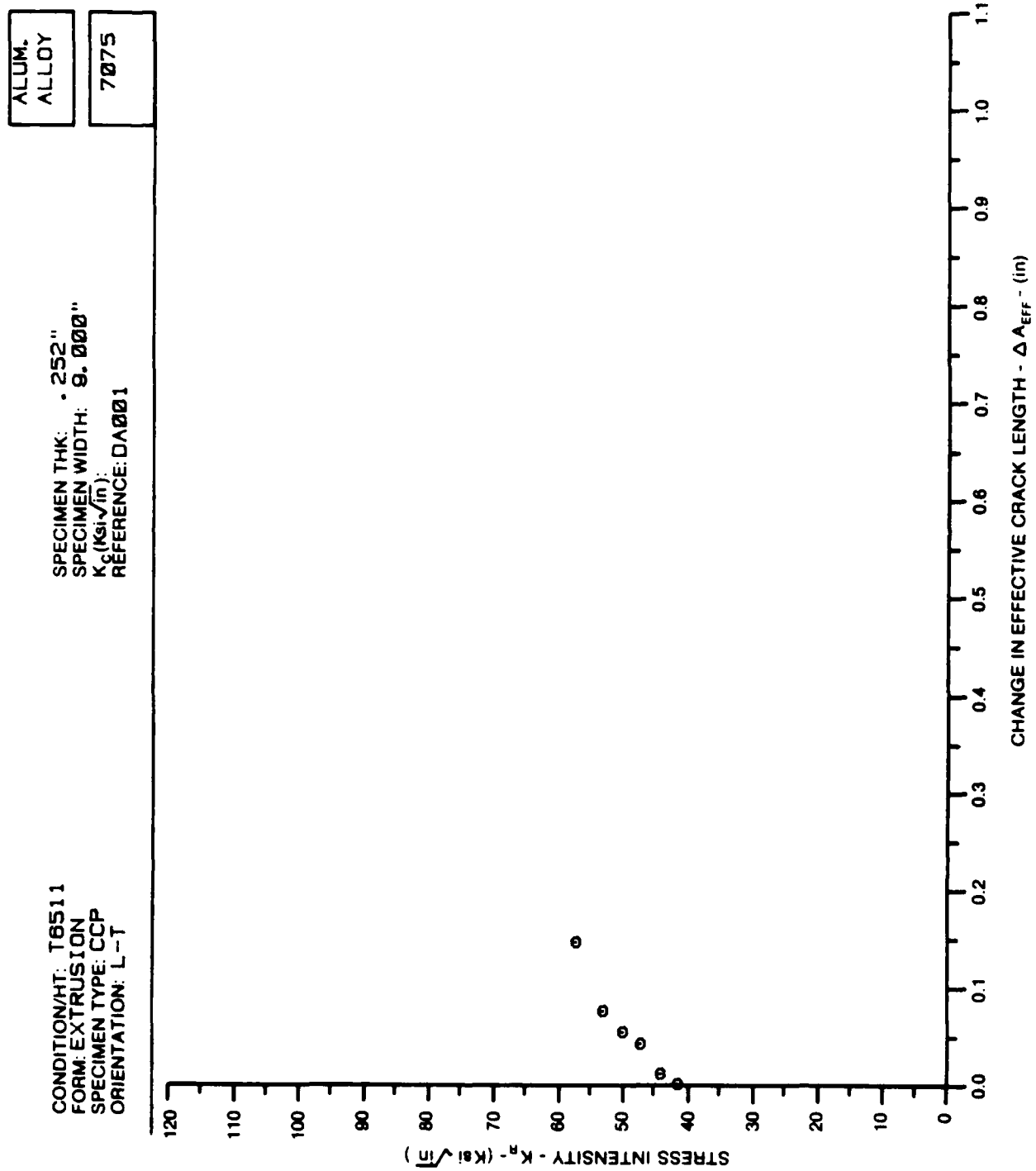


Figure 8.9.2.8

TABLE 8.9.3.1

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.1 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM 7075
CONDITION: T6
ENVIRONMENT: R.T., H.H.A.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.00	R=+0.70		
DELTA K MIN	A: 7.37	5.31			
	B: 4.70		5.04		
	C:				
	D:				
	5.00		6.30		
	6.00		11.9		
	7.00		20.0		
	8.00	7.62	31.5		
	9.00	11.9	47.6		
	10.00	16.8	69.7		
	13.00	34.6	198.		
DELTA K MAX	A: 15.07	51.1			
	B: 14.64		336.		
	C:				
	D:				

ROOT MEAN SQUARE	7.71	10.19
PERCENT ERROR		

LIFE	0.0-0.9
PREDICTION	0.5-0.8
RATIO	0.8-1.25
SUMMARY	1.25-2.0
(NP/NA)	>2.0

CONDITION/HT: T6
 FORM: SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 9.00 HZ
 ENVIRONMENT: R. T. . H. H. A.

YIELD STRENGTH:
 ULT. STRENGTH:
 SPECIMEN THK: 0.163"
 SPECIMEN WIDTH: 5.000"
 REFERENCES: BW002

ALUM.
 ALLOY

7075

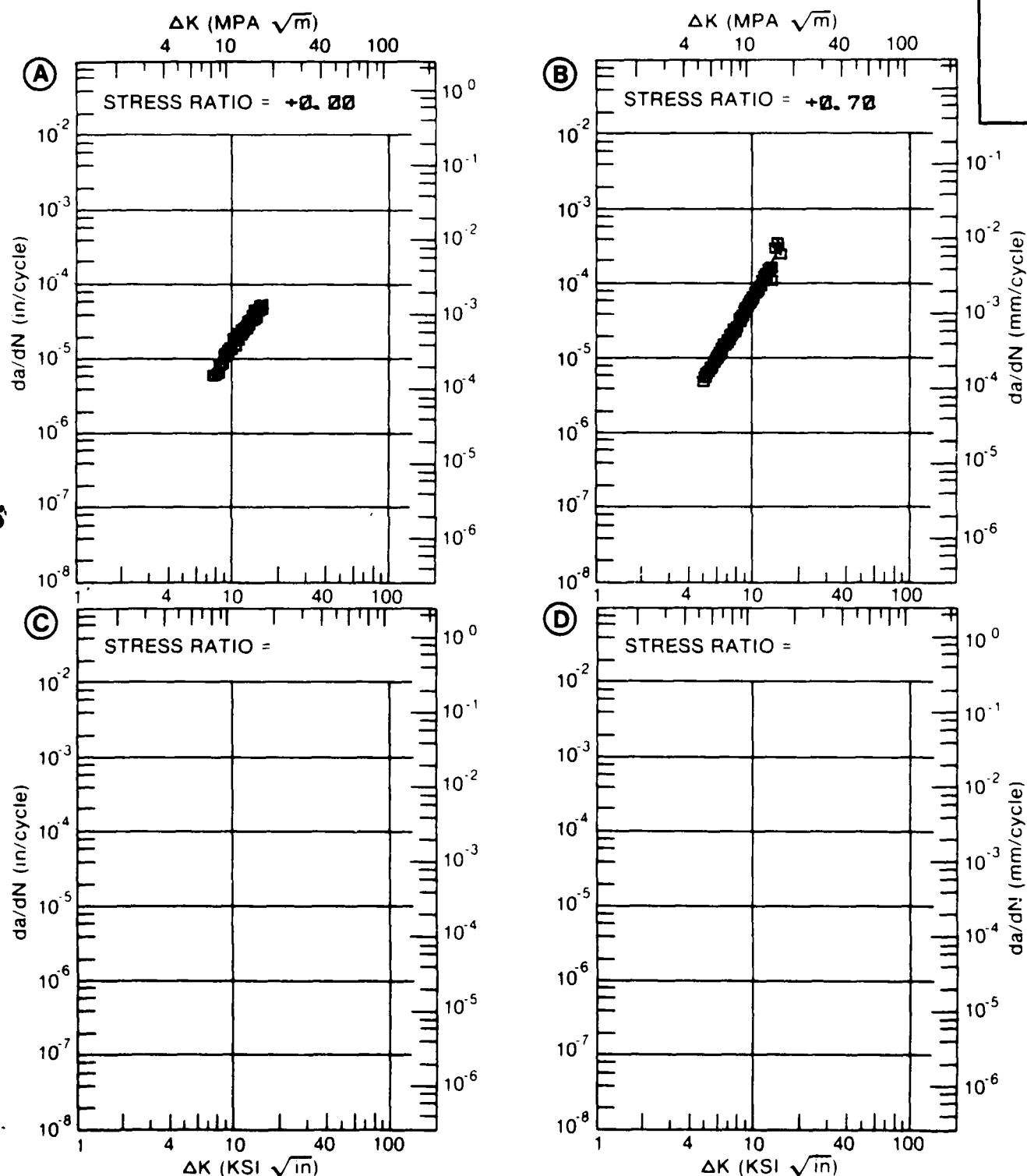


Figure 8.9.3.1

TABLE 8.9.3.2

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.2 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7075
 CONDITION: T6
 ENVIRONMENT: R.T. LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.00	R=+0.33		
DELTA K MIN	A: 8.77	3.93			
	B: 5.85		2.55		
	C:				
	D:				
	6.00		2.74		
	7.00		4.20		
	8.00		6.01		
	9.00	4.14	8.29		
	10.00	5.95	11.2		
	13.00	11.4	26.1		
	16.00	16.3	59.5		
	20.00	42.6	174.		
DELTA K MAX	25.00	137.	430.		
	30.00	297.			
	A: 32.86	711.			
	B: 27.54		503.		
		C:			
		D:			
ROOT MEAN SQUARE		9.30	8.85		
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8	1			
RATIO	0.8-1.25	1	4		
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T6
 FORM: 0.09" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: T-L
 FREQUENCY: 13.30 HZ
 ENVIRONMENT: R. T., LAB AIR

YIELD STRENGTH: 71.6 KSI
 ULT. STRENGTH: 90.1 KSI
 SPECIMEN THK: 0.090"
 SPECIMEN WIDTH: 4.000"
 REFERENCES: 86213

ALUM.
 ALLOY

7075

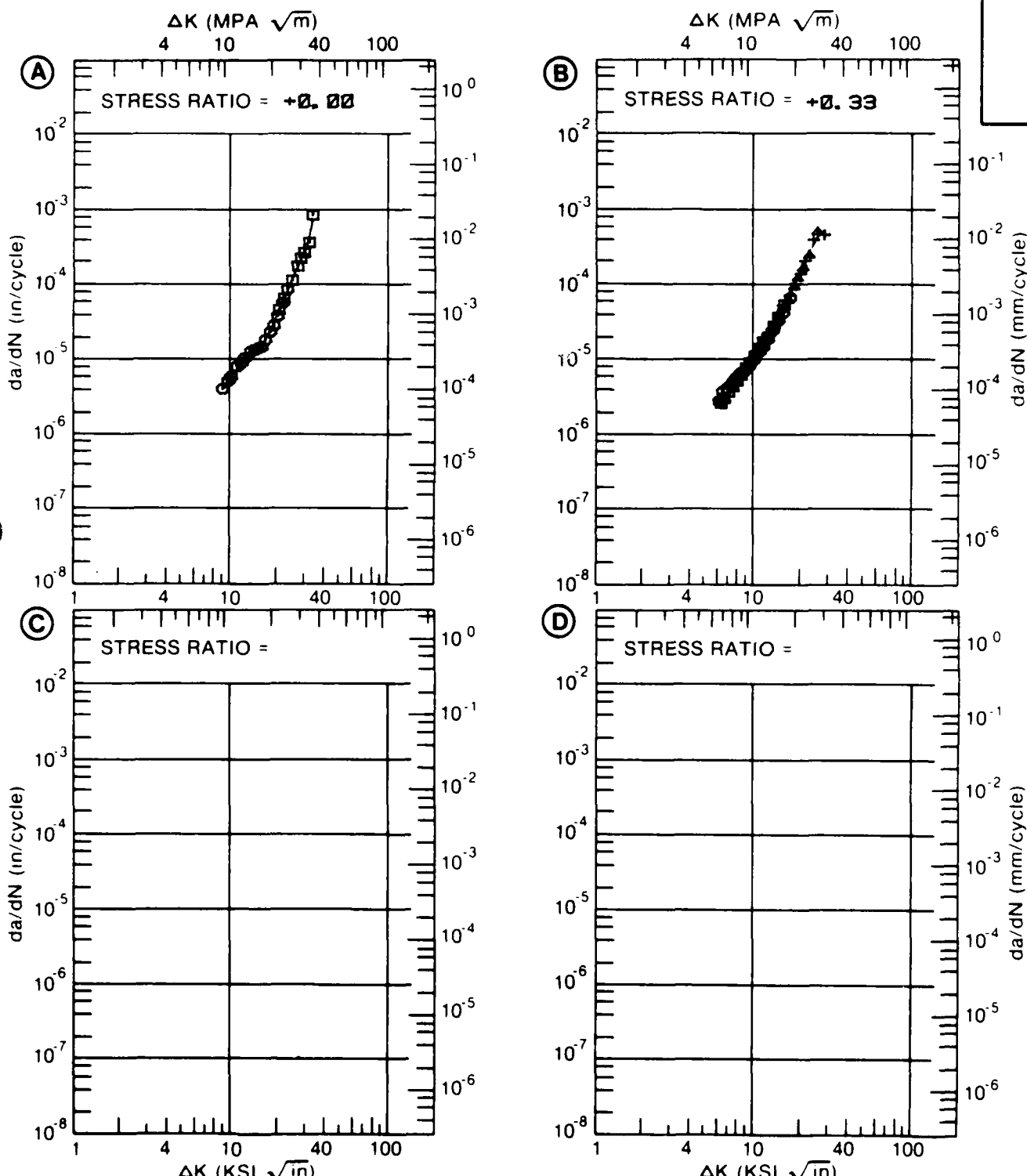


Figure 8.9.3.2

TABLE 8.9.3.3

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.3 INDICATING EFFECT
OF FREQUENCY

MATERIAL: ALUMINUM 7075
 CONDITION: T6
 ENVIRONMENT: R T, LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		F(HZ)= 1.00	F(HZ)= 3.00	F(HZ)= 10.00	
DELTA K	A: 5.27	4.93			
MIN	B: 7.52		16.3		
	C: 4.06			2.87	
	D:				
	5.00			5.90	
	6.00	6.32		9.85	
	7.00	11.0		14.3	
	8.00	17.7	19.6	19.1	
	9.00	27.2	29.6	24.4	
	10.00	40.6	45.6	30.3	
	13.00	127.	155.	53.5	
	16.00	383.		99.6	
	20.00	1703.		284.	
DELTA K	A: 21.02	2857.			
MAX	B: 14.69		284.		
	C: 22.64			673.	
	D:				
ROOT MEAN SQUARE		50.65	7.76	8.16	
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8	3			
RATIO	0.8-1.25	7	1		
SUMMARY	1.25-2.0				
(NP/NA)	2.0				

CONDITION/HT: T6
 FORM: 0.13- 0.20" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 STRESS RATIO: +0.50
 ENVIRONMENT: R. T., LAB AIR

YIELD STRENGTH: 74.7- 79.9 KSI
 ULT. STRENGTH: 90.0- 96.7 KSI
 SPECIMEN THK: 0.040- 0.200"
 SPECIMEN WIDTH: 3.900- 11.500"
 REFERENCES: 86088, MA009

ALUM.
 ALLOY

7075

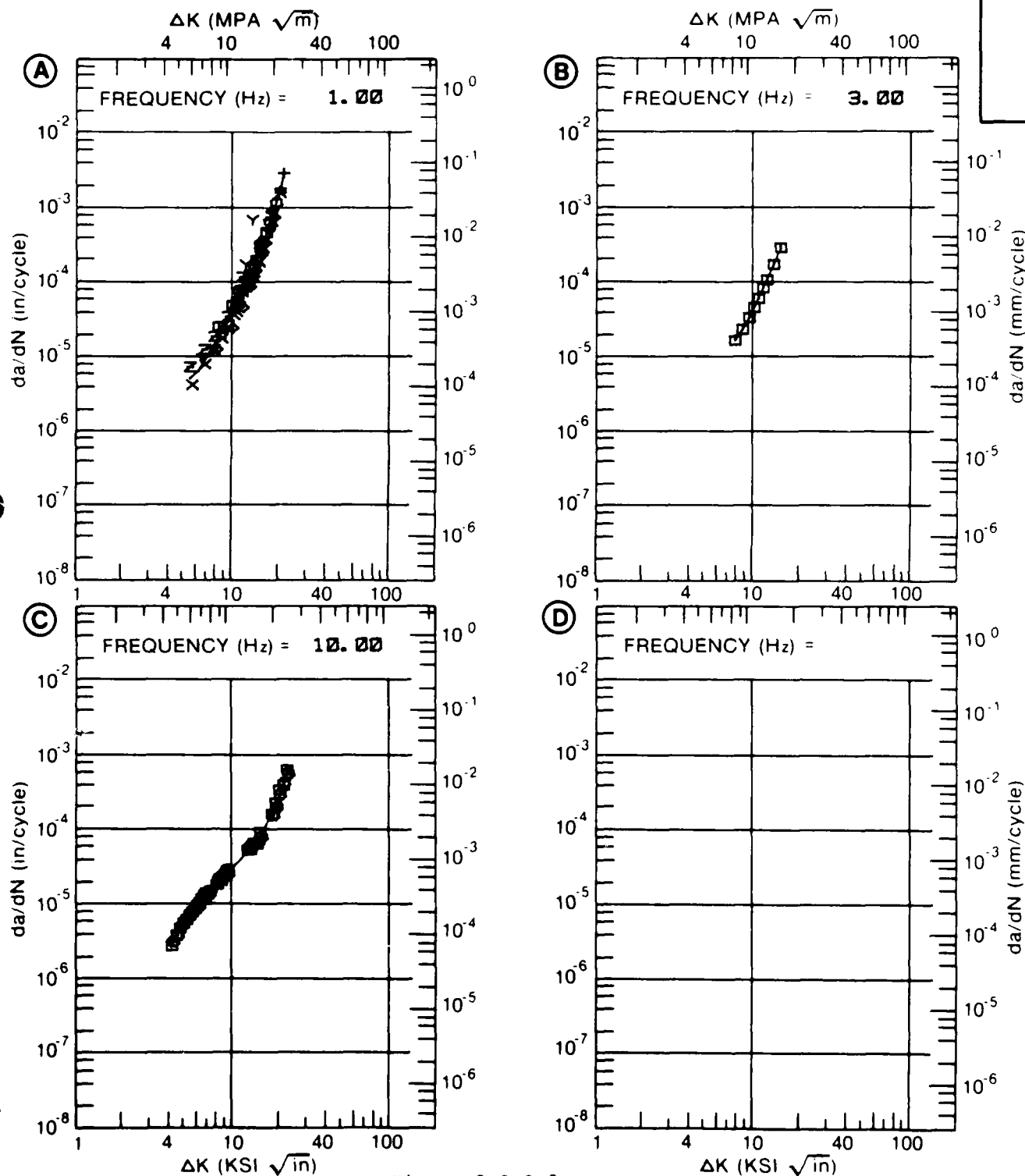


Figure 8.9.3.3

TABLE 8.9.3.4

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.4 INDICATING EFFECT
OF FREQUENCY

MATERIAL: ALUMINUM 7075
 CONDITION: T6
 ENVIRONMENT: R T , LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		F(HZ)= 1.00	F(HZ)= 3.00	F(HZ)= 10.00	F(HZ)= 0.10-30.00
DELTA K MIN	A: 11.06	21.4			
	B: 11.06		24.2		
	C: 5.49			2.02	
	D: 8.90				10.2
	6.00			3.13	
	7.00			5.75	
	8.00			8.57	
	9.00			11.4	10.3
	10.00			14.0	11.2
	13.00	31.4	33.6	22.0	16.4
	16.00	52.8	52.8	32.8	26.4
	20.00	103.	92.8	60.0	54.5
	25.00	244.		148.	144.
	30.00	615.		378.	393.
	35.00	1629.		871.	1076.
	40.00			1562.	2926.
	50.00			5417.	20651.
DELTA K MAX	A: 35.09	1658.			
	B: 21.38		112.		
	C: 50.23			9105.	
	D: 53.14				37570.

ROOT MEAN SQUARE 25.28 1.82 13.79 31.11
 PERCENT ERROR

LIFE 0.0-0.5
 PREDICTION 0.5-0.8
 RATIO 0.8-1.25
 SUMMARY 1.25-2.0
 (NP/NA) 2.0

CONDITION/HT: T6
 FORM: 0.13- 0.20" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 STRESS RATIO: +0.02
 ENVIRONMENT: R. T., LAB AIR

YIELD STRENGTH: 74.5- 79.9 KSI
 ULT. STRENGTH: 80.0- 86.7 KSI
 SPECIMEN THK: 0.020- 0.200"
 SPECIMEN WIDTH: 3.900- 11.500"
 REFERENCES: 86088, MA009, MA00E

ALUM.
 ALLOY

7075

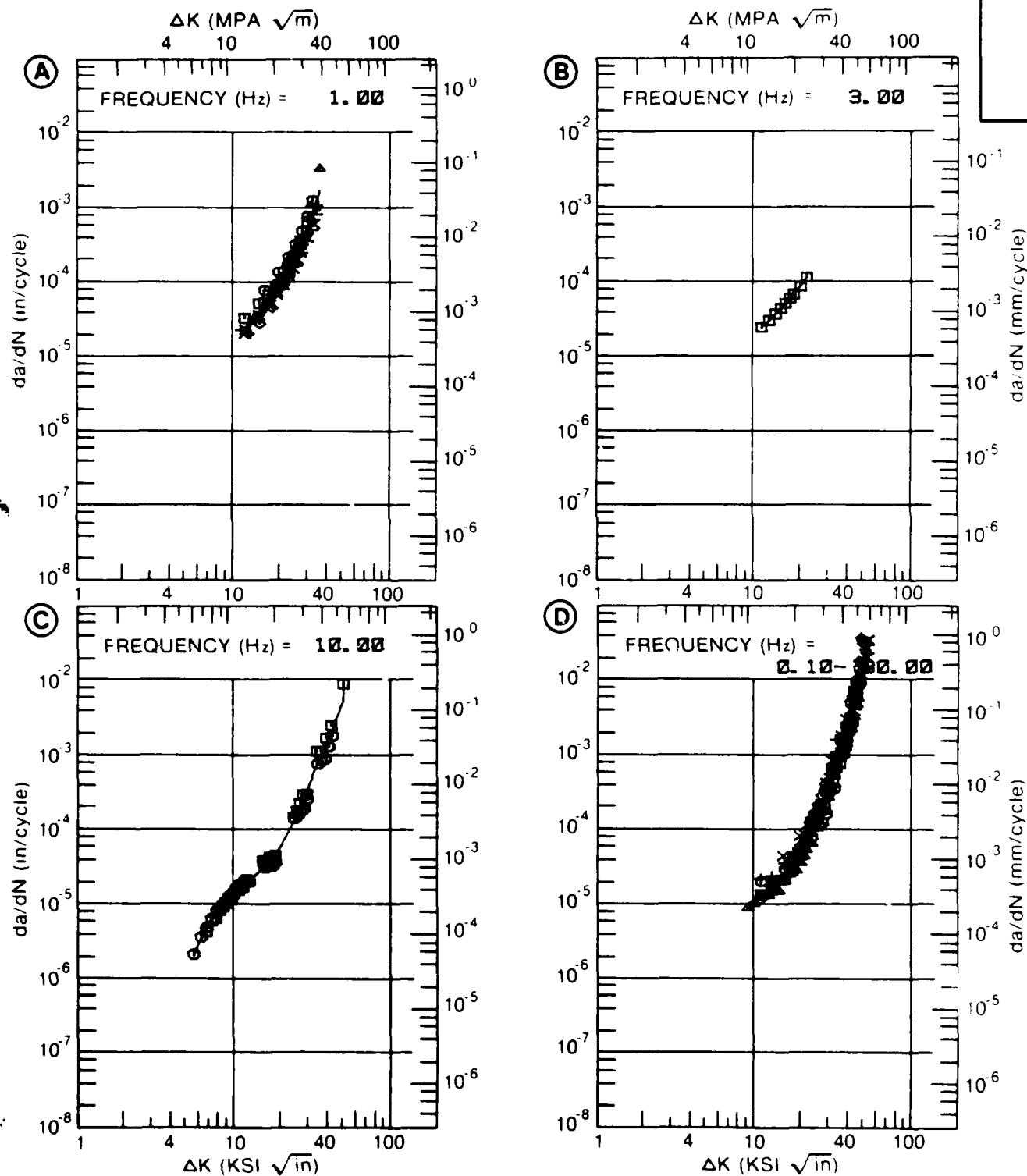


Figure 8.9.3.4

TABLE 8.9.3.5

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.5 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM 7075
CONDITION: T6
ENVIRONMENT: R.T., H.H.A.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.05	R=+0.50		
DELTA K MIN	A:	4.49	.263		
	B:	1.98	.0408		
	C:				
	D:				
	2.00		.0432		
	2.50		.138		
	3.00				
	3.50				
	4.00				
	5.00	.456			
	6.00	1.60			
	7.00	4.52			
	8.00	8.45			
	9.00	11.8			
	10.00	14.9			
	13.00	29.9			
DELTA K MAX	A:	15.95	34.5		
	B:	2.72	.131		
	C:				
	D:				

ROOT MEAN SQUARE 28.19 32.77
PERCENT ERROR

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T6
 FORM: 0.20" TH SHEET
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 FREQUENCY: 9.00 HZ
 ENVIRONMENT: R. T., H. H. A.

YIELD STRENGTH: 75.8 KSI
 ULT. STRENGTH: 81.2 KSI
 SPECIMEN THK: 0.200"
 SPECIMEN WIDTH: 3.750"
 REFERENCES: BW001

ALUM.
 ALLOY

7075

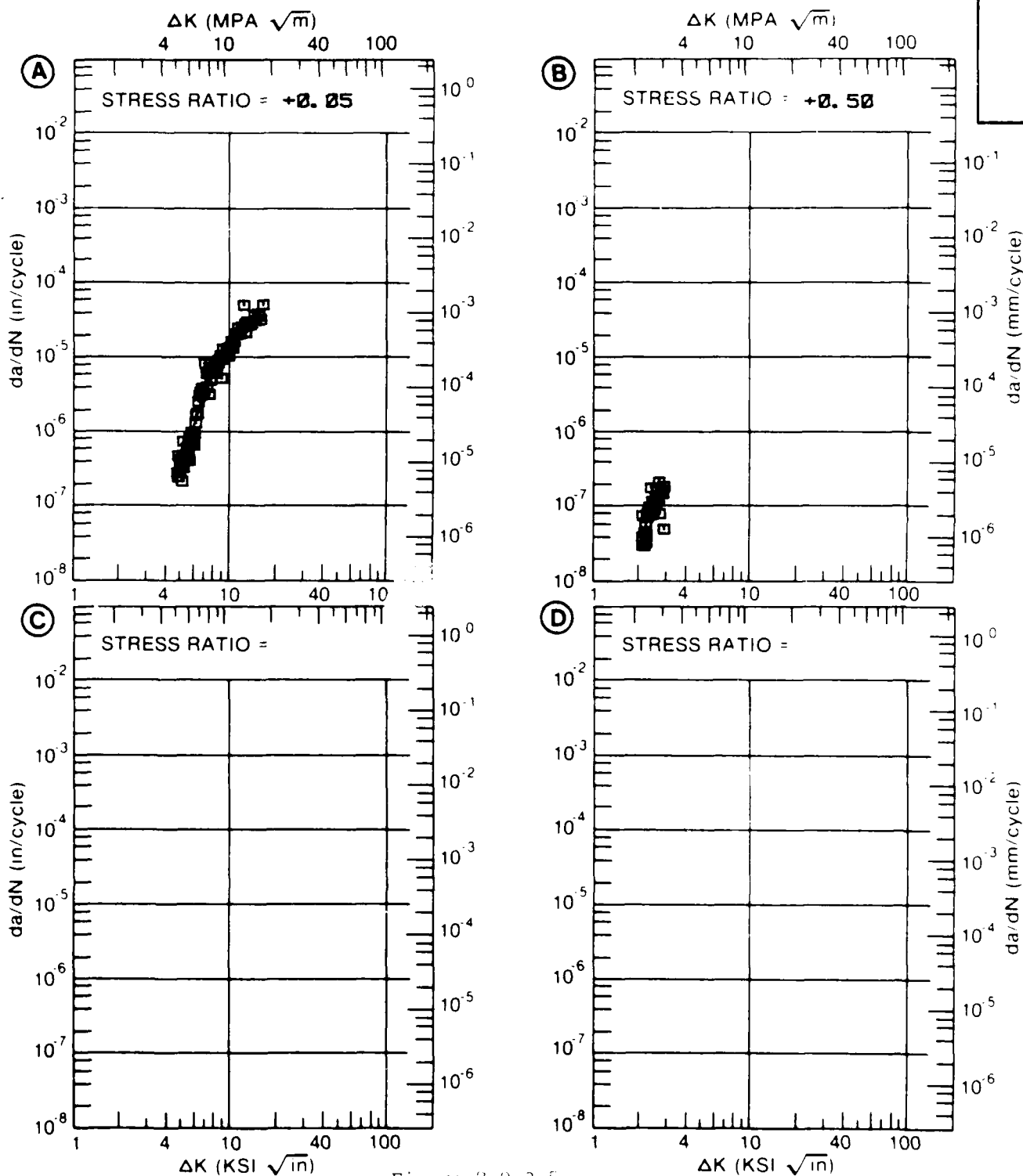


Figure 8.9.3.5

TABLE 8.9.3.6

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.6 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM 7075
 CONDITION: T6
 ENVIRONMENT: R T , L H A

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=-1.00	R=+0.00	R=+0.50	
DELTA K MIN	A:	7.21	1.47		
	B:	5.56	.51		
	C:	4.11		.51	
	D:				
	5.00			1.33	
	6.00		.742	2.66	
	7.00		1.49	4.41	
	8.00	2.47	2.61	6.67	
	9.00	3.93	4.18	9.69	
	10.00	5.52	6.20	13.9	
	13.00	12.0	14.8	42.0	
	16.00	27.4	26.2	129.	
	20.00	87.9	51.7	476.	
	25.00	291.	179.	1392.	
	30.00	750.	607.		
	35.00	1954.			
	40.00	5752.			
DELTA K MAX	A:	41.22	7659.		
	B:	32.61	826.		
	C:	25.42		1471.	
	D:				
ROOT MEAN SQUARE		29.68	9.93	13.48	
PERCENT ERROR					

LIFE 0.0-0.5
 PREDICTION 0.5-0.8
 RATIO 0.8-1.25
 SUMMARY 1.25-2.0
 (NP/NA) 2.0

CONDITION/HT: T6
 FORM: 1.00" TH PLATE
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 10.00 HZ
 ENVIRONMENT: R. T., L. H. A.

YIELD STRENGTH: 80.0 KSI
 ULT. STRENGTH: 88.0 KSI
 SPECIMEN THK: 0.250"
 SPECIMEN WIDTH: 4.000"
 REFERENCES: MA007

ALUM.
 ALLOY

7075

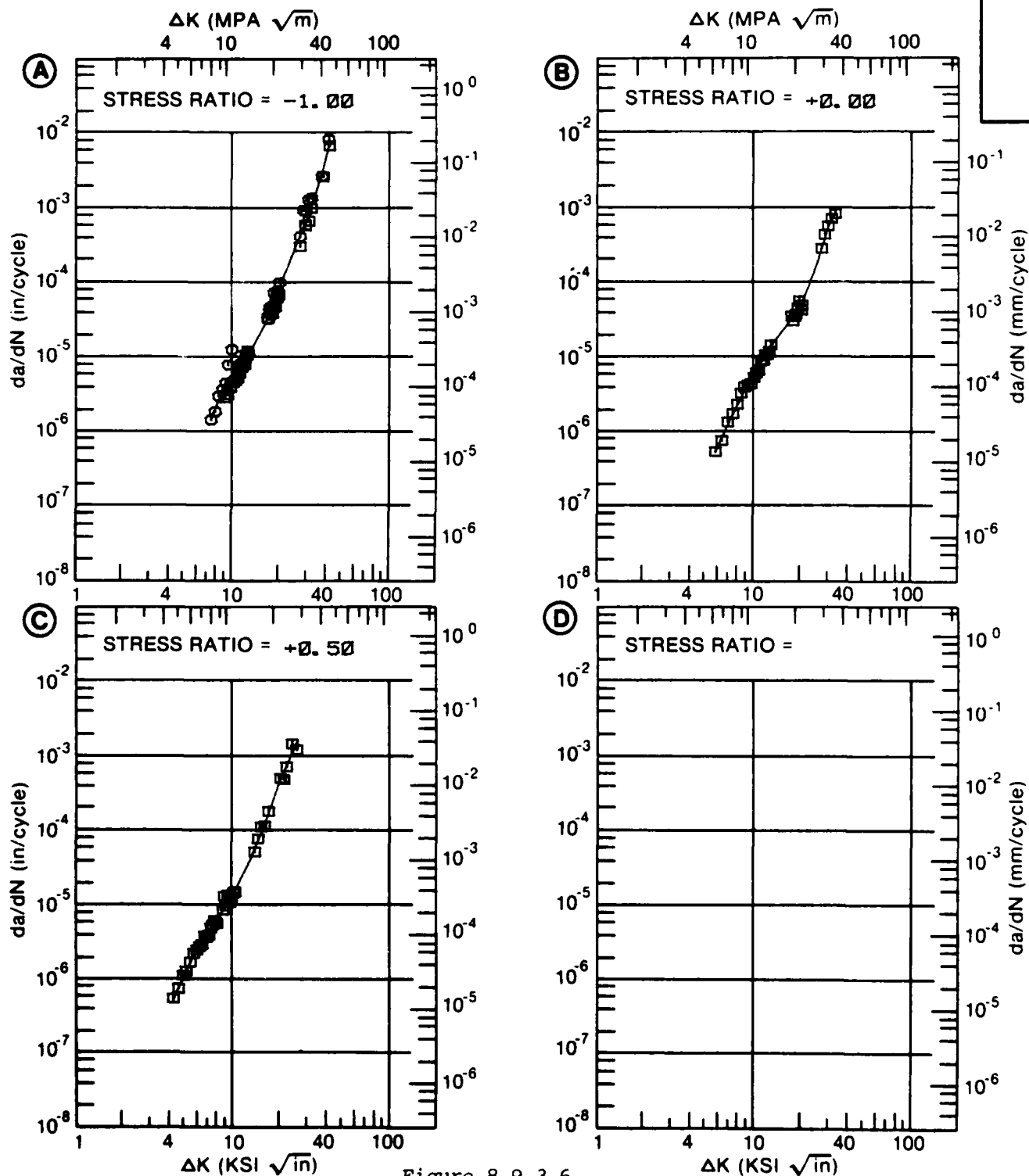


Figure 8.9.3.6

TABLE 8.9.3.7

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.7 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM 7075
 CONDITION: T6
 ENVIRONMENT: R. T. , 3.5% NaCl

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=-1.00	R=+0.00	R=+0.50	
DELTA K MIN	A:	5.52	4.40		
	B:	5.55	3.68		
	C:	4.03		2.30	
	D:				
	5.00			5.62	
	6.00	4.77	4.85	11.3	
	7.00	6.59	8.16	18.1	
	8.00	9.96	12.5	24.8	
	9.00	15.3	17.8	32.0	
	10.00	22.9	24.3	41.0	
	13.00	58.4	50.6	99.8	
	16.00	94.6	88.9	256.	
	20.00	130.	164.	540.	
	25.00	255.	317.		
	30.00	684.	608.		
	35.00	1842.	1291.		
	40.00	3446.	3088.		
DELTA K MAX	A:	40.00	3446.		
	B:	46.80	7874.		
	C:	24.70		844.	
	D:				
ROOT MEAN SQUARE		21.00	24.09	16.59	
PERCENT ERROR					

LIFE 0.0-0.5
 PREDICTION 0.5-0.8
 RATIO 0.8-1.25
 SUMMARY 1.25-2.0
 (NP/NA) >2.0

CONDITION/HT: T6
 FORM: 1.00" TH PLATE
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 0.10 HZ
 ENVIRONMENT: R. T., 3.5% NaCl

YIELD STRENGTH: 80.0 KSI
 ULT. STRENGTH: 88.0 KSI
 SPECIMEN THK: 0.250"
 SPECIMEN WIDTH: 4.000"
 REFERENCES: MA007

ALUM.
 ALLOY

7075

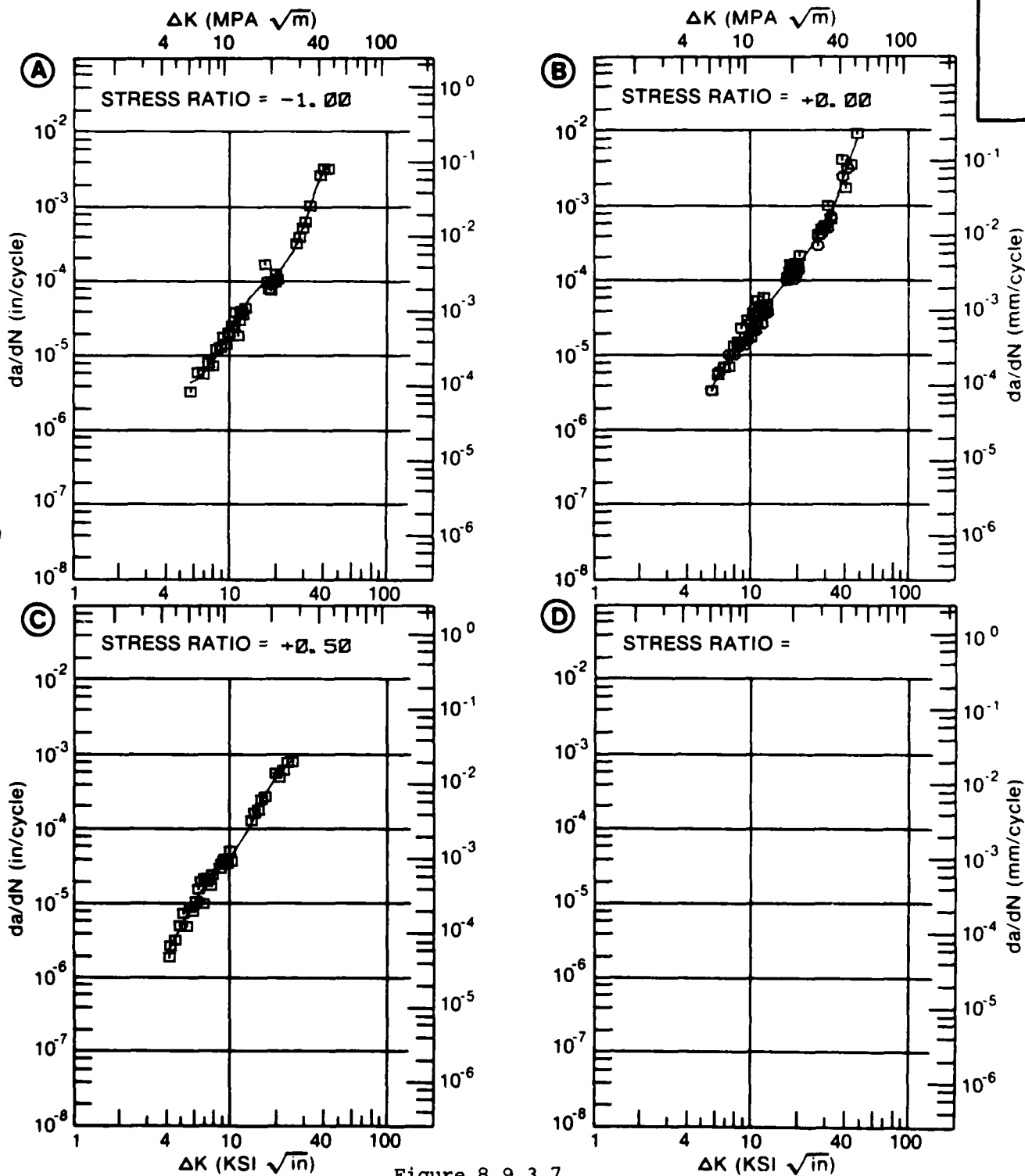


Figure 8.9.3.7

TABLE 8.9.3.8

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.8 INDICATING EFFECT
OF FREQUENCY

MATERIAL: ALUMINUM 7075
CONDITION: T6
ENVIRONMENT: R.T., 3.5% NaCl

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		F(HZ)= 0.10 F(HZ)= 1.00 F(HZ)= 10.00			
DELTA K MIN	A:	5.55	3.69		
	B:	5.63	4.39		
	C:	5.57		2.62	
	D:				
	6.00	4.86	5.76	3.97	
	7.00	8.15	10.3	7.99	
	8.00	12.5	16.0	12.6	
	9.00	17.8	22.5	17.4	
	10.00	24.3	29.8	22.0	
	13.00	50.7	57.2	36.5	
	16.00	89.0	95.9	57.1	
	20.00	164.	177.	109.	
	25.00	317.	357.	253.	
	30.00	609.	742.	567.	
	35.00	1294.	1741.	1076.	
	40.00	3078.	4702.	1663.	
DELTA K MAX	A:	46.80	7916.		
	B:	40.16	4865.		
	C:	42.38		6275.	
	D:				

ROOT MEAN SQUARE 24.10 12.25 18.40
PERCENT ERROR

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T6
 FORM: 1.00" TH PLATE
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 STRESS RATIO: +0.00
 ENVIRONMENT: R. T., 3.5% NaCl

YIELD STRENGTH: 88.0 KSI
 ULT. STRENGTH: 88.0 KSI
 SPECIMEN THK: 0.250"
 SPECIMEN WIDTH: 4.000"
 REFERENCES: MA007

ALUM.
 ALLOY

7075

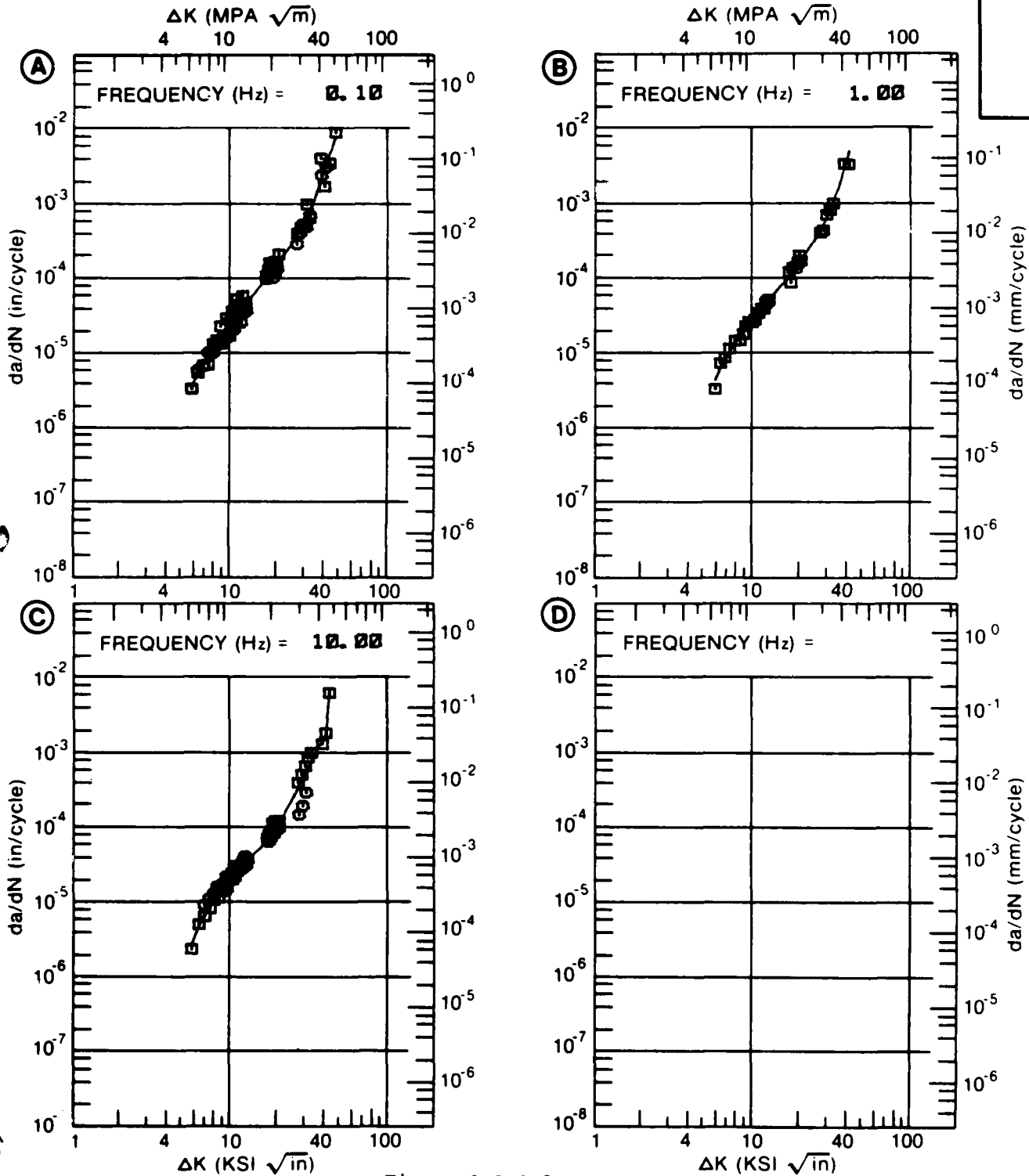


Figure 8.9.3.8

TABLE 8.9.3.9

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.9 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7075
CONDITION: T651
ENVIRONMENT: R. T., H. H. A.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.33	R=+0.80		
DELTA K	A: 2.23	00626			
MIN	B: 1.29		.0234		
	C:				
	D:				
	1.30		.0253		
	1.60		.0924		
	2.00		.206		
	2.50	.0678	.433		
	3.00	.227	.965		
	3.50	.593	2.52		
	4.00	1.33	6.76		
	5.00	4.29			
	6.00	8.76			
	7.00	13.8			
	8.00	18.8			
	9.00	23.5			
	10.00	27.8			
	13.00	42.7			
	16.00	76.1			
DELTA K	A: 16.58	87.3			
MAX	B: 4.65		14.4		
	C:				
	D:				
ROOT MEAN SQUARE		27.35	25.22		
PERCENT ERROR					
LIFE	0.0-0.5	2			
PREDICTION	0.5-0.8	1	1		
RATIO	0.8-1.25	1	1		
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T651
 FORM: 0.25- 0.75" TH PLATE
 SPECIMEN TYPE: WOL
 ORIENTATION: L-T
 FREQUENCY: 25.00 HZ
 ENVIRONMENT: R. T., H. H. A.

YIELD STRENGTH:
 ULT. STRENGTH:
 SPECIMEN THK: 0.248- 0.254"
 SPECIMEN WIDTH: 2.548- 2.555"
 REFERENCES: AL005

ALUM.
 ALLOY

7075

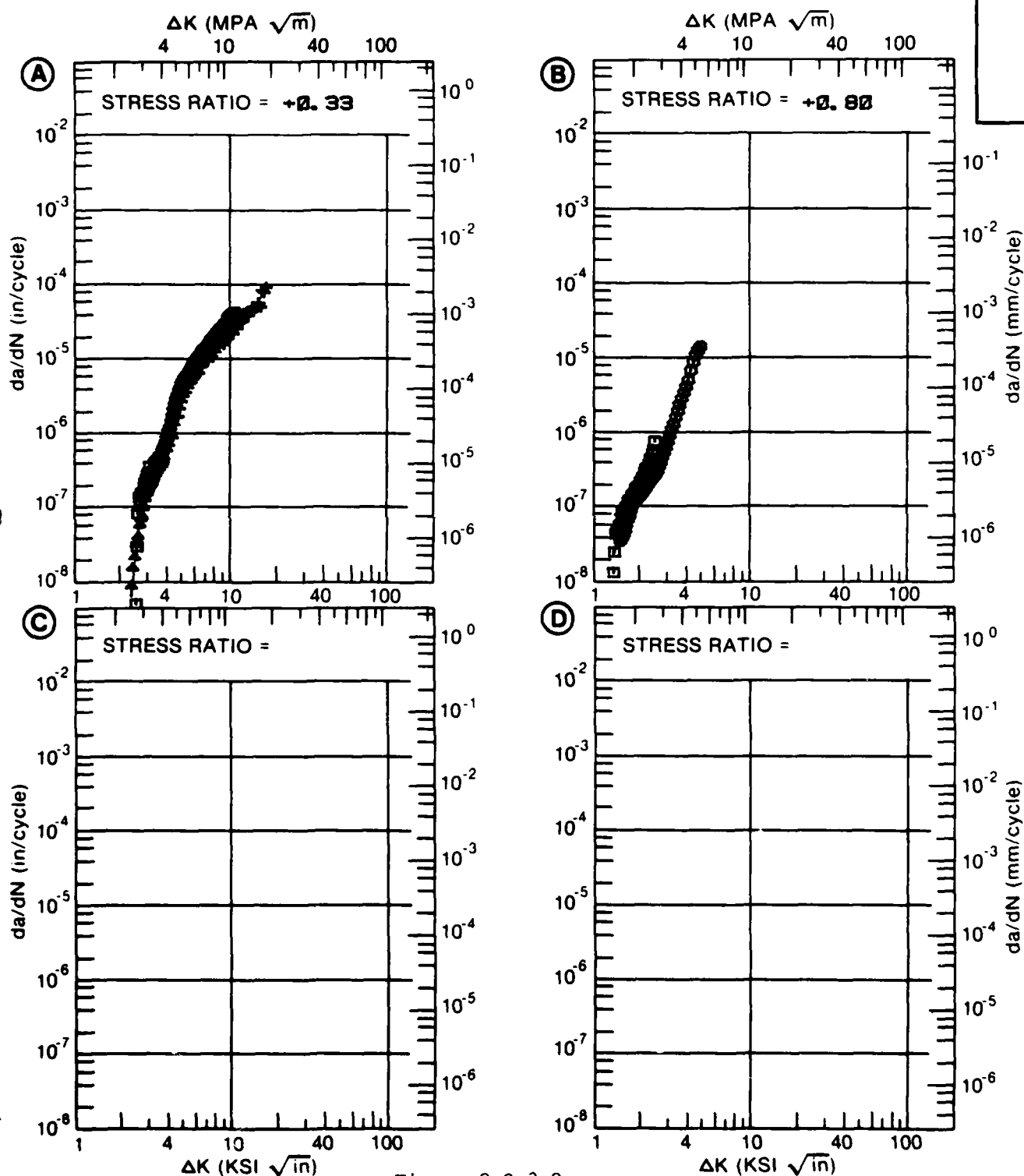


Figure 8.9.3.9

TABLE 8.9.3.10

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.10 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7075
 CONDITION: T651
 ENVIRONMENT: R. T. , LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		R=+0.02	R=+0.50		
DELTA K MIN	A:	5.43	.636		
	B:	3.97	1.00		
	C:				
	D:				
	4.00		1.05		
	5.00		3.04		
	6.00	1.09	5.28		
	7.00	2.50	7.65		
	8.00	4.30	10.7		
	9.00	6.28	15.0		
	10.00	8.32	21.2		
	13.00	15.4	61.8		
	16.00	27.1	179.		
	20.00	58.9	665.		
	25.00	152.			
	30.00	388.			
	35.00	958.			
	40.00	2267.			
DELTA K MAX	A:	49.76	7986.		
	B:	22.52	3850.		
	C:				
	D:				
ROOT MEAN SQUARE		39.73	11.82		
PERCENT ERROR					

LIFE 0.0-0.5
 PREDICTION 0.5-0.8
 RATIO 0.8-1.25
 SUMMARY 1.25-2.0
 (NP/NA) >2.0

CONDITION/HT: T651
 FORM: 0.30- 1.00" TH PLATE
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 0.10- 30.00 HZ
 ENVIRONMENT: R. T., LAB AIR

YIELD STRENGTH: 73.5- 78.5 KSI
 ULT. STRENGTH: 84.0- 84.5 KSI
 SPECIMEN THK: 0.150- 0.500"
 SPECIMEN WIDTH: 3.900"
 REFERENCES: MA008, MA009

ALUM.
 ALLOY

7075

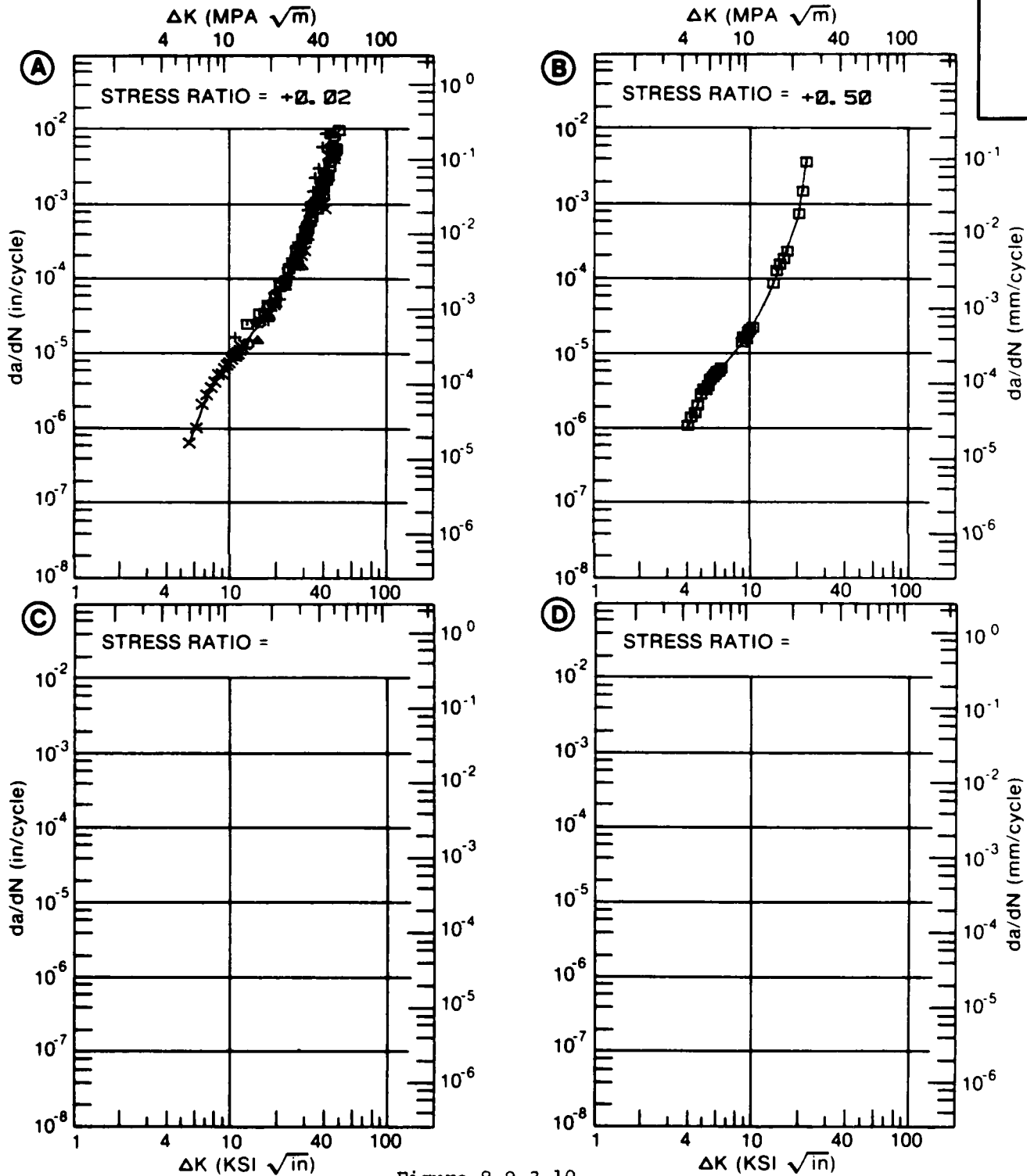


Figure 8.9.3.10

TABLE 8.9.3.11

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.11 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM 7075
CONDITION: T651

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T.			
		S. T. W.			
A:	4.29	.197			
DELTA K B:					
MIN C:					
D:					
	5.00	.925			
	6.00	2.54			
	7.00	5.16			
A:	7.62	8.68			
DELTA K B:					
MAX C:					
D:					

ROOT MEAN SQUARE 18.46
PERCENT ERRORLIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T651
 FORM: 0.63" TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION: T-L
 STRESS RATIO: +0.00
 FREQUENCY: 15.00 HZ

YIELD STRENGTH:
 ULT. STRENGTH:
 SPECIMEN THK:
 SPECIMEN WIDTH:
 REFERENCES: 88140

ALUM.
 ALLOY

7075

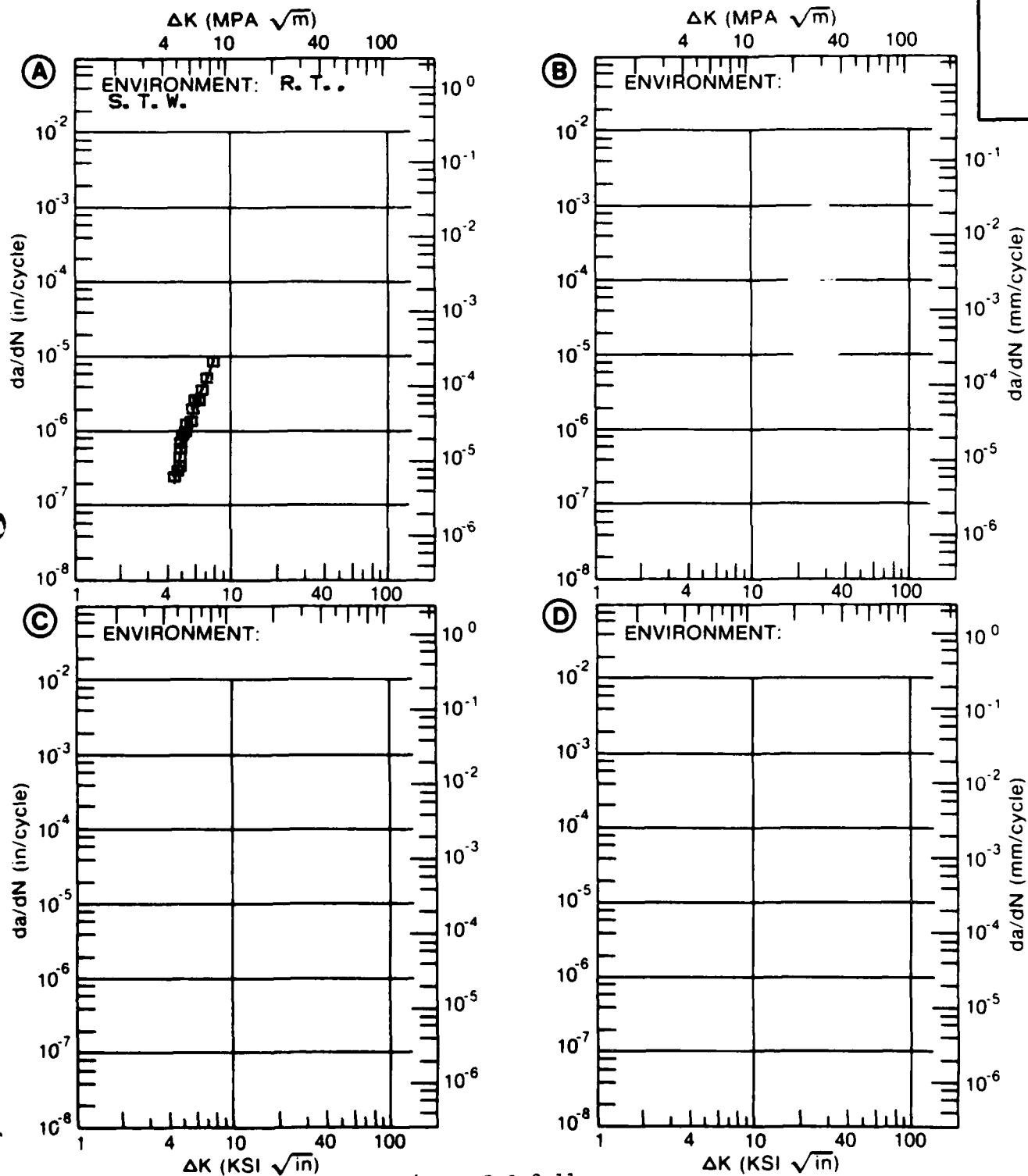


Figure 8.9.3.11

TABLE 8.9.3.12

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.12 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM		7075			
CONDITION: T651					
DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. DRY AIR	E= R. T. DIST. WATER	E= R. T. S. T. W.	E= R. T. 3. 5% NaCl
DELTA K	A: 5.81	.785			
MIN	B: 6.49		2.85		
	C: 8.71			22.1	
	D: 6.19				1.89
	6.00	.974			
	7.00	2.37	4.46		6.47
	8.00	4.38	8.31		6.12
	9.00	6.92	12.6	24.1	9.31
	10.00	9.99	17.3	30.3	22.7
	13.00	24.3	38.3	51.4	73.2
	16.00		98.7	105.	94.7
DELTA K	A: 15.70	52.2			
MAX	B: 18.17		232.		
	C: 19.15			321.	
	D: 18.87				270.
ROOT MEAN SQUARE		29.98	17.02	10.39	15.10
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25				
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T651
 FORM: 0.63" TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION: T-L
 STRESS RATIO: +0.10
 FREQUENCY: 1.00 HZ

YIELD STRENGTH:
 ULT. STRENGTH:
 SPECIMEN THK:
 SPECIMEN WIDTH:
 REFERENCES: 88140

ALUM.
 ALLOY

7075

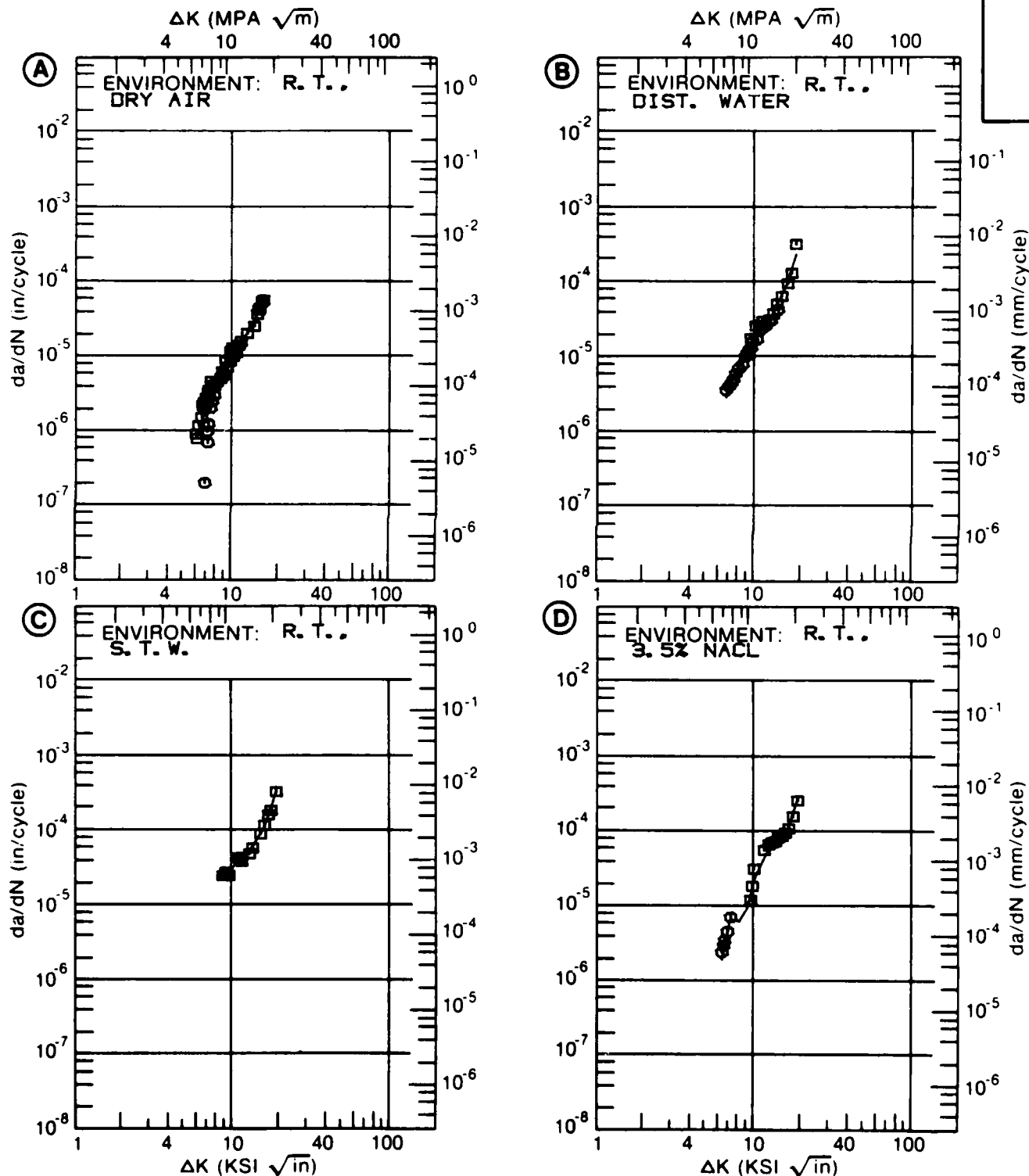


Figure 8.9.3.12

TABLE 8.9.3.13

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.13 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM 7075
CONDITION: T651

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		E= R. T. WATER SATURATED JP-4 FUEL		E= R. T. ALT. JP-4 FUEL & DIST. WATER	
DELTA K MIN	A: 11.25	11.4			
	B: 9.25		10.6		
	C:				
	D:				
	10.00		12.5		
	13.00	17.9	26.1		
	16.00	43.7	60.5		
DELTA K MAX	A: 19.59	204.			
	B: 19.37		167.		
	C:				
	D:				

ROOT MEAN SQUARE 14.72 20.29
PERCENT ERROR

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T651
 FORM: 0.63" TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION: T-L
 STRESS RATIO: +0.10
 FREQUENCY: 1.00 HZ

YIELD STRENGTH:
 ULT. STRENGTH:
 SPECIMEN THK:
 SPECIMEN WIDTH:
 REFERENCES: 88140

ALUM.
 ALLOY

7075

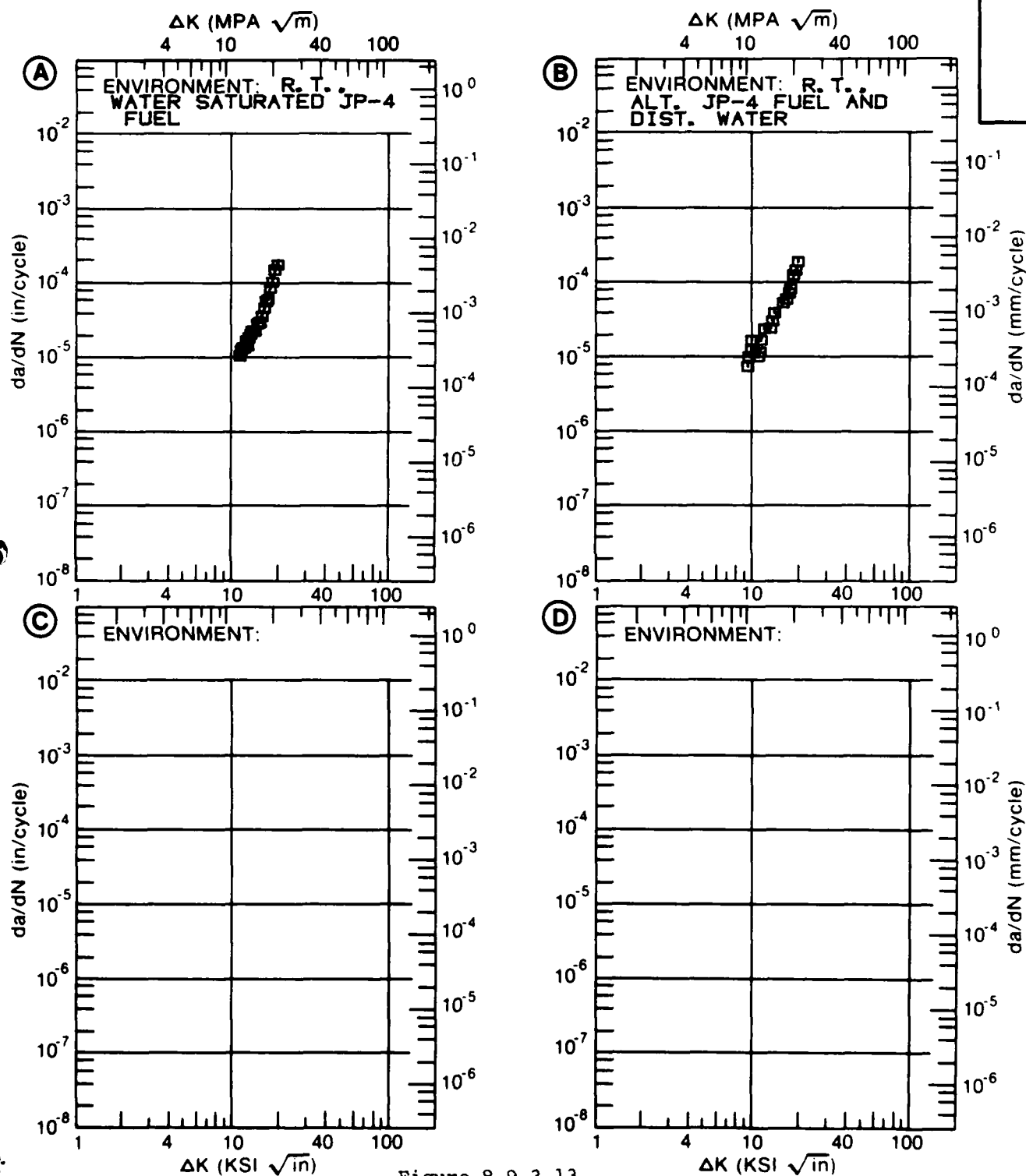


Figure 8.9.3.13

TABLE 8.9.3.14

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.14 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM
CONDITION: T651

7075

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. WATER SATURATED JP-4 FUEL	E= R. T. DIST. WATER	E= R. T. S. T. W.	E= R. T. 3.5% NaCl
DELTA K MIN	A:	8.99	6.90		
	B:	9.16	8.04		
	C:	8.86		31.9	
	D:	7.86			18.3
		8.00			19.6
		9.00	6.93	33.5	27.9
		10.00	10.8	44.1	35.1
		13.00	24.0	78.1	57.7
		16.00	46.7		112.
		20.00	146.		
DELTA K MAX	A:	20.08	150.		
	B:	19.65	163.		
	C:	13.91		94.4	
	D:	19.42			353.
ROOT MEAN SQUARE		12.03	11.43	8.50	12.42
PERCENT ERROR					

LIFE 0.0-0.5
 PREDICTION 0.5-0.8
 RATIO 0.8-1.25
 SUMMARY 1.25-2.0
 (NP/NA) >2.0

CONDITION/HT: T851
 FORM: 0.63" TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION: T-L
 STRESS RATIO: +0.10
 FREQUENCY: 0.10 HZ

YIELD STRENGTH:
 ULT. STRENGTH:
 SPECIMEN THK:
 SPECIMEN WIDTH:
 REFERENCES: 88140

ALUM.
 ALLOY

7075

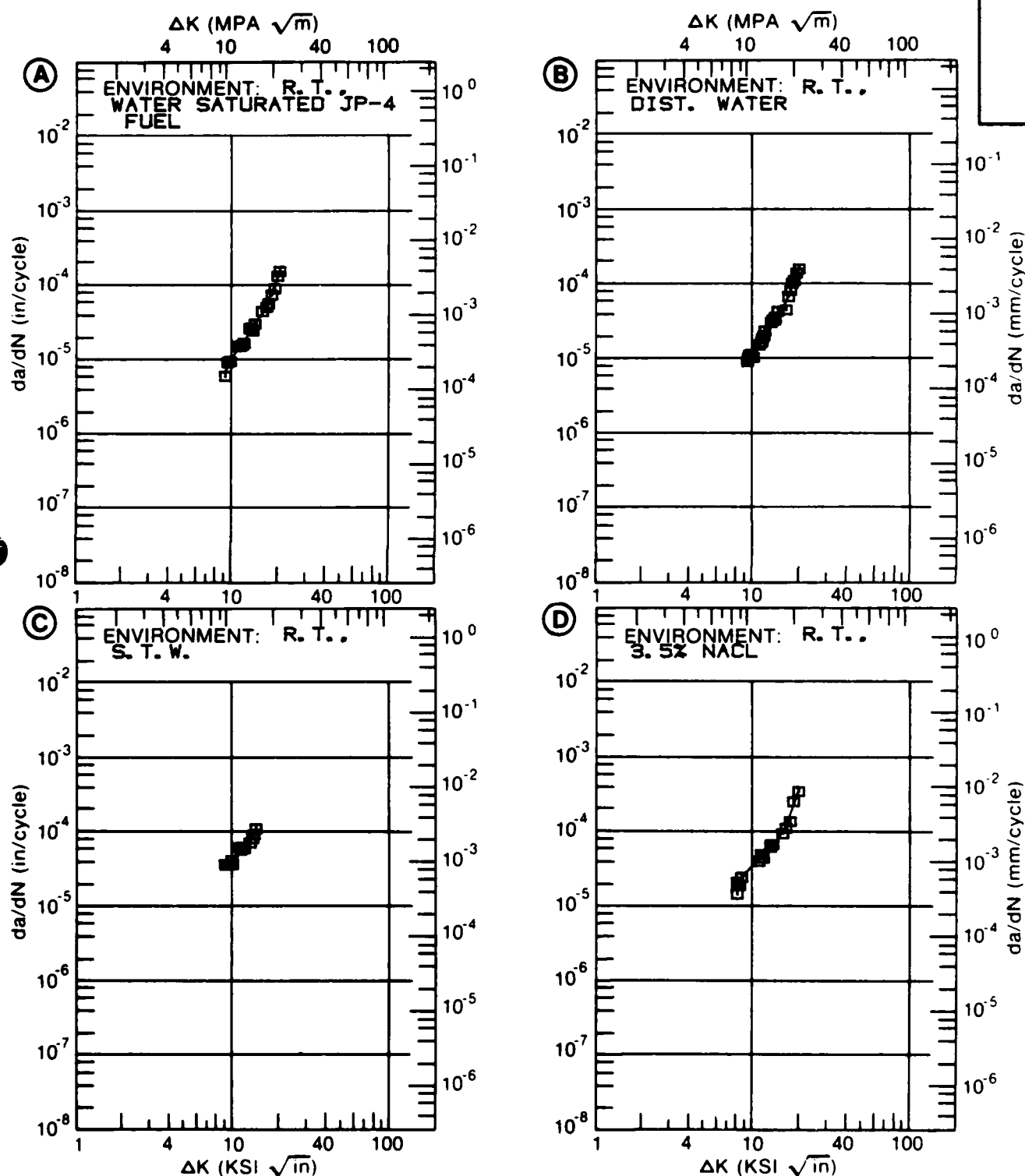


Figure 8.9.3.14

TABLE 8.9.3.15

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.15 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM
CONDITION: T651

7075

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. DRY AIR	E= R. T. DIST. WATER	E= R. T. S. T. W.	E= R. T. 3. 5% NACL
DELTA K MIN	A:	3. 96	. 158		
	B:	5. 58	8. 38		
	C:	3. 53		. 517	
	D:	3. 38			. 167
		3. 50			. 246
		4. 00	. 187	. 982	1. 98
		5. 00	2. 16	8. 63	6. 03
		6. 00	4. 88	18. 6	10. 3
		7. 00	6. 84	23. 6	18. 4
		8. 00	9. 54	29. 4	29. 6
DELTA K MAX		9. 00	16. 1	43. 9	41. 1
		10. 00	35. 6	75. 9	
	A:	10. 25	45. 4		
	B:	8. 82	33. 3		
	C:	10. 94		139.	
	D:	9. 54			45. 9
ROOT MEAN SQUARE		18. 28	4. 22	21. 92	21. 21
PERCENT ERROR					
LIFE	0. 0-0. 5				
PREDICTION	0. 5-0. 8				
RATIO	0. 8-1. 25				
SUMMARY	1. 25-2. 0				
(NP/NA)	>2. 0				

CONDITION/HT: T651
 FORM: 0.63" TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION: T-L
 STRESS RATIO: +0.50
 FREQUENCY: 1.00 HZ

YIELD STRENGTH:
 ULT. STRENGTH:
 SPECIMEN THK:
 SPECIMEN WIDTH:
 REFERENCES: 98140

ALUM.
 ALLOY

7075

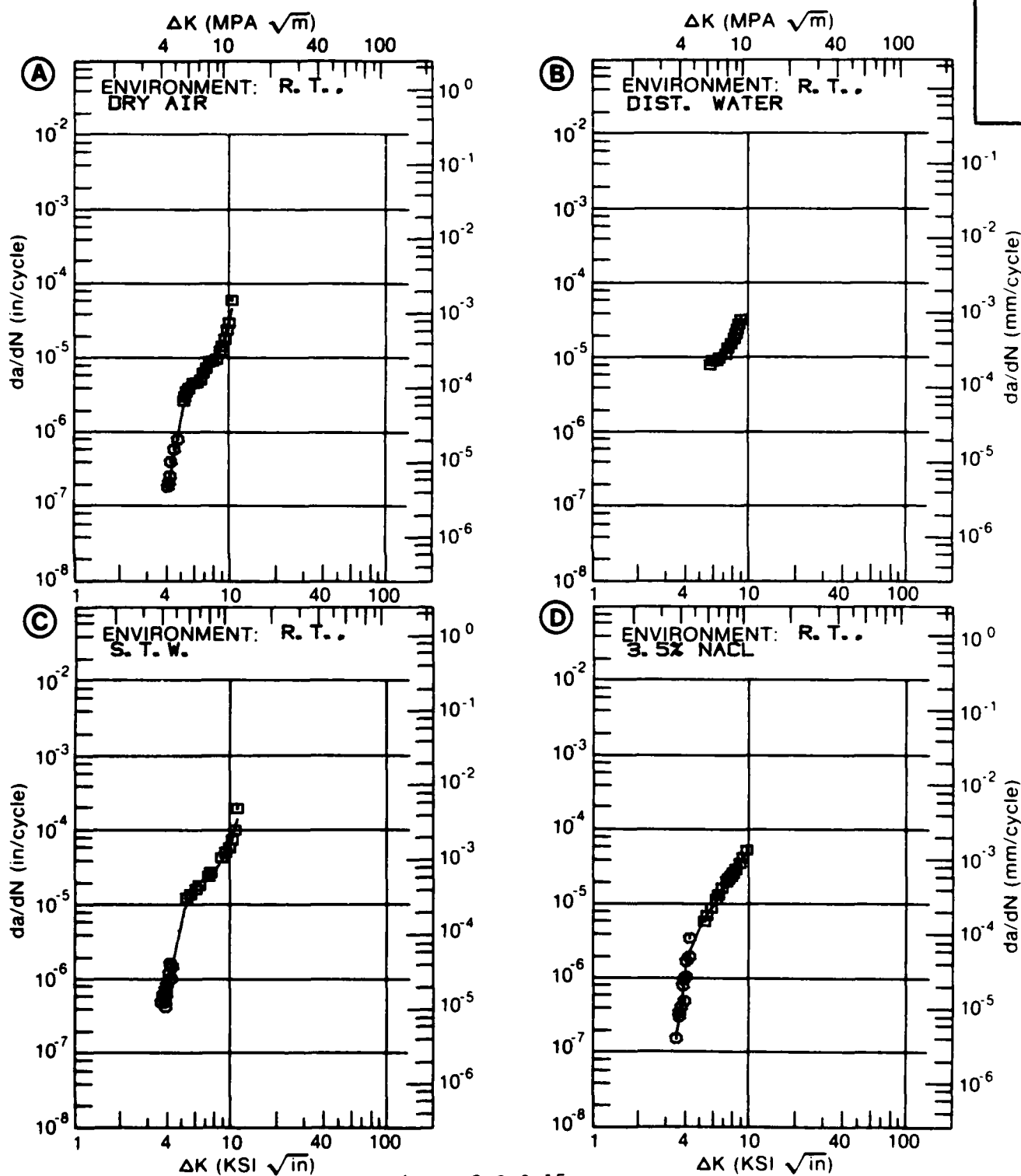


Figure 8.9.3.15

TABLE 8.9.3.16

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.16 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM		7075			
CONDITION: T651					
DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. DIST. WATER	E= R. T. WATER SATURATED JP-4 FUEL	E= R. T. ALT. JP-4 FUEL & DIST. WATER	
DELTA K	A: 6.27	6.51			
MIN	B: 3.50		.444		
	C: 2.88			.597	
	D:				
	3.00			.740	
	3.50		.444	1.13	
	4.00		.851	1.31	
	5.00		3.39	2.52	
	6.00		5.49	9.11	
	7.00	10.1	7.14	14.2	
	8.00	14.9	10.3	14.6	
	9.00	22.0	18.5		
	10.00	36.6	43.6		
DELTA K	A: 11.15	81.4			
MAX	B: 10.23		55.1		
	C: 8.30			20.0	
	D:				
ROOT MEAN SQUARE		6.97	13.51	12.76	
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25				
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T651
 FORM: Ø. 63" TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION: T-L
 STRESS RATIO: +Ø. 5Ø
 FREQUENCY: 1. ØØ HZ

YIELD STRENGTH:
 ULT. STRENGTH:
 SPECIMEN THK:
 SPECIMEN WIDTH:
 REFERENCES: ØØ14Ø

ALUM.
 ALLOY

7Ø75

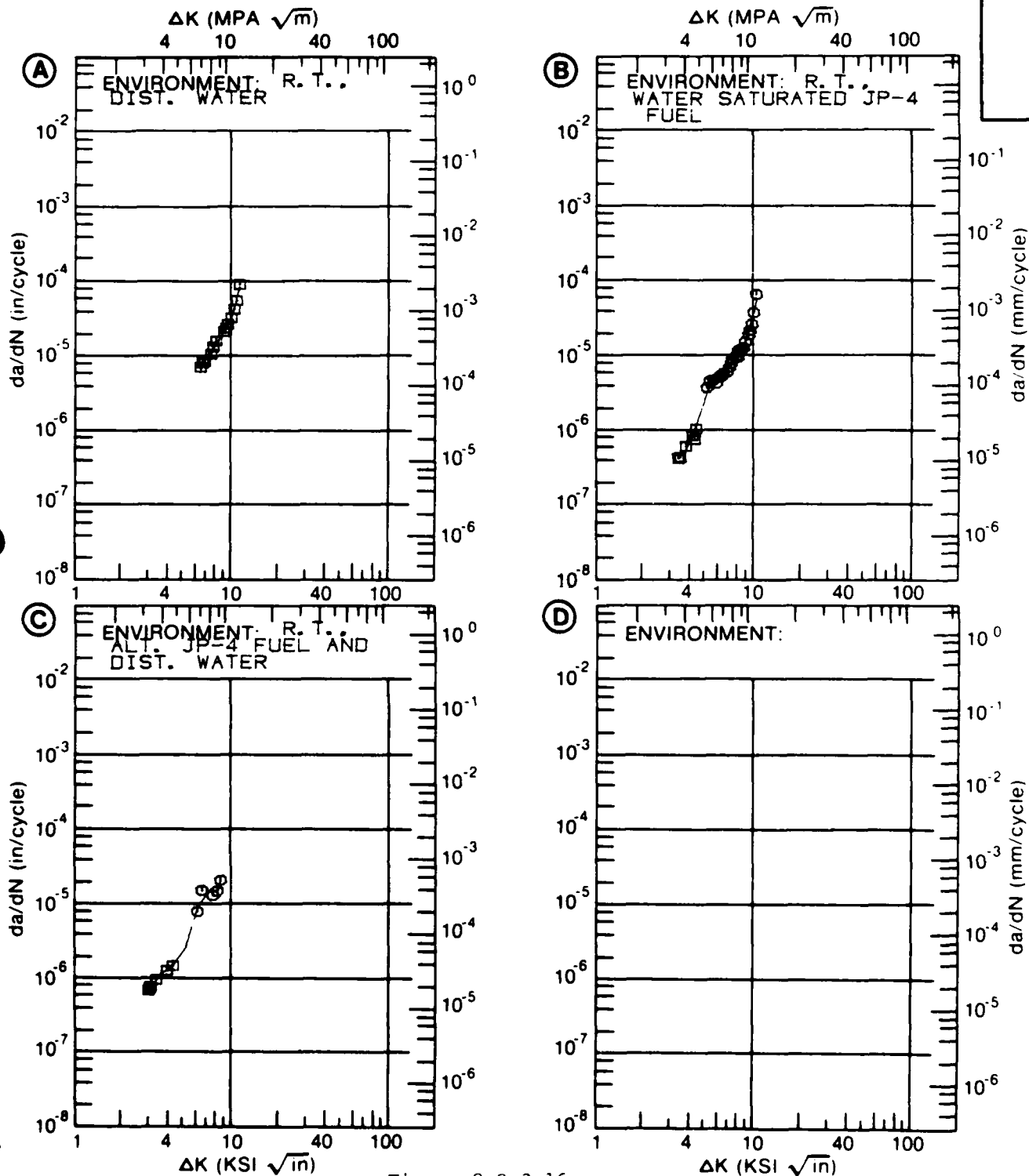


Figure 8.9.3.16

TABLE 8.9.3.17

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.17 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM		7075			
CONDITION: T651					
DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E=+ 175F DRY AIR	E=+ 175F JP-4 FUEL	E=+ 175F DIST. WATER	E=+ 175F 3.5% NaCl
DELTA K MIN	A:	5.11	2.62		
	B:	7.10	5.35		
	C:	5.41		2.13	
	D:	5.23			6.06
		6.00	2.88	4.88	12.3
		7.00	4.83	9.55	22.9
		8.00	10.0	13.4	34.2
		9.00	12.1	19.3	44.1
		10.00		33.0	51.5
DELTA K MAX	A:	7.00	4.83		
	B:	9.99	30.2		
	C:	11.51		120.	
	D:	11.40			57.4
ROOT MEAN SQUARE		19.87	12.94	28.74	6.73
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25				
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T651
 FORM: Ø. 63" TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION: T-L
 STRESS RATIO: +0.50
 FREQUENCY: 1.00 HZ

YIELD STRENGTH:
 ULT. STRENGTH:
 SPECIMEN THK:
 SPECIMEN WIDTH:
 REFERENCES: 88140

ALUM.
 ALLOY

7075

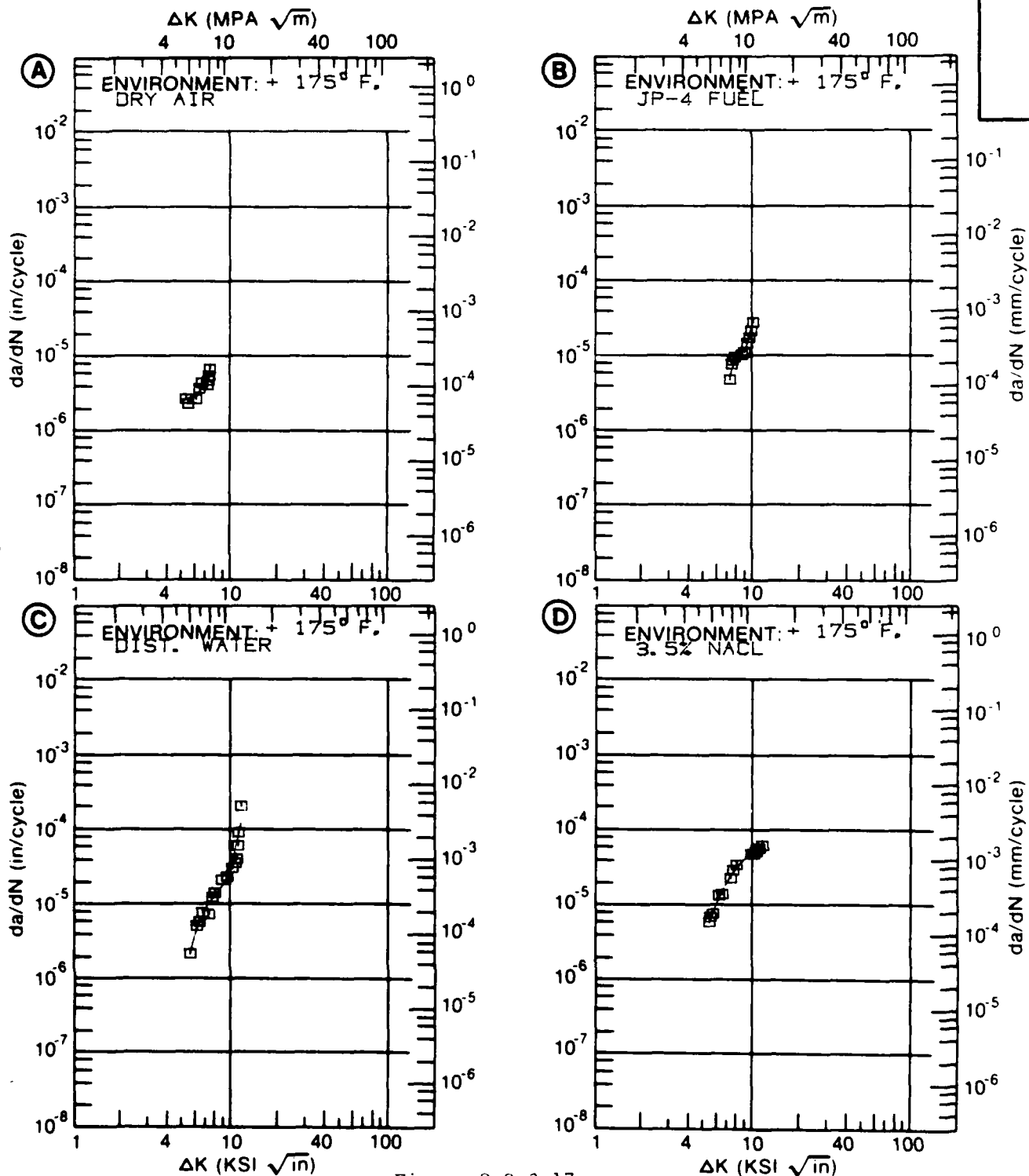


Figure 8.9.3.17

TABLE 8.9.3.18

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.18 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM
CONDITION: T651

7075

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. DRY AIR	E= R. T. DIST. WATER	E= R. T. 3. 5% NACL	
DELTA K MIN	A: 5.35	2.74			
	B: 4.90		3.16		
	C: 5.19			7.56	
	D:				
	5.00		3.21		
	6.00	7.19	5.34	11.9	
	7.00	10.3	9.90	24.9	
	8.00	15.7	15.5	31.1	
	9.00	24.9	23.7	38.0	
	10.00	39.7	38.8	60.2	
DELTA K MAX	A: 10.31	45.9			
	B: 10.66		57.4		
	C: 11.28			192.	
	D:				
ROOT MEAN SQUARE PERCENT ERROR		21.97	9.93	17.22	

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T651
 FORM: 0.63" TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION: T-L
 STRESS RATIO: +0.50
 FREQUENCY: 0.10 HZ

YIELD STRENGTH:
 ULT. STRENGTH:
 SPECIMEN THK:
 SPECIMEN WIDTH:
 REFERENCES: 88140

ALUM.
 ALLOY

7075

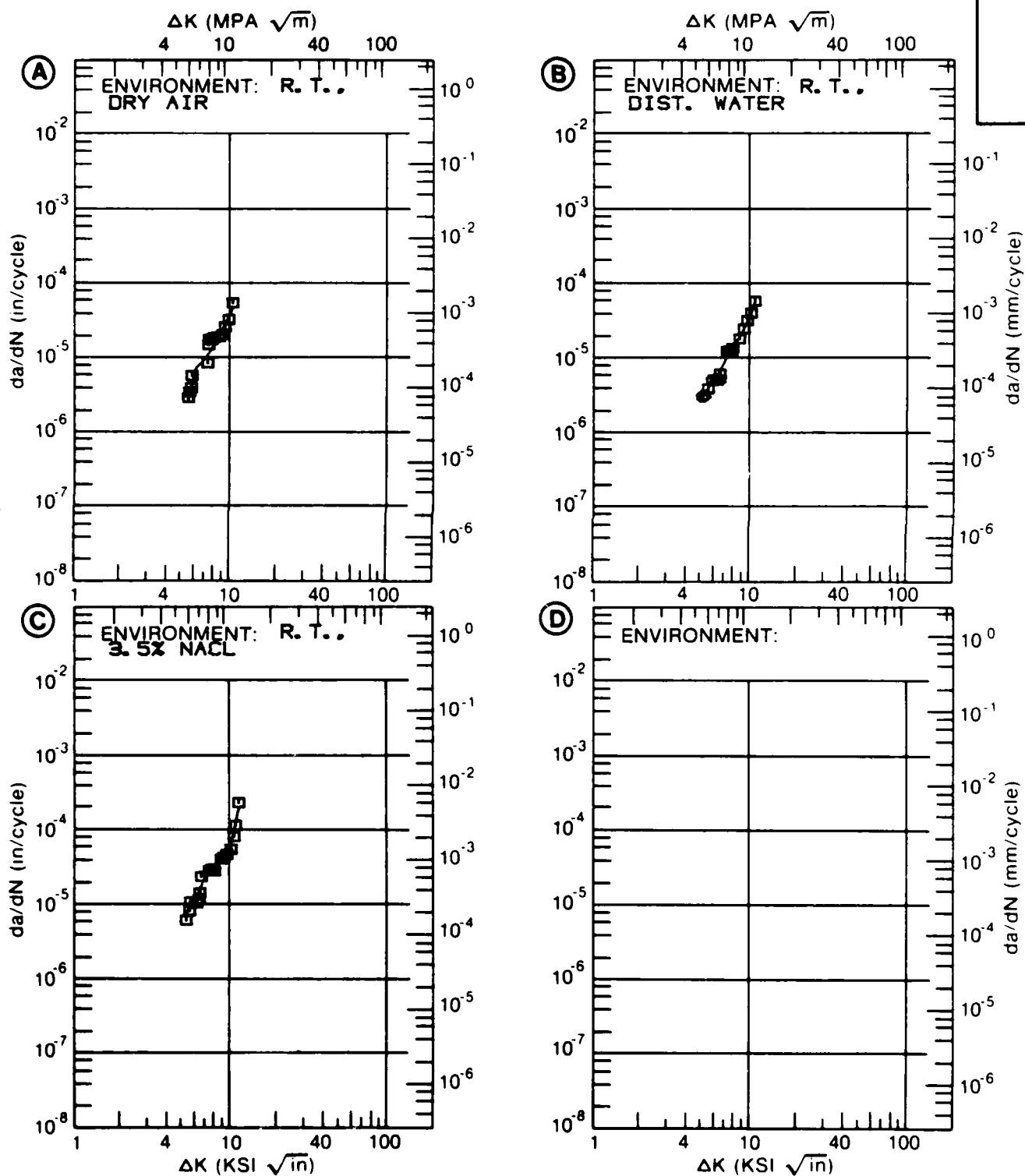


Figure 8.9.3.18

TABLE 8.9.3.19

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.19 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM 7075
CONDITION: T651

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. WATER SATURATED JP-4 FUEL			
DELTA K MIN	A: 4.90	3.86			
	B:				
	C:				
	D:				
	5.00	3.88			
	6.00	5.30			
	7.00	8.64			
	8.00	13.1			
	9.00	17.8			
	10.00	26.7			
DELTA K MAX	A: 11.02	51.9			
	B:				
	C:				
	D:				

ROOT MEAN SQUARE 13.01
PERCENT ERROR

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T651
 FORM: 0.63" TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION: T-L
 STRESS RATIO: +0.50
 FREQUENCY: 0.10 HZ

YIELD STRENGTH:
 ULT. STRENGTH:
 SPECIMEN THK:
 SPECIMEN WIDTH:
 REFERENCES: 88140

ALUM.
 ALLOY

7075

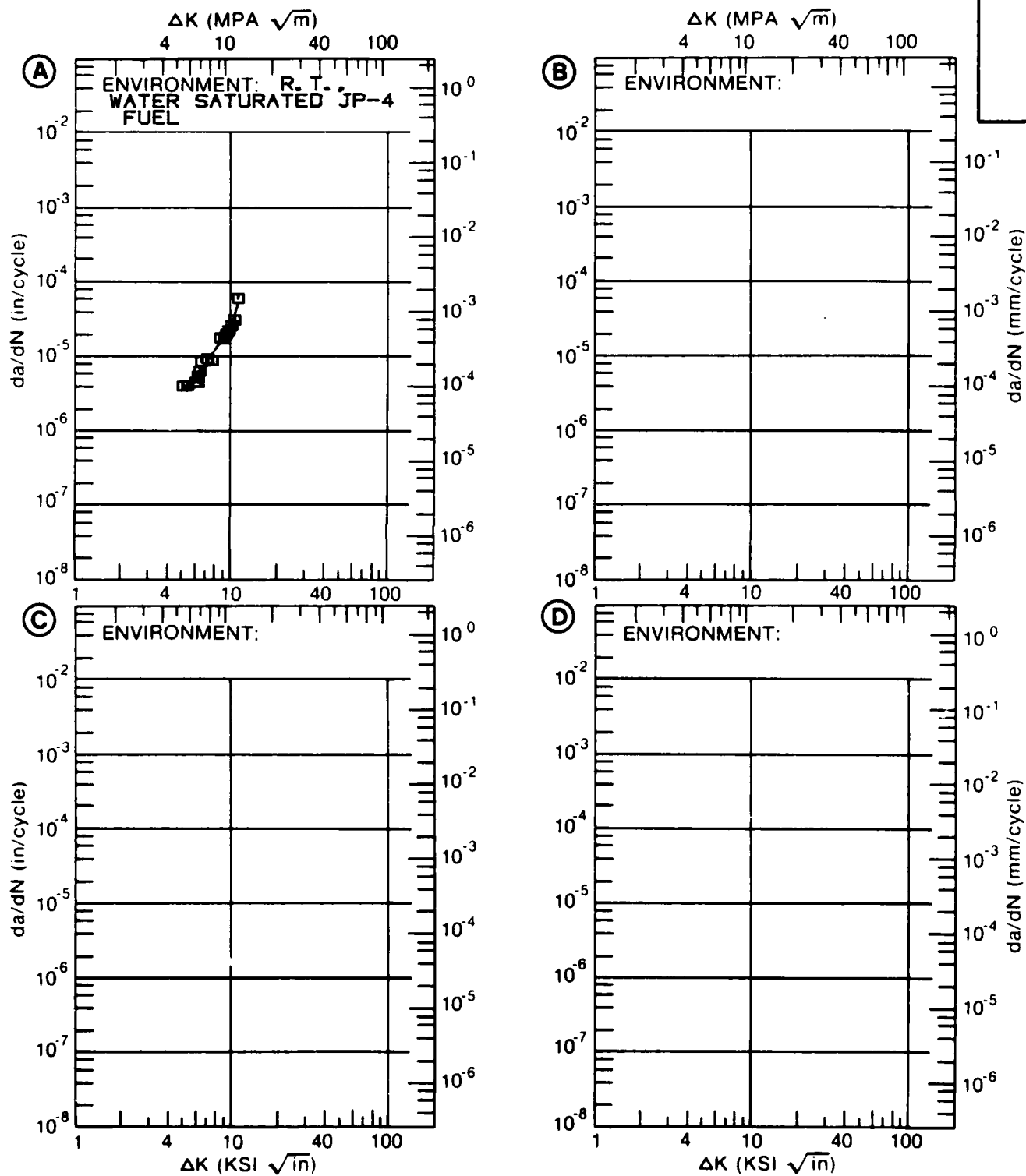


Figure 8.9.3.19

TABLE 8.9.3.20

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.20 INDICATING EFFECT
OF FREQUENCY

MATERIAL: ALUMINUM 7075				
CONDITION: T651				
ENVIRONMENT: R. T. , 3.5% NaCl				
DELTA K (KSI*IN**1/2)	DA/DN (10**-6 IN./CYCLE)			
	A	B	C	D
	F(HZ)= 15.00			
A:				
DELTA K B:				
MIN C:				
D:				
200.00				
A:				
DELTA K B:				
MAX C:				
D:				
ROOT MEAN SQUARE	0.00			
PERCENT ERROR				
LIFE	0.0-0.5			
PREDICTION	0.5-0.8			
RATIO	0.8-1.25			
SUMMARY	1.25-2.0			
(NP/NA)	>2.0			

CONDITION/HT: T651
 FORM: 0.63" TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION: T-L
 STRESS RATIO: +0.50
 ENVIRONMENT: R. T., 3.5% NaCl

YIELD STRENGTH:
 ULT. STRENGTH:
 SPECIMEN THK:
 SPECIMEN WIDTH:
 REFERENCES: 88140

ALUM.
 ALLOY

7075

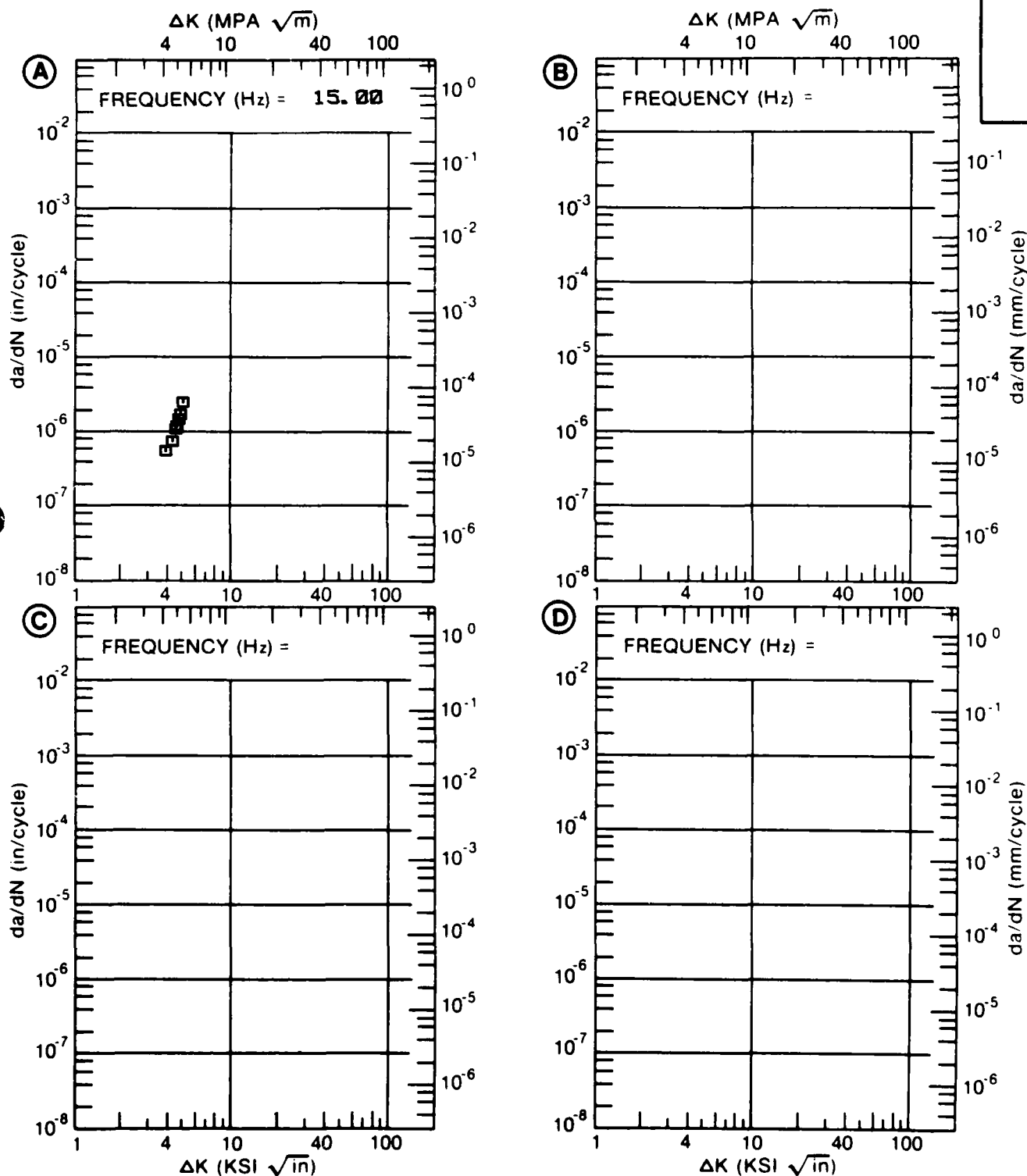


Figure 8.9.3.20

TABLE 8.9.3.21

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.21 INDICATING EFFECT
OF ENVIRONMENT

MATERIAL: ALUMINUM 7075
CONDITION: T651

DELTA K
(KSI*IN**1/2)

DA/DN (10**-6 IN./CYCLE)

A

B

C

D

E= R. T.
NITROGEN GAS

DELTA K	A:	3.78	:	.138
MIN	B:		:	
	C:		:	
	D:		:	
		4.00	:	.215
		5.00	:	1.09
		6.00	:	3.23
		7.00	:	6.29
		8.00	:	8.85

DELTA K	A:	8.80	:	9.66
MAX	B:		:	
	C:		:	
	D:		:	

ROOT MEAN SQUARE 28.25
PERCENT ERROR

LIFE	0.0-0.5	
PREDICTION	0.5-0.8	
RATIO	0.8-1.25	1
SUMMARY	1.25-2.0	1
(NP/NA)	>2.0	

CONDITION/HT: T851
 FORM: 1.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: T-L
 STRESS RATIO: +0.50
 FREQUENCY: 20.00 HZ

YIELD STRENGTH: 70.0 KSI
 ULT. STRENGTH:
 SPECIMEN THK: 0.515"
 SPECIMEN WIDTH: 1.031- 1.032"
 REFERENCES: MR001

ALUM.
 ALLOY

7075

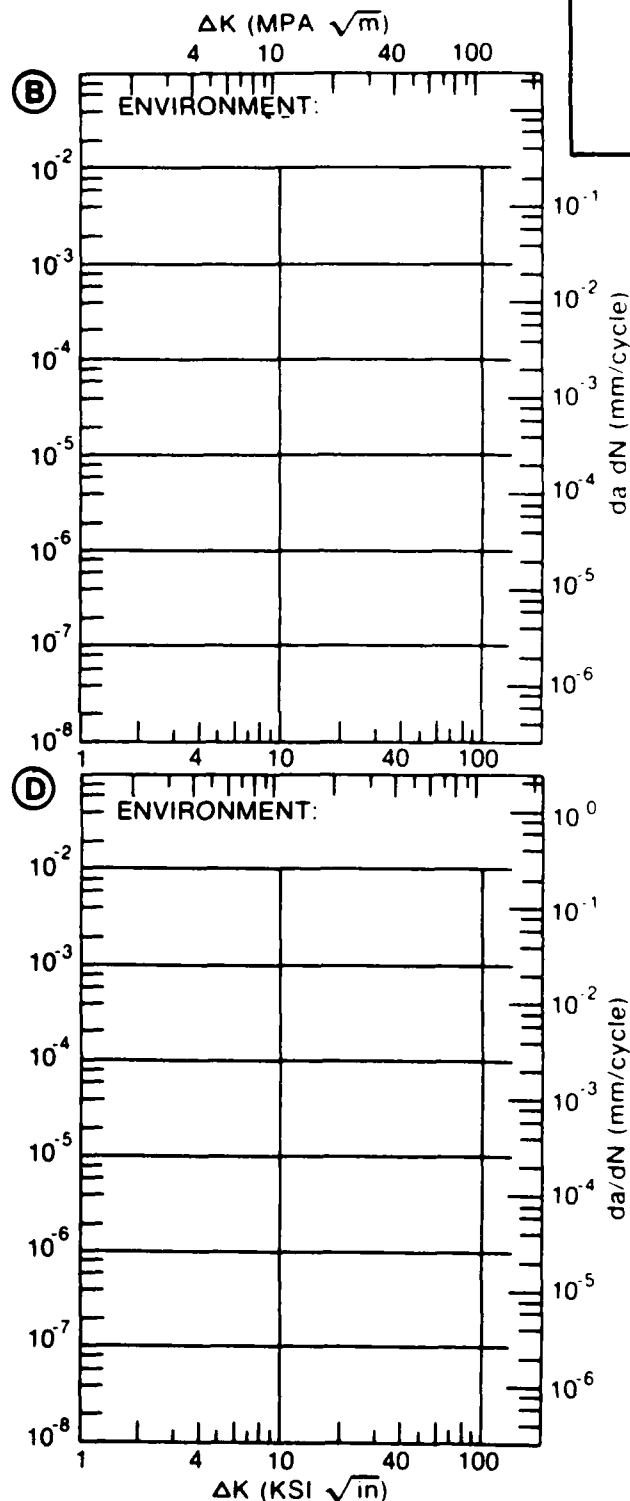
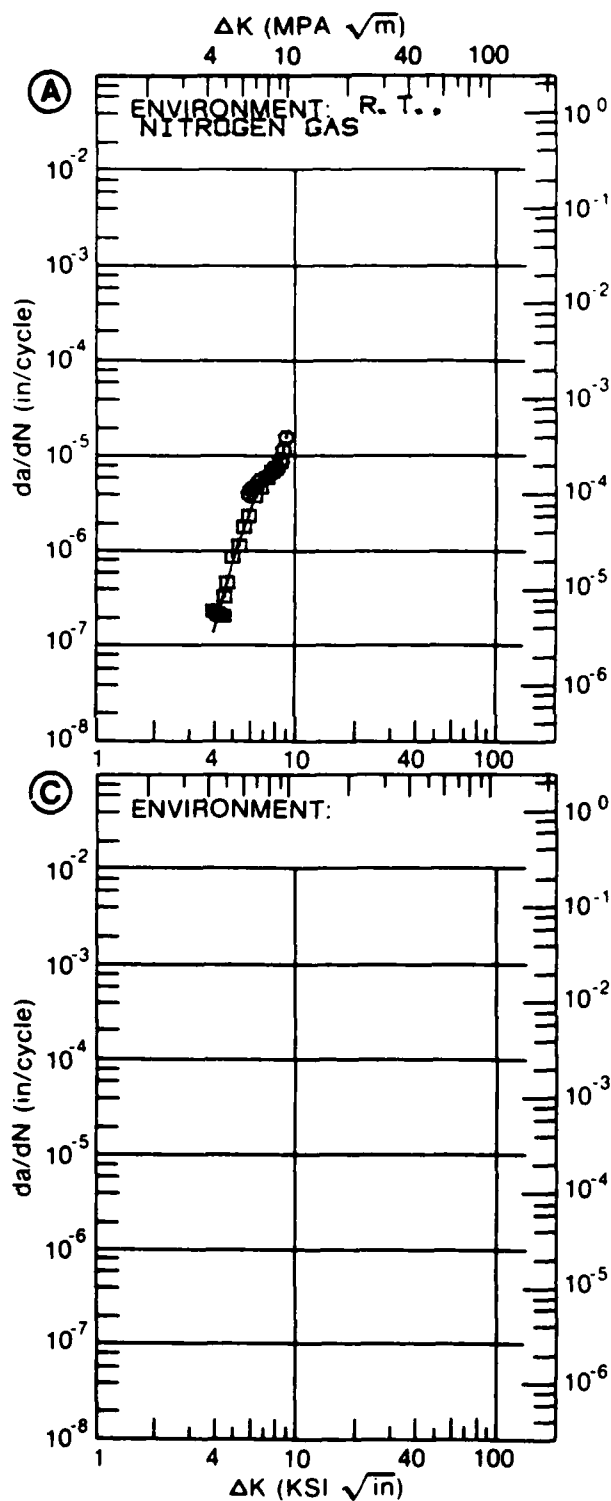


Figure 8.9.3.21

TABLE 8.9.3.22

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.22 INDICATING EFFECT
OF FREQUENCY

MATERIAL: ALUMINUM 7075
CONDITION: T651
ENVIRONMENT: R. T. , 3.5% NaCl

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		F(HZ)= 0.20			
DELTA K MIN	A:	3.33	1.81		
	B:				
	C:				
	D:				
		3.50	3.09		
		4.00	5.24		
DELTA K MAX	A:	4.40	11.9		
	B:				
	C:				
	D:				

ROOT MEAN SQUARE 24.66
PERCENT ERROR

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25 1
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T651
 FORM: 1.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: T-L
 STRESS RATIO: +0.50
 ENVIRONMENT: R. T., 3.5% NaCl

YIELD STRENGTH: 70.0 KSI
 ULT. STRENGTH:
 SPECIMEN THK: 0.514"
 SPECIMEN WIDTH: 1.029"
 REFERENCES: MR001

ALUM.
 ALLOY

7075

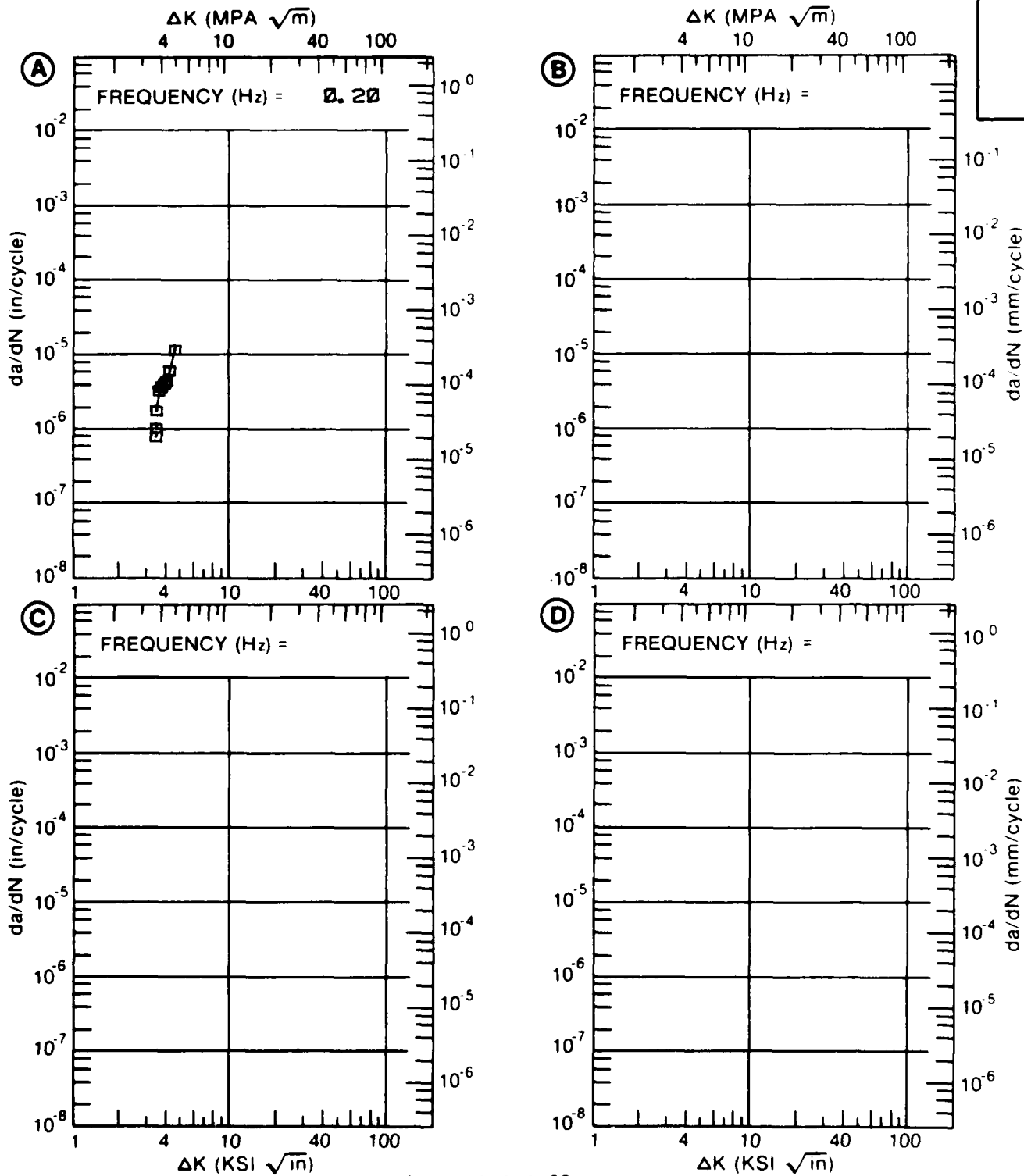


Figure 8.9.3.22

TABLE 8.9.3.23

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.23 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM
CONDITION: T651

7075

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		E= R. T. 3. 5% NACL, 20HZ		E= R. T. NITROGEN GAS, 20HZ	
DELTA K MIN	A:	3. 99	19. 3		
	B:	3. 41		1. 02	
	C:				
	D:				
		3. 50		1. 04	
		4. 00	19. 5	1. 21	
		5. 00	39. 5	1. 86	
		6. 00	58. 9	3. 03	
		7. 00		4. 96	
DELTA K MAX	A:	6. 92	73. 4		
	B:	7. 75		7. 13	
	C:				
	D:				
ROOT MEAN SQUARE		15. 21	15. 46		
PERCENT ERROR					
LIFE	0. 0-0. 5				
PREDICTION	0. 5-0. 8				
RATIO	0. 8-1. 25	2	3		
SUMMARY	1. 25-2. 0				
(NP/NA)	>2. 0				

CONDITION/HT: T651
 FORM: 1.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: S-T
 STRESS RATIO: +0.50
 FREQUENCY:

YIELD STRENGTH: 70.0 KSI
 ULT. STRENGTH:
 SPECIMEN THK: 0.510- 0.512"
 SPECIMEN WIDTH: 1.022- 1.029"
 REFERENCES: MR001

ALUM.
 ALLOY

7075

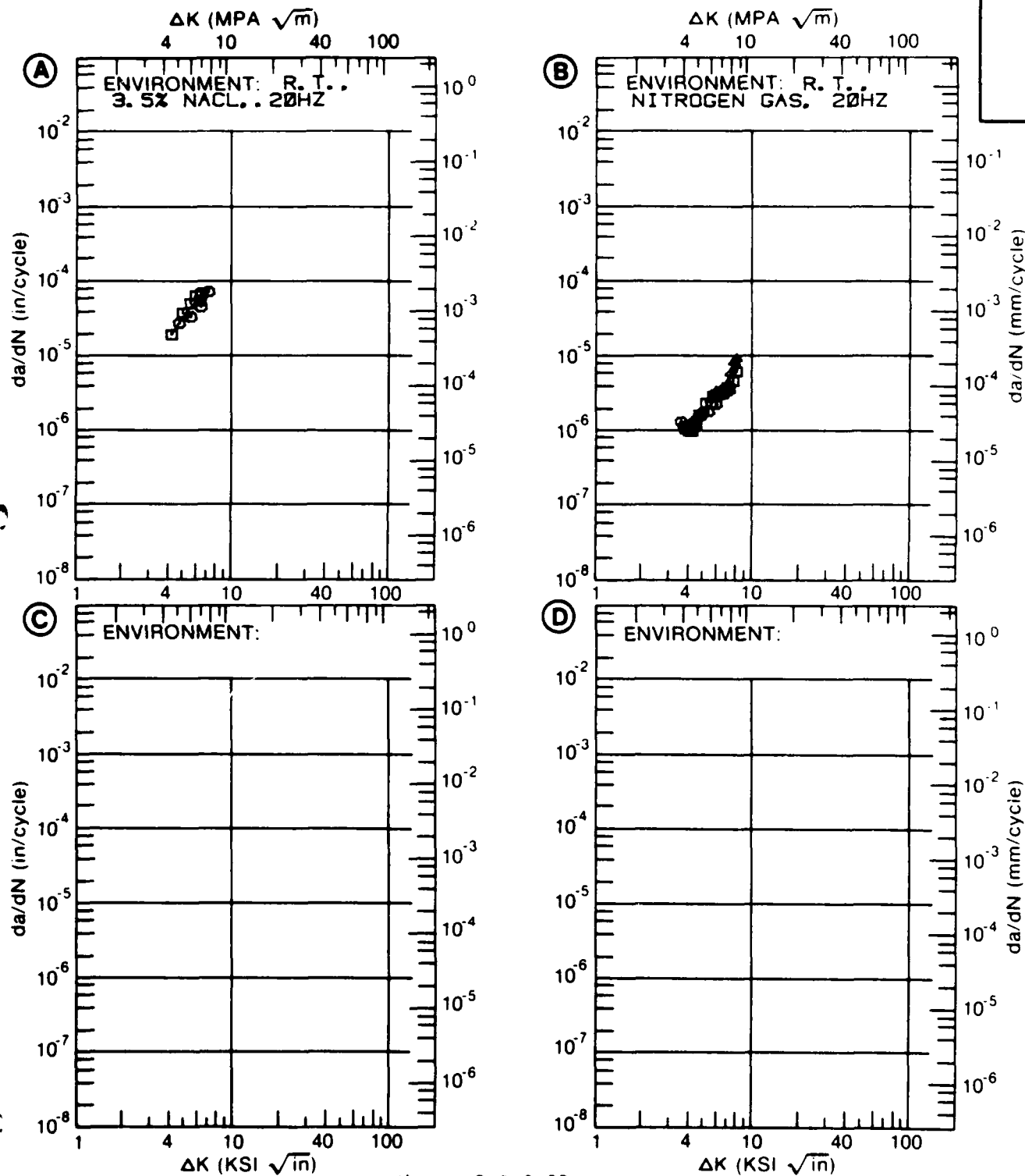


Figure 8.9.3.23

TABLE 8.9.3.24

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.24 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM 7075
CONDITION: T651

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. LAB AIR			
DELTA K MIN	A:	4.07	.499		
	B:				
	C:				
	D:				
	5.00	1.64			
	6.00	3.46			
	7.00	5.95			
	8.00	9.37			
	9.00	13.5			
	10.00	17.8			
	13.00	26.7			
	16.00	35.6			
	20.00	66.6			
	25.00	207.			
	30.00	852.			
DELTA K MAX	A:	30.45	978.		
	B:				
	C:				
	D:				

ROOT MEAN SQUARE 72.58
PERCENT ERROR

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T851
 FORM: 2.50" TH PLATE
 SPECIMEN TYPE: WOL
 ORIENTATION: L-T
 STRESS RATIO: +0.02
 FREQUENCY: 1.00- 30.00 HZ

YIELD STRENGTH: 75.5 KSI
 ULT. STRENGTH: 85.0- 86.5 KSI
 SPECIMEN THK: 1.250"
 SPECIMEN WIDTH: 5.000"
 REFERENCES: MA012, MA011

ALUM.
 ALLOY

7075

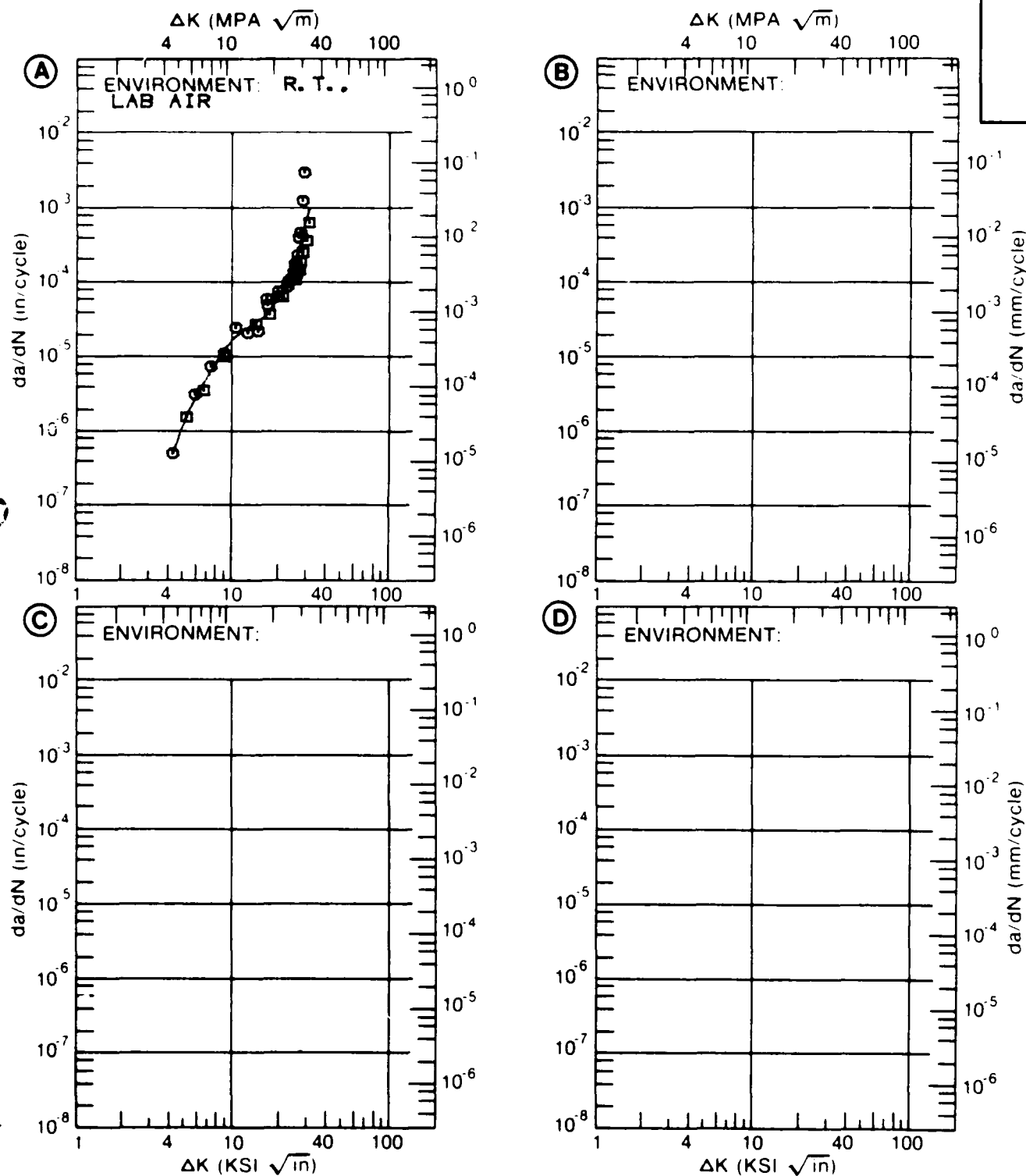


Figure 8.9.3.24

TABLE 8.9.3.25

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.25 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM		7075			
CONDITION: T651					
ENVIRONMENT: R. T., H. H. A.					
DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.33			
DELTA K MIN	A:	4.03	222		
	B:				
	C:				
	D:				
	5.00	1.05			
	6.00	3.06			
	7.00	6.53			
	8.00	11.4			
	9.00	17.5			
	10.00	24.5			
	13.00	48.6			
DELTA K MAX	A:	14.95	65.5		
	B:				
	C:				
	D:				
ROOT MEAN SQUARE		16.53			
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1			
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T651
 FORM: 2.75" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 FREQUENCY: 20.00 HZ
 ENVIRONMENT: R. T., H. H. A.

YIELD STRENGTH: 68.8 KSI
 ULT. STRENGTH: 79.6 KSI
 SPECIMEN THK: 0.247"
 SPECIMEN WIDTH: 2.000"
 REFERENCES: AL005

ALUM.
 ALLOY

7075

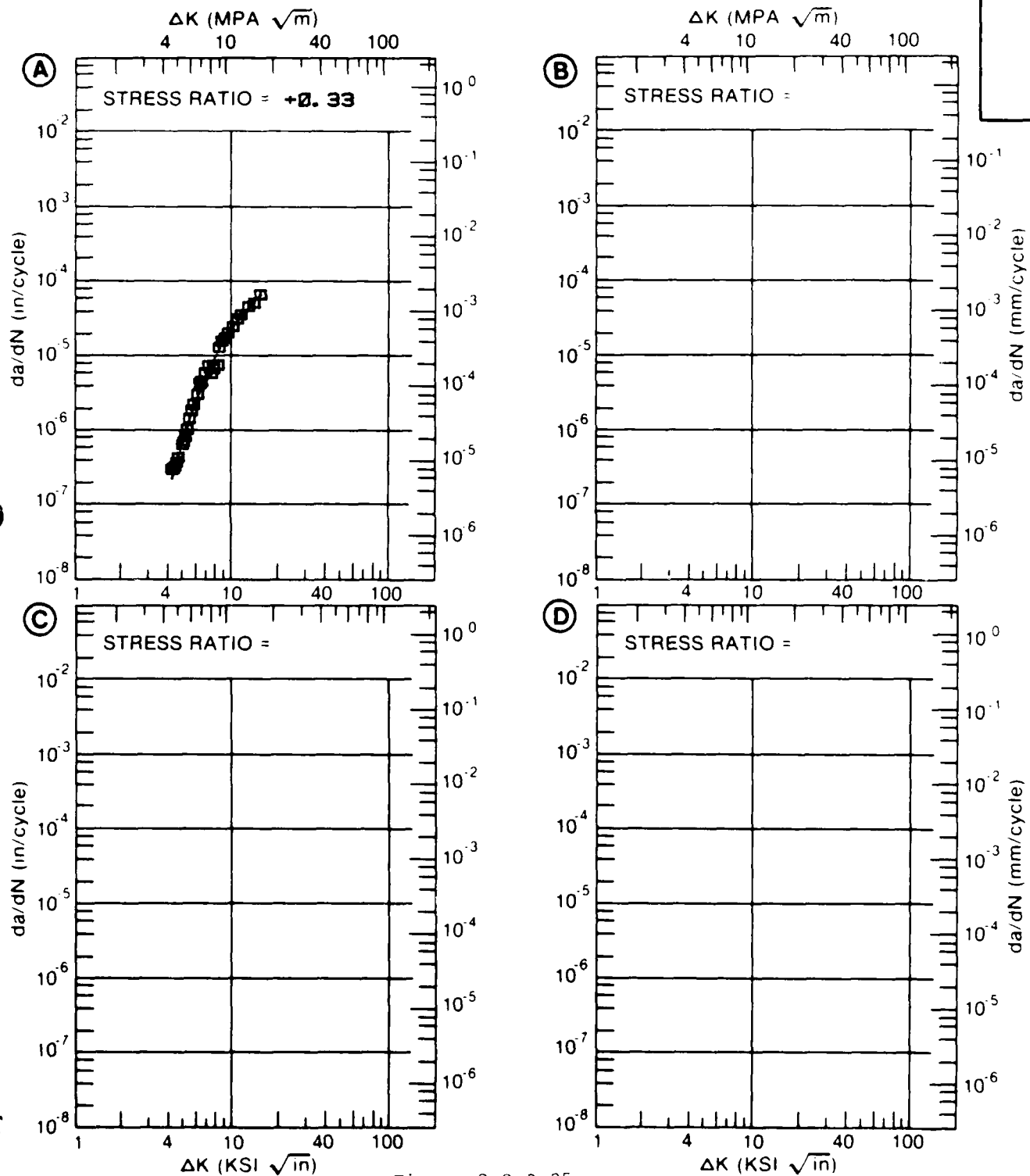


Figure 8.9.3.25

TABLE 8.9.3.26

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.26 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM
CONDITION: T651

7075

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. LAB AIR, 7.5HZ		E= R. T. H. H. A., 13.3HZ	
DELTA K MIN	A:	5.84	2.54		
	B:	2.93		.0897	
	C:				
	D:				
	3.00			.0968	
	3.50			.177	
	4.00			.342	
	5.00			1.35	
	6.00		2.88	4.36	
	7.00		5.36		
DELTA K MAX	A:	14.61	43.3		
	B:	6.67		8.75	
	C:				
	D:				
	ROOT MEAN SQUARE	13.54	14.45		
	PERCENT ERROR				
	LIFE	0.0-0.5			
	PREDICTION	0.5-0.8			
	RATIO	0.8-1.25	4	1	
	SUMMARY	1.25-2.0			
	(NP/NA)	>2.0			

CONDITION/HT: T651
 FORM: 2.75" TH PLATE
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 STRESS RATIO: +0.33
 FREQUENCY:

YIELD STRENGTH: 68.8 KSI
 ULT. STRENGTH: 79.6 KSI
 SPECIMEN THK: 0.250- 0.252"
 SPECIMEN WIDTH: 3.999- 4.000"
 REFERENCES: AL005

ALUM.
 ALLOY

7075

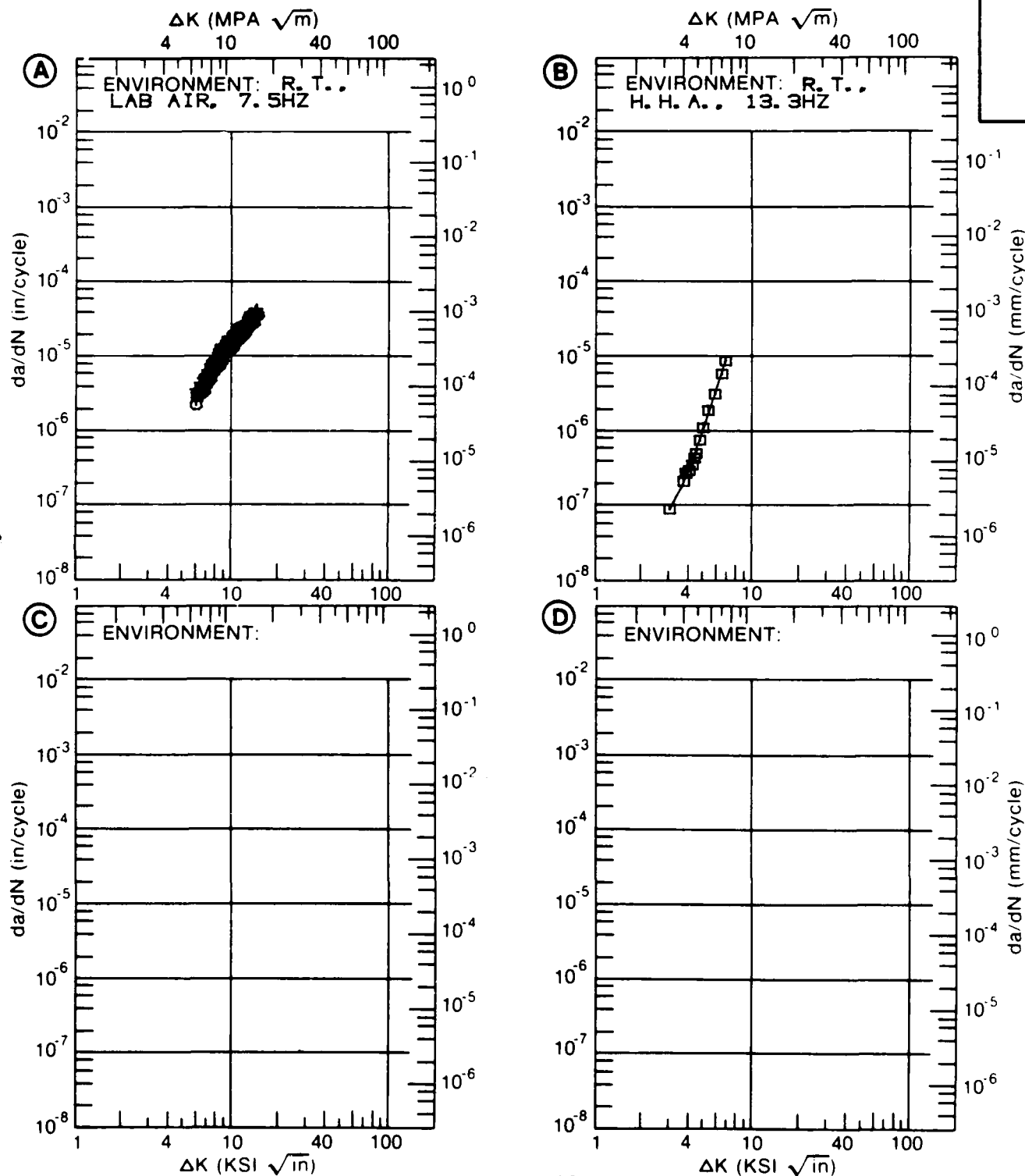


Figure 8.9.3.26

TABLE 8.9.3.27

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.27 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7075
 CONDITION: T651
 ENVIRONMENT: R. T. , DRY AIR

DELTA K (KSI*IN**1/2)	DA/DN (10**-6 IN. /CYCLE)			
	A	B	C	D
	R=+0. 20	R=+0. 40		
DELTA K A:				
MIN B:				
C:				
D:				
200. 00				
DELTA K A:				
MAX B:				
C:				
D:				
ROOT MEAN SQUARE	0. 00	0. 00		
PERCENT ERROR				
LIFE	0. 0-0. 5			
PREDICTION	0. 5-0. 8			
RATIO	0. 8-1. 25			
SUMMARY	1. 25-2. 0			
(NP/NA)	>2. 0			

CONDITION/HT: T651
 FORM: 3.00" TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION: L-T
 FREQUENCY: 10.00 HZ
 ENVIRONMENT: R. T., DRY AIR

YIELD STRENGTH: 70.0 KSI
 ULT. STRENGTH: 81.0 KSI
 SPECIMEN THK: 0.625"
 SPECIMEN WIDTH: 5.500"
 REFERENCES: 84360

ALUM.
 ALLOY

7075

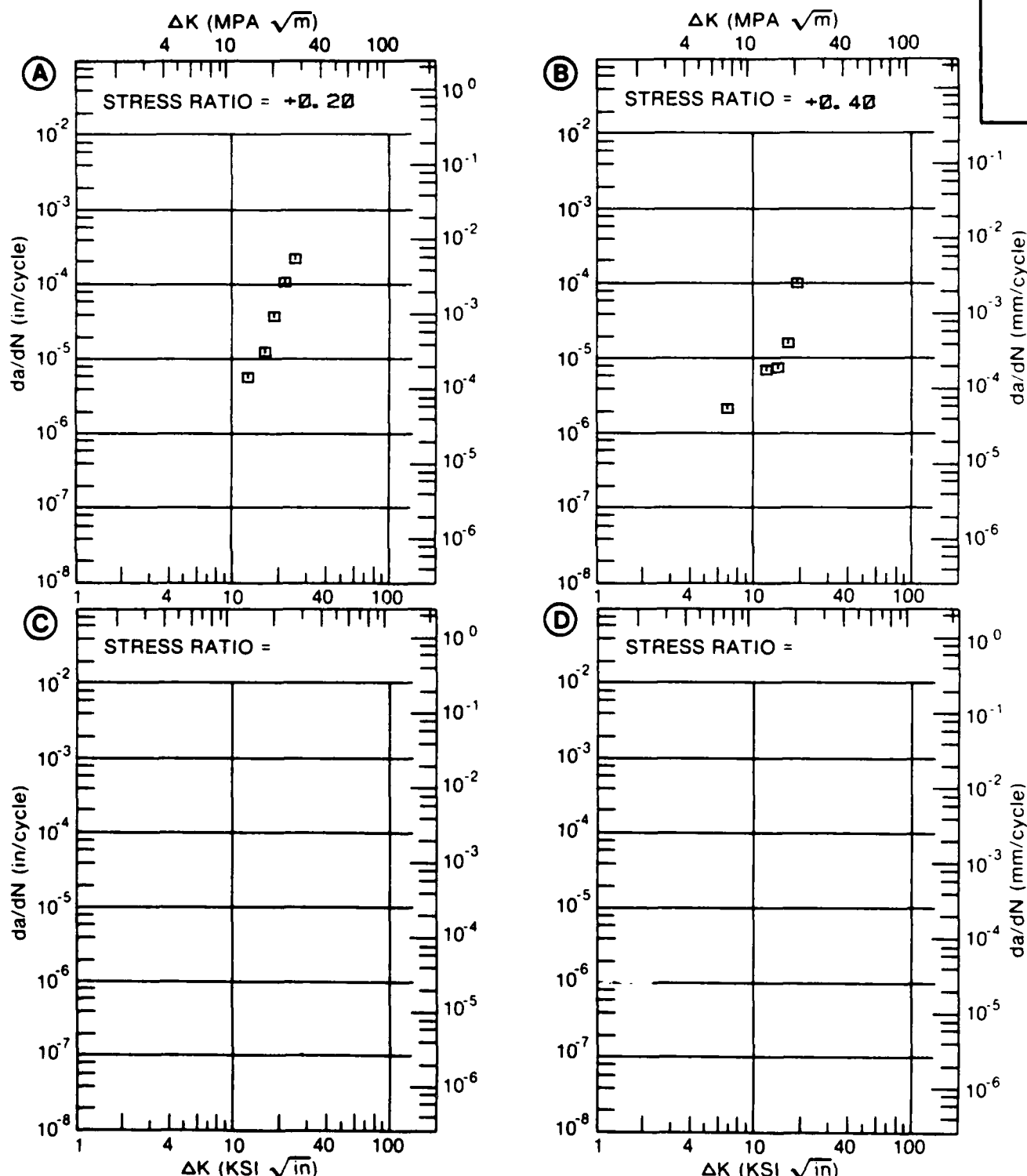


Figure 8.9.3.27

TABLE 8.9.3.28

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.28 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM 7075
CONDITION: T651

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. DRY AIR 1-10HZ	E= R. T. LAB AIR 1HZ	E= R. T. 3. 5% NACL 1-10HZ	
DELTA K MIN	A:	8. 87	5. 32		
	B:				
	C:	6. 63		5. 42	
	D:				
		7. 00		6. 28	
		8. 00		8. 80	
		9. 00	5. 39	11. 6	
		10. 00	6. 01	14. 8	
		13. 00	9. 14	27. 2	
		16. 00	15. 2	47. 6	
DELTA K MAX	A:	39. 37	1620.		
	B:				
	C:	30. 64		769.	
	D:				
ROOT MEAN SQUARE		27. 92	0. 00	30. 24	
PERCENT ERROR					

LIFE 0. 0-0. 5
 PREDICTION 0. 5-0. 8
 RATIO 0. 8-1. 25
 SUMMARY 1. 25-2. 0
 (NP/NA) >2. 0

CONDITION/HT: T651
 FORM: 3.00" TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION: L-T
 STRESS RATIO: +0.02
 FREQUENCY:

YIELD STRENGTH: 70.2- 75.7 KSI
 ULT. STRENGTH: 81.2- 85.0 KSI
 SPECIMEN THK: 0.750- 1.000"
 SPECIMEN WIDTH: 5.500"
 REFERENCES: 84360

ALUM.
 ALLOY

7075

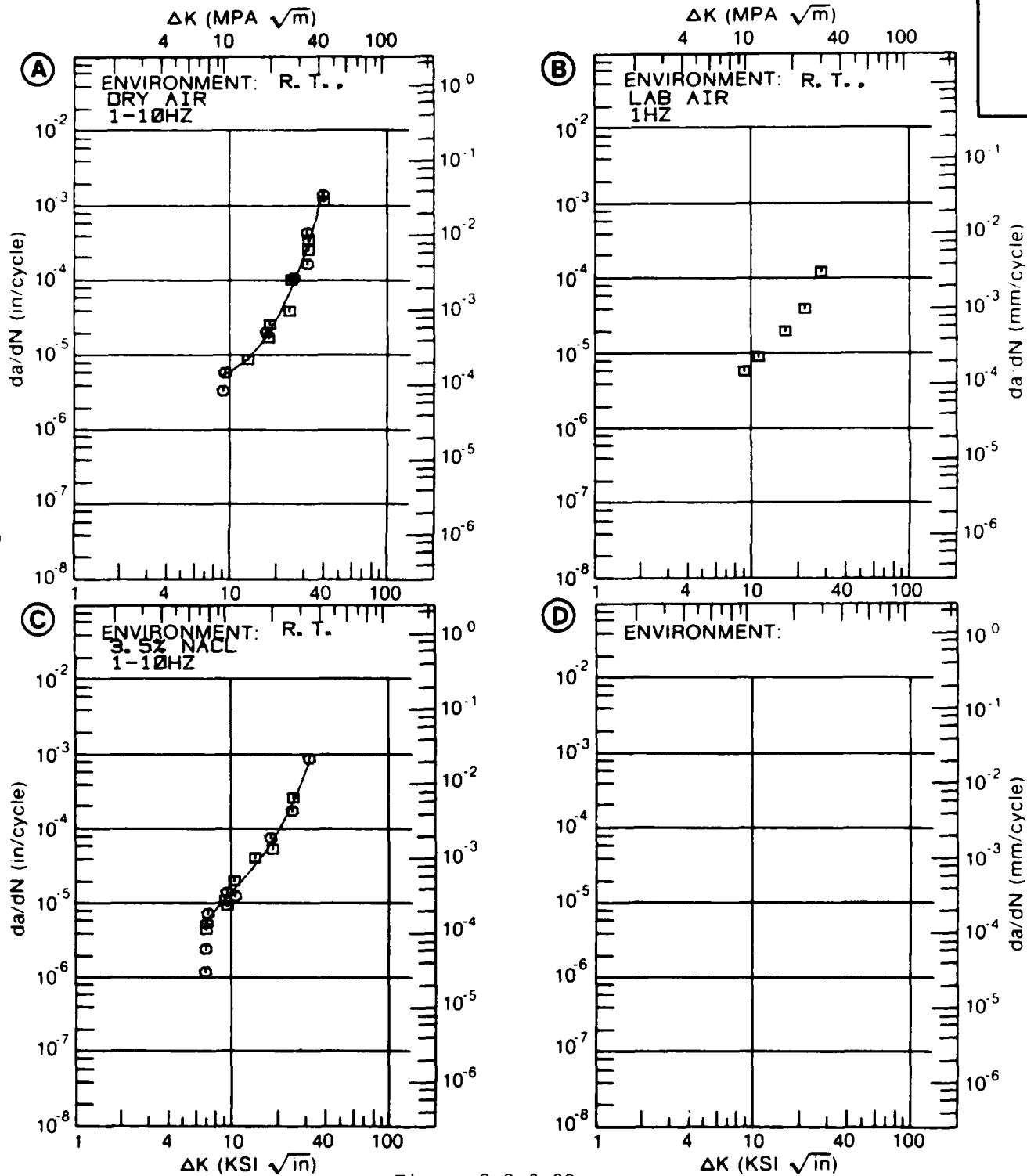


Figure 8.9.3.28

TABLE 8.9.3.29

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.29 INDICATING EFFECT
OF ENVIRONMENT

MATERIAL: ALUMINUM		7075			
CONDITION: T651					
DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		E= R. I. DIST. WATER			
DELTA K MIN	A:	6.96	2.62		
	B:				
	C:				
	D:				
		7.00	2.68		
		8.00	4.07		
		9.00	5.64		
		10.00	7.41		
		13.00	14.5		
		16.00	26.8		
		20.00	62.6		
		25.00	197.		
DELTA K MAX	A:	29.50	598.		
	B:				
	C:				
	D:				
ROOT MEAN SQUARE		30.68			
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25				
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T651
 FORM: 3.00" TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION: L-T
 STRESS RATIO: +0.02
 FREQUENCY: 1.00- 10.00 HZ

YIELD STRENGTH:
 ULT. STRENGTH:
 SPECIMEN THK: 1.000"
 SPECIMEN WIDTH: 5.500"
 REFERENCES: 84360

ALUM.
 ALLOY

7075

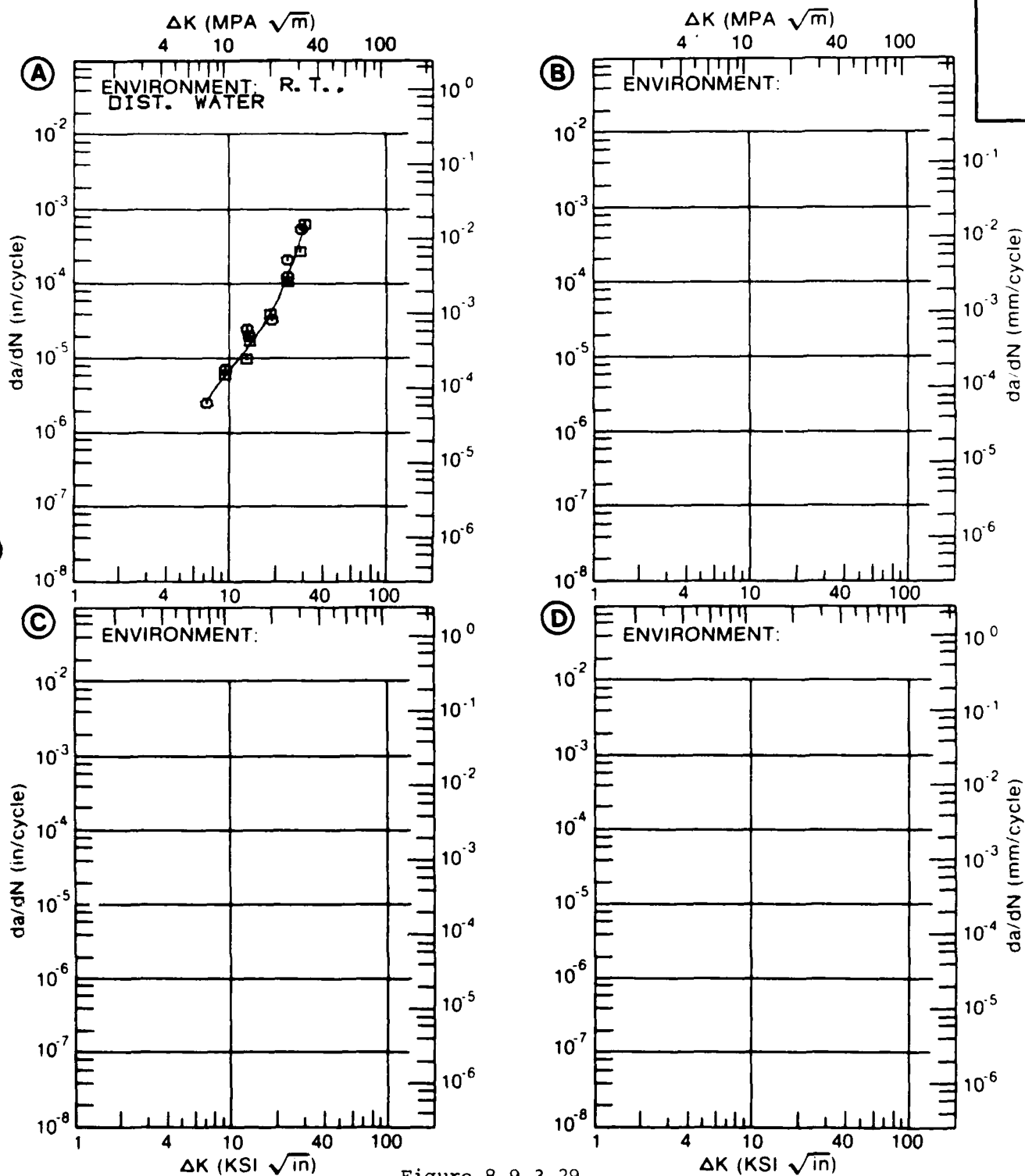


Figure 8.9.3.29

TABLE 8.9.3.30

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.30 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM 7075
CONDITION: T6510

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		E= R. T. L. H. A.	E= R. T. LAB AIR		
DELTA K MIN	A: 5.67	3.60			
	B: 5.11		1.53		
	C:				
	D:				
	6.00	4.59	5.04		
	7.00	7.58	10.3		
	8.00	10.3	15.4		
	9.00	13.0	20.0		
	10.00	16.1	25.0		
	13.00	35.5	56.0		
DELTA K MAX	A: 14.80	67.3			
	B: 14.19		87.4		
	C:				
	D:				

ROOT MEAN SQUARE 8.07 14.31
PERCENT ERROR

LIFE 0.0-0.5
PREDICTION 0.5-0.8 1
RATIO 0.8-1.25 3
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T6510
 FORM: 0.60" TH EXTRUSION
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 STRESS RATIO: +0.33
 FREQUENCY: 5.20 HZ

YIELD STRENGTH: 82.4 KSI
 ULT. STRENGTH: 90.4 KSI
 SPECIMEN THK: 0.626- 0.666"
 SPECIMEN WIDTH: 3.004- 3.006"
 REFERENCES: AL005, AL002

ALUM.
 ALLOY

7075

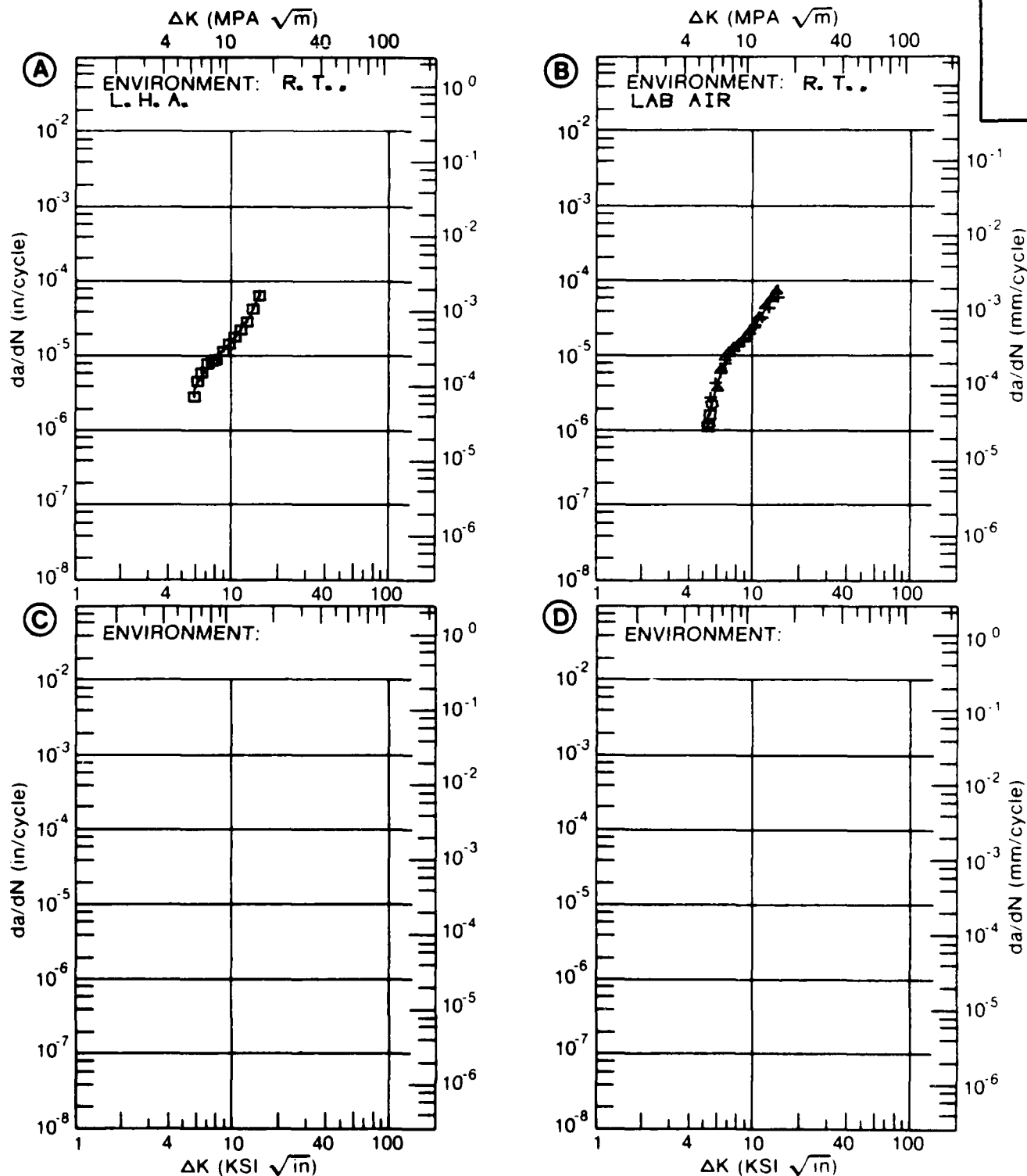


Figure 8.9.3.30

TABLE 8.9.3.31

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.31 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7075
 CONDITION: T6510
 ENVIRONMENT: R.T., LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.33			
DELTA K MIN	A:	5.73	2.79		
	B:				
	C:				
	D:				
		6.00	3.61		
		7.00	7.10		
		8.00	10.8		
		9.00	14.4		
DELTA K MAX		10.00	18.0		
		13.00	34.3		
		16.00	78.3		
	A:	16.44	90.3		
	B:				
	C:				
	D:				
ROOT MEAN SQUARE		16.27			
PERCENT ERROR					

LIFE 0.0-0.5
 PREDICTION 0.5-0.8
 RATIO 0.8-1.25 2
 SUMMARY 1.25-2.0
 (NP/NA) >2.0

CONDITION/HT: T8510
 FORM: 3.50" TH EXTRUDED BAR
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 5.20 HZ
 ENVIRONMENT: R.T., LAB AIR

YIELD STRENGTH: 75.7 KSI
 ULT. STRENGTH: 85.4 KSI
 SPECIMEN THK: 0.751"
 SPECIMEN WIDTH: 3.003- 3.005"
 REFERENCES: AL005

ALUM.
 ALLOY

7075

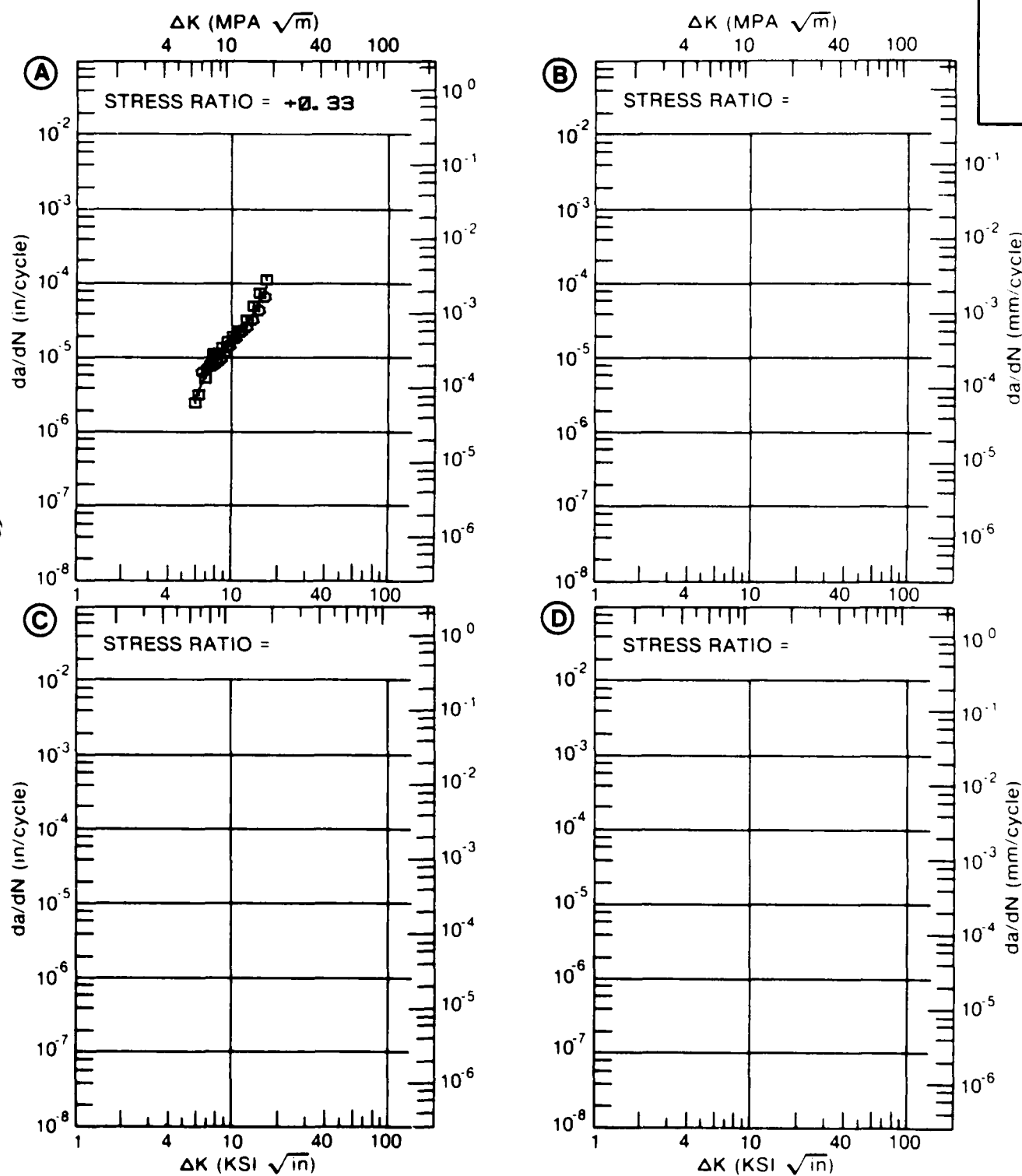


Figure 8.9.3.31

TABLE 8.9.3.32

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.32 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7075
CONDITION: T6511
ENVIRONMENT: R T , LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		R=-1.00	R=-0.50	R=+0.01	
DELTA K	A: 3.32	187			
MIN	B: 3.72		.192		
	C: 3.46			.140	
	D:				
	3.50	.209		.149	
	4.00	.334	.197	.310	
	5.00	1.03	.648	.976	
	6.00	2.66	2.42	2.27	
	7.00	5.12	5.05	4.27	
	8.00	8.13	7.56	6.86	
	9.00	11.5	10.3	9.86	
	10.00	15.1	13.6	13.2	
	13.00	26.4	25.0	24.8	
	16.00	34.5	34.9	40.2	
	20.00		52.2	72.1	
	25.00		126.	150.	
	30.00			355.	
	35.00			1034.	
DELTA K	A: 19.42	34.7			
MAX	B: 26.40		176.		
	C: 35.27			1102.	
	D:				
ROOT MEAN SQUARE		9.35	10.38	23.40	
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1	1	1	
SUMMARY	1.25-2.0				
(NP/NA)	02.0				

CONDITION/HT: T6511
 FORM: EXTRUSION
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY:
 ENVIRONMENT: R. T., LAB AIR

YIELD STRENGTH: 79.5 KSI
 ULT. STRENGTH:
 SPECIMEN THK: 0.244- 0.252"
 SPECIMEN WIDTH: 8.997- 9.000"
 REFERENCES: DA001

ALUM.
 ALLOY

7075

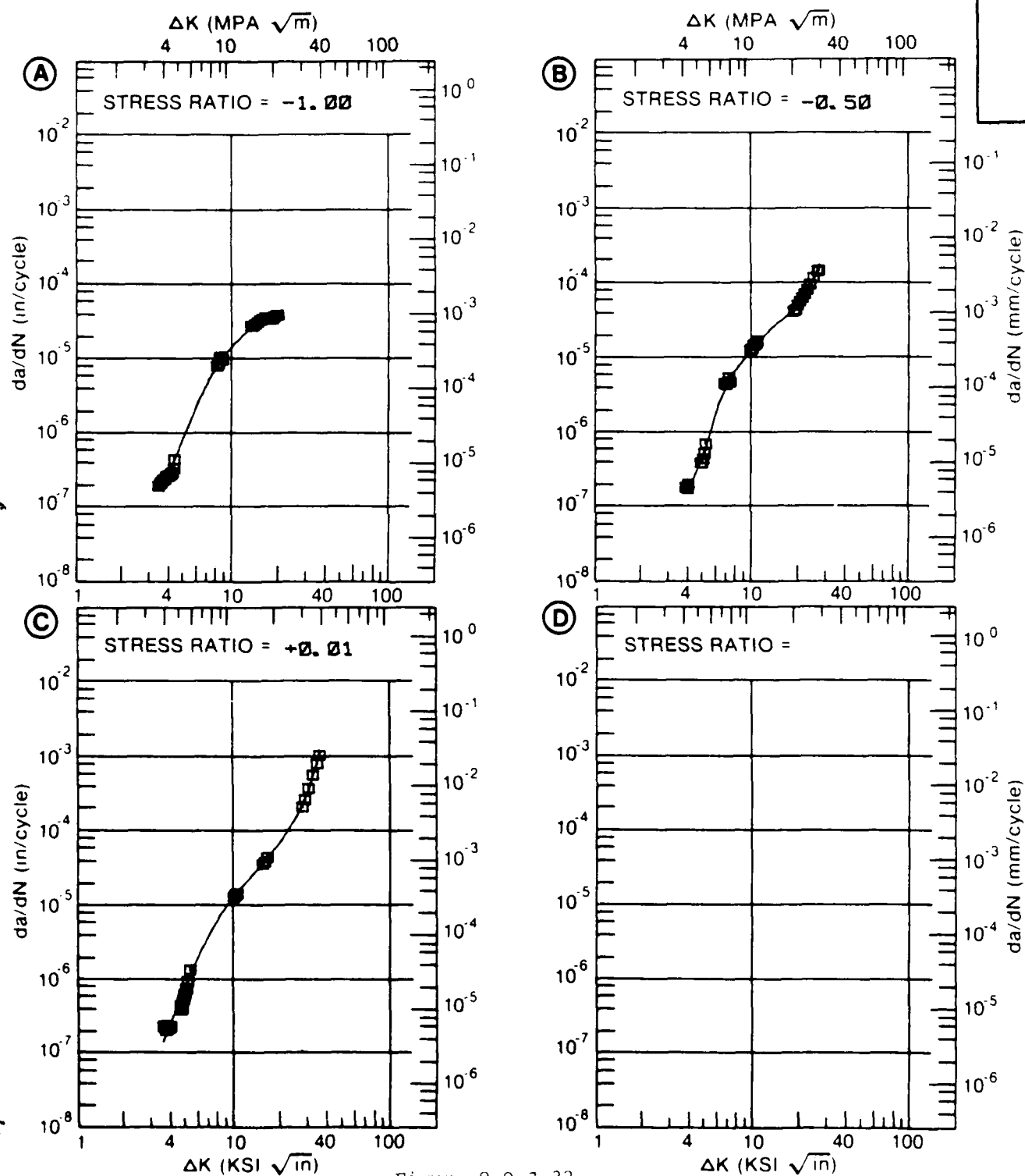


Figure 8.9.3.32

TABLE 8.9.3.33

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.33 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7075
 CONDITION: T6511
 ENVIRONMENT: R.T., LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.40	R=+0.60	R=+0.80	
DELTA K	A: 2.50	.142			
MIN	B: 1.72		.0792		
	C: 1.55			.0687	
	D:				
	1.60			.0767	
	2.00		.123	.173	
	2.50	.142	.171	.409	
	3.00	.222	.328	.839	
	3.50	.453	.757	1.55	
	4.00	.927	1.64	2.63	
	5.00	2.93	4.73	6.29	
	6.00	6.66	8.40	12.8	
	7.00	11.9	12.4	23.3	
	8.00	17.7	17.4	39.6	
	9.00	23.2	24.5	66.1	
	10.00	28.2	34.3	118.	
	13.00	46.1	91.9		
	16.00	84.7			
DELTA K	A: 17.91	139.			
MAX	B: 14.99		171.		
	C: 11.65			398.	
	D:				
ROOT MEAN SQUARE		9.61	8.98	16.33	
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1	1	1	
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

ALUM.
ALLOY

7075

CONDITION/HT: T6511

FORM: EXTRUSION

SPECIMEN TYPE: CCP

ORIENTATION: L-T

FREQUENCY: 3.00- 5.00 HZ

ENVIRONMENT: R. T., LAB AIR

YIELD STRENGTH: 79.5 KSI

ULT STRENGTH:

SPECIMEN THK: 0.250- 0.251"

SPECIMEN WIDTH: 8.998- 9.000"

REFERENCES DA001

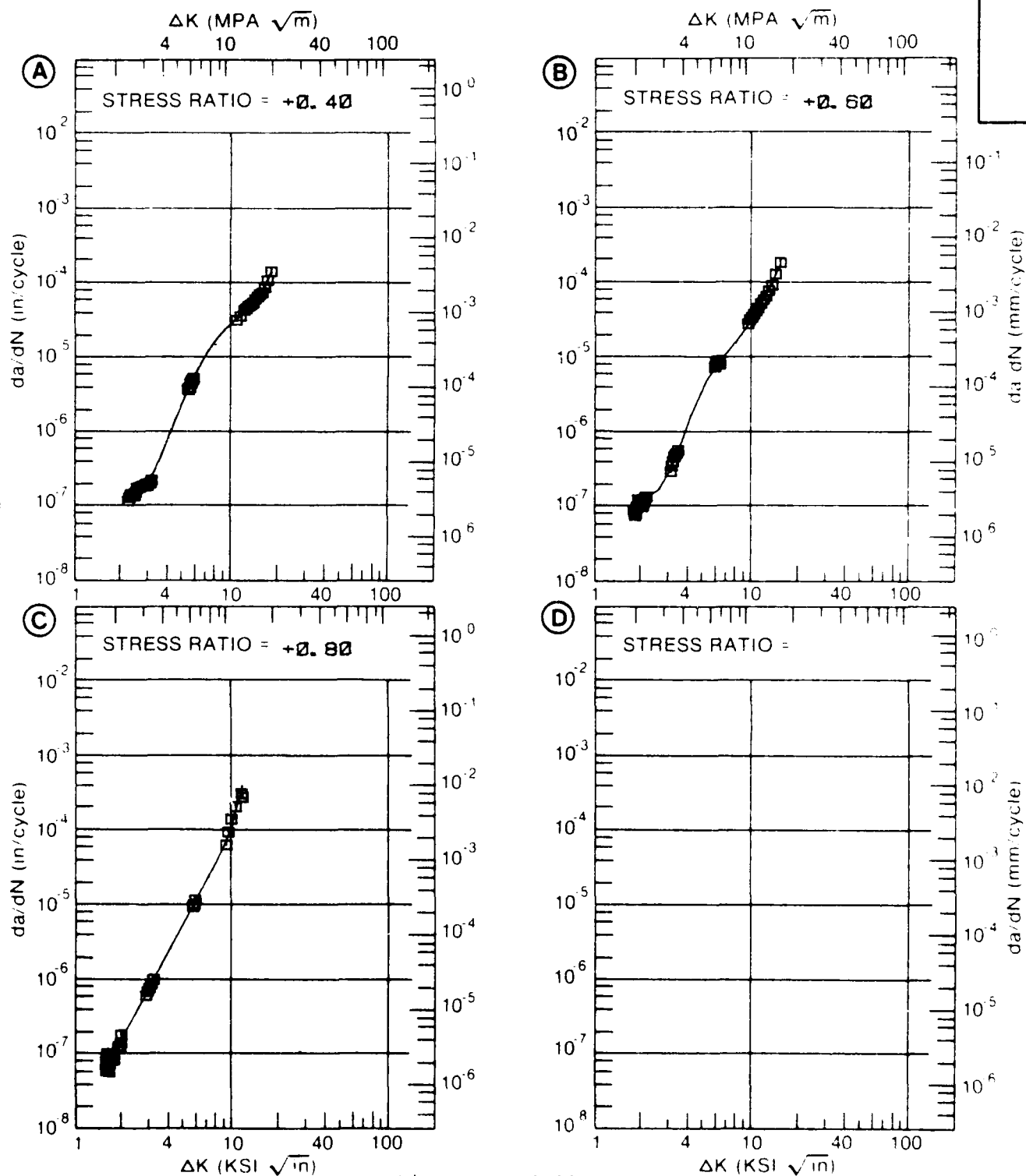


Figure 8.9.3.33

TABLE 8.9.3.34

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.34 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM 7075
CONDITION: T6511
ENVIRONMENT: R T J. H. H. A.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		R=+0.05	R=+0.50		
DELTA K MIN	A:	7.39	4.12		
	B:	3.68	.699		
	C:				
	D:				
	4.00		1.10		
	5.00		3.07		
	6.00		5.98		
	7.00		9.64		
	8.00	6.12	13.9		
	9.00	10.00	18.7		
	10.00	14.2	24.2		
	13.00	26.3	46.4		
	16.00	36.7	82.7		
	20.00	51.4	176.		
	25.00	79.9			
	30.00	139.			
	35.00	280.			
	40.00	607.			
	50.00	2654.			
DELTA K MAX	A:	56.72	6148.		
	B:	20.47	192.		
	C:				
	D:				
ROOT MEAN SQUARE		22.39	16.22		
PERCENT ERROR					

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25
SUMMARY 1.25-2.0
(NP/NA) 2.0

CONDITION/HT: T6511
 FORM: EXTRUSION
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 9.00 HZ
 ENVIRONMENT: R. T., H. H. A.

YIELD STRENGTH: 81.5 KSI
 ULT. STRENGTH: 88.6 KSI
 SPECIMEN THK: 0.150"
 SPECIMEN WIDTH: 5.950"
 REFERENCES: BW001

ALUM.
 ALLOY

7075

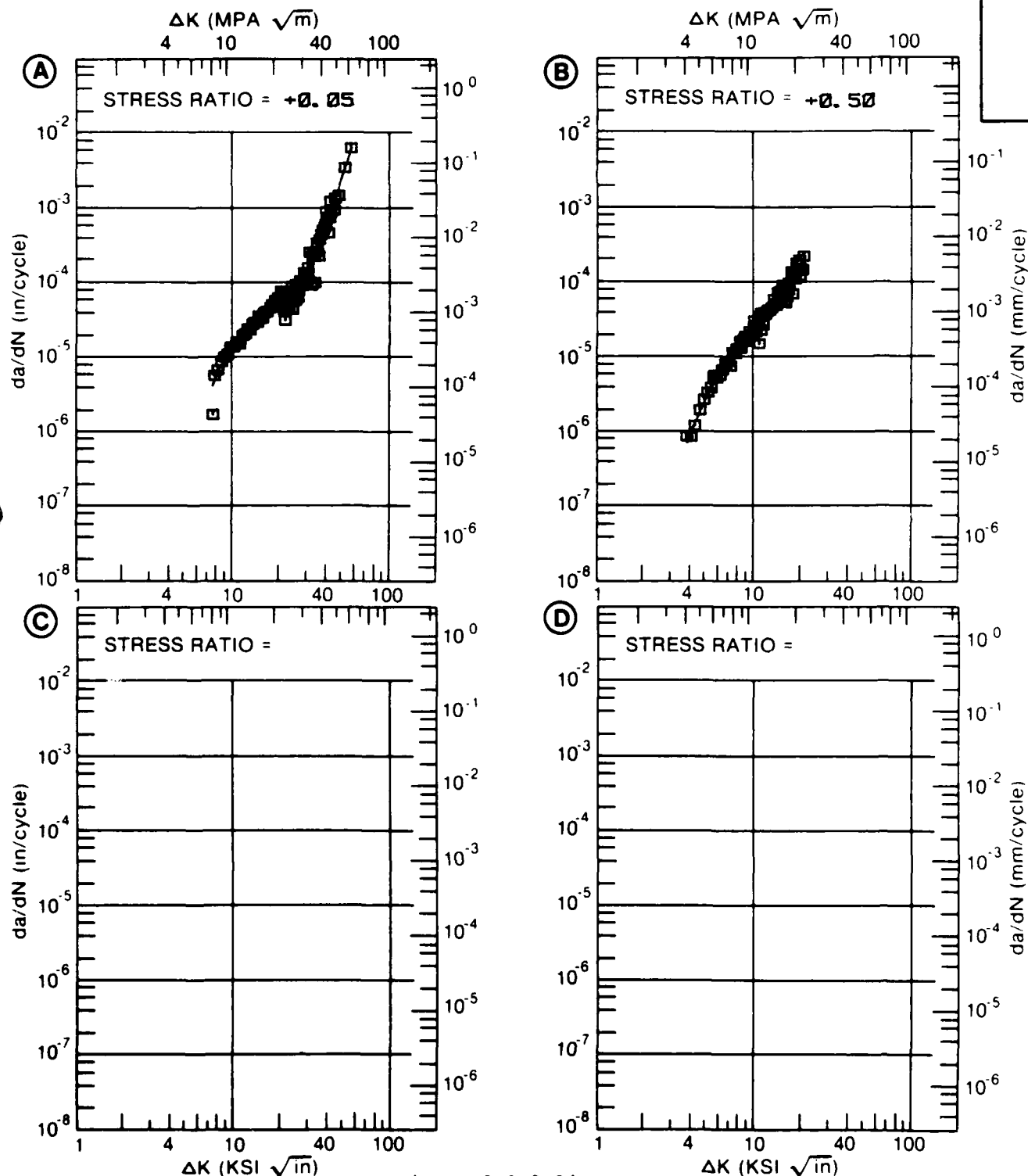


Figure 8.9.3.34

TABLE 8.9.3.35

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.35 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM		7075	
CONDITION: T6511			
ENVIRONMENT: R.T., S.T.W.			
DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)	
		A	B
		R=+0.01	R=+0.80
DELTA K MIN	A: 12.98	40.2	
	B: 1.97		.130
	C:		
	D:		
	2.00		.138
	2.50		.427
	3.00		1.30
	3.50		3.33
	4.00		6.96
	5.00		18.8
	6.00		36.0
	7.00		59.0
	8.00		85.6
DELTA K MAX	9.00		103.
	10.00		100.
	13.00	40.5	
	16.00	68.3	
	A: 17.63	88.9	
MAX	B: 10.00		100.0
	C:		
	D:		
ROOT MEAN SQUARE		1.76	14.91
PERCENT ERROR			
LIFE	0.0-0.5		
PREDICTION	0.5-0.8		
RATIO	0.8-1.25	1	1
SUMMARY	1.25-2.0		
(NP/NA)	>2.0		

CONDITION/HT: T6511
 FORM: EXTRUSION
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 0.50- 1.00 HZ
 ENVIRONMENT: R. T., S. T. W.

YIELD STRENGTH: 79.5 KSI
 ULT. STRENGTH:
 SPECIMEN THK: 0.246- 0.247"
 SPECIMEN WIDTH: 9.000"
 REFERENCES: DA001

ALUM.
 ALLOY

7075

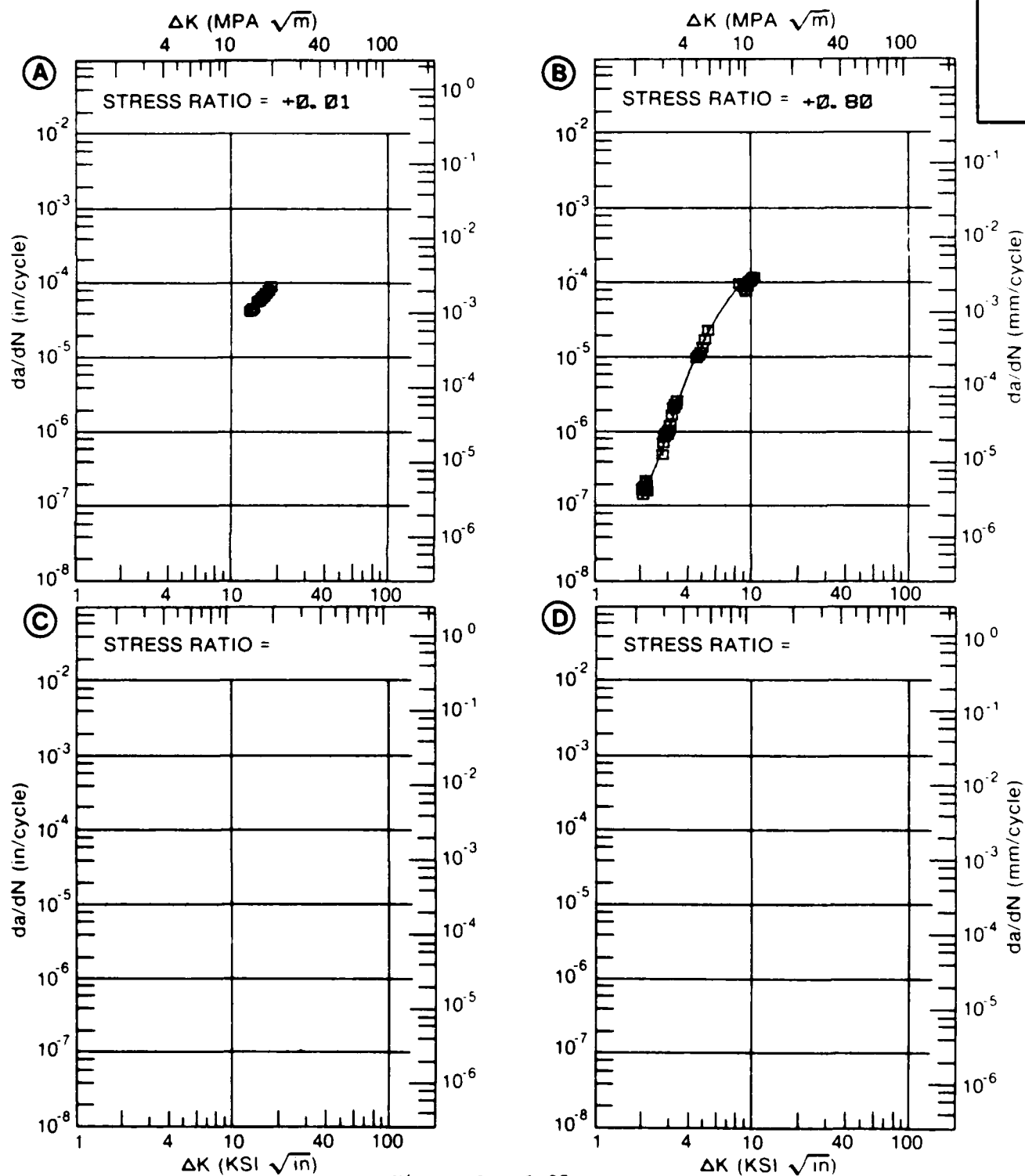


Figure 8.9.3.35

TABLE 8.9.3.36

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.36 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM 7075
 CONDITION: T73
 ENVIRONMENT: R. T. , LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		R=-1.00	R=-0.50	R=+0.05	
DELTA K MIN	A: 2.66	.0792			
	B: 2.60		.0860		
	C: 2.40			.0530	
	D:				
	2.50			.0564	
	3.00	.0715	.120	.0806	
	3.50	.104	.148	.123	
	4.00	.190	.195	.199	
	5.00	.610	.534	.561	
	6.00	1.43	1.41	1.46	
	7.00	2.74	2.75	3.16	
	8.00	4.57	4.43	5.58	
	9.00	6.93	6.37	8.34	
	10.00	9.81	8.52	11.2	
	13.00	21.5	16.5	21.1	
	16.00	37.7	28.5	36.3	
DELTA K MAX	A: 16.08	38.2			
	B: 17.97		40.4		
	C: 16.61			40.8	
	D:				

ROOT MEAN SQUARE 13.96 21.32 21.72
 PERCENT ERROR

LIFE 0.0-0.5
 PREDICTION 0.5-0.8
 RATIO 0.8-1.25
 SUMMARY 1.25-2.0
 (NP/NA) >2.0

CONDITION/HT: T73
 FORM: 0.50" TH PLATE
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 20.00 HZ
 ENVIRONMENT: R. T., LAB AIR

YIELD STRENGTH: 56.0 KSI
 ULT. STRENGTH: 67.1 KSI
 SPECIMEN THK: 0.500"
 SPECIMEN WIDTH: 3.000"
 REFERENCES: UD006

ALUM.
 ALLOY

7075

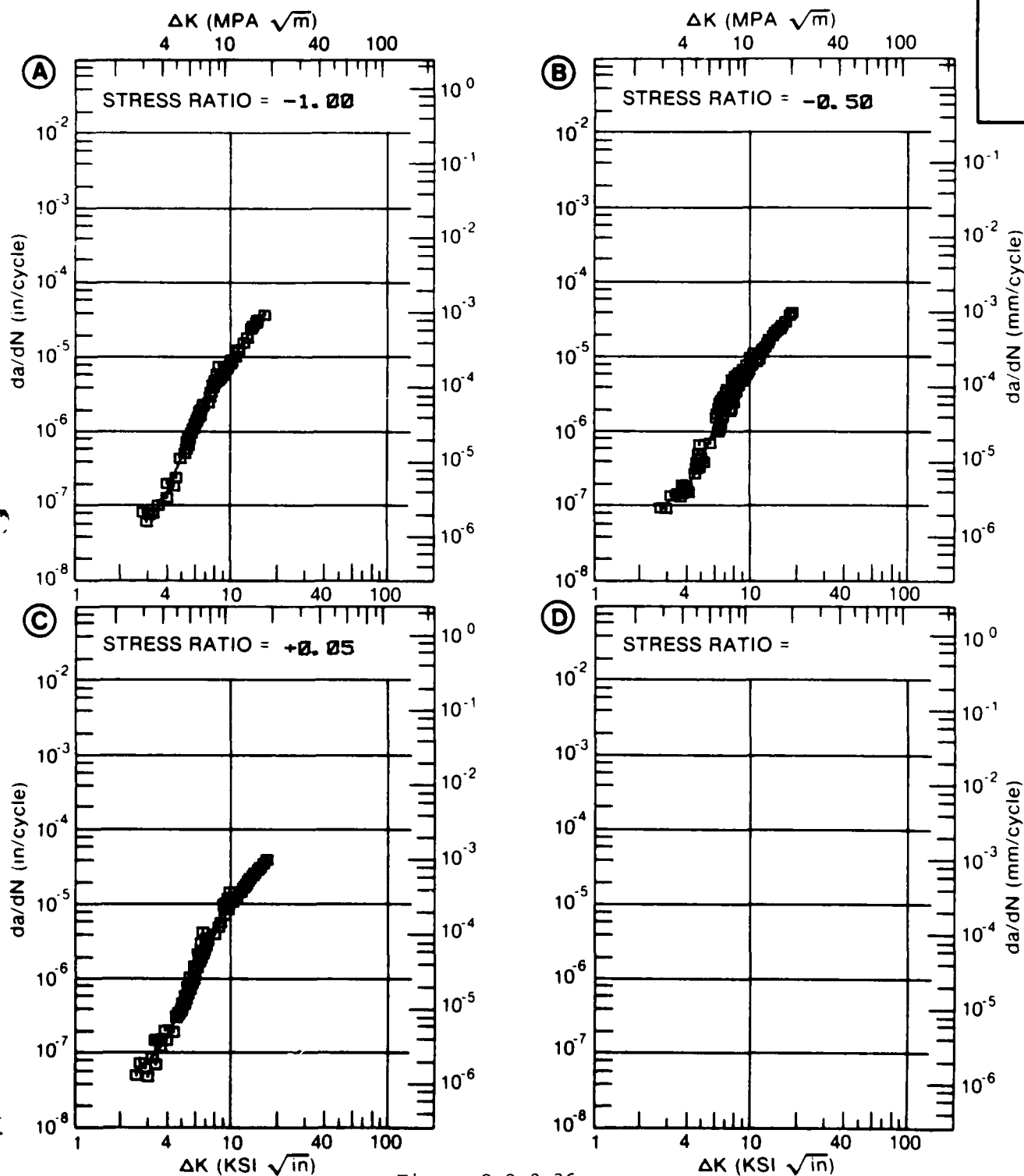


Figure 8.9.3.36

TABLE 8.9.3.37

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.37 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7075
 CONDITION: T73
 ENVIRONMENT: R.T., DRY AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.10	R=+0.30	R=+0.50	
DELTA K A:	6.63	.140			
MIN B:	8.11		.346		
C:	6.18			.650	
D:					
	7.00	.365		1.97	
	8.00	.490		4.13	
	9.00	.972	.894	6.83	
	10.00	2.04	1.98	9.84	
	13.00	8.14	8.45	19.9	
	16.00	15.6	19.1	33.6	
	20.00	26.3	42.3	71.0	
	25.00	47.2	110.		
	30.00	95.2			
DELTA K A:	32.74	150.			
MAX B:	27.74		196.		
C:	21.19			91.1	
D:					
ROOT MEAN SQUARE		7.48	6.21	7.73	
PERCENT ERROR					

LIFE 0.0-0.5
 PREDICTION 0.5-0.8
 RATIO 0.8-1.25
 SUMMARY 1.25-2.0
 (NP/NA) >2.0

1

1

1

CONDITION/HT: T73
 FORM: 1.50" TH FORGED BAR
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 FREQUENCY: 4.00 HZ
 ENVIRONMENT: R.T., DRY AIR

YIELD STRENGTH: 62.7 KSI
 ULT STRENGTH: 71.7 KSI
 SPECIMEN THK: 0.751- 0.757"
 SPECIMEN WIDTH: 4.999- 5.007"
 REFERENCES: GD008

ALUM.
 ALLOY

7075

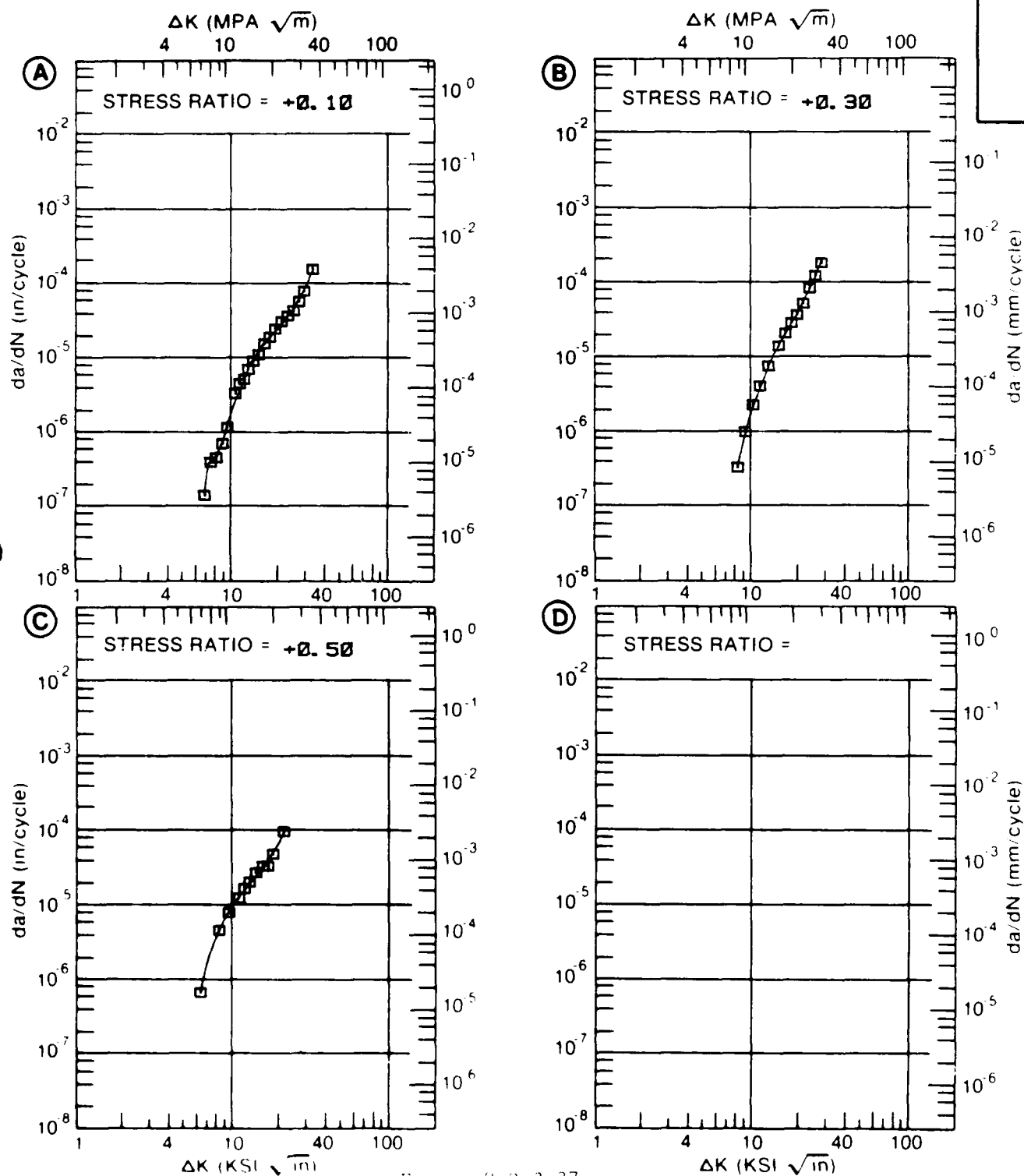


Figure 8.9.3.37

TABLE 8.9.3.38

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.38 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM		7075			
CONDITION: T73					
ENVIRONMENT: R.T., H.H.A.					
DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.10	R=+0.30	R=+0.50	
A:	6.70	.27			
DELTA K B:	11.18		6.94		
MIN C:	5.25			.62	
D:					
	6.00			1.85	
	7.00	.268		3.90	
	8.00	.473		6.65	
	9.00	1.05		9.94	
	10.00	1.93		13.7	
	13.00	6.40	11.2	27.4	
	16.00	13.6	20.8	47.0	
	20.00	28.0	46.2		
	25.00	58.7	148.		
	30.00	117.			
A:	32.68	170.			
DELTA K B:	28.35		366.		
MAX C:	19.91			174.	
D:					
ROOT MEAN SQUARE		16.92	22.06	18.69	
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25		1		
SUMMARY	1.25-2.0	1		1	
(NP/NA)	>2.0				

CONDITION/HT: T73
 FORM: 1.50" TH FORGED BAR
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 FREQUENCY: 1.00 HZ
 ENVIRONMENT: R. T., H. H. A.

YIELD STRENGTH: 62.7 KSI
 ULT. STRENGTH: 71.7 KSI
 SPECIMEN THK: 0.755- 0.757"
 SPECIMEN WIDTH: 4.994- 4.999"
 REFERENCES: GD008

ALUM.
 ALLOY

7075

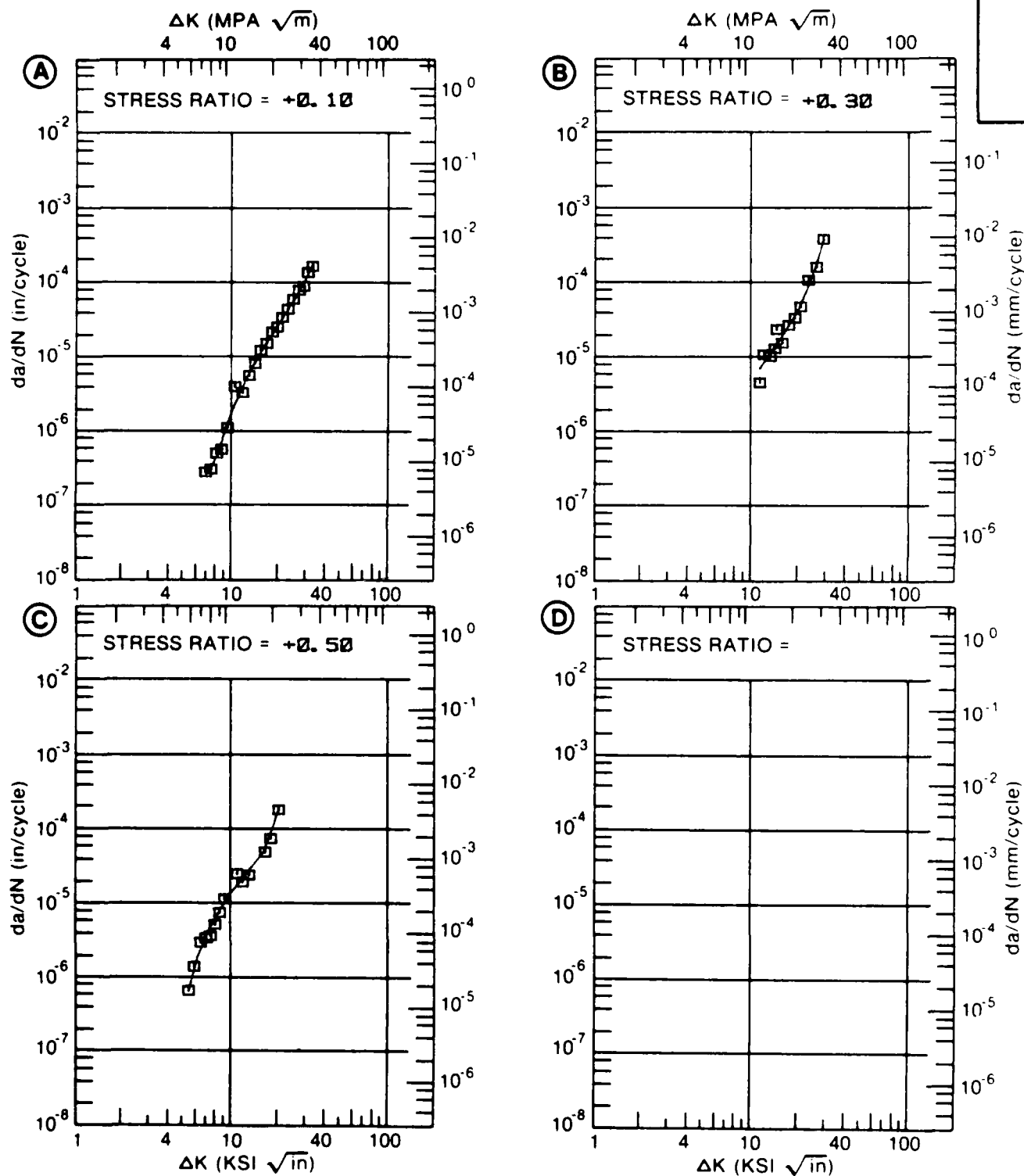


Figure 8.9.3.38

TABLE 8.9.3.39

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.39 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM 7075
 CONDITION: T73
 ENVIRONMENT: R.T., S.T.W.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A R=+0.10	B R=+0.30	C R=+0.50	D
DELTA K	A: 12.10	2.84			
MIN	B: 8.68		1.63		
	C: 5.57			.72	
	D:				
	6.00			2.24	
	7.00			6.17	
	8.00			10.6	
	9.00		1.80	14.8	
	10.00		4.89	18.4	
	13.00	6.71	23.5	29.2	
	16.00	15.2	39.1	51.5	
	20.00	29.2	63.5	164.	
	25.00	54.5	152.		
	30.00	99.0			
	35.00	187.			
DELTA K	A: 39.14	330.			
MAX	B: 25.38		165.		
	C: 22.94			619.	
	D:				
ROOT MEAN SQUARE		30.83	10.82	9.96	
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1		1	
SUMMARY	1.25-2.0	1	1		
(NP/NA)	>2.0				

CONDITION/HT: T73
 FORM: 1.50" TH FORGED BAR
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 FREQUENCY: 0.10- 1.00 HZ
 ENVIRONMENT: R. T., S. T. W.

YIELD STRENGTH: 62.7 KSI
 ULT. STRENGTH: 71.7 KSI
 SPECIMEN THK: 0.755- 0.756"
 SPECIMEN WIDTH: 5.000- 5.003"
 REFERENCES: GD008

ALUM.
 ALLOY

7075

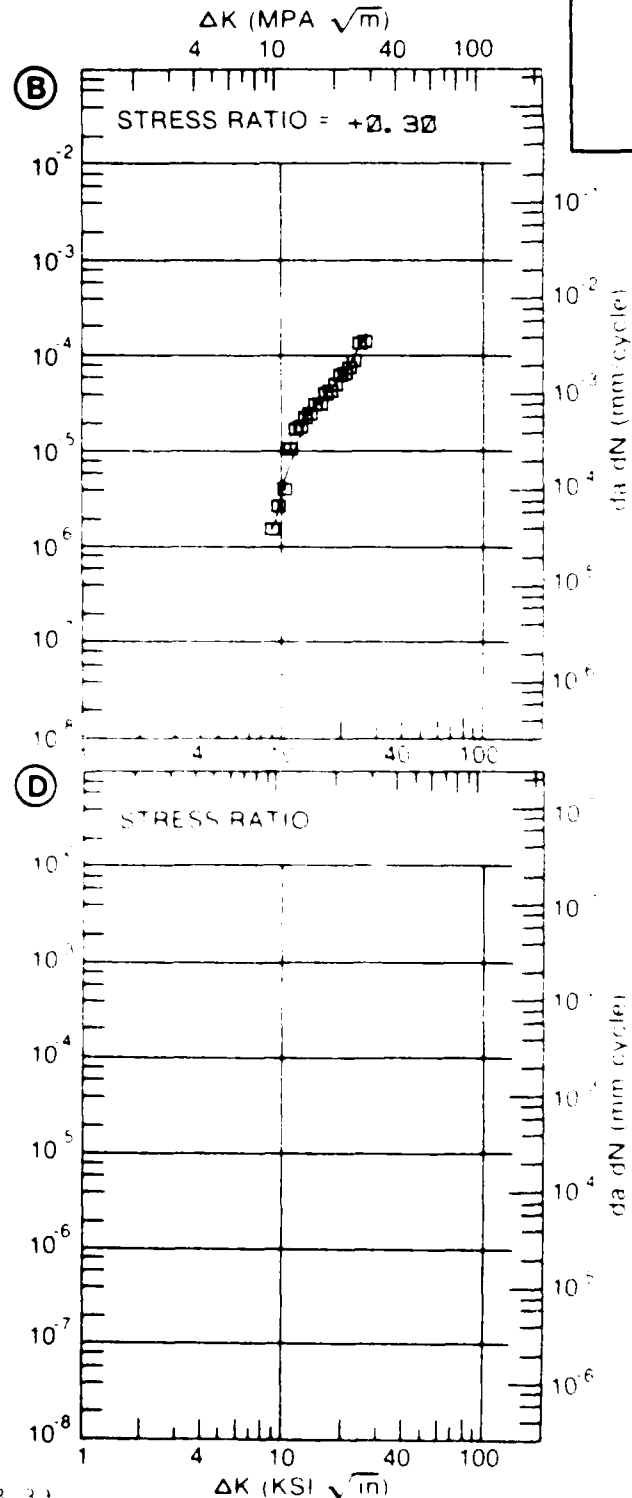
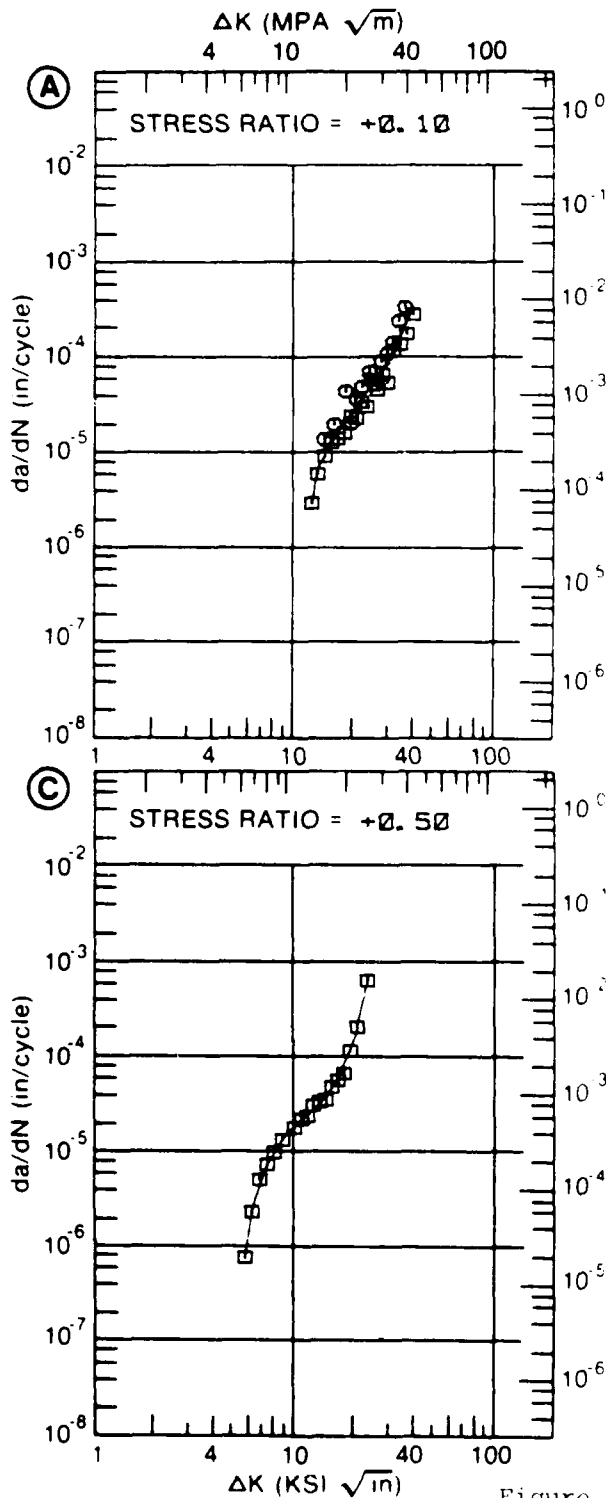


Figure 8.9.3.3)

TABLE 8.9.3.40

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.40 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM 7075
 CONDITION: T73
 ENVIRONMENT: R. T., DRY AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A R=+0.10	B R=+0.30	C R=+0.50	D
DELTA K MIN	A: 4.28	.209			
	B: 4.93		.143		
	C: 3.30			.112	
	D:				
	3.50			.170	
	4.00			.392	
	5.00	.541	.157	1.22	
	6.00	.594	.434	2.70	
	7.00	1.43	1.00	5.26	
	8.00	2.90	2.40	9.84	
	9.00	4.18	5.29	18.3	
	10.00	5.20	9.50	34.7	
	13.00	9.19	20.7		
	16.00	20.8	57.8		
DELTA K MAX	A: 18.92	63.9			
	B: 16.05		59.3		
	C: 10.81			59.2	
	D:				
ROOT MEAN SQUARE		13.59	10.38	17.10	
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1			
SUMMARY	1.25-2.0		1		
(NP/NA)	>2.0			1	

CONDITION/HT: T73
 FORM: 1.50" TH FORGED BAR
 SPECIMEN TYPE: CT
 ORIENTATION: T-L
 FREQUENCY: 4.00 HZ
 ENVIRONMENT: R. T., DRY AIR

YIELD STRENGTH: 61.8 KSI
 ULT. STRENGTH: 70.7 KSI
 SPECIMEN THK: 0.750- 0.752"
 SPECIMEN WIDTH: 4.988- 5.001"
 REFERENCES: GD008

ALUM.
 ALLOY

7075

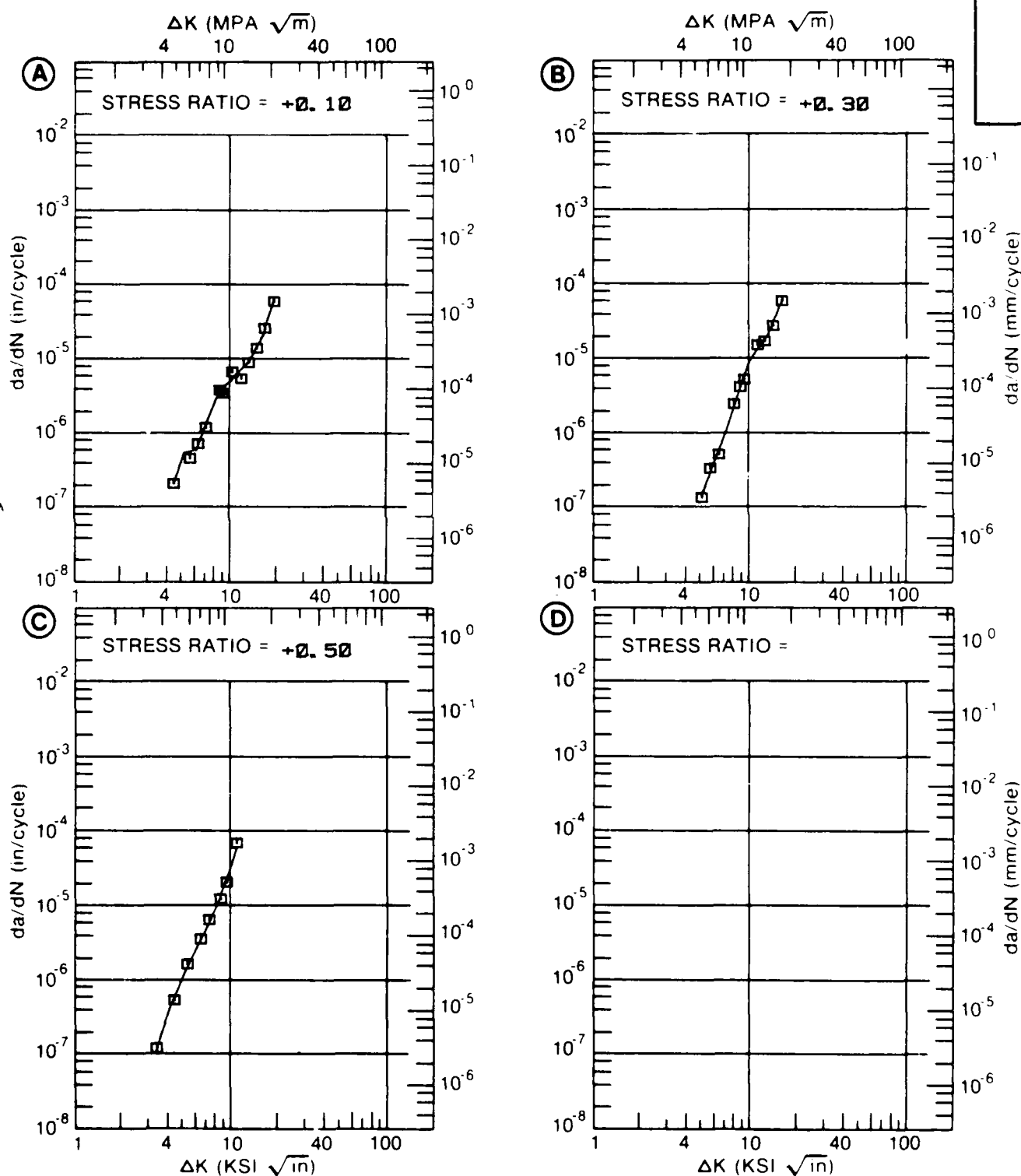


Figure 8.9.3.40

TABLE 8.9.3.41

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.41 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7075
 CONDITION: T73
 ENVIRONMENT: R T , H H A.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		R=+0.10	R=+0.30	R=+0.50	
DELTA K	A:				
MIN	B:		.333		
	C:			.295	
	D:				
	4.00			.331	
	5.00		.541	1.44	
	6.00		1.13	2.78	
	7.00		2.53	4.77	
	8.00		4.71	7.74	
	9.00		7.59	11.6	
	10.00		11.3	16.4	
	13.00		30.6	67.6	
	16.00		81.8		
DELTA K	A:				
MAX	B:	18.80	403.		
	C:	13.47		91.9	
	D:				
ROOT MEAN SQUARE		0.00	13.53	14.23	
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25				
SUMMARY	1.25-2.0		1	1	
(NP/NA)	>2.0				

CONDITION/HT: T73
 FORM: 1.50" TH FORGED BAR
 SPECIMEN TYPE: CT
 ORIENTATION: T-L
 FREQUENCY: 1.00 HZ
 ENVIRONMENT: R. T., H. H. A.

YIELD STRENGTH: 61.8 KSI
 ULT. STRENGTH: 70.7 KSI
 SPECIMEN THK: 0.750- 0.754"
 SPECIMEN WIDTH: 4.999- 5.008"
 REFERENCES: GD008

ALUM.
 ALLOY

7075

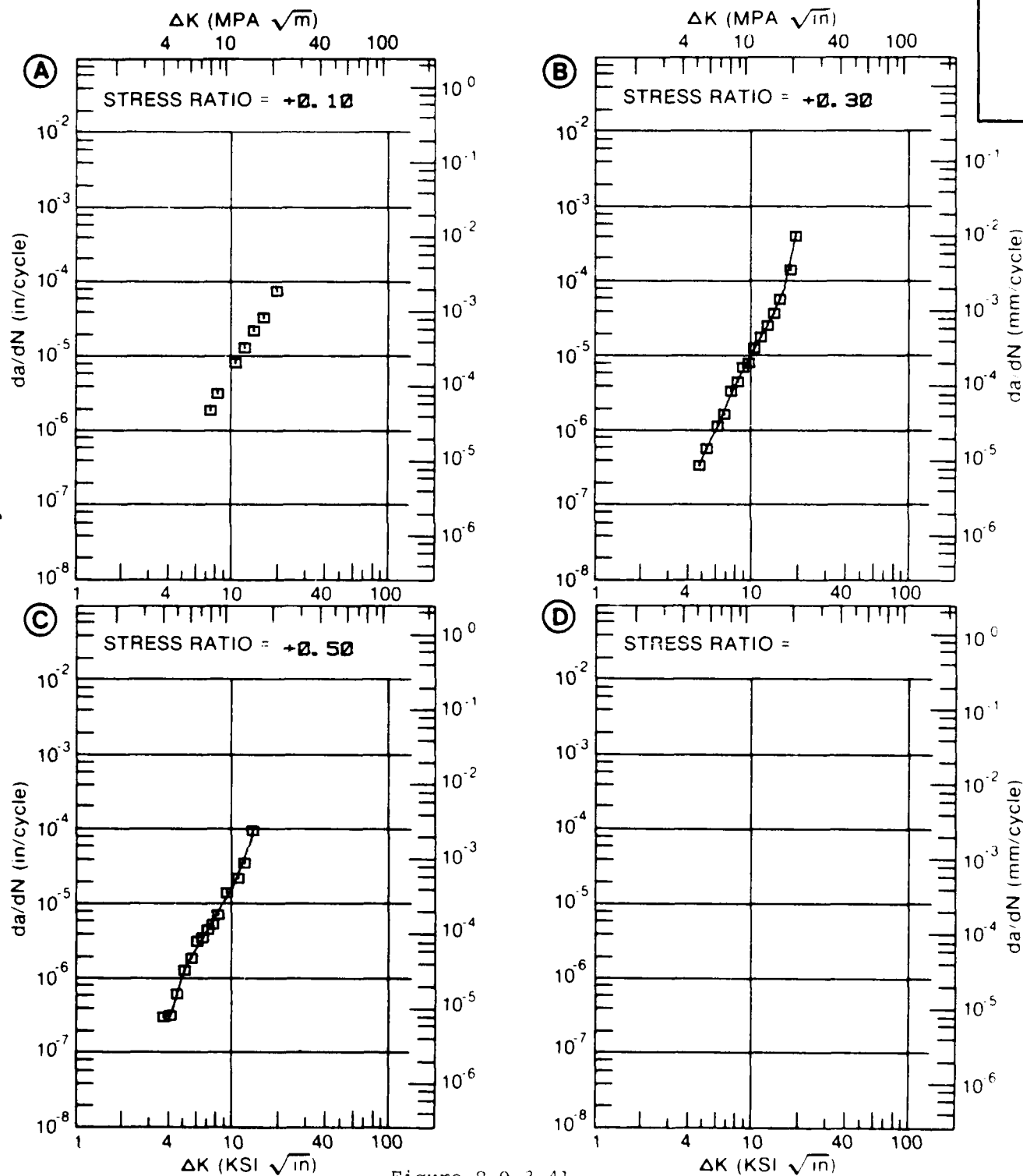


TABLE 8.9.3.42

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.42 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7075
 CONDITION: T73
 ENVIRONMENT: R.T., S.T.W.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.10	R=+0.30	R=+0.50	
DELTA K	A: 4.18	.295			
MIN	B: 3.24		.301		
	C: 2.74			.196	
	D:				
	3.00			.235	
	3.50		.361	.482	
	4.00		.781	1.14	
	5.00	1.26	2.38	4.83	
	6.00	2.63	5.03	10.8	
	7.00	6.14	9.95	16.9	
	8.00	12.2	16.8	23.1	
	9.00	17.1	22.2	30.2	
	10.00	19.7	25.5	39.9	
	13.00		34.3	105.	
DELTA K	A: 12.40	35.9			
MAX	B: 15.65		60.5		
	C: 14.11			107.	
	D:				
ROOT MEAN SQUARE		20.08	12.83	19.75	
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25				
SUMMARY	1.25-2.0	1	1	1	
(NP/NA)	>2.0				

CONDITION/HT: T73
 FORM: 1.50" TH FORGED BAR
 SPECIMEN TYPE: CT
 ORIENTATION: T-L
 FREQUENCY: 1.00 HZ
 ENVIRONMENT: R. T., S. T. W.

YIELD STRENGTH: 61.8 KSI
 ULT. STRENGTH: 70.7 KSI
 SPECIMEN THK: 0.750- 0.752"
 SPECIMEN WIDTH: 4.990- 5.010"
 REFERENCES: GD008

ALUM.
 ALLOY

7075

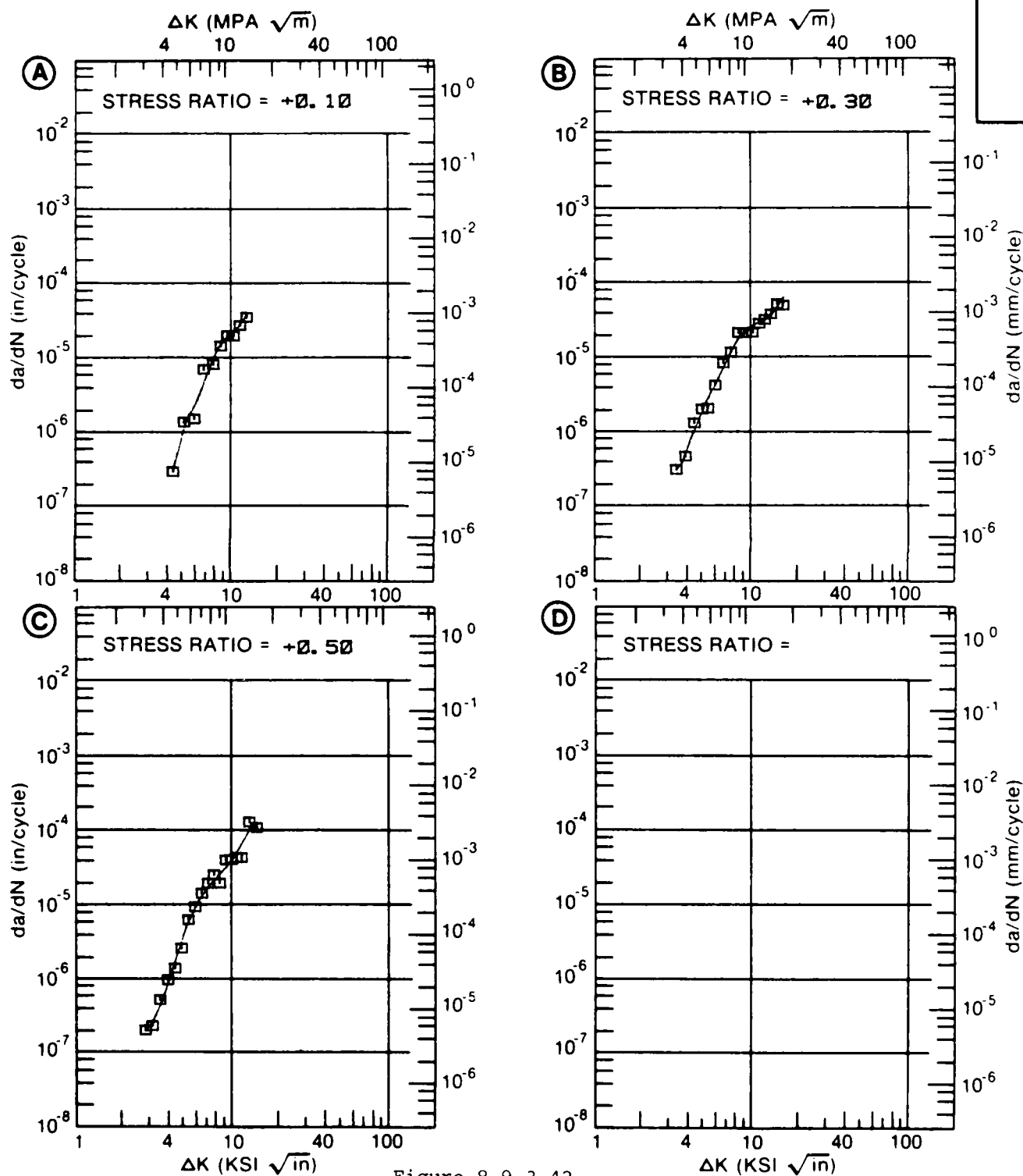


Figure 8.9.3.42

TABLE 8.9.3.43

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.42 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7075
 CONDITION: T7351
 ENVIRONMENT: R.T., H.H.A.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.25	R=+0.50		
DELTA K MIN	A: 5.04	1.08			
	B: 9.23		10.6		
	C:				
	D:				
	6.00	2.09			
	7.00	3.82			
DELTA K MAX	8.00	6.13			
	9.00				
	10.00		13.4		
	13.00		33.9		
	A: 8.87	8.30			
	B: 13.99		43.8		
ROOT MEAN SQUARE PERCENT ERROR		7.31	14.58		
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	4	4		
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T7351

FORM: PLATE

SPECIMEN TYPE: CCP

ORIENTATION: L-T

FREQUENCY: 12.00- 30.00 HZ

ENVIRONMENT: R. T., H. H. A.

YIELD STRENGTH: 64.5 KSI

ULT. STRENGTH:

SPECIMEN THK: 0.475"

SPECIMEN WIDTH: 4.000"

REFERENCES: BL002

ALUM.
ALLOY

7075

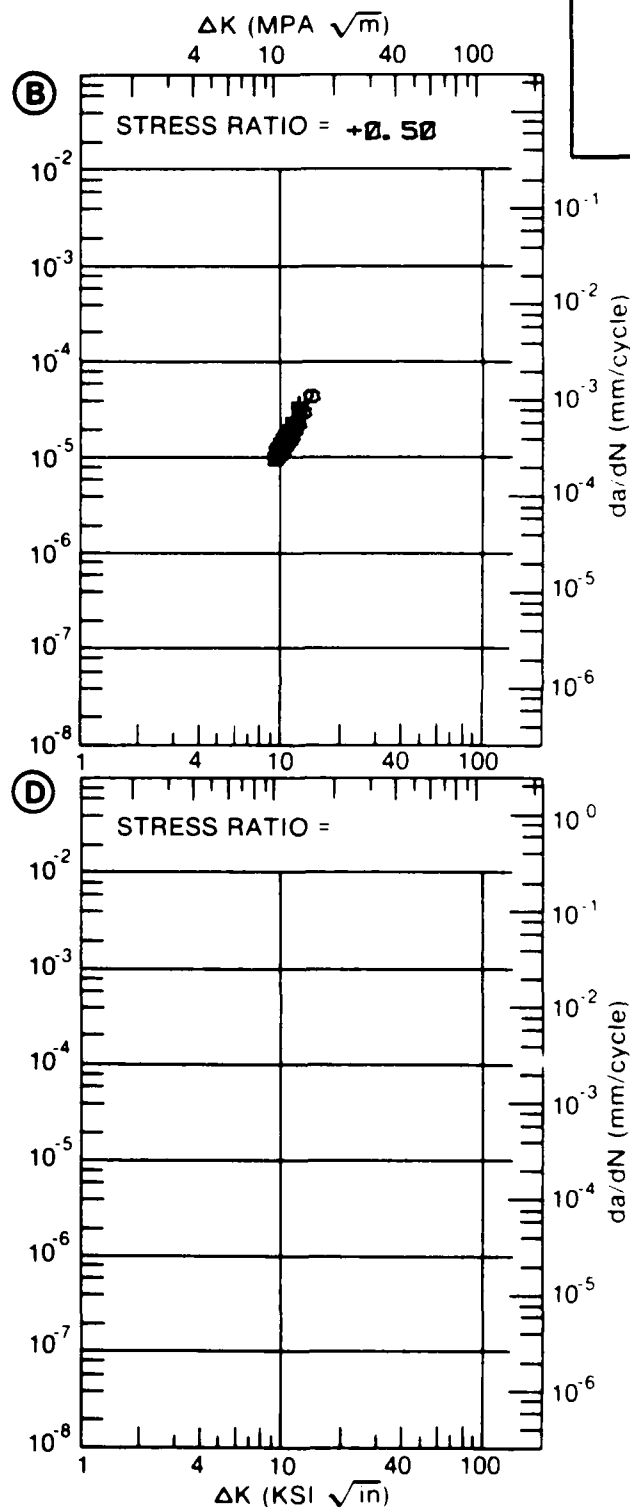
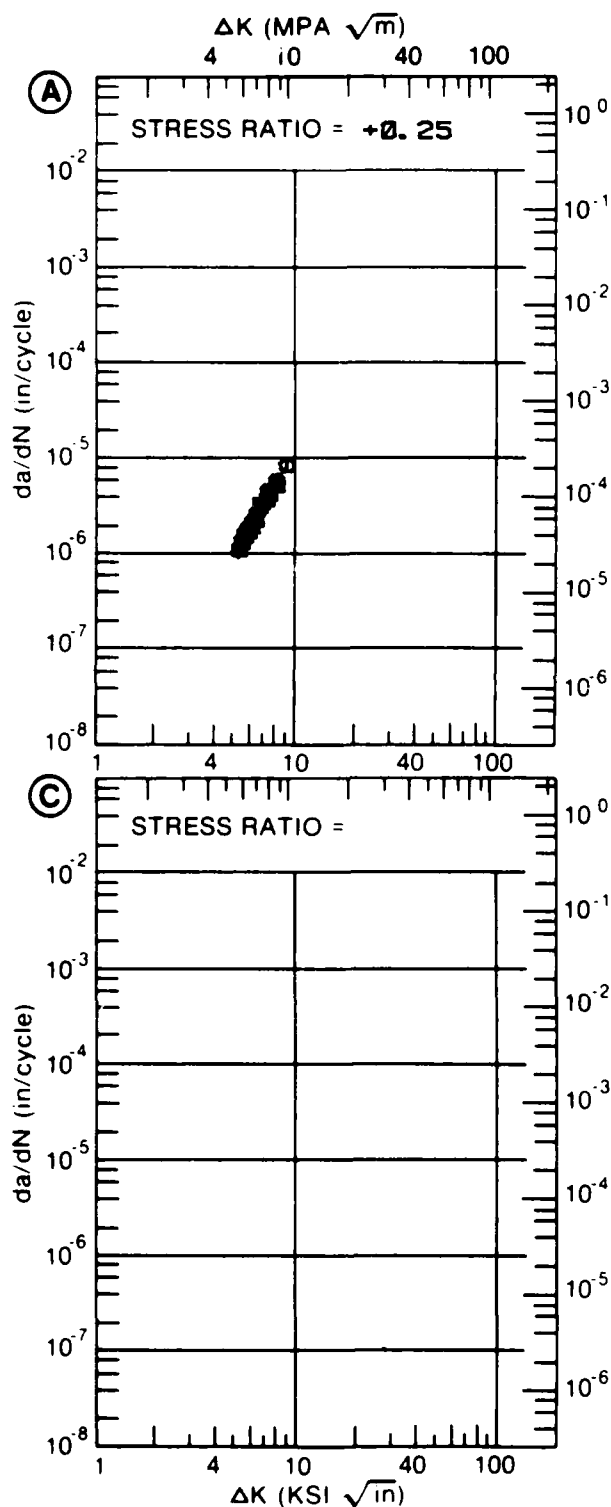


Figure 8.9.3.43

TABLE 8.9.3.44

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.44 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM 7075
 CONDITION: T7351
 ENVIRONMENT: R T , H. H. A

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.10	R=+0.25	R=+0.50	
DELTA K	A: 4.07	.274			
MIN	B: 2.07		.0501		
	C: 1.84			.0781	
	D:				
	2.00			.0960	
	2.50		.0834	.161	
	3.00		.146	.293	
	3.50		.227		
	4.00				
	5.00	.629			
	6.00	1.38			
	7.00	2.67			
	8.00	4.66			
	9.00	7.40			
	10.00	10.8			
DELTA K	A: 12.66	21.8			
MAX	B: 3.87		.287		
	C: 3.27			.442	
	D:				
ROOT MEAN SQUARE		19.61	29.47	7.41	
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8	1	1		
RATIO	0.8-1.25	6	7	4	
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T7351

FORM: PLATE

SPECIMEN TYPE: CCP

ORIENTATION: L-T

FREQUENCY: 12.00- 30.00 HZ

ENVIRONMENT: R. T., H. H. A.

YIELD STRENGTH: 60.5- 64.5 KSI

ULT. STRENGTH:

SPECIMEN THK: 0.475- 0.506"

SPECIMEN WIDTH: 6.000"

REFERENCES: BL002

ALUM.
ALLOY

7075

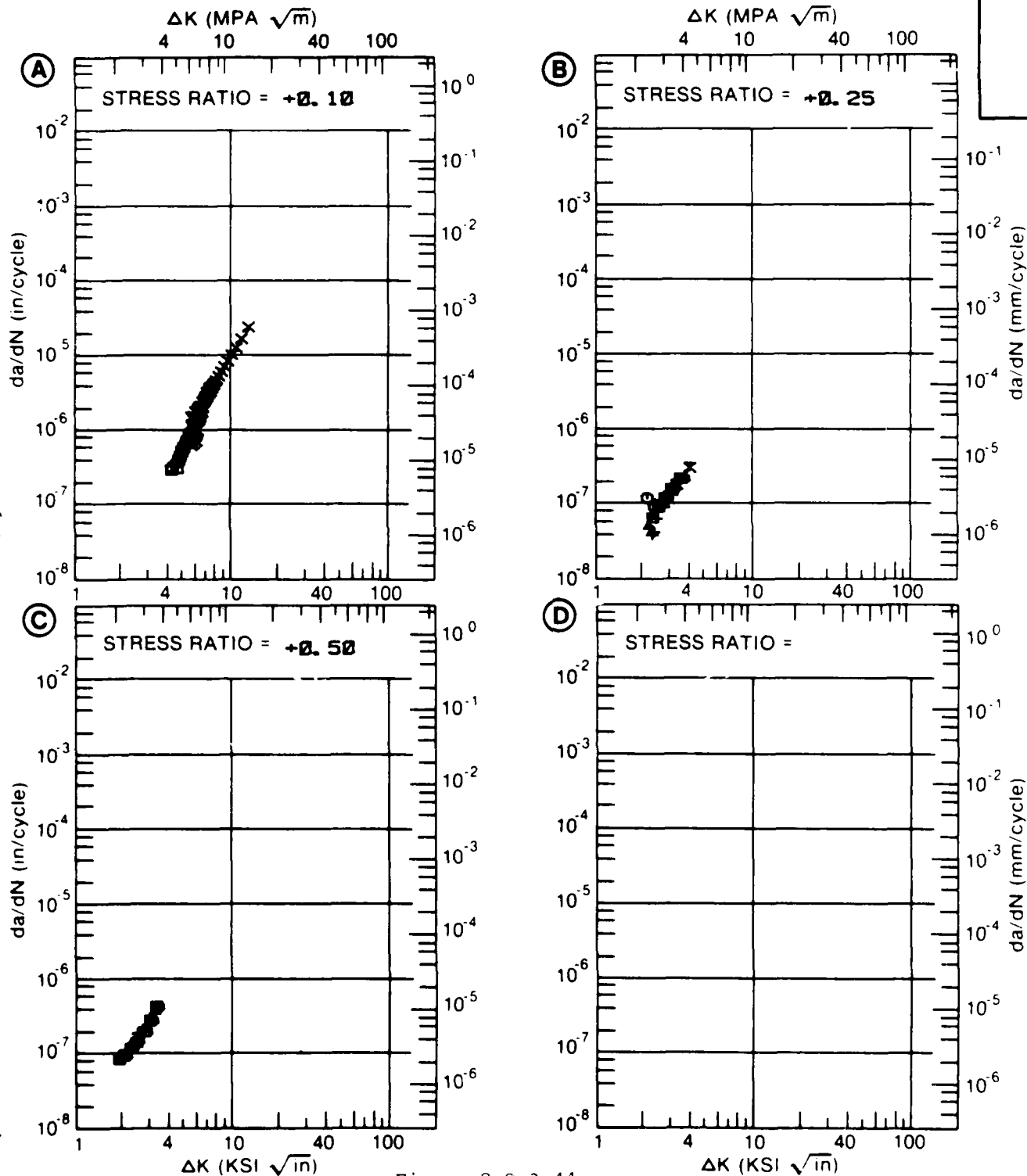


Figure 8.9.3.44

TABLE 8.9.3.45

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.45 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7075
 CONDITION: T7351
 ENVIRONMENT: R T , LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=-1.00	R=+0.02	R=+0.50	
DELTA K MIN	A:	5.66	2.06		
	B:	5.60	.90		
	C:	4.17		.78	
	D:				
	5.00			1.87	
	6.00	2.15	1.14	3.49	
	7.00	2.53	1.83	5.23	
	8.00	3.11	2.70	7.06	
	9.00	3.92	3.78	9.14	
	10.00	5.00	5.09	11.7	
	13.00	10.6	10.9	25.7	
	16.00	21.9	21.7	57.5	
	20.00	52.0	46.0	126.	
	25.00	121.	104.	257.	
	30.00	239.	206.	600.	
	35.00	482.	360.		
	40.00	1027.	580.		
	50.00		1568.		
DELTA K MAX	A:	47.96	2247.		
	B:	57.77	4085.		
	C:	34.36		1037.	
	D:				
ROOT MEAN SQUARE		9.11	9.33	7.05	
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25				
SUMMARY	1.25-2.0				
(NP/NA)	2.0				

CONDITION/HT: T7351
 FORM: 1.00" TH PLATE
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 10.00 HZ
 ENVIRONMENT: R.T., LAB AIR

YIELD STRENGTH: 67.3 KSI
 ULT. STRENGTH: 75.5 KSI
 SPECIMEN THK: 0.250"
 SPECIMEN WIDTH: 4.000"
 REFERENCES: MA006

ALUM.
 ALLOY

7075

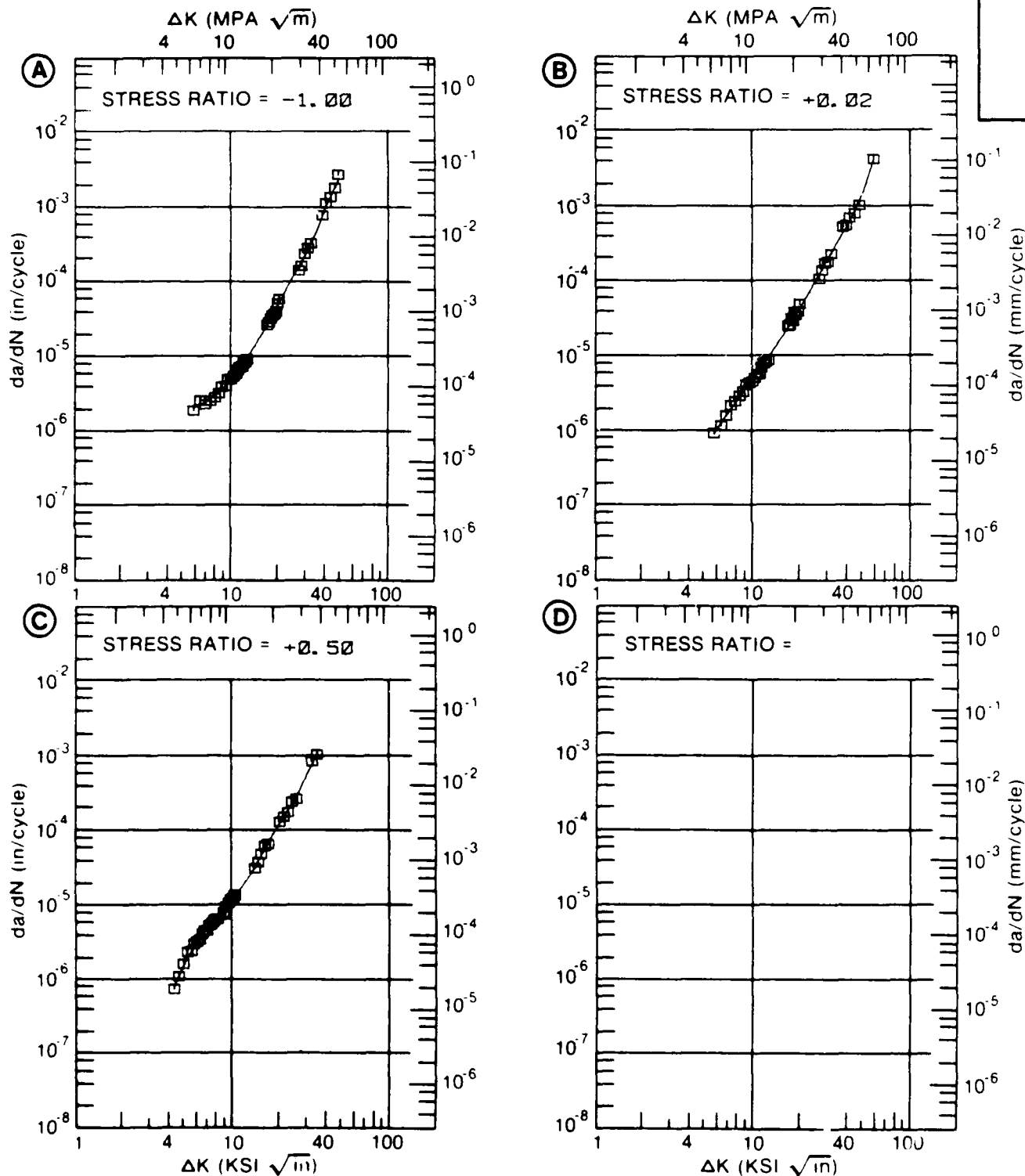


Figure 8.9.3.45

TABLE 8.9.3.46

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.46 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7075
CONDITION: T7351
ENVIRONMENT: R T , H H A.

DELTA K (KSI*IN**1/2)		DA/DN (10**--6 IN. /CYCLE)			
		A	B	C	D
		R=+0.33	R=+0.80		
DELTA K MIN	A:	1.54	0138		
	B:	1.01	.00641		
	C:				
	D:				
	1.30		.0483		
	1.60	.0137	.0776		
	2.00	.0329	.156		
	2.50	.104			
	3.00	.201			
	3.50	.378			
	4.00	.668			
	5.00	1.63			
	6.00	3.00			
	7.00	4.68			
	8.00	6.66			
	9.00	8.92			
	10.00	11.5			
	13.00	22.3			
	16.00	40.1			
	20.00	85.9			
DELTA K MAX	A:	22.75	145.		
	B:	2.18	.289		
	C:				
	D:				
ROOT MEAN SQUARE		25.70	28.86		
PERCENT ERROR					

LIFE	0.0-0.5		
PREDICTION	0.5-0.8	1	1
RATIO	0.8-1.25	1	2
SUMMARY	1.25-2.0	1	
(NP/NA)	>2.0		

CONDITION/HT: T7351
 FORM: 1.00" TH PLATE
 SPECIMEN TYPE: WOL
 ORIENTATION: L-T
 FREQUENCY: 25.00 HZ
 ENVIRONMENT: R. T., H. H. A.

YIELD STRENGTH: 62.0 KSI
 ULT. STRENGTH: 73.0 KSI
 SPECIMEN THK: 0.250- 0.251"
 SPECIMEN WIDTH: 2.550- 2.554"
 REFERENCES: AL005

ALUM.
 ALLOY

7075

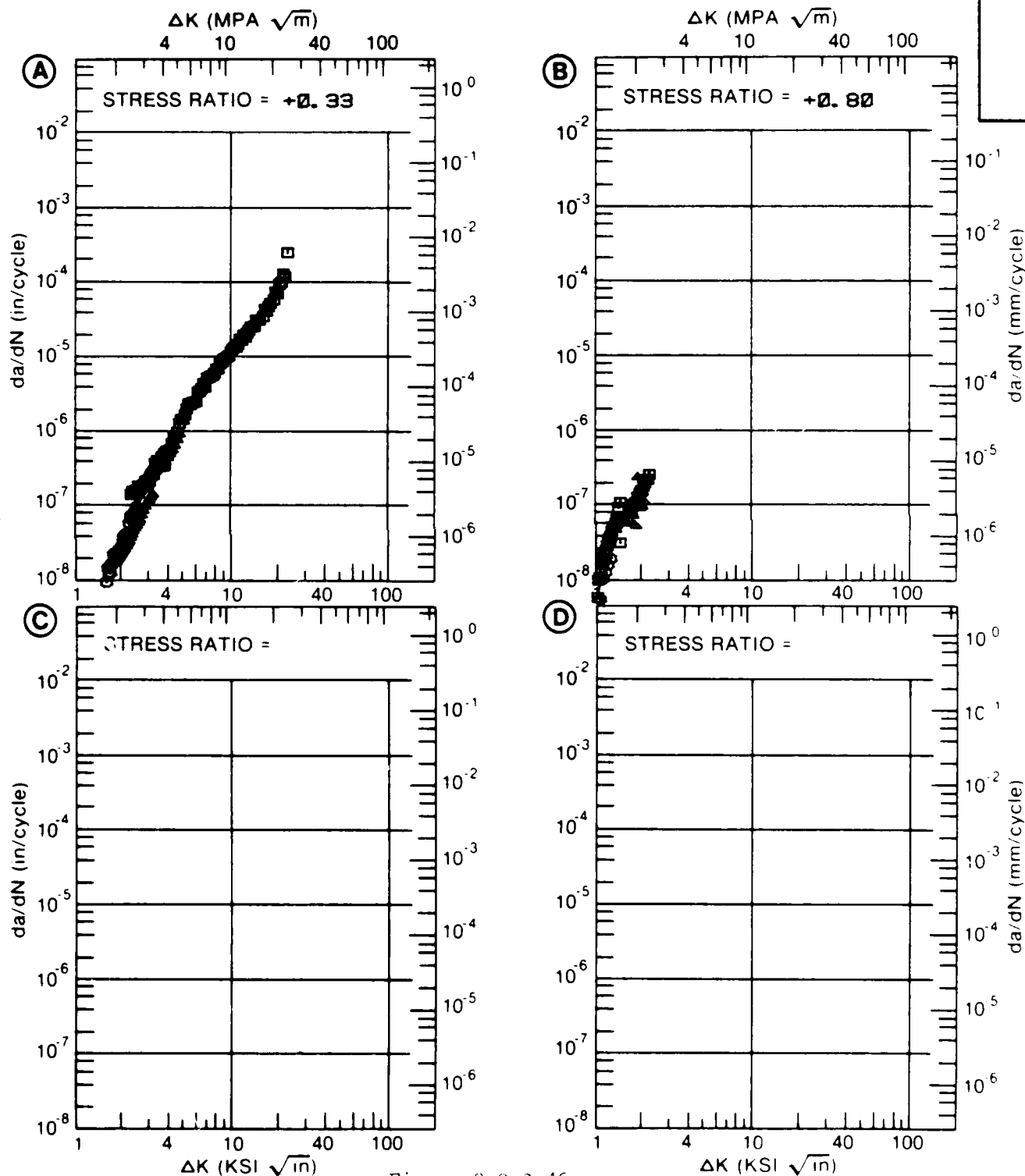


Figure 8.9.3.46

TABLE 8.9.3.17

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.47 INDICATING EFFECT

OF FREQUENCY

MATERIAL: ALUMINUM 7075
 CONDITION: T7351
 ENVIRONMENT: R.T., H.H.A.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		F(HZ)= 25.00 F(HZ)=200.00			
DELTA K MIN	A: 1.51	00			
	B: 1.86		00		
	C: 18				
	D:				
	2.00	.0275	.0164		
	2.50	.0778	.122		
	3.00	.172	.151		
	3.50	.323	.345		
	4.00	.545			
	5.00	1.25			
	6.00	2.36			
	7.00	3.95			
	8.00	6.08			
	9.00	8.81			
	10.00	12.2			
	13.00	26.8			
	16.00	49.3			
	20.00	94.3			
DELTA K MAX	A: 23.32	147.			
	B: 3.58		44		
	C:				
	D:				

ROOT MEAN SQUARE 19.82 32.14
 PERCENT ERROR

LIFE 0.0-0.5
 PREDICTION 0.5-0.8
 RATIO 0.8-1.25
 SUMMARY 1.25-2.0
 (NP/NA) 2.0

CONDITION/HT: T7351
 FORM: 1.00" TH PLATE
 SPECIMEN TYPE: WOL
 ORIENTATION: L-T
 STRESS RATIO: +0.33
 ENVIRONMENT: R. T., H. H. A.

YIELD STRENGTH: 62.0 KSI
 ULT. STRENGTH: 73.0 KSI
 SPECIMEN THK: 0.250- 0.251"
 SPECIMEN WIDTH: 2.550- 2.551"
 REFERENCES: NC003, NC002, AL005

ALUM.
 ALLOY

7075

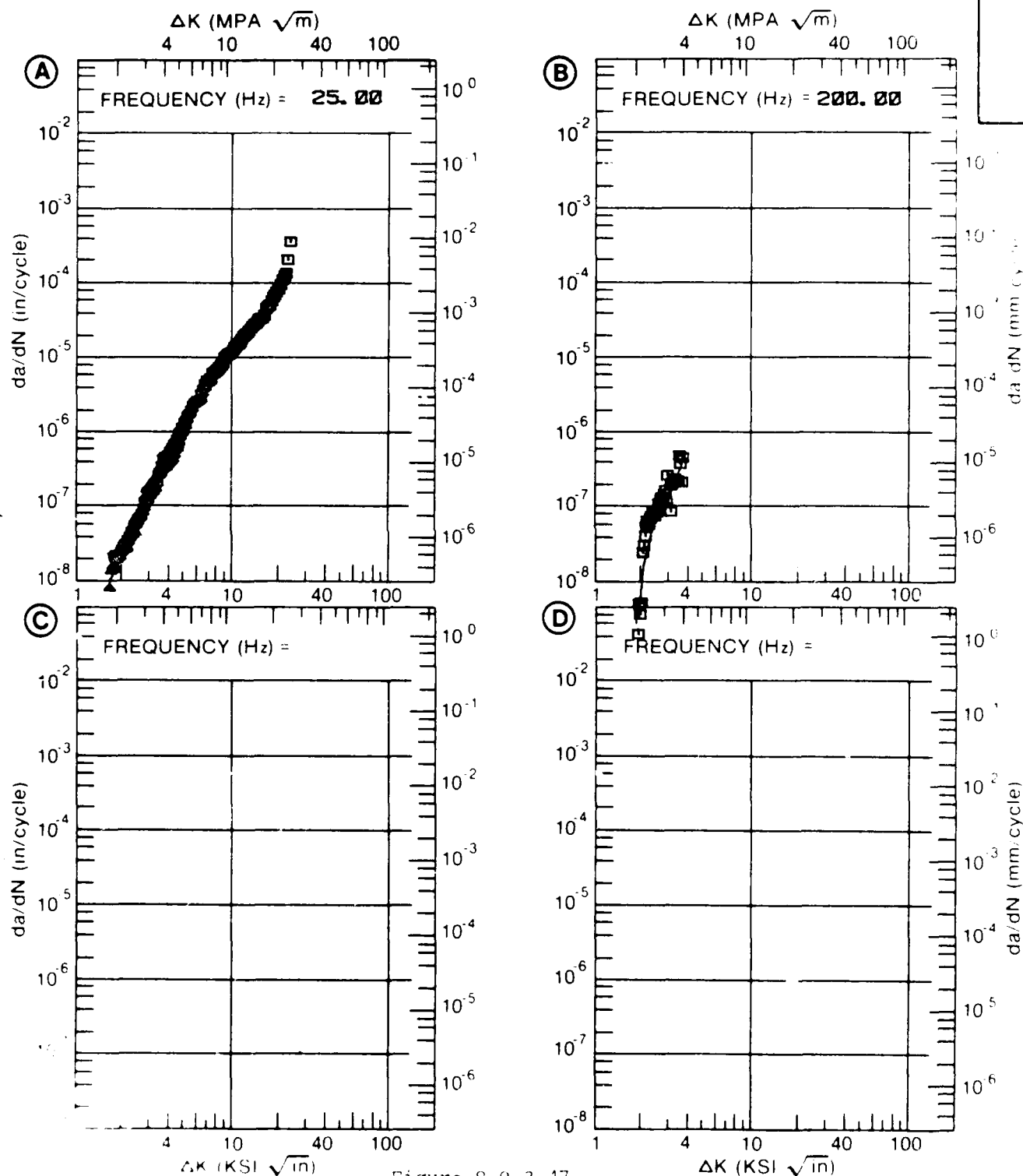


Figure 8.9.3.47

TABLE 8.9.3.48

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.48 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL		7075	
ALUMINUM			
TENSILE STRENGTH		1351	
DELTA K		DA/DN (10**-6 IN./CYCLE)	
1 IN**1/2)			
		A	B
		E= R. T.	E= R. T.
		3.5% NaCl	NITROGEN GAS
		13-20HZ	10-20HZ
DELTA K	A	3.66	3.87
	B	3.39	.785
	C		
	D		
		3.50	.846
		4.00	1.08
		5.00	1.44
		6.00	1.83
		7.00	2.52
		8.00	3.83
MIN	A	9.75	44.3
	B	10.81	21.0
	C		
	D		
ROOT MEAN SQUARE		27.10	19.81
PERCENT ERROR			
LIFE		0.0-0.5	
PREDICTION		0.5-0.8	1
RATIO		0.8-1.25	3
SUMMARY		1.25-2.0	2
(NP/NA)		>2.0	1

CONDITION/HT: T7351
 FORM: 1.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: S-T
 STRESS RATIO: +0.50
 FREQUENCY:

YIELD STRENGTH: 60.0- 70.0 KSI
 ULT. STRENGTH:
 SPECIMEN THK: 0.509- 0.512"
 SPECIMEN WIDTH: 1.000- 1.027"
 REFERENCES: MR001

ALUM.
 ALLOY

7075

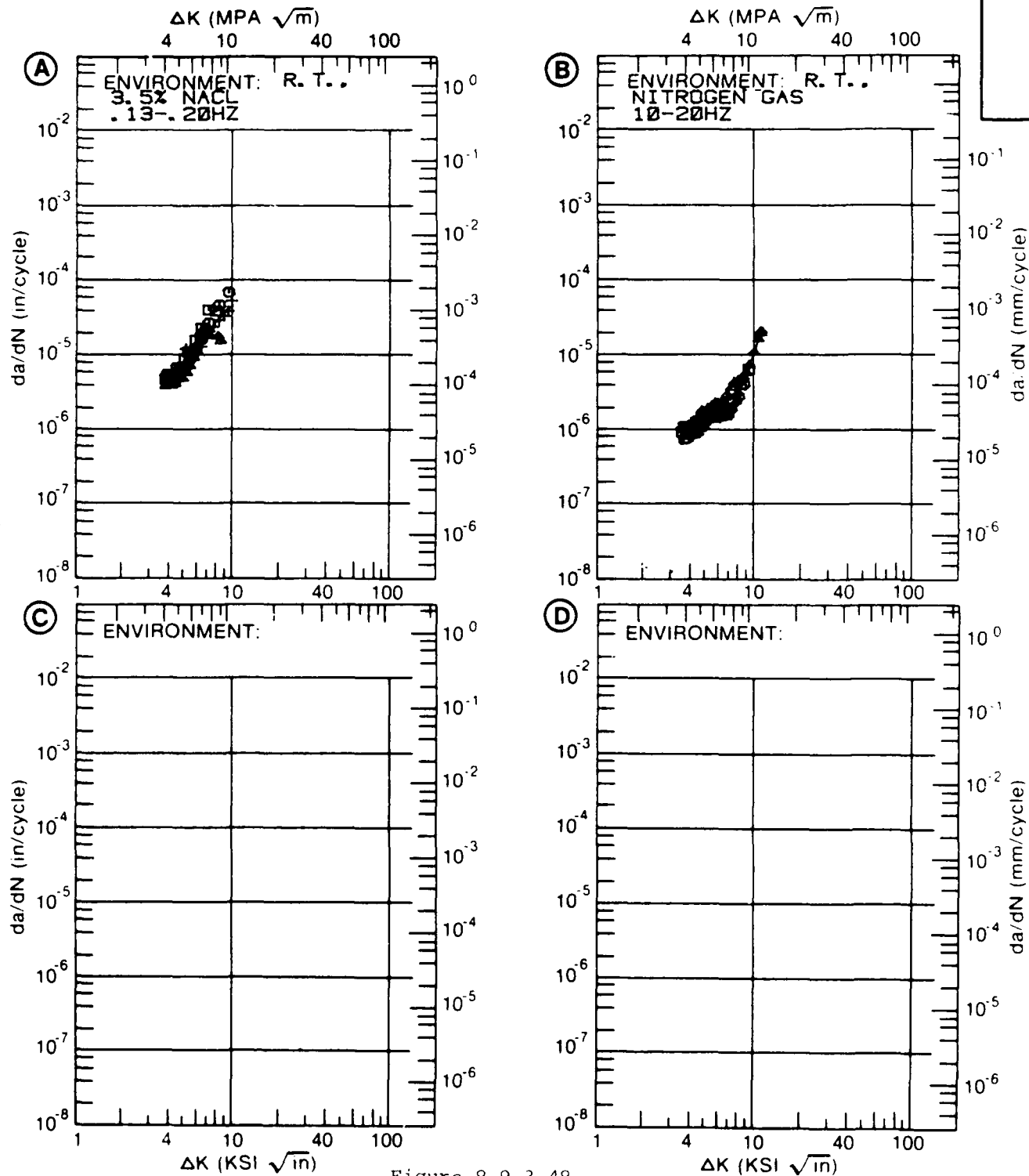


Figure 8.9.3.48

TABLE 8.9.3.49

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.49 INDICATING EFFECT
OF ENVIRONMENT

MATERIAL: ALUMINUM		7075			
CONDITION: T7351					
DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. LAB AIR	E= R. T. JP-4 FUEL	E= R. T. SIM SEA WATER	
DELTA K	A: 4.07	.11			
MIN	B: 6.10		1.01		
	C: 4.48			.24	
	D:				
	5.00	.293		.427	
	6.00	.670		1.01	
	7.00	1.31	1.21	1.94	
	8.00	2.31	2.33	3.26	
	9.00	3.73	4.25	4.97	
	10.00	5.65	6.68	7.10	
	13.00	14.9	15.7	16.1	
	16.00	30.1	26.6	29.7	
	20.00	59.4	46.2	56.4	
	25.00	108.	90.7	110.	
	30.00	165.	190.	195.	
	35.00		433.	331.	
	40.00		1057.		
DELTA K	A: 34.27	216.			
MAX	B: 47.98		4953.		
	C: 38.19			455.	
	D:				
ROOT MEAN SQUARE		37.86	32.33	32.35	
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25				
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T7351
 FORM: 1.25" TH PLATE
 SPECIMEN TYPE: W'
 ORIENTATION: L-T
 STRESS RATIO: +0.02
 FREQUENCY: 0.10- 20.00 HZ

YIELD STRENGTH: 54.5- 57.8 KSI
 ULT. STRENGTH: 68.0- 69.3 KSI
 SPECIMEN THK: 1.250"
 SPECIMEN WIDTH: 5.000"
 REFERENCES: MA005

ALUM.
 ALLOY

7075

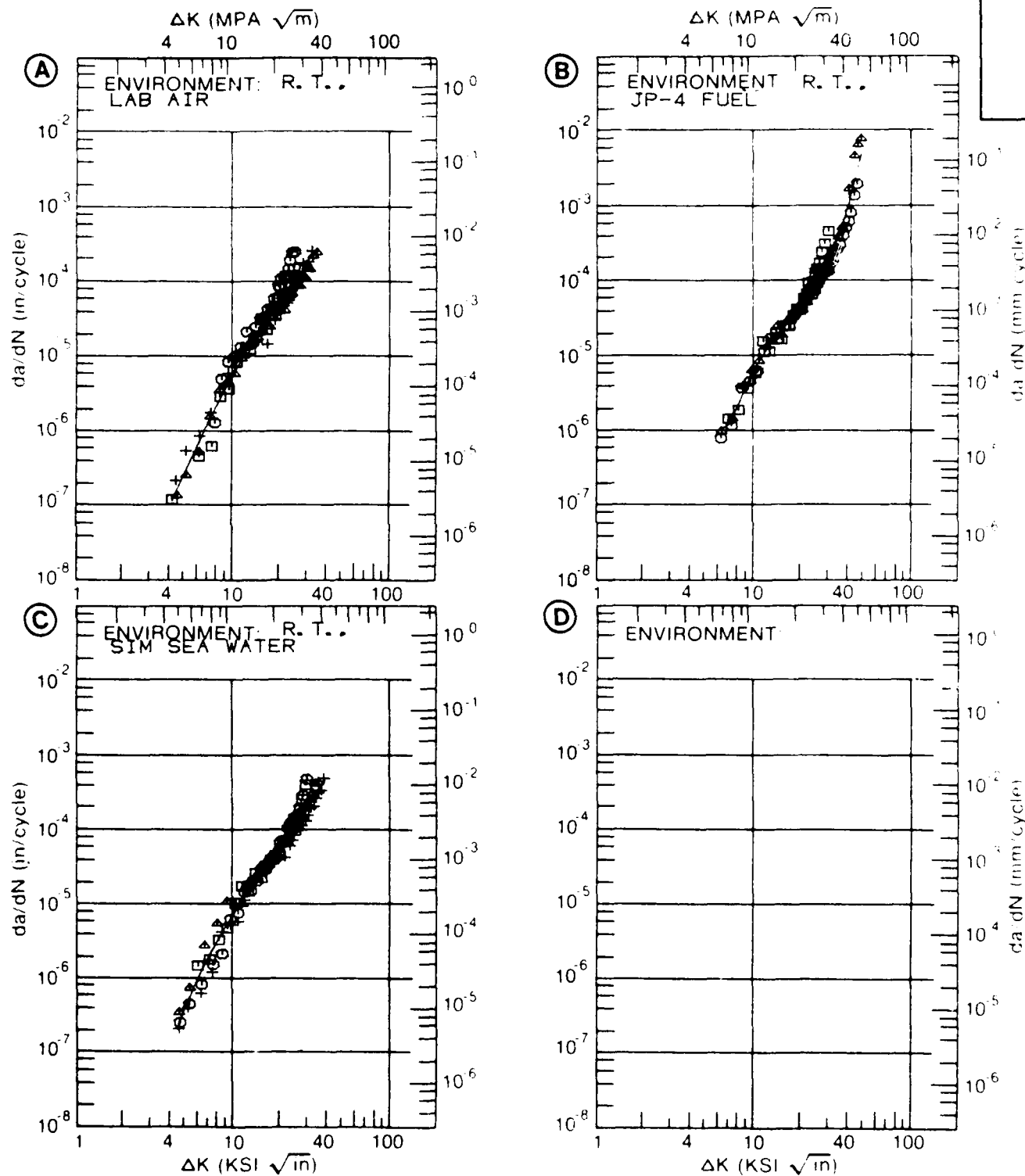


Figure 8.9.3.49

TABLE 8.9.3.50

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.50 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM		7075			
CONDITION: T7351					
DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. 1.0% AIR	E= R. T. DIST WATER	E= R. T. 3.5% NaCl	
DELTA K MIN	A:				
	B: 18.10		32.5		
	C: 20.00			93.8	
	D:				
	20.00		46.9		
	25.00		90.8	1/3.	
	30.00		233.	296.	
DELTA K MAX	A:				
	B: 32.70		488.		
	C: 32.13			390.	
	D:				
ROOT MEAN SQUARE		0.00	7.52	2.03	
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25		1	1	
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T7351
 FORM: 1.25" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 STRESS RATIO: +0.02
 FREQUENCY: 0.10 HZ

YIELD STRENGTH: 53.2 KSI
 ULT. STRENGTH: 65.1 KSI
 SPECIMEN THK: 1.250"
 SPECIMEN WIDTH: 5.000"
 REFERENCES: 84363

ALUM.
 ALLOY

7075

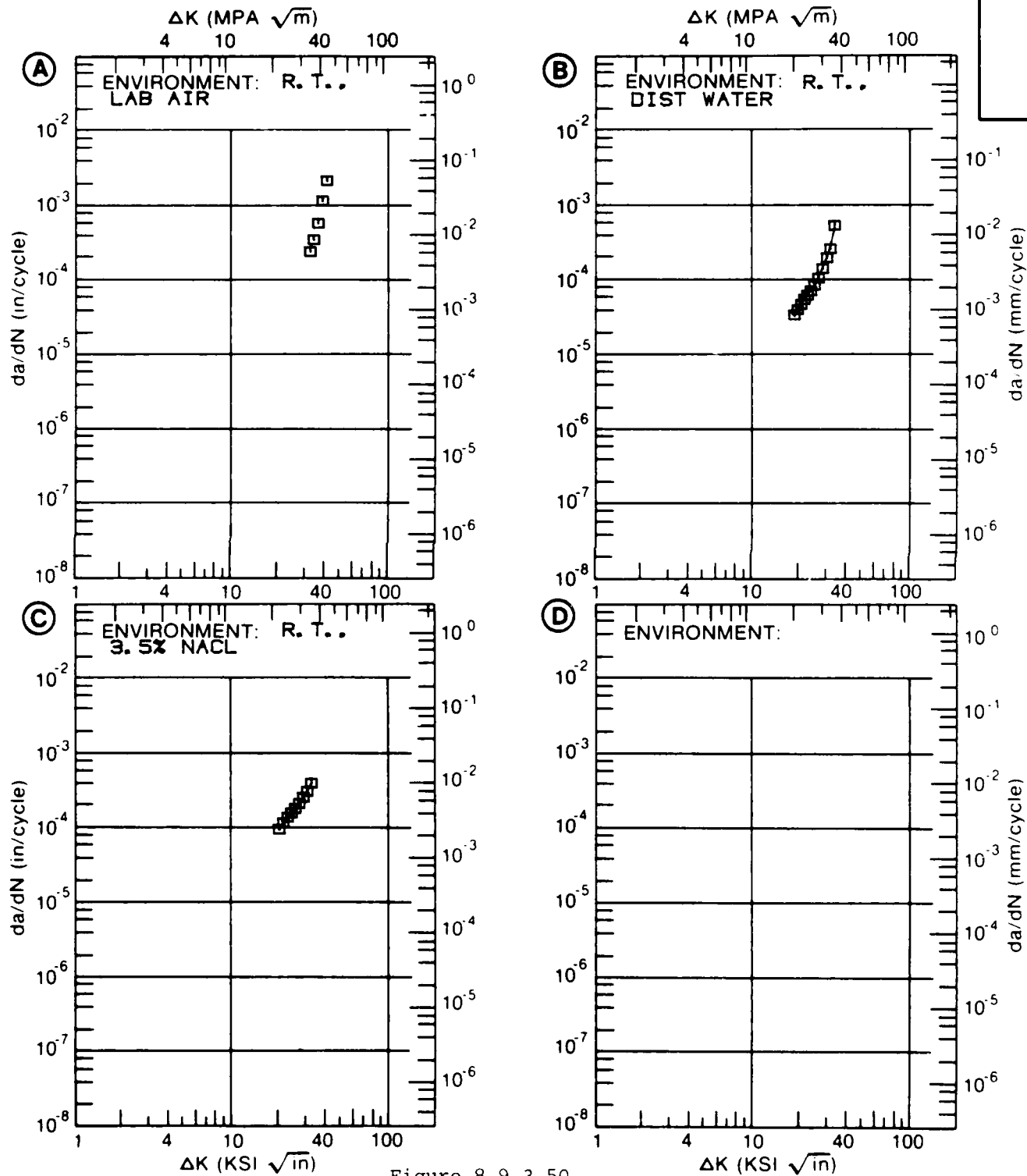


Figure 8.9.3.50

TABLE 8.9.3.51

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.51 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM		7075			
CONDITION: T7351					
ENVIRONMENT: R T , H H A					
DELTA K (KSI*IN**1/2)		DA/DN (10**--6 IN. /CYCLE)			
		A	B	C	D
		R=+0.33			
DELTA K MIN	A:	1.33	.0139		
	B:				
	C:				
	D:				
	1.60	.0282			
	2.00	.0569			
	2.50	.104			
	3.00	.169			
	3.50	.260			
	4.00	.394			
	5.00	.895			
	6.00	1.94			
	7.00	3.76			
	8.00	6.42			
	9.00	9.73			
	10.00	13.2			
	13.00	19.3			
DELTA K MAX	A:	13.43	19.3		
	B:				
	C:				
	D:				
ROOT MEAN SQUARE		22.36			
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8	2			
RATIO	0.8-1.25				
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T7351
 FORM: 1.38" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 FREQUENCY: 25.00- 50.00 HZ
 ENVIRONMENT: R. T., H. H. A.

YIELD STRENGTH: 64.8 KSI
 ULT. STRENGTH: 74.7 KSI
 SPECIMEN THK: 0.247"
 SPECIMEN WIDTH: 2.500"
 REFERENCES: AL005

ALUM.
 ALLOY

7075

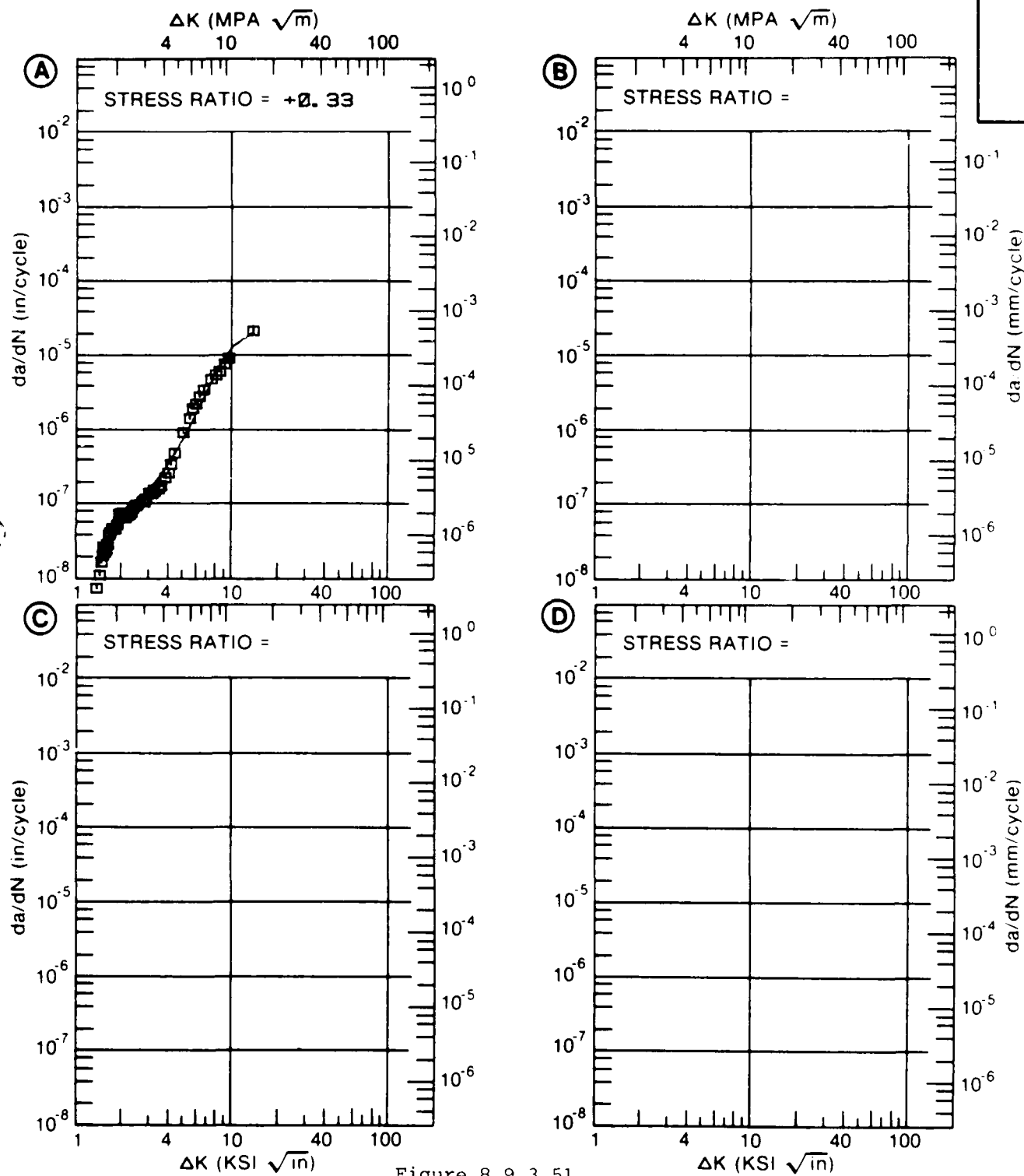


Figure 8.9.3.51

TABLE 8.9.3.52

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.52 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM 7075
 CONDITION: T7351
 ENVIRONMENT: R. T. , L. H. A.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		R=+0.08	R=+0.30	R=+0.50	
DELTA K MIN	A: 4.55	.271			
	B: 7.15		.219		
	C: 4.52			1.08	
	D:				
	5.00	.330		1.51	
	6.00	.546		2.87	
	7.00	1.49		4.71	
	8.00	3.05	3.77	6.73	
	9.00	3.95	6.38	9.16	
	10.00	5.76	8.07	12.6	
DELTA K MAX	13.00		17.5	42.4	
	16.00		31.8	222.	
	A: 10.89	11.4			
	B: 19.22		92.6		
	C: 16.33			269.	
	D:				
ROOT MEAN SQUARE		9.30	16.82	13.90	
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	2	1	1	
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T7351
 FORM: 2.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 FREQUENCY: 6.00 HZ
 ENVIRONMENT: R. T., L. H. A.

YIELD STRENGTH: 58.0- 65.0 KSI
 ULT. STRENGTH: 70.0- 76.0 KSI
 SPECIMEN THK: 0.810- 0.994"
 SPECIMEN WIDTH: 6.000- 7.400"
 REFERENCES 88579, 85837

ALUM.
 ALLOY

7075

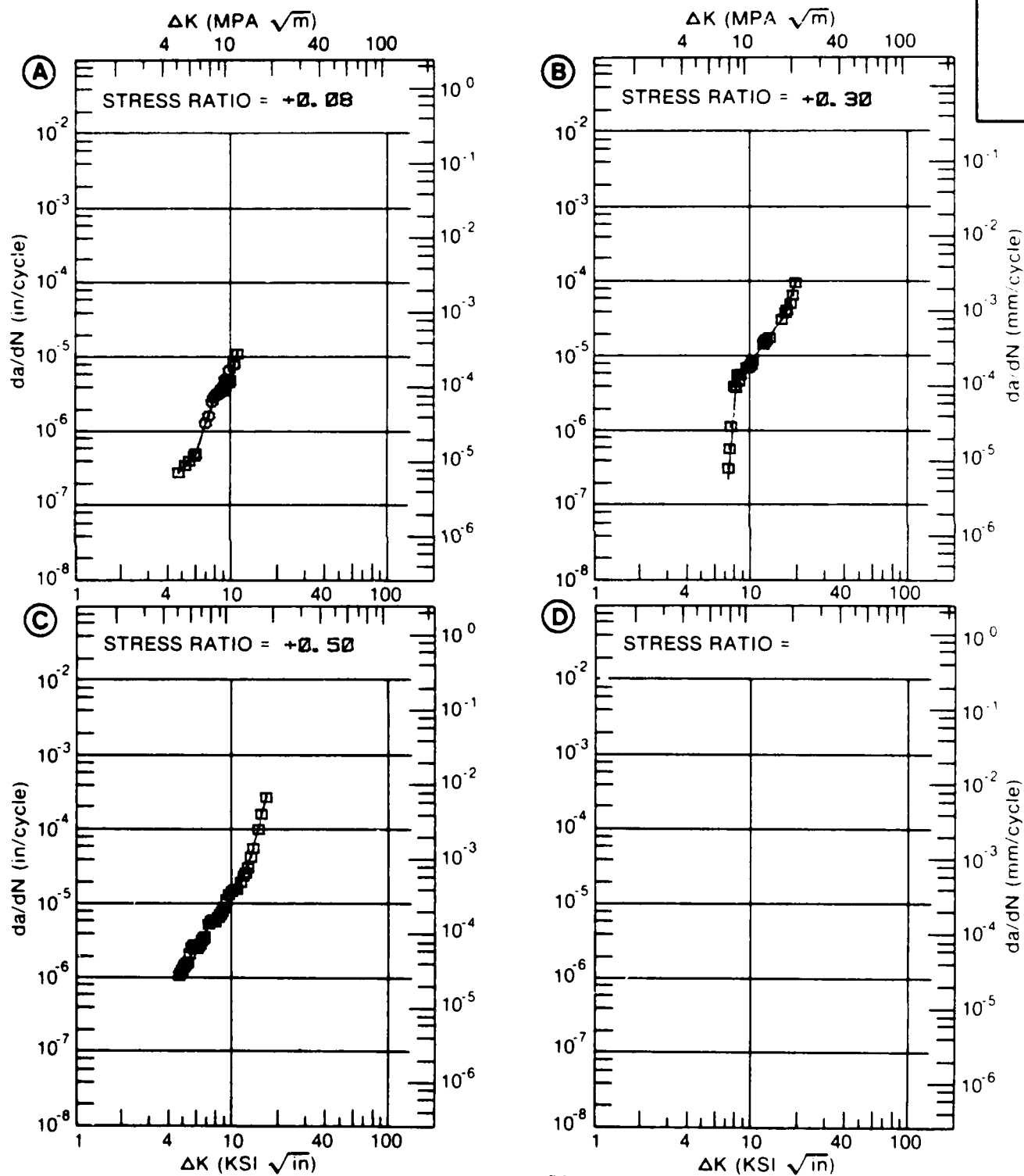


Figure 8.9.3.52

TABLE 8.9.3.53

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.53 INDICATING EFFECT

OF STRESS RATIO

MATERIAL ALUMINUM 7075
 CONDITION T7351
 ENVIRONMENT R T , L H A

DELTA K
 (KSI*IN**1/2)

DA/DN (10**-6 IN./CYCLE)

A

B

C

D

R=+0.08

A:
 DELTA K B:
 MIN C:
 D:

200.00

A:
 DELTA K B:
 MAX C:
 D:

ROOT MEAN SQUARE 0.00
 PERCENT ERROR

LIFE 0.0-0.5
 PREDICTION 0.5-0.3
 RATIO 0.8-1.25
 SUMMARY 1.25-2.0
 (NP/NA) >2.0

CONDITION/HT: T7351
 FORM: 2.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 FREQUENCY: 6.00 HZ
 ENVIRONMENT: R. T., L. H. A.

YIELD STRENGTH: 64.7 KSI
 ULT. STRENGTH: 75.5 KSI
 SPECIMEN THK: 0.817"
 SPECIMEN WIDTH: 6.000"
 REFERENCES: 85837

ALUM.
 ALLOY

7075

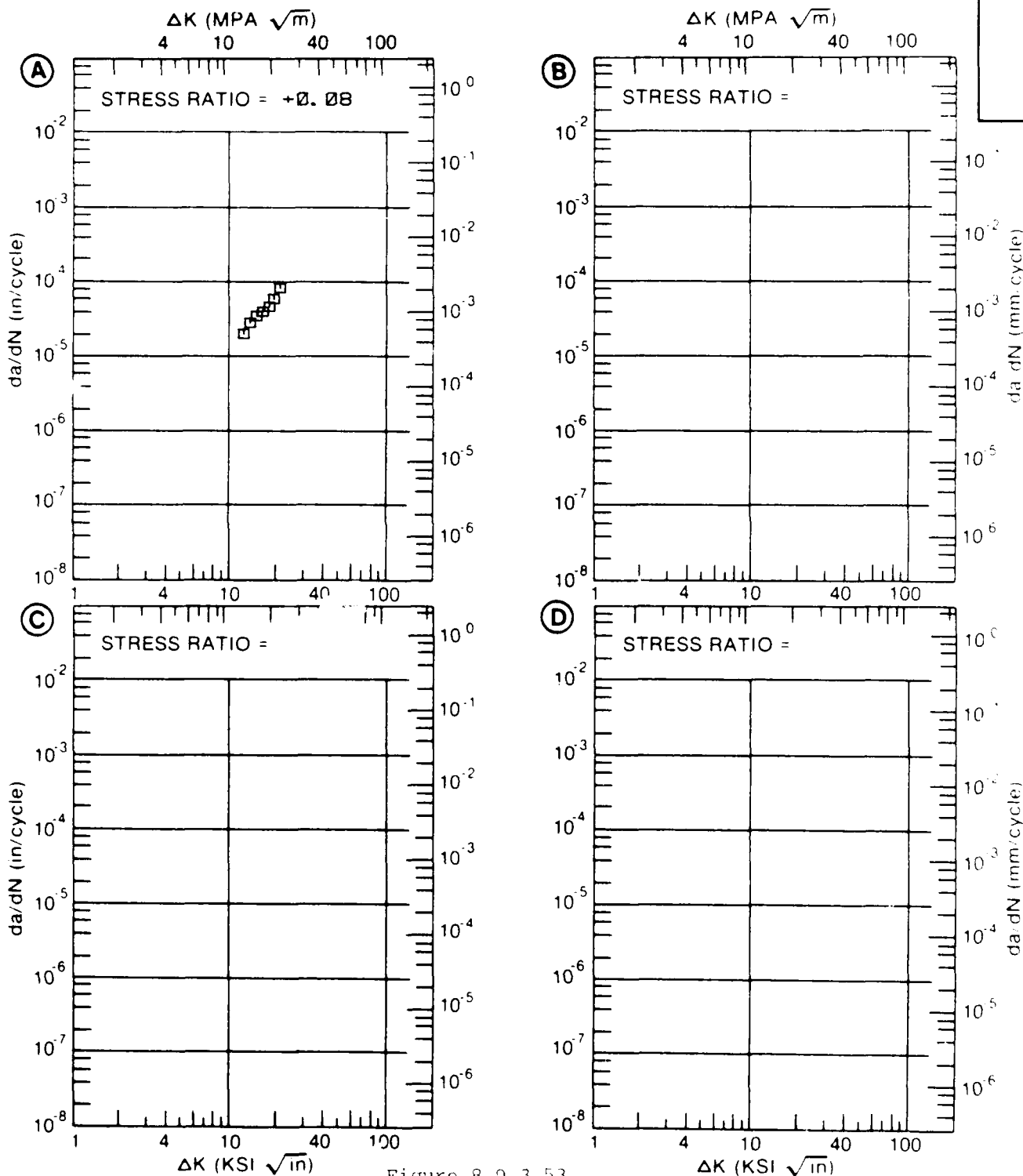


Figure 8.9.3.53

TABLE 8.9.3.54

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.54 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL ALUMINUM 7075
CONDITION T7351

DELTA K
(KSI*IN**1/2)

DA/DN (10**-6 IN./CYCLE)

A

B

C

D

E= R.T.
L.H.A., 1HZE= R.T.
S.T.W., 6HZ

DELTA K A	3.94	175		
DELTA K B	4.42		225	
MIN C				
D				
	4.00	179		
	5.00	399	470	
	6.00	974	1.22	
	7.00	1.93	2.45	
	8.00	3.27	4.20	
	9.00	4.97	6.49	
	10.00	7.00	9.33	
	13.00	14.8	21.6	
	16.00	24.8	41.1	
DELTA K A	18.66	35.6		
DELTA K B	19.29		75.0	
MAX C				
D				

ROOT MEAN SQUARE
PERCENT ERROR

7.25

19.67

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25
SUMMARY 1.25-2.0
(NP/NA) 2.0

1

1

CONDITION/HT: T7351
 FORM: 2.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 STRESS RATIO: +0.08
 FREQUENCY:

YIELD STRENGTH: 58.0- 64.7 KSI
 ULT. STRENGTH: 70.0- 75.5 KSI
 SPECIMEN THK: 0.816- 1.000"
 SPECIMEN WIDTH: 6.000- 7.400"
 REFERENCES: 88579, 85837

ALUM.
 ALLOY

7075

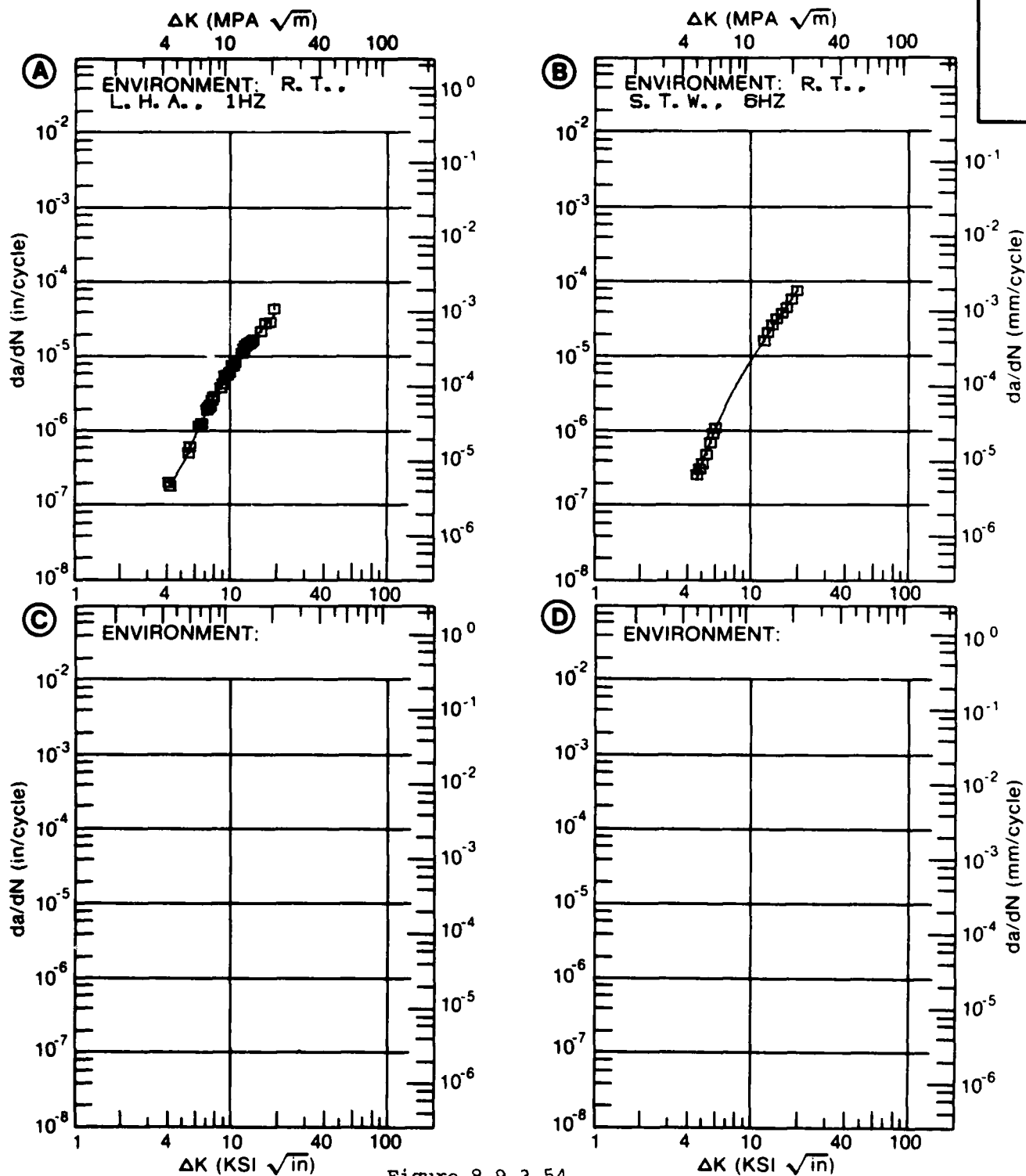


Figure 8.9.3.54

TABLE 8.9.3.55

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.55 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM 7075
CONDITION: T7351

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R.T. L.H.A. 6HZ	E= R.T. S.T.W. 1HZ		
DELTA K MIN	A:	4.09	.368		
	B:	5.44	1.50		
	C:				
	D:				
	5.00	.440			
	6.00	.763	2.23		
	7.00	1.30	4.26		
	8.00	2.01	7.48		
	9.00	2.92	12.1		
	10.00	4.10	18.0		
	13.00	10.6	39.7		
	16.00	27.7			
DELTA K MAX	A:	16.12	28.9		
	B:	15.09	52.1		
	C:				
	D:				
ROOT MEAN SQUARE		26.12	16.15		
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	2	1		
SUMMARY	1.25-2.0				
(NP/NA)	22.0				

CONDITION/HT: T7351
 FORM: 2.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: T-L
 STRESS RATIO: +0.08
 FREQUENCY:

YIELD STRENGTH: 63.0- 66.0 KSI
 ULT. STRENGTH: 74.0- 77.0 KSI
 SPECIMEN THK: 0.820- 1.000"
 SPECIMEN WIDTH: 6.000- 7.400"
 REFERENCES: 88579, 85837

ALUM.
 ALLOY

7075

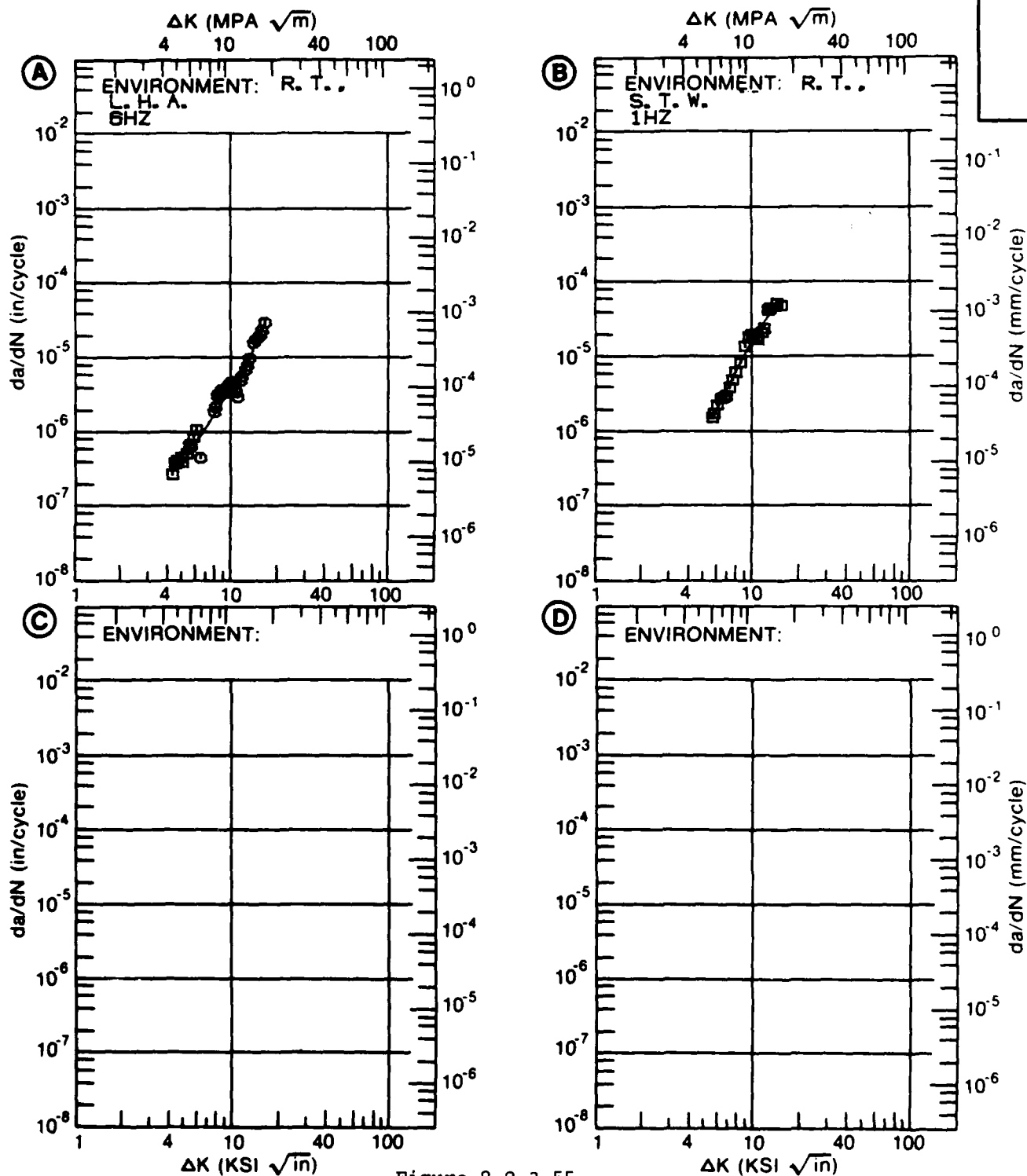


Figure 8.9.3.55

TABLE 8.9.3.56

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.56 INDICATING EFFECT
OF ENVIRONMENT

MATERIAL: ALUMINUM		7075			
CONDITION: T7351					
DELTA K		DA/DN (10**-6 IN. /CYCLE)			
(KSI*IN**1/2)					
		A	B	C	D
		E= R. T.	E= R. T.		
		LAB AIR	3. 5% NaCl		
DELTA K MIN	A:	9. 46	3. 14		
	B:				
	C:				
	D:				
	10. 00	3. 95			
	13. 00	10. 4			
16. 00	20. 6				
20. 00	41. 4				
25. 00	83. 9				
DELTA K MAX	A:	30. 00	156.		
	B:				
	C:				
	D:				
ROOT MEAN SQUARE		41. 64	0. 00		
PERCENT ERROR					
LIFE	0. 0-0. 5				
PREDICTION	0. 5-0. 8	1			
RATIO	0. 8-1. 25	1			
SUMMARY	1. 25-2. 0	1			
(NP/NA)	>2. 0				

CONDITION/HT: T7351
 FORM: 4.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 STRESS RATIO: +0.02
 FREQUENCY: 10.00 HZ

YIELD STRENGTH: 53.2 KSI
 ULT. STRENGTH: 85.1 KSI
 SPECIMEN THK: 1.250"
 SPECIMEN WIDTH: 5.000"
 REFERENCES: 84363

ALUM.
 ALLOY

7075

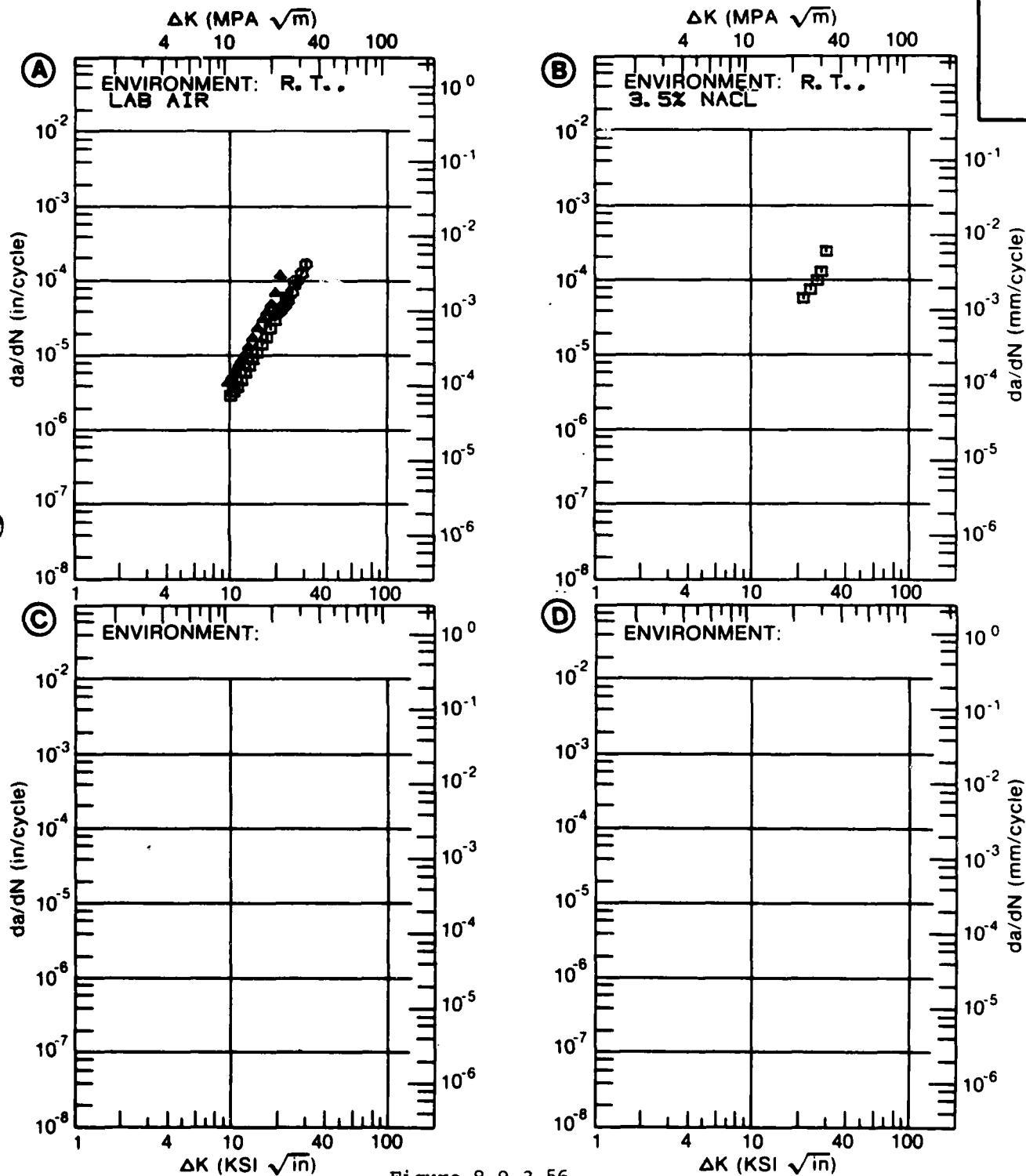


Figure 8.9.3.56

TABLE 8.9.3.57

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.57 INDICATING EFFECT
OF ENVIRONMENT

MATERIAL: ALUMINUM		7075			
CONDITION: T/351					
DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. LAB AIR	E= R. T. DIST WATER	E= R. T. 3.5% NaCl	
DELTA K MIN	A: 9.36	3.89			
	B: 20.15		42.6		
	C: 20.82			58.0	
	D:				
	10.00	5.04			
	13.00	12.8			
	16.00	24.3			
	20.00	44.0			
	25.00	83.1	90.0	99.5	
	30.00	190.	221.	249.	
	35.00		651.		
DELTA K MAX	A: 34.34	522.			
	B: 37.06		1073.		
	C: 32.93			470.	
	D:				
ROOT MEAN SQUARE PERCENT ERROR		18.45	7.51	6.17	
LIFE PREDICTION RATIO SUMMARY (NP/NA)	0.0-0.5 0.5-0.8 0.8-1.25 1.25-2.0 2.0	2	1	1	

CONDITION/HT: T7351
 FORM: 4.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 STRESS RATIO: +0.02
 FREQUENCY: 1.00 HZ

YIELD STRENGTH: 53.2 KSI
 ULT. STRENGTH: 65.1 KSI
 SPECIMEN THK: 1.250"
 SPECIMEN WIDTH: 5.000"
 REFERENCES: 84363

ALUM.
 ALLOY

7075

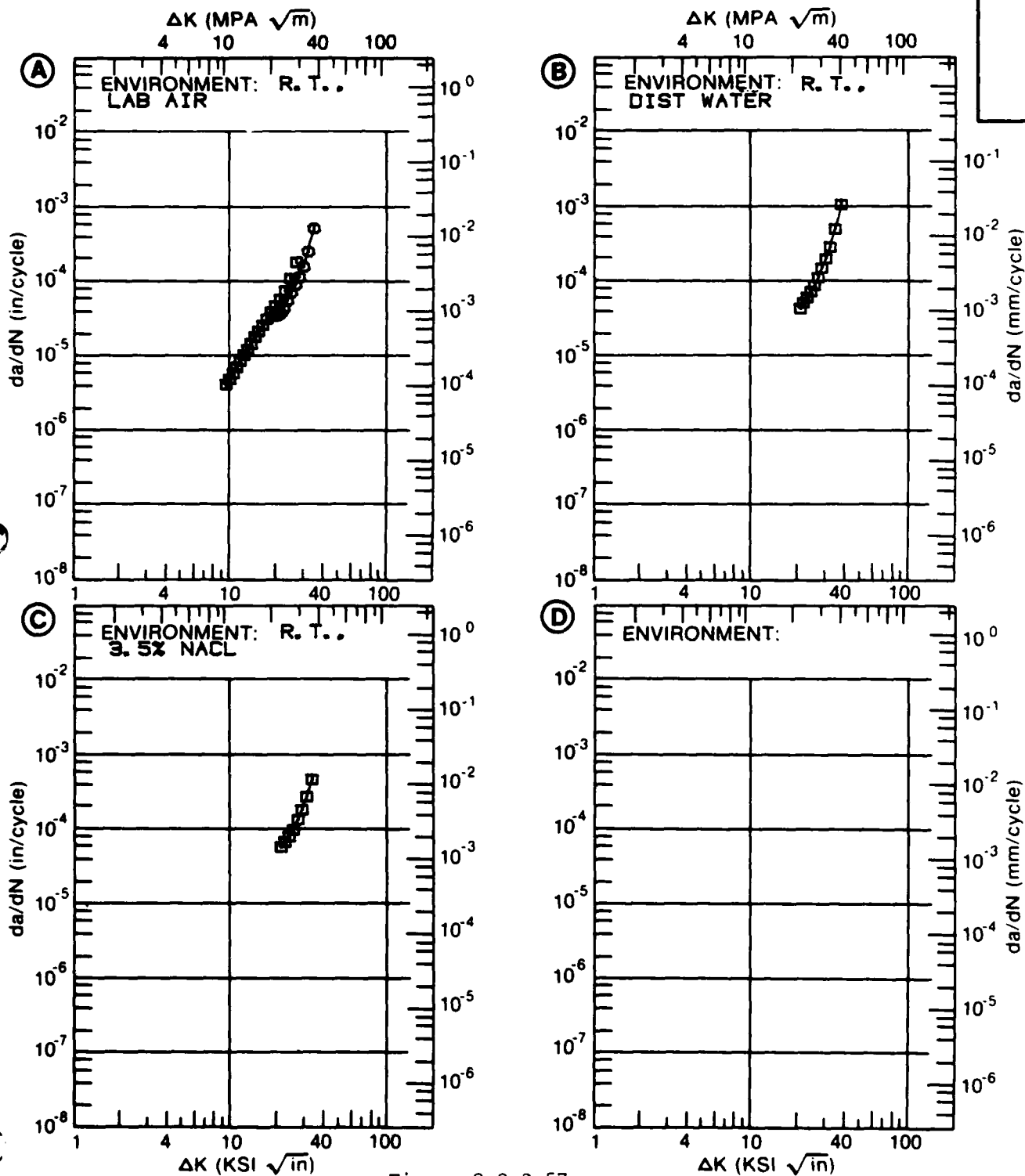


Figure 8.9.3.57

TABLE 8.9.3.58

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.58 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7075
 CONDITION: T73510
 ENVIRONMENT: R. T. , LAD AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		R=+0.33			
DELTA K MIN	A:	5.42	2.38		
	B:				
	C:				
	D:				
	6.00	3.20			
	7.00	4.92			
	8.00	7.06			
DELTA K MAX	9.00	9.66			
	10.00	12.8			
	13.00	26.8			
	16.00	51.2			
	A:	19.12	95.4		
	B:				
	C:				
	D:				

ROOT MEAN SQUARE 11.10
 PERCENT ERROR

LIFE 0.0-0.5
 PREDICTION 0.5-0.8
 RATIO 0.8-1.25 4
 SUMMARY 1.25-2.0
 (NP/NA) >2.0

CONDITION/HT: T73510
 FORM: 0.88" TH EXTRUSION
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 5.20 HZ
 ENVIRONMENT: R. T., LAB AIR

YIELD STRENGTH: 65.0 KSI
 ULT. STRENGTH: 75.7 KSI
 SPECIMEN THK: 0.620- 0.662"
 SPECIMEN WIDTH: 2.999- 3.003"
 REFERENCES: AL005

ALUM.
ALLOY

7075

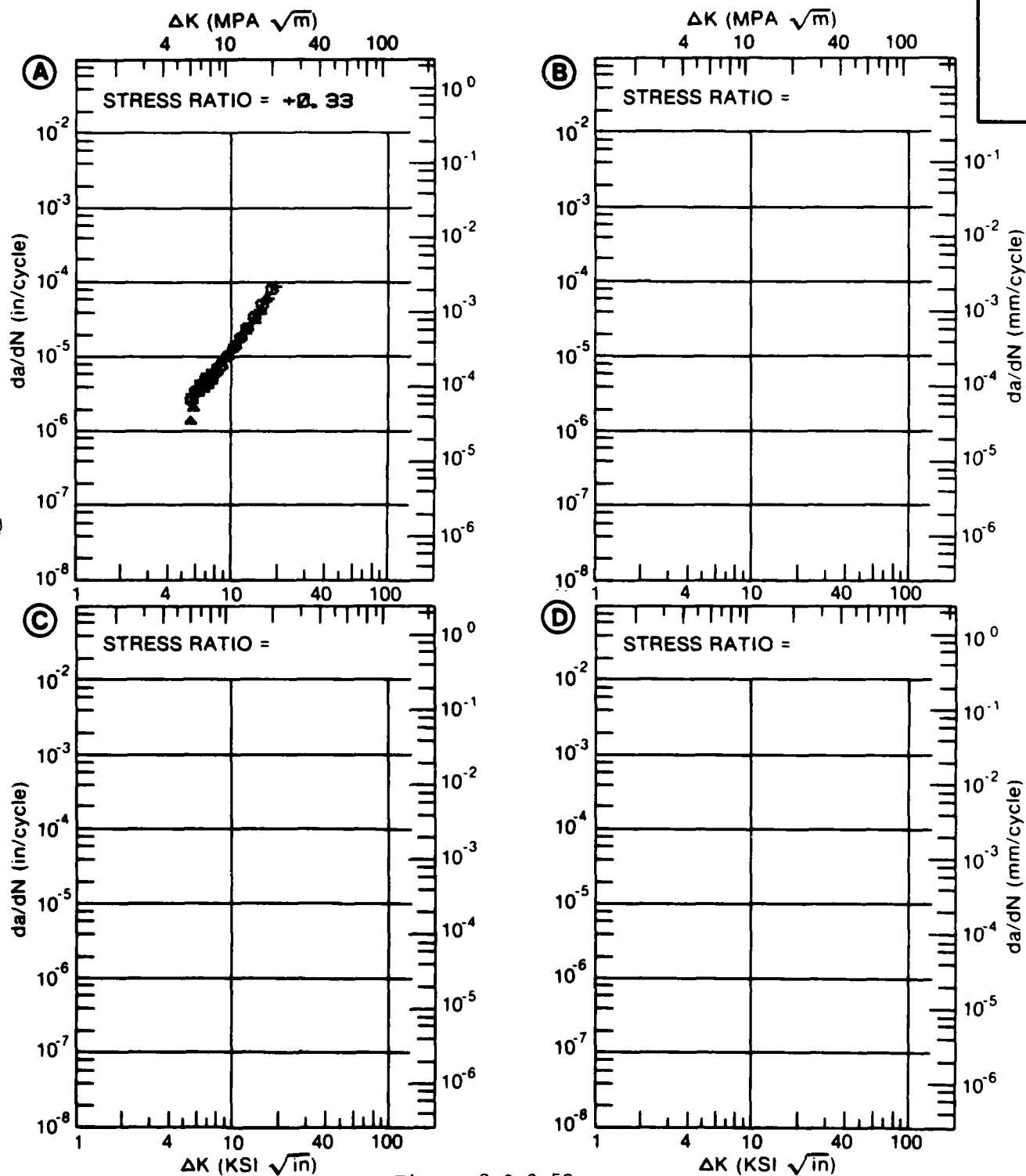


Figure 8.9.3.58

TABLE 8.9.3.59

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.59 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM 7075
 CONDITION: T73510
 ENVIRONMENT: R.T., LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.33			
DELTA K MIN	A: 5.66	3.27			
	B:				
	C:				
	D:				
	6.00	3.65			
	7.00	5.13			
	8.00	7.26			
DELTA K MAX	9.00	10.2			
	10.00	14.1			
	13.00	34.1			
	16.00	70.9			
	A: 17.61	99.7			
	B:				
	C:				
	D:				

ROOT MEAN SQUARE 5.86
 PERCENT ERROR

LIFE 0.0-0.5
 PREDICTION 0.5-0.8
 RATIO 0.8-1.25 2
 SUMMARY 1.25-2.0
 (NP/NA) >2.0

CONDITION/HT: T73510
 FORM: 0.88" TH EXTRUSION
 SPECIMEN TYPE: CCP
 ORIENTATION: T-L
 FREQUENCY: 5.20 HZ
 ENVIRONMENT: R. T., LAB AIR

YIELD STRENGTH: 82.4 KSI
 ULT. STRENGTH: 73.1 KSI
 SPECIMEN THK: 0.489- 0.502"
 SPECIMEN WIDTH: 3.003- 3.004"
 REFERENCES: AL005

ALUM.
 ALLOY

7075

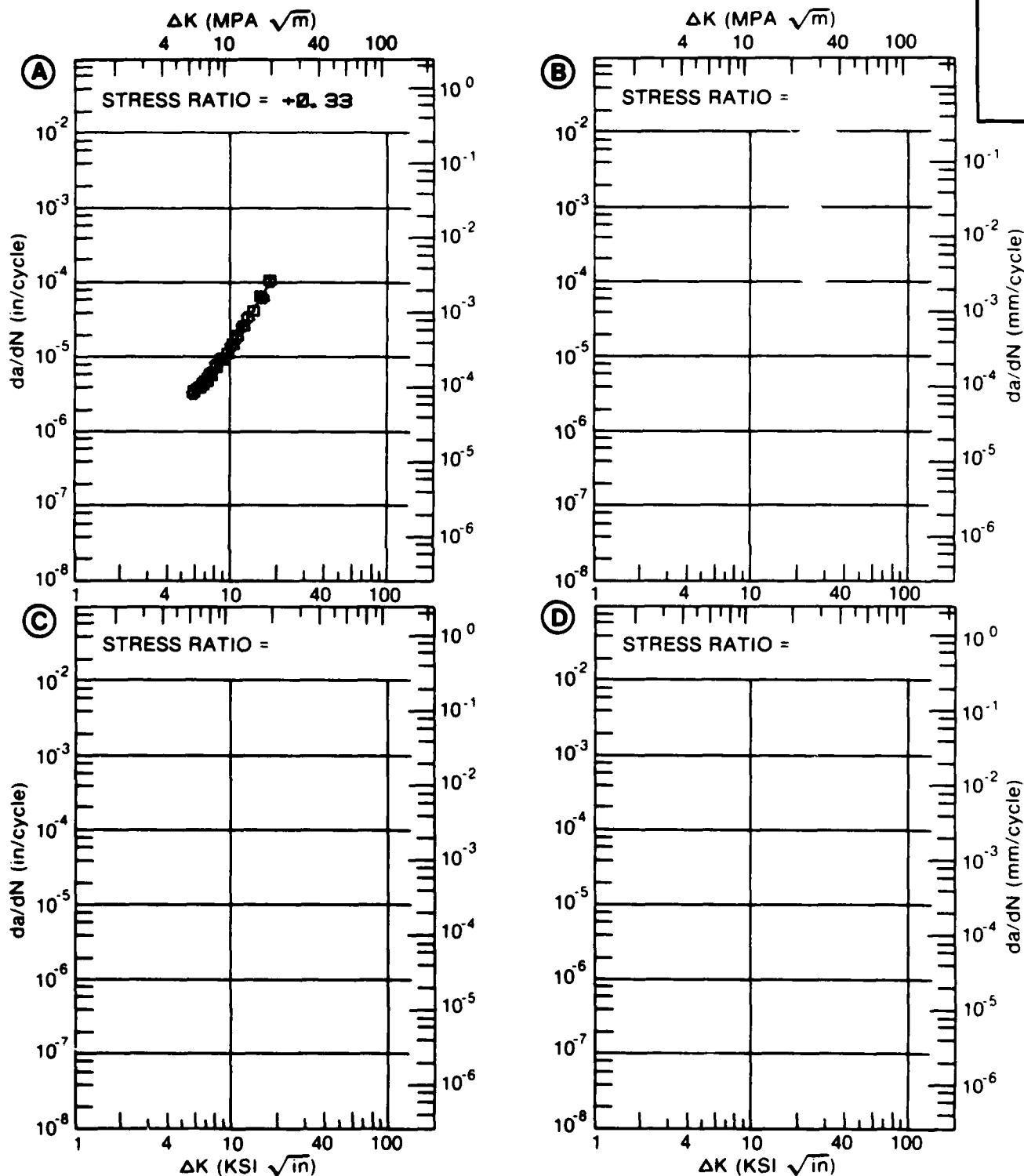


Figure 8.9.3.59

TABLE 8.9.3.60

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.60 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7075
 CONDITION: T73510
 ENVIRONMENT: R. T. , LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		R=+0.33			
DELTA K MIN	A:	5.42	2.65		
	B:				
	C:				
	D:				
	6.00	3.31			
	7.00	4.86			
	8.00	7.00			
	9.00	9.84			
	10.00	13.5			
	13.00	29.5			
	16.00	53.2			
	20.00	93.2			
DELTA K MAX	A:	21.01	104.		
	B:				
	C:				
	D:				

ROOT MEAN SQUARE 7.66
 PERCENT ERROR

LIFE 0.0-0.5
 PREDICTION 0.5-0.8
 RATIO 0.8-1.25 3
 SUMMARY 1.25-2.0
 (NP/NA) >2.0

CONDITION/HT: T73510

FORM: 3.50" TH EXTRUDED BAR

SPECIMEN TYPE: CCP

ORIENTATION: L-T

FREQUENCY: 5.20 HZ

ENVIRONMENT: R. T., LAB AIR

YIELD STRENGTH: 63.8 KSI

ULT. STRENGTH: 73.7 KSI

SPECIMEN THK: 0.750- 0.752"

SPECIMEN WIDTH: 3.002"

REFERENCES: AL005, AL002

ALUM.
ALLOY

7075

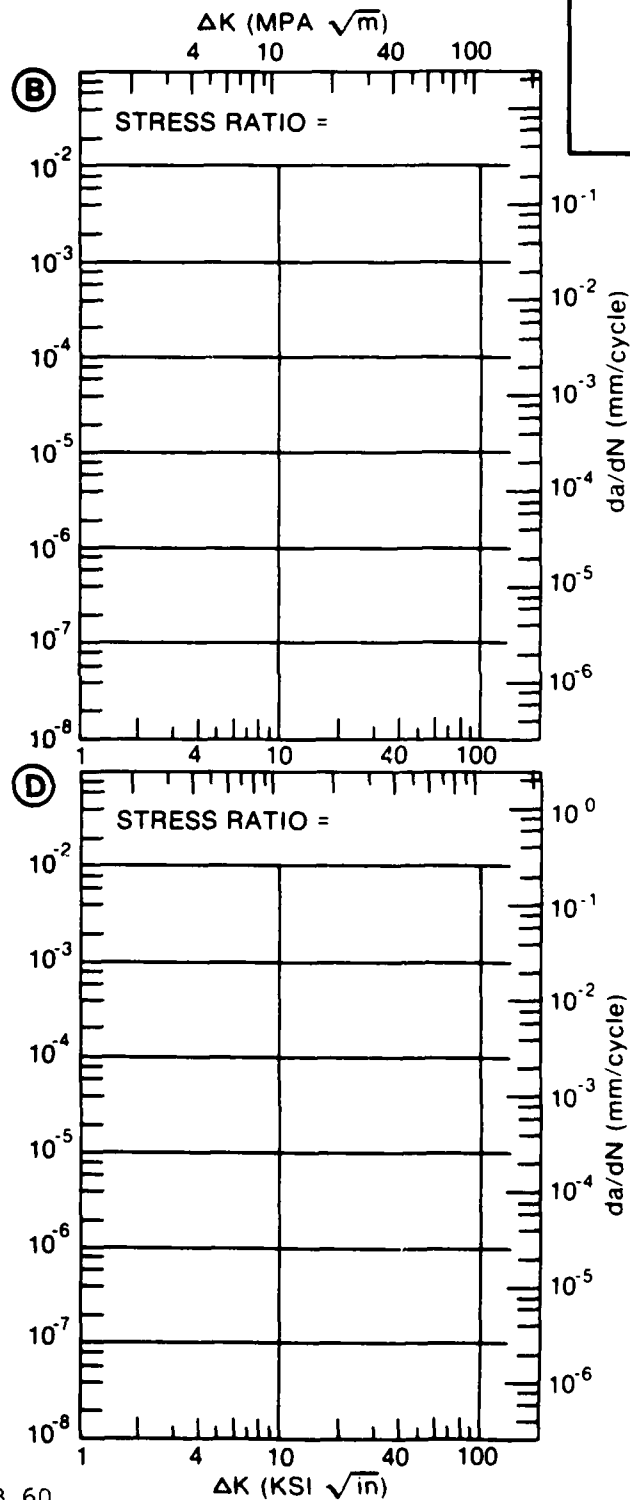
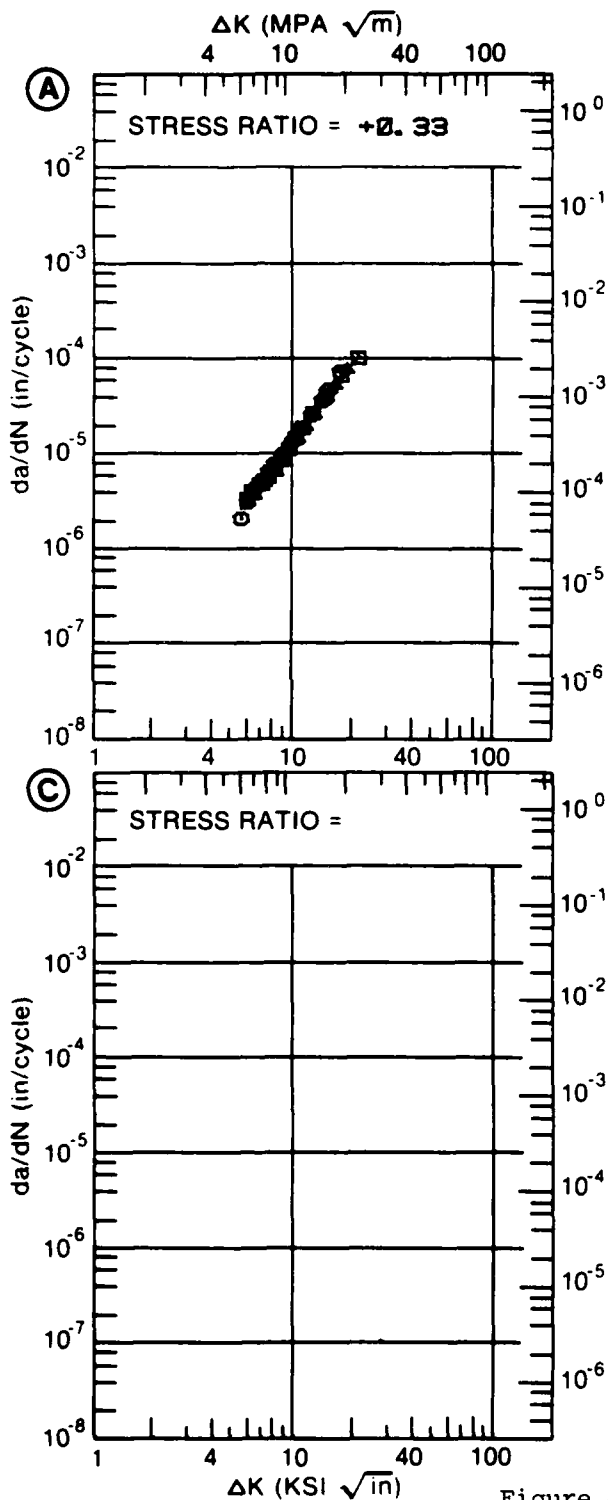


Figure 8.9.3.60

TABLE 8.9.3.61

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.61 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7075
 CONDITION: T73511
 ENVIRONMENT: R. T. , L. H. A.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		R=+0.08	R=+0.70		
DELTA K MIN	A:	7.56	1.25		
	B:	2.39	.125		
	C:				
	D:				
		2.50	.160		
		3.00	.366		
		3.50	.637		
		4.00	.955		
		5.00	1.73		
		6.00	2.80		
		7.00	4.42		
		8.00	7.04		
		9.00	11.4		
		10.00	19.0		
		13.00			
		16.00			
		20.00			
DELTA K MAX	A:	20.79	41.4		
	B:	11.70	47.6		
	C:				
	D:				
ROOT MEAN SQUARE		6.15	8.20		
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1			
SUMMARY	1.25-2.0		1		
(NP/NA)	>2.0				

CONDITION/HT: T73511
 FORM: EXTRUSION
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 FREQUENCY: 6.00 HZ
 ENVIRONMENT: R. T., L. H. A.

YIELD STRENGTH: 66.0 KSI
 ULT. STRENGTH: 77.0 KSI
 SPECIMEN THK: 1.000"
 SPECIMEN WIDTH: 7.400"
 REFERENCES: 88579

ALUM.
 ALLOY

7075

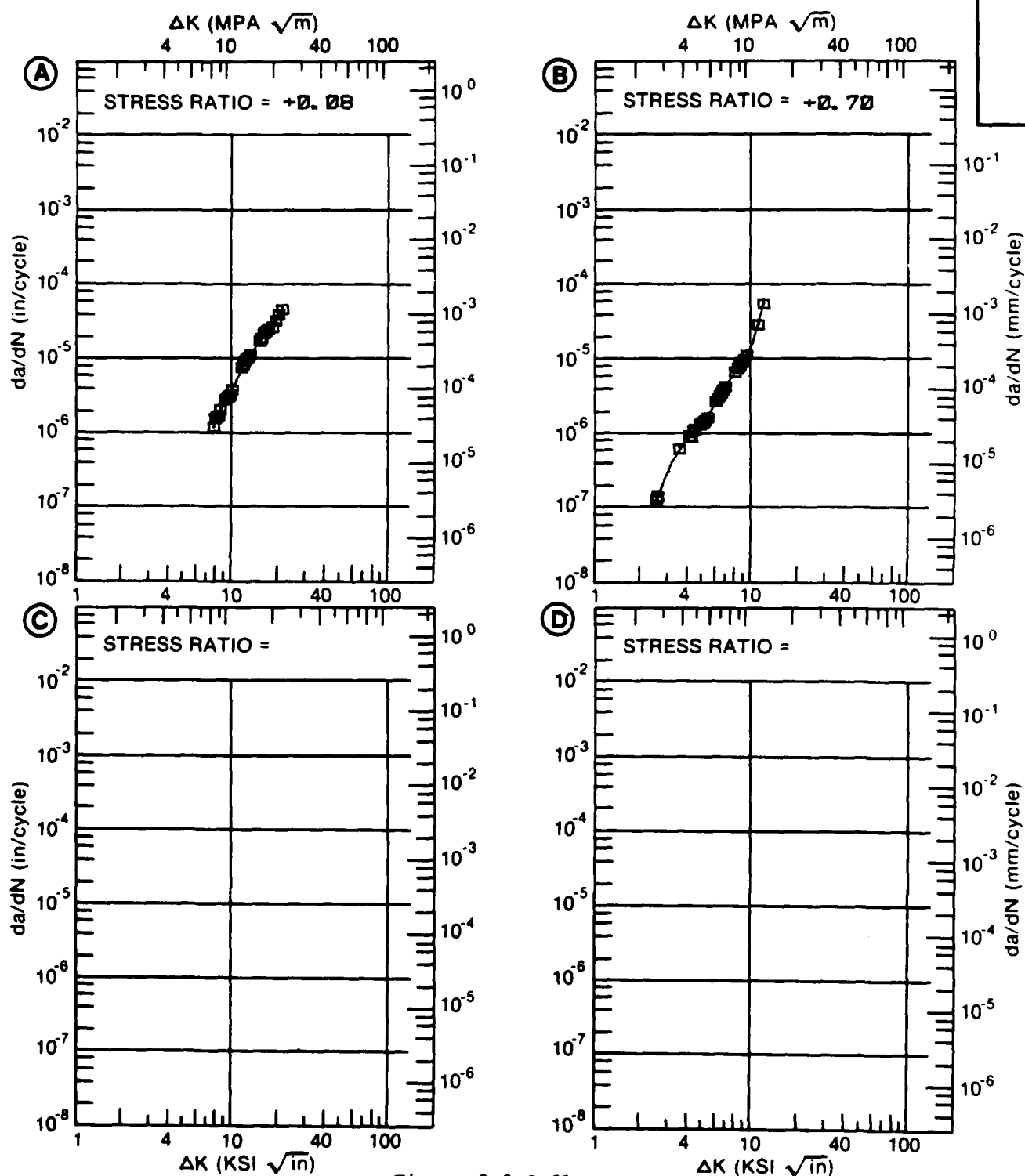


Figure 8.9.3.61

TABLE 8.9.3.62

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.62 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM 7075
 CONDITION: T73511
 ENVIRONMENT: R T. , S. T. W.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		R=+0.30	R=+0.50		
DELTA K MIN	A:	5.15	1.73		
	B:	2.33	.133		
	C:				
	D:				
	2.50		.204		
	3.00		.529		
	3.50		1.06		
	4.00		1.88		
	5.00		5.24		
	6.00	6.72	11.7		
	7.00	13.9	16.7		
	8.00	18.7	19.5		
	9.00	21.2	22.4		
	10.00	23.3	28.0		
	13.00	45.4			
DELTA K MAX	A:	13.15	48.0		
	B:	10.49	32.6		
	C:				
	D:				
ROOT MEAN SQUARE		13.64	16.50		
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1	1		
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T73511
 FORM: EXTRUSION
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 FREQUENCY: 1.00 HZ
 ENVIRONMENT: R. T., S. T. W.

YIELD STRENGTH: 88.0 KSI
 ULT. STRENGTH: 77.0 KSI
 SPECIMEN THK: 1.000"
 SPECIMEN WIDTH: 7.400"
 REFERENCES: 88579

ALUM.
 ALLOY

7075

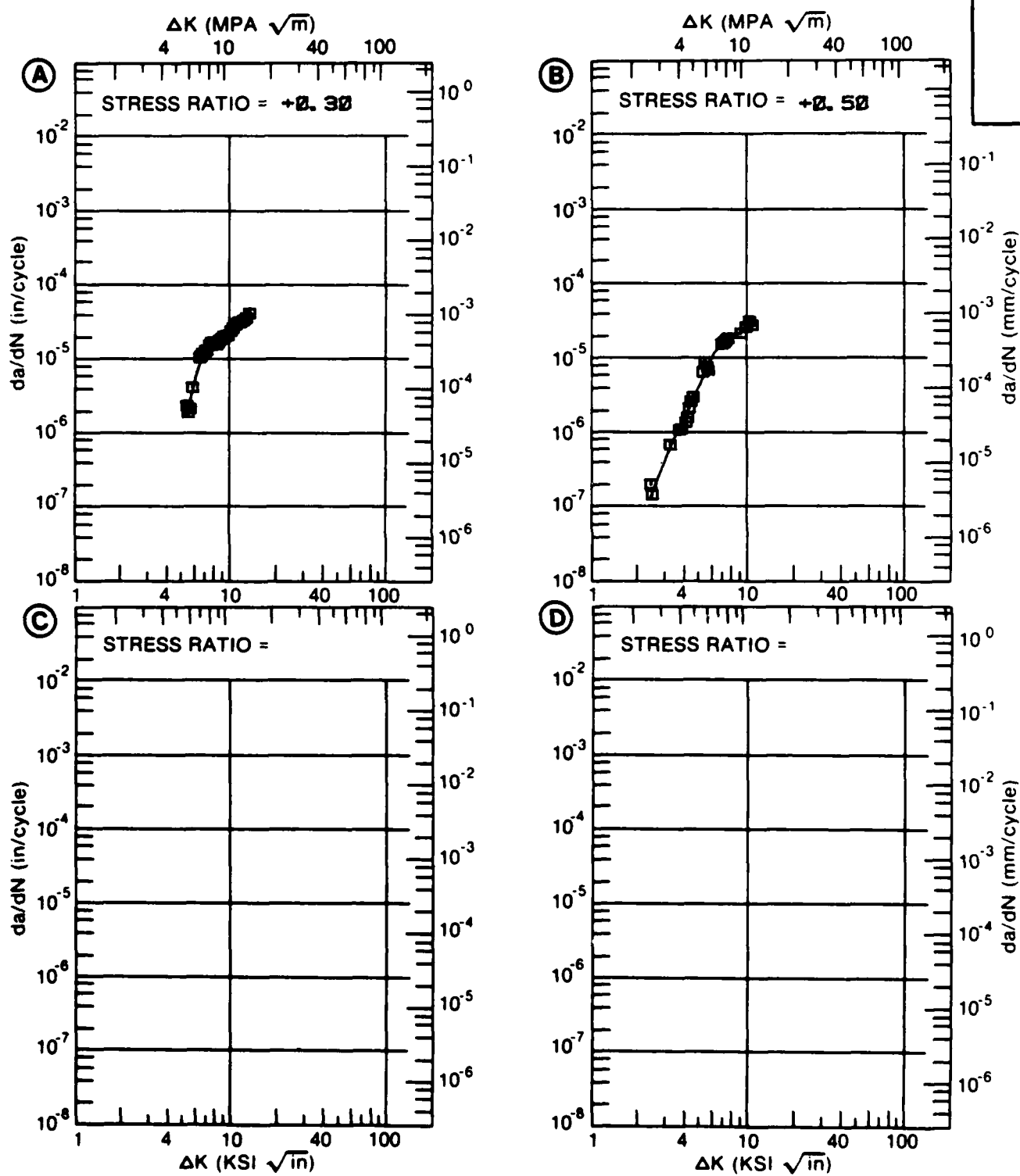


Figure 8.9.3.62

TABLE 8.9.3.63

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.63 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM 7075
CONDITION: T73511

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. I. L. H. A.			
DELTA K MIN	A:	6.38	.720		
	B:				
	C:				
	D:				
		7.00	2.08		
		8.00	3.98		
		9.00	5.28		
		10.00	7.08		
		13.00	14.8		
		16.00	24.4		
		20.00	42.3		
DELTA K MAX	A:	33.38	267.		
	B:				
	C:				
	D:				
ROOT MEAN SQUARE		11.65			
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1			
SUMMARY	1.25-2.0	1			
(NP/NA)	>2.0				

CONDITION/HT: T73511
 FORM: EXTRUSION
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 STRESS RATIO: +0.08
 FREQUENCY: 8.00 HZ

YIELD STRENGTH: 88.0 KSI
 ULT. STRENGTH: 77.0 KSI
 SPECIMEN THK: 0.250- 0.500"
 SPECIMEN WIDTH: 7.400"
 REFERENCES: 88579

ALUM.
 ALLOY

7075

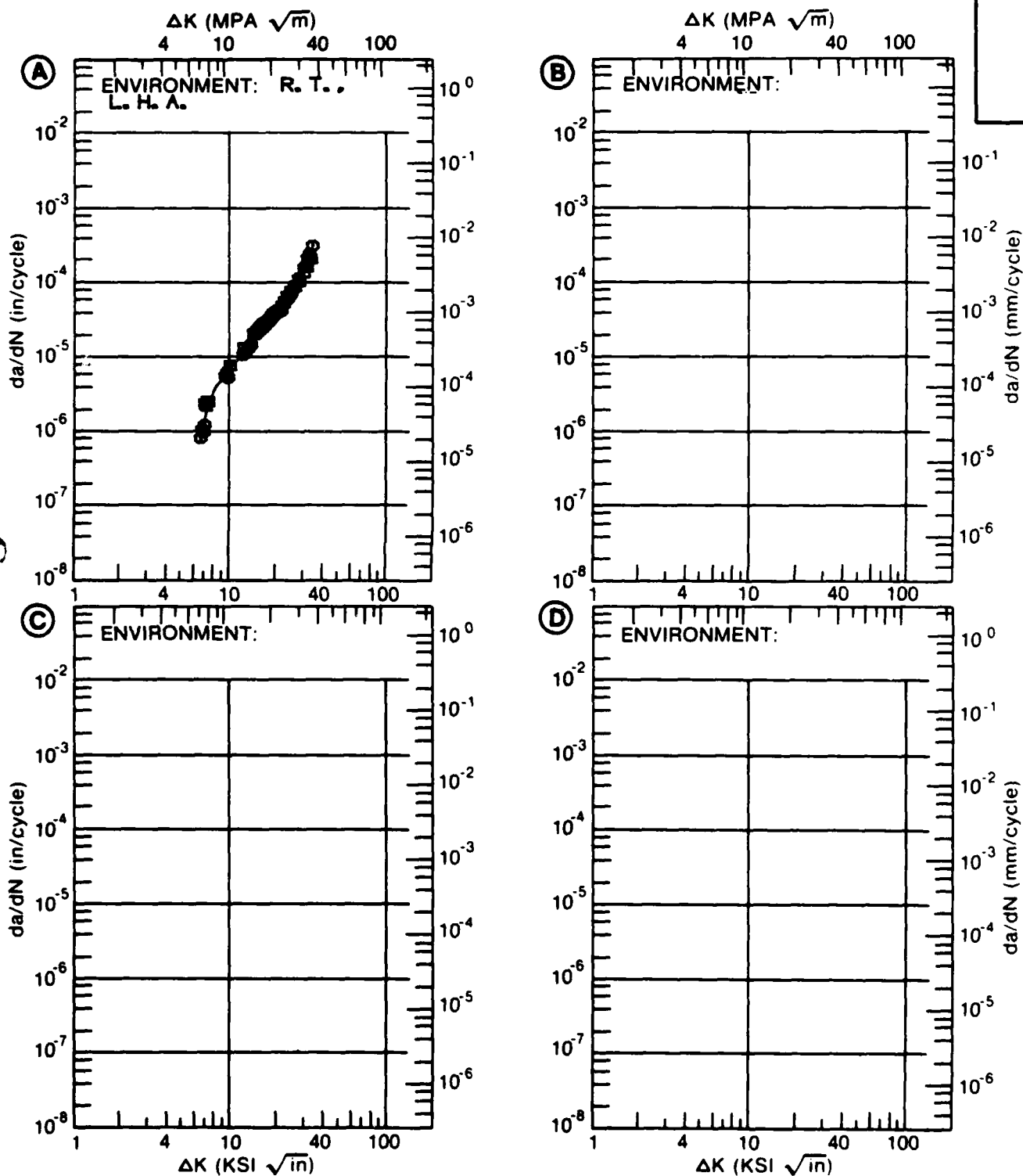


Figure 8.9.3.63

TABLE 8.9.3.64

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.64 INDICATING EFFECT
OF ENVIRONMENT

MATERIAL: ALUMINUM 7075					
CONDITION: T73511					
DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. L. H. A., 1HZ	E=+ 265F L. H. A., 6HZ	E= R. T. S. T. W., 1HZ	E= R. T. S. C. S., 1HZ
DELTA K	A: 3.62	194			
MIN	B: 3.33		400		
	C: 3.26			229	
	D: 6.23				2.69
	3.50		385	232	
	4.00	275	787	310	
	5.00	739	1.75	851	
	6.00	1.56	2.66	2.41	
	7.00	2.65	4.00	5.54	3.72
	8.00	3.98	5.41	10.1	5.31
	9.00	5.52	6.71	14.9	7.21
	10.00	7.27	8.31	18.8	9.43
	13.00	14.4			18.2
	16.00	27.2			30.6
DELTA K	A: 16.26	28.8			
MAX	B: 11.28		11.7		
	C: 12.95			35.3	
	D: 17.44				38.2
ROOT MEAN SQUARE		7.28	5.00	22.39	4.61
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1	1	1	1
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T73511
 FORM: EXTRUSION
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 STRESS RATIO: +0.08
 FREQUENCY:

YIELD STRENGTH: 66.0 KSI
 ULT. STRENGTH: 77.0 KSI
 SPECIMEN THK: 1.000"
 SPECIMEN WIDTH: 7.400"
 REFERENCES: 88579

ALUM.
 ALLOY

7075

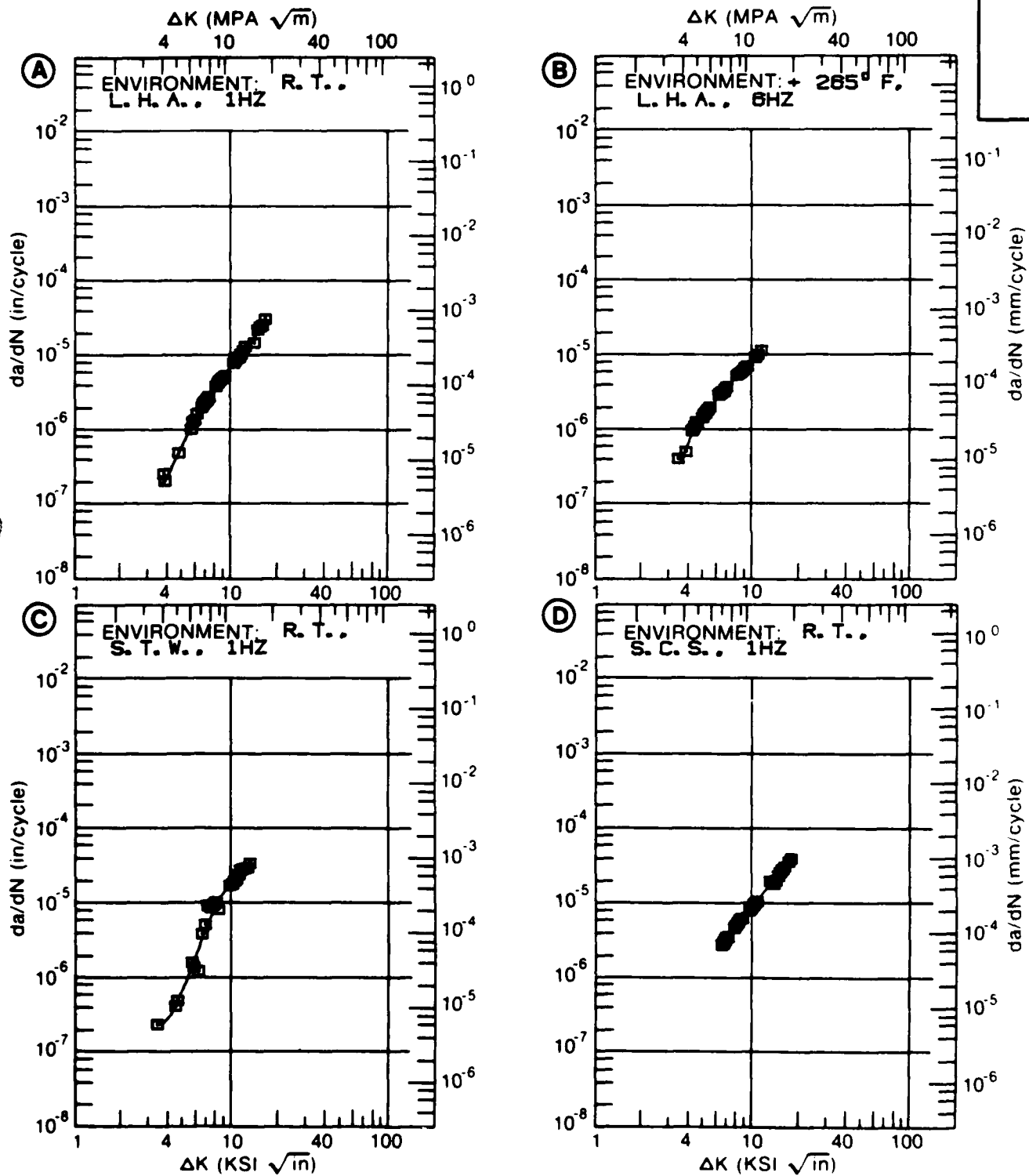


Figure 8.9.3.64

TABLE 8.9.3.65

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.65 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM
CONDITION: T73511

7075

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. L. H. A.	E= R. T. S. T. W.		
DELTA K MIN	A:	6.27	1.64		
	B:	4.36	.382		
	C:				
	D:				
	5.00		.547		
	6.00		1.19		
	7.00	2.06	2.70		
	8.00	3.21	5.83		
	9.00	4.76	11.4		
	10.00	6.61	20.1		
DELTA K MAX	13.00	15.9			
	16.00	32.1			
	A:	18.23	43.3		
	B:	10.65	27.4		
	C:				
	D:				
ROOT MEAN SQUARE		5.25	7.41		
PERCENT ERROR					

LIFE 0.0-0.5
 PREDICTION 0.5-0.8
 RATIO 0.8-1.25
 SUMMARY 1.25-2.0
 (NP/NA) >2.0

1

1

CONDITION/HT: T73511
 FORM: EXTRUSION
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 STRESS RATIO: +0.09
 FREQUENCY: 0.10 HZ

YIELD STRENGTH: 86.0 KSI
 ULT. STRENGTH: 77.0 KSI
 SPECIMEN THK: 0.990-1.000"
 SPECIMEN WIDTH: 7.400"
 REFERENCES: 88579

ALUM.
 ALLOY

7075

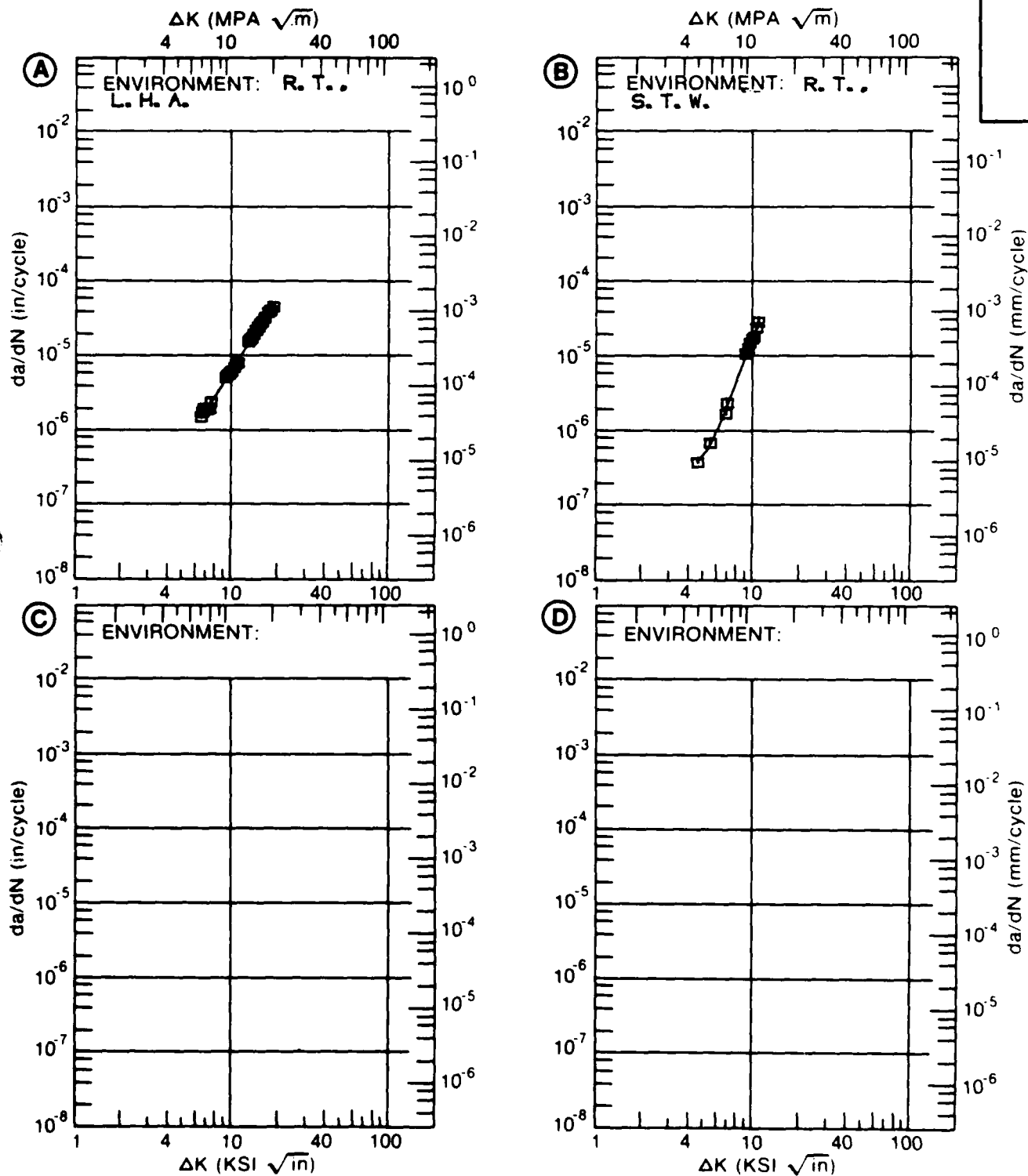


Figure 8.9.3.65

TABLE 8.9.3.66

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.66 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM 7075
CONDITION: T73511

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. L. H. A. 6HZ	E= R. T. S. C. S. 6HZ	E= R. T. S. T. W. 1HZ	
DELTA K	A: 4.29	278			
MIN	B: 5.40		2.07		
	C: 6.24			3.73	
	D:				
	5.00	630			
	6.00	1.22	2.80		
	7.00	1.95	4.19	6.74	
	8.00	2.87	5.76	11.3	
	9.00	4.02	7.52	16.0	
	10.00	5.45	9.50	20.5	
	13.00	12.2	17.4	34.6	
	16.00	25.5	30.1	58.2	
	20.00	65.9			
	25.00	251.			
DELTA K	A: 26.97	463.			
MAX	B: 17.13		36.8		
	C: 18.79			105.	
	D:				
ROOT MEAN SQUARE		13.93	4.22	24.99	
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8			1	
RATIO	0.8-1.25	2	1		
SUMMARY	1.25-2.0			1	
(NP/NA)	>2.0				

CONDITION/HT: T73511
 FORM: EXTRUSION
 SPECIMEN TYPE: CT
 ORIENTATION: T-L
 STRESS RATIO: +0.08
 FREQUENCY:

YIELD STRENGTH: 61.0 KSI
 ULT. STRENGTH: 72.0 KSI
 SPECIMEN THK: 0.480- 1.000"
 SPECIMEN WIDTH: 6.000- 7.400"
 REFERENCES: 88579

ALUM.
 ALLOY

7075

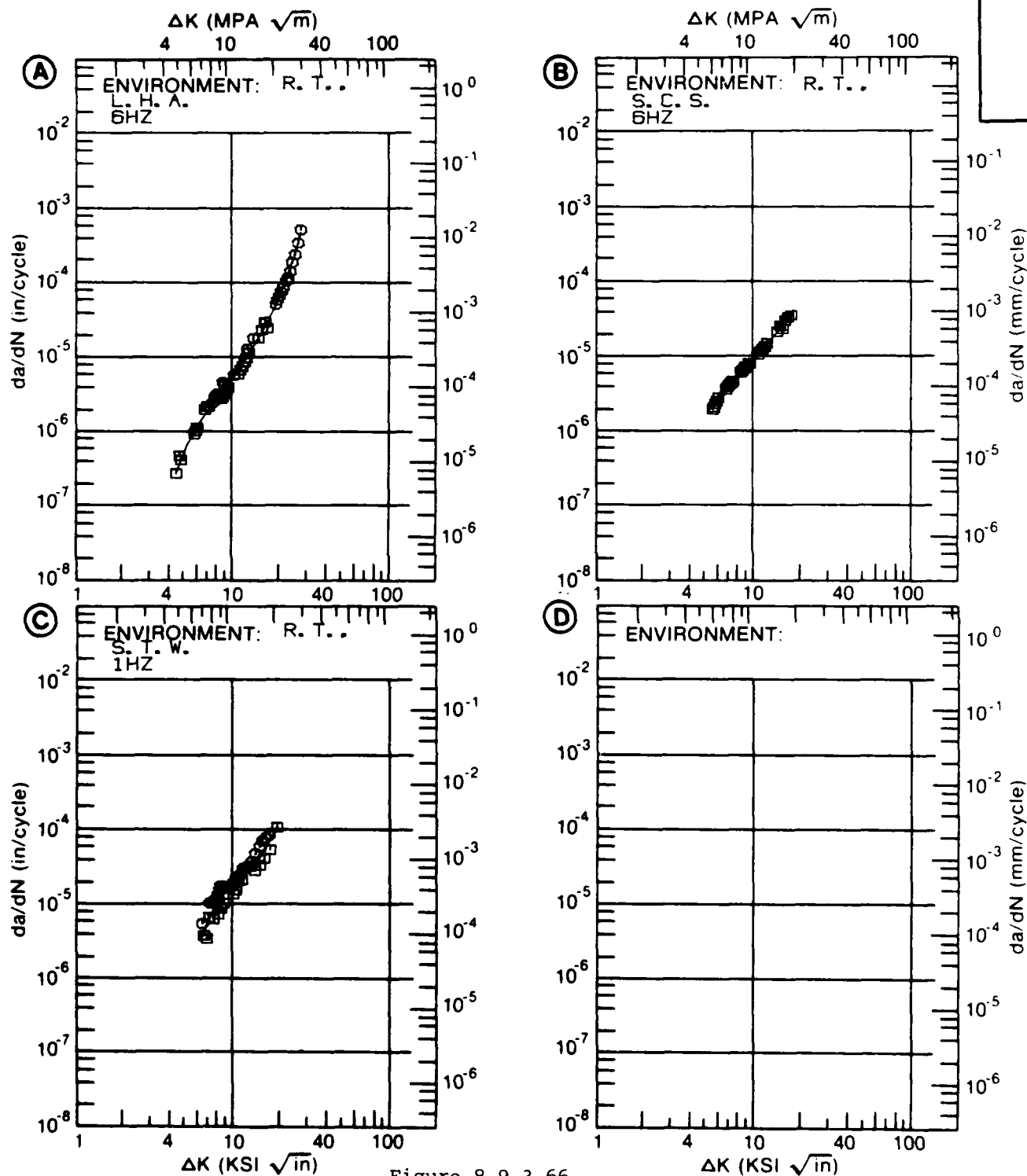


Figure 8.9.3.66

TABLE 8.9.3.67

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.67 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM 7075
CONDITION: T73511-HIGH PURITY

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)				
		A	B	C	D	
		E= R. T. LAB AIR				
DELTA K MIN	A:	6.03	270			
	B:					
	C:					
	D:					
		7.00	1.18			
		8.00	2.63			
		9.00	4.36			
		10.00	6.39			
		13.00	12.9			
DELTA K MAX		16.00	18.4			
		20.00	31.3			
	A:	20.26	32.8			
	B:					
	C:					
	D:					
	ROOT MEAN SQUARE		29.46			
	PERCENT ERROR					
	LIFE	0.0-0.5				
PREDICTION	0.5-0.8					
RATIO	0.8-1.25					
SUMMARY	1.25-2.0					
(NP/NA)	>2.0					

CONDITION/HT: T73511-HIGH PURITY
 FORM: 1.50" TH EXTRUSION
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 STRESS RATIO: +0.10
 FREQUENCY: 30.00 HZ

YIELD STRENGTH: 88.8 KSI
 ULT. STRENGTH: 77.7 KSI
 SPECIMEN THK: 0.625"
 SPECIMEN WIDTH: 2.550"
 REFERENCES: WA001

ALUM.
 ALLOY

7075

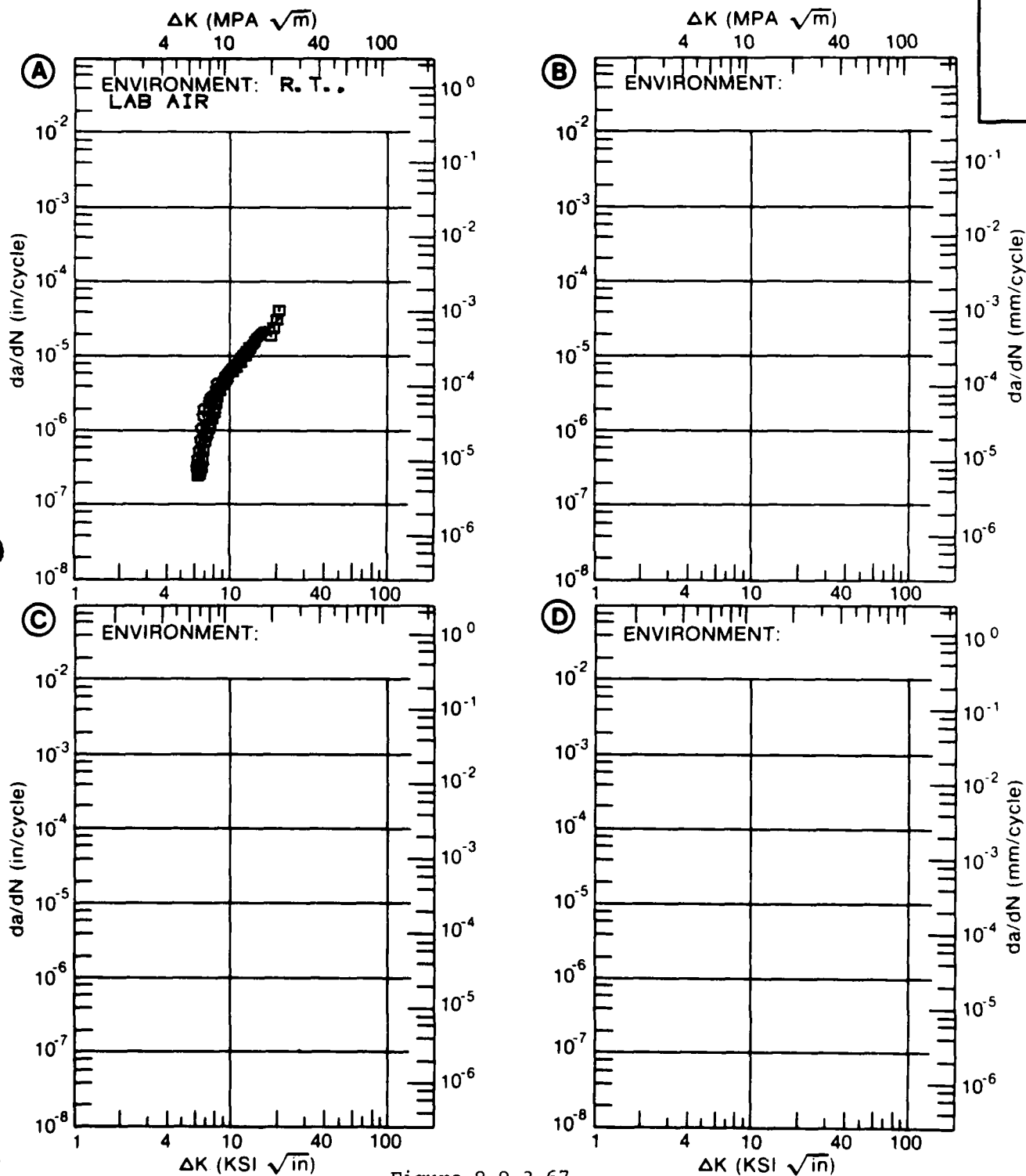


Figure 8.9.3.67

TABLE 8.9.3.68

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.68 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM 7075
CONDITION: T73511-HIGH PURITY

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. LAB AIR			
DELTA K MIN	A: 5.92	.673			
	B:				
	C:				
	D:				
	6.00	.721			
	7.00	1.46			
	8.00	2.40			
	9.00	3.47			
	10.00	4.66			
	13.00	9.08			
DELTA K MAX	16.00	16.2			
	20.00	36.1			
	A: 20.01	36.2			
	B:				
		C:			
		D:			
ROOT MEAN SQUARE		10.36			
PERCENT ERROR					

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T73511-HIGH PURITY
 FORM: 1.50" TH EXTRUSION
 SPECIMEN TYPE: CT
 ORIENTATION: T-L
 STRESS RATIO: +0.10
 FREQUENCY: 30.00 HZ

YIELD STRENGTH: 83.0 KSI
 ULT. STRENGTH: 73.1 KSI
 SPECIMEN THK: 0.625"
 SPECIMEN WIDTH: 2.550"
 REFERENCES: WA001

ALUM.
 ALLOY

7075

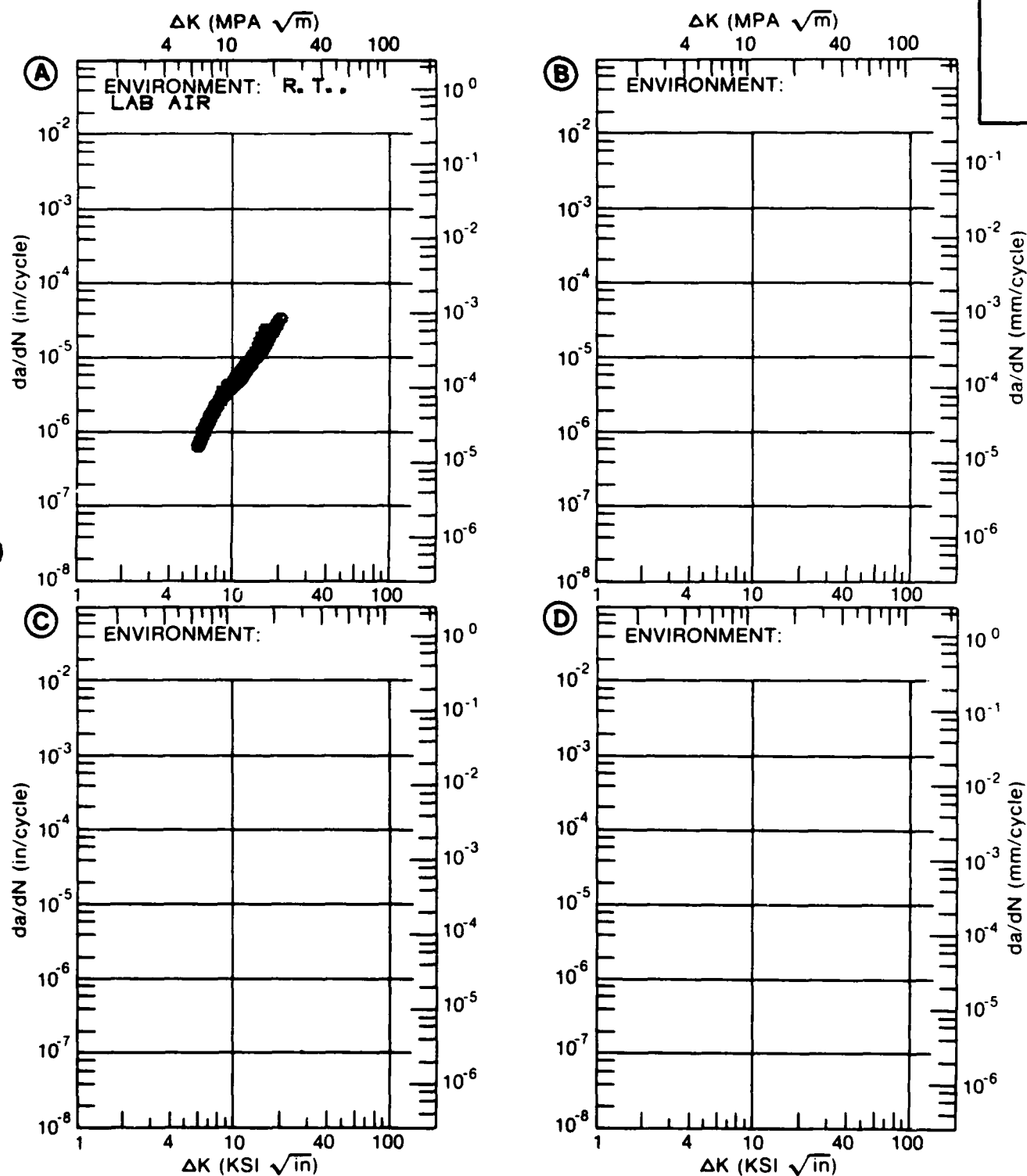


Figure 8.9.3.68

TABLE 8.9.3.69

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.69 INDICATING EFFECT
OF ENVIRONMENT

MATERIAL: ALUMINUM 7075
CONDITION: T73511-LOW PURITY

DELTA K (KSI*IN**1/2)		DA/DN (10**--6 IN. /CYCLE)			
		A	B	C	D
		E= R. T. LAB AIR	E= R. T. H. H. A.		
DELTA K MIN	A: 5.97	1.24			
	B: 5.93		1.33		
	C:				
	D:				
	6.00	1.28	1.43		
	7.00	2.65	3.37		
	8.00	4.39	6.10		
	9.00	6.30	9.31		
	10.00	8.26	12.7		
	13.00	13.8	22.6		
	16.00	18.9	31.4		
DELTA K MAX	A: 18.14	22.7			
	B: 17.59		36.0		
	C:				
	D:				
ROOT MEAN SQUARE PERCENT ERROR		9.34	3.20		

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T73511-LOW PURITY
 FORM: 1.50" TH EXTRUSION
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 STRESS RATIO: +0.10
 FREQUENCY: 30.00 HZ

YIELD STRENGTH: 85.3 KSI
 ULT. STRENGTH: 73.9 KSI
 SPECIMEN THK: 0.825"
 SPECIMEN WIDTH: 2.550"
 REFERENCES: WA001

ALUM.
 ALLOY

7075

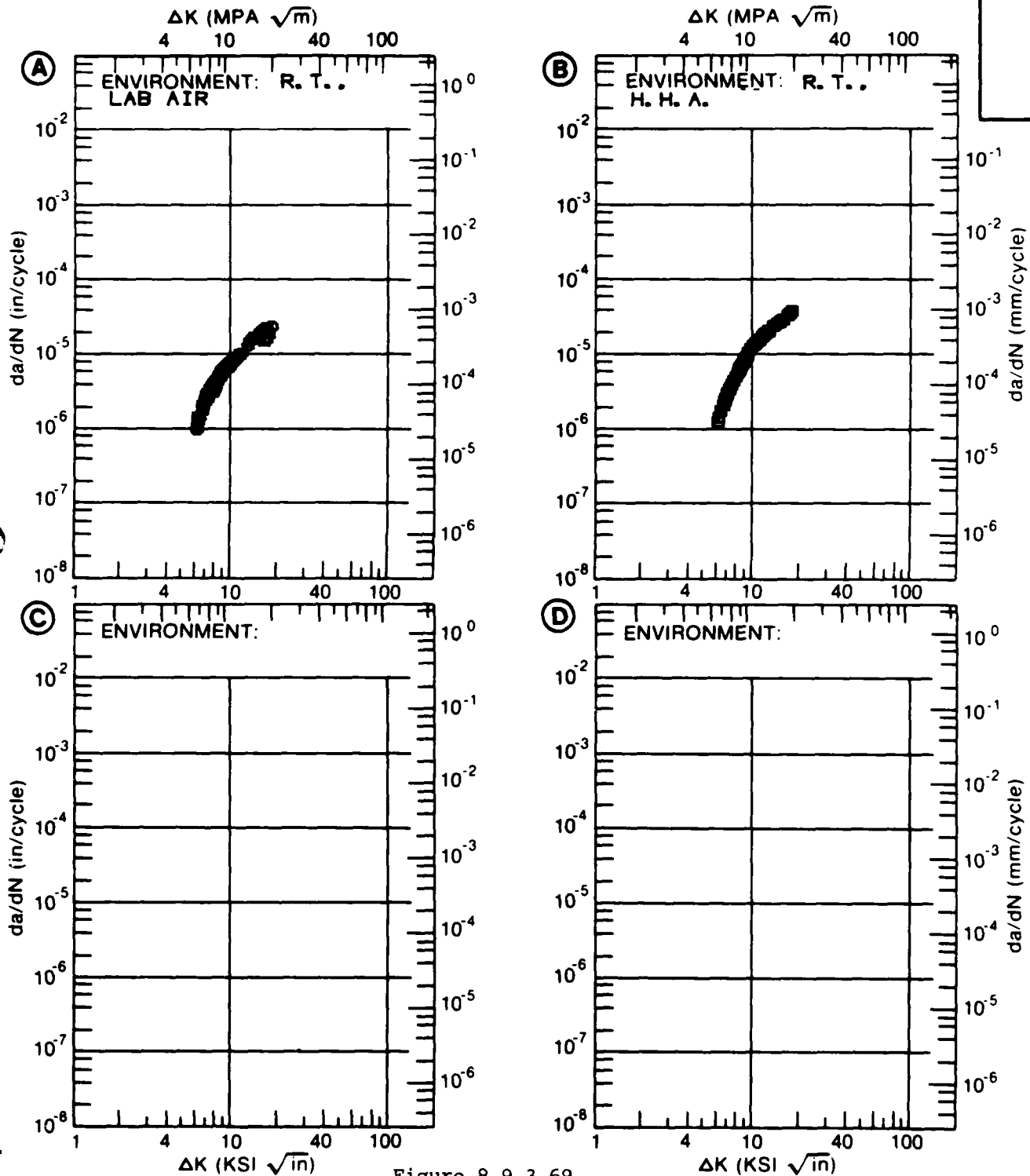


Figure 8.9.3.69

TABLE 8.9.3.70

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.70 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM 7075
CONDITION: T73511-LOW PURITY

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. LAB AIR			
DELTA K MIN	A:	6.02	1.96		
	B:				
	C:				
	D:				
	7.00	3.52			
	8.00	5.13			
	9.00	6.76			
	10.00	8.56			
	13.00	18.4			
DELTA K MAX	A:	15.36	40.3		
	B:				
	C:				
	D:				

ROOT MEAN SQUARE 7.49
PERCENT ERRORLIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T73511-LOW PURITY
 FORM: 1.50" TH EXTRUSION
 SPECIMEN TYPE: CT
 ORIENTATION: T-L
 STRESS RATIO: +0.10
 FREQUENCY: 30.00 HZ

YIELD STRENGTH: 80.9 KSI
 ULT. STRENGTH: 70.2 KSI
 SPECIMEN THK: 0.625"
 SPECIMEN WIDTH: 2.550"
 REFERENCES: WA001

ALUM.
 ALLOY

7075

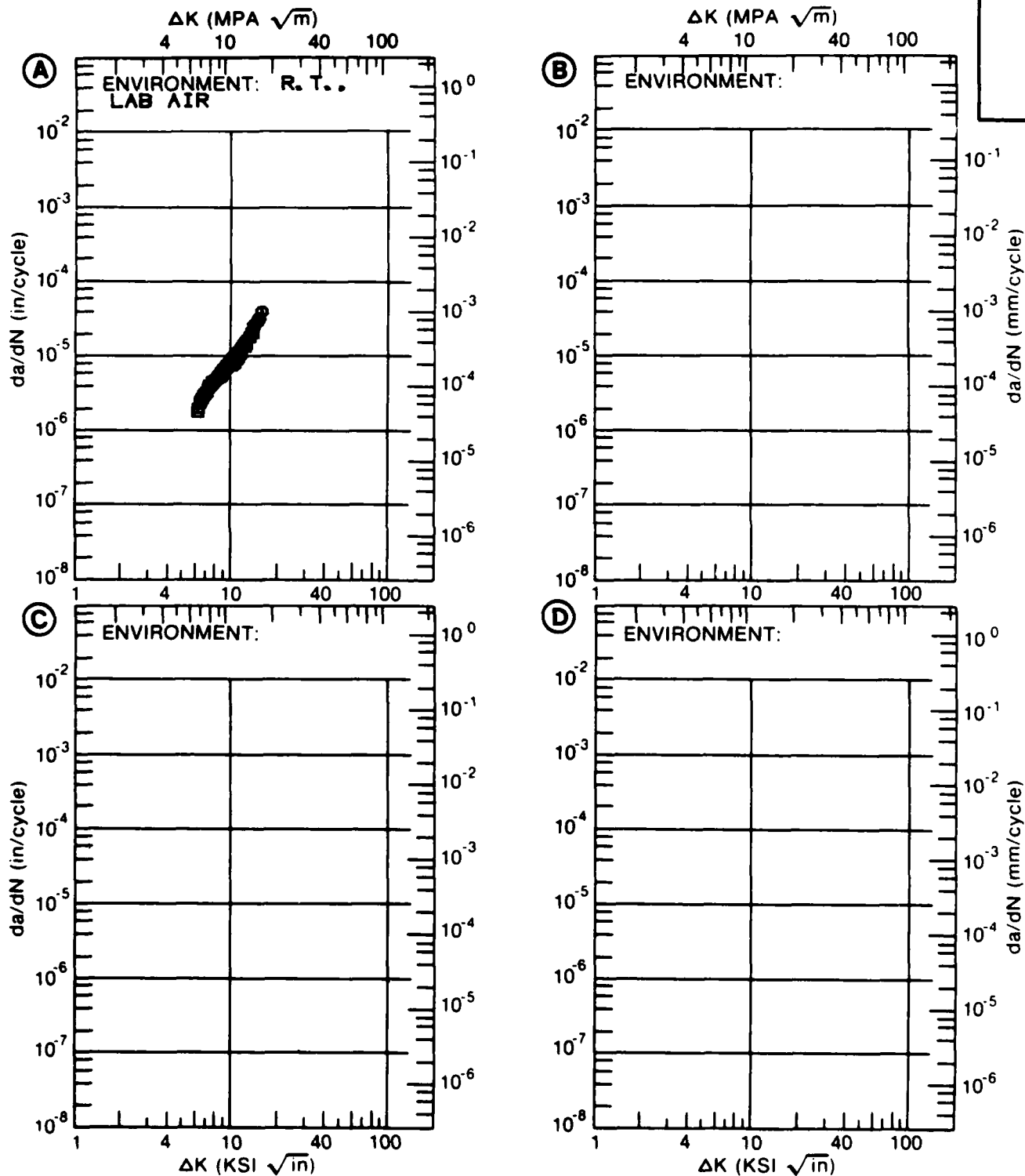


Figure 8.9.3.70

TABLE 8.9.3.71

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.71 INDICATING EFFECT
OF ENVIRONMENT

MATERIAL: ALUMINUM 7075
CONDITION: T73511-MEDIUM PURITY

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. LAB AIR	E= R. T. H. H. A.		
DELTA K MIN	A: 6.01	1.22			
	B: 6.06		2.18		
	C:				
	D:				
	7.00	2.74	4.36		
	8.00	4.52	7.43		
	9.00	6.25	11.0		
	10.00	7.79	14.9		
	13.00	11.8	26.7		
	16.00	17.4	37.9		
DELTA K MAX	A: 18.26	24.8			
	B: 18.09		45.6		
	C:				
	D:				
ROOT MEAN SQUARE PERCENT ERROR		8.82	2.65		
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25				
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T73511-MEDIUM PURITY
 FORM: 1.50" TH EXTRUSION
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 STRESS RATIO: +0.10
 FREQUENCY: 30.00 HZ

YIELD STRENGTH: 68.4 KSI
 ULT. STRENGTH: 77.0 KSI
 SPECIMEN THK: 0.625"
 SPECIMEN WIDTH: 2.550"
 REFERENCES: WA001

ALUM.
 ALLOY

7075

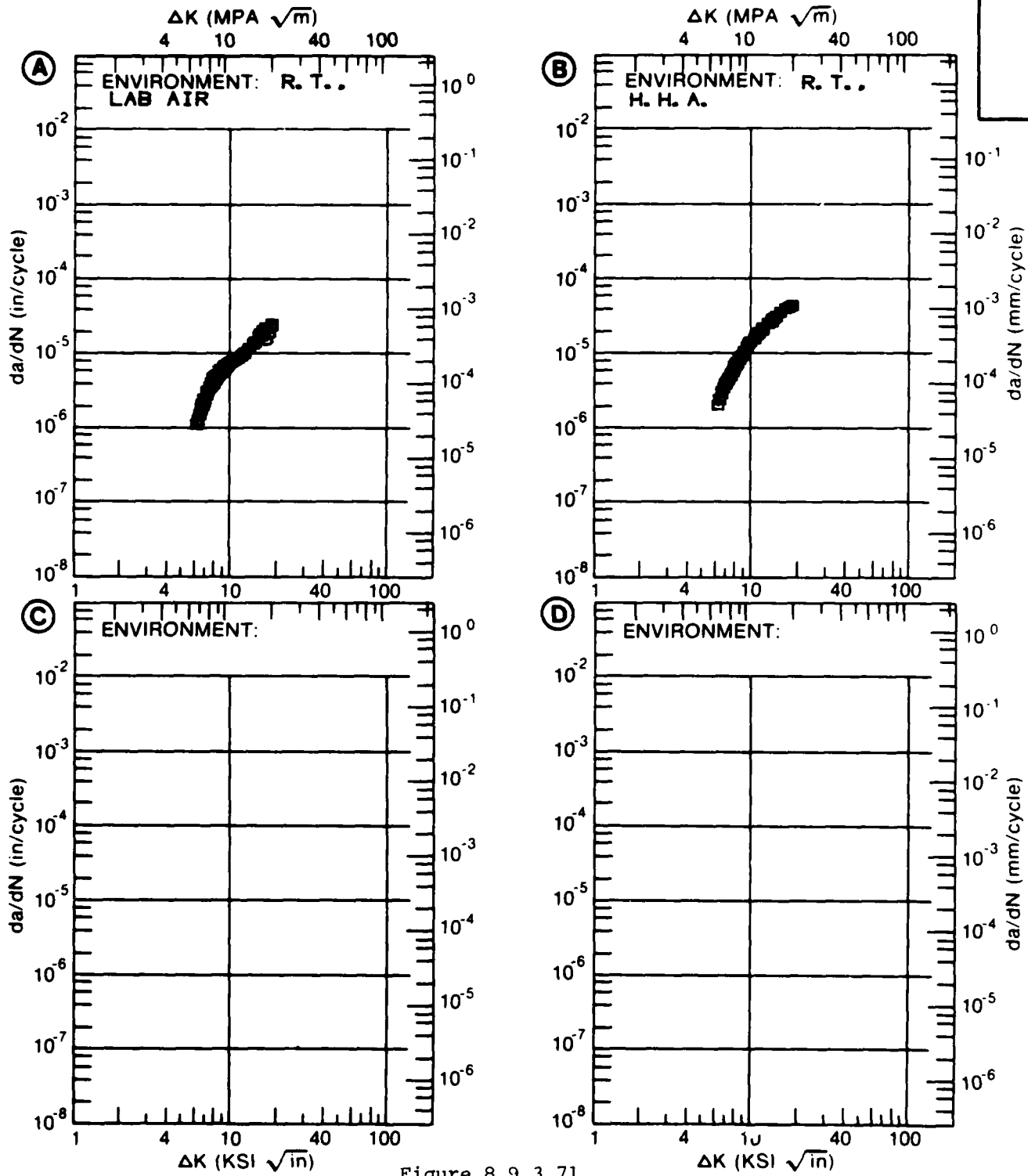


Figure 8.9.3.71

TABLE 8.9.3.72

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.72 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM 7075
CONDITION: T7352

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E = R. T. LAB AIR			
DELTA K MIN	A: 4.00	172			
	B:				
	C:				
	D:				
	5.00	474			
	6.00	1.00			
	7.00	1.80			
	8.00	2.91			
	9.00	4.39			
	10.00	6.28			
	13.00	15.1			
	16.00	30.3			
	20.00	66.2			
	25.00	154.			
	30.00	325.			
	35.00	649.			
	40.00	1238.			
	50.00	4095.			
DELTA K MAX	A: 58.14	10101.			
	B:				
	C:				
	D:				

ROOT MEAN SQUARE 34.58
PERCENT ERROR

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T7352
 FORM: 2.20" TH PLATE
 SPECIMEN TYPE: CCP
 ORIENTATION: T-L
 STRESS RATIO: +0.02
 FREQUENCY:

YIELD STRENGTH: 55.0 KSI
 ULT. STRENGTH: 66.0 KSI
 SPECIMEN THK: 0.156"
 SPECIMEN WIDTH:
 REFERENCES: MA012

ALUM.
 ALLOY

7075

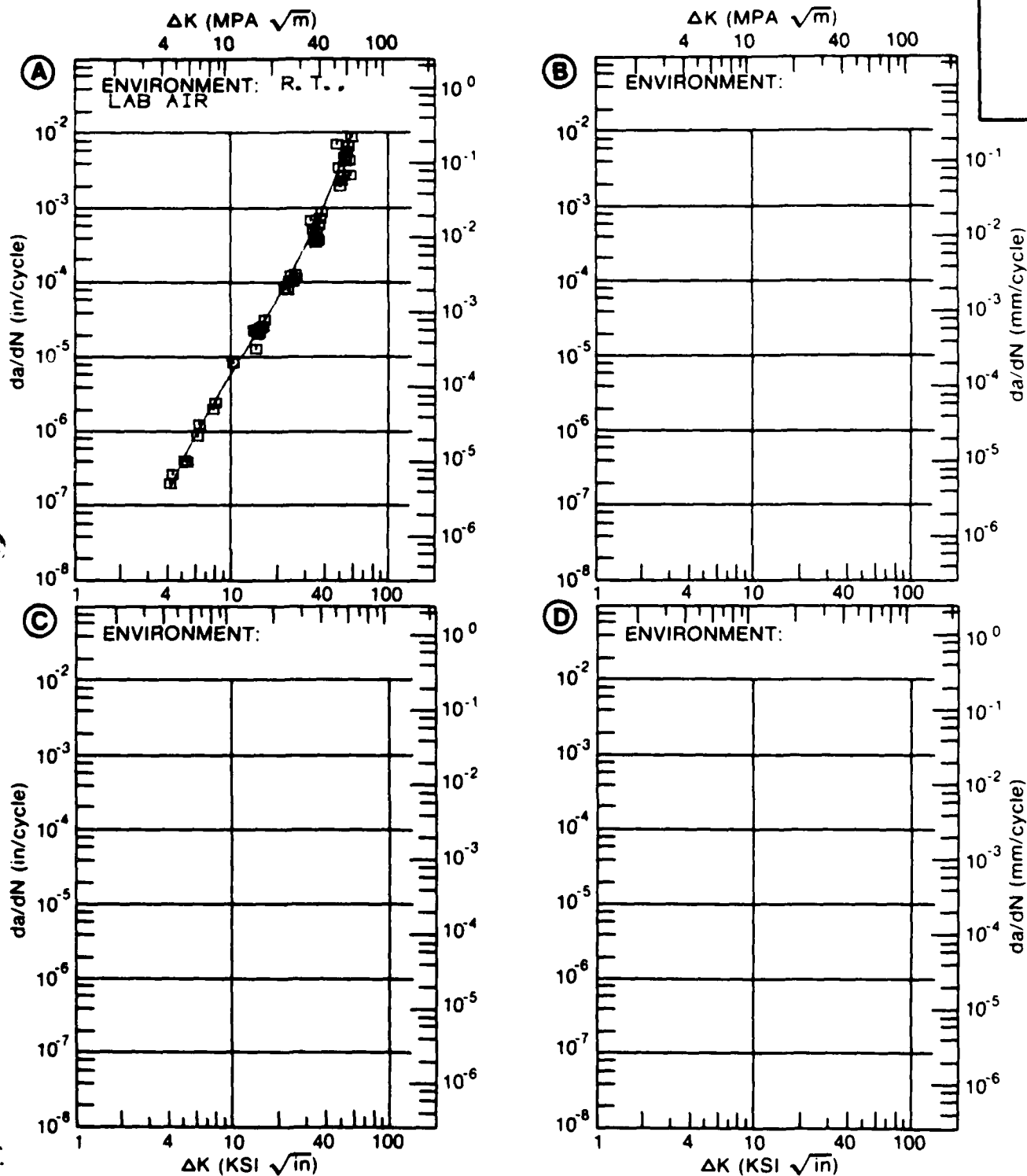


Figure 8.9.3.72

TABLE 8.9.3.73

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.73 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM 7075
CONDITION: T7352

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. LAB AIR			
DELTA K MIN	A:	3.98	.42		
	B:				
	C:				
	D:				
	4.00	.435			
	5.00	1.08			
	6.00	2.11			
	7.00	3.53			
	8.00	5.30			
	9.00	7.48			
	10.00	10.2			
	13.00	23.7			
	16.00	72.8			
DELTA K MAX	A:	18.35	345.		
	B:				
	C:				
	D:				

ROOT MEAN SQUARE 133.08
PERCENT ERRORLIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T7352
 FORM: 2.20" TH PLATE
 SPECIMEN TYPE: WOL
 ORIENTATION: T-L
 STRESS RATIO: +0.02
 FREQUENCY:

YIELD STRENGTH: 55.0 KSI
 ULT. STRENGTH: 66.0 KSI
 SPECIMEN THK: 1.250"
 SPECIMEN WIDTH:
 REFERENCES: MA012

ALUM.
 ALLOY

7075

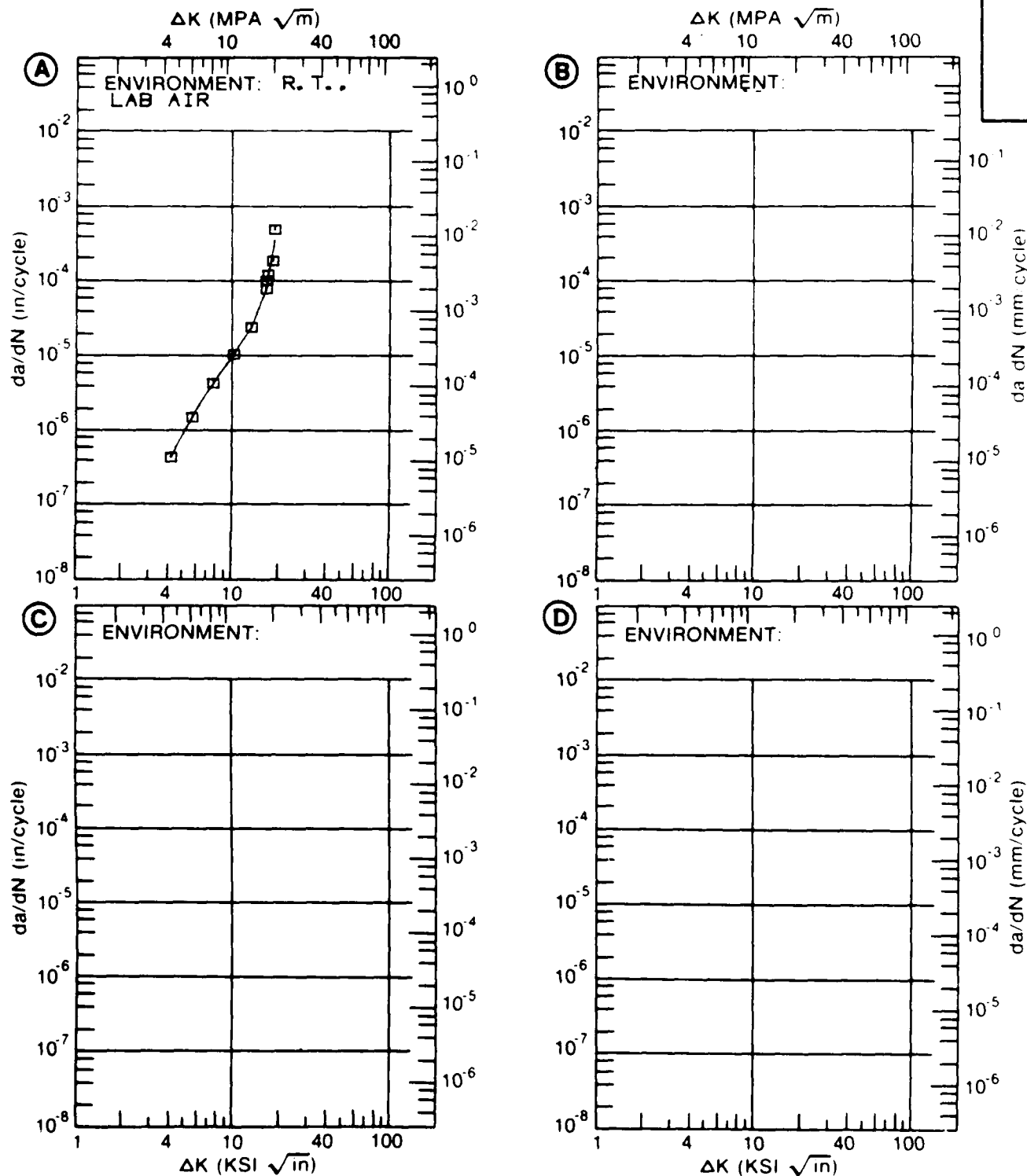


Figure 8.9.3.73

TABLE 8.9.3.74

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.74 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM		7075			
CONDITION: T7352					
DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T.			
		LAB AIR			
DELTA K MIN	A:	11.52	9.50		
	B:				
	C:				
	D:				
		13.00	13.6		
		16.00	19.9		
	20.00	32.5			
	25.00	91.6			
	30.00	223.			
DELTA K MAX	A:	32.74	573.		
	B:				
	C:				
	D:				
ROOT MEAN SQUARE		19.98			
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25				
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T7352
 FORM: 2.35" TH BILLET
 SPECIMEN TYPE: WDL
 ORIENTATION: L-T
 STRESS RATIO: +0.02
 FREQUENCY: 1.00- 30.00 HZ

YIELD STRENGTH: 54.5 KSI
 ULT. STRENGTH: 65.5 KSI
 SPECIMEN THK: 1.250"
 SPECIMEN WIDTH: 5.000"
 REFERENCES: MA011

ALUM.
 ALLOY

7075

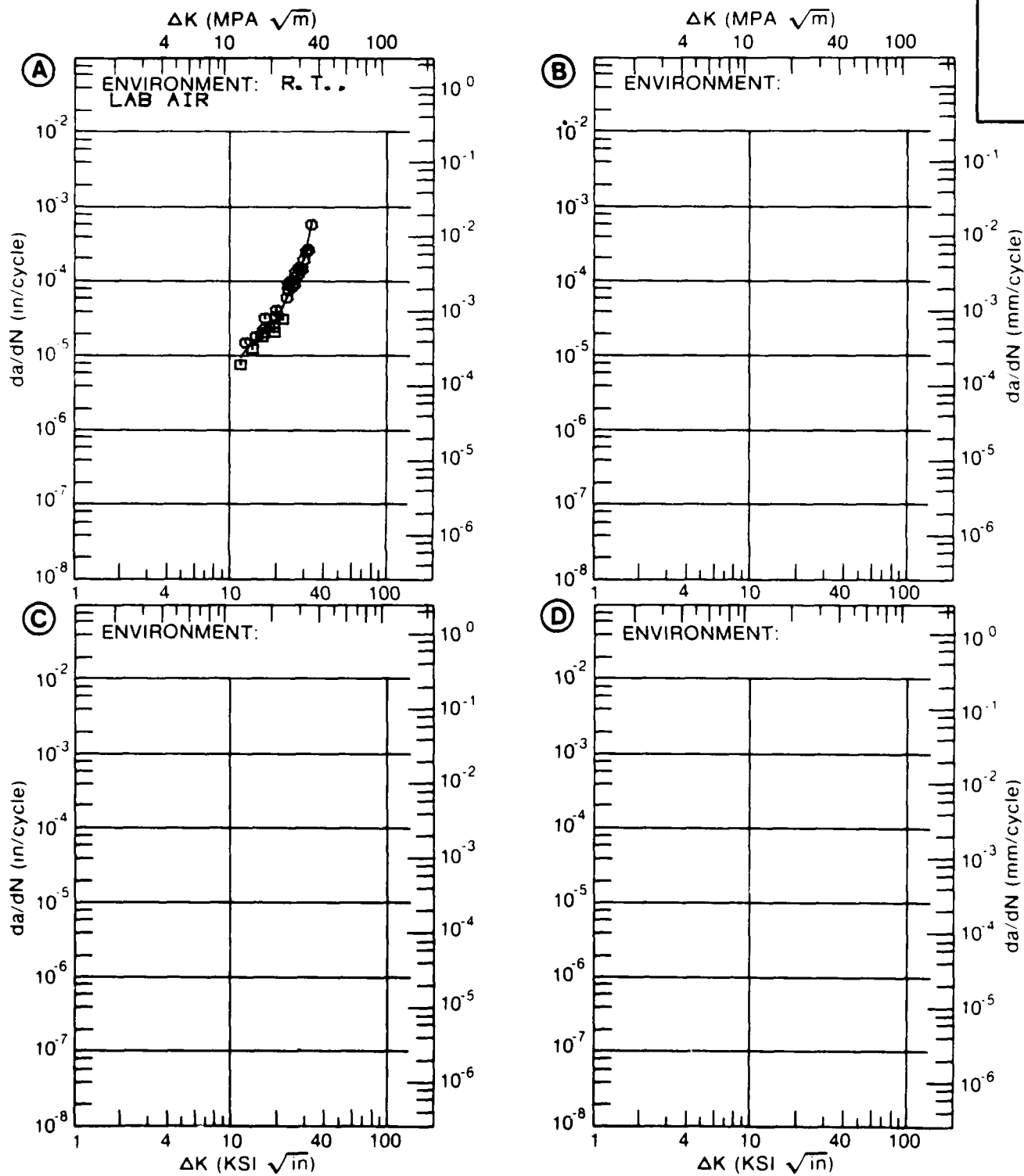


Figure 8.9.3.74

TABLE 8.9.3.75

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.75 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM 7075
CONDITION: T7352

DELTA K
(KSI*IN**1/2)

DA/DN (10**-6 IN./CYCLE)

A

B

C

D

E= R.T

L.H.A.

DELTA K	A:	5.33	232
MIN	B:		
	C:		
	D:		
	6.00	1.02	
	7.00	2.30	
	8.00	3.86	
	9.00	5.87	
	10.00	8.49	
	13.00	18.7	
	16.00	27.1	

DELTA K	A:	17.25	28.6
MAX	B:		
	C:		
	D:		

ROOT MEAN SQUARE 15.31
PERCENT ERROR

LIFE	0.0-0.5	
PREDICTION	0.5-0.8	1
RATIO	0.8-1.25	
SUMMARY	1.25-2.0	
(NP/NA)	>2.0	

CONDITION/HT: T7352
 FORM: FORGING
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 STRESS RATIO: +0.08
 FREQUENCY: 6.00 HZ

YIELD STRENGTH: 67.0 KSI
 ULT. STRENGTH: 75.0 KSI
 SPECIMEN THK: 0.500"
 SPECIMEN WIDTH: 3.000"
 REFERENCES: 88579

ALUM.
 ALLOY

7075

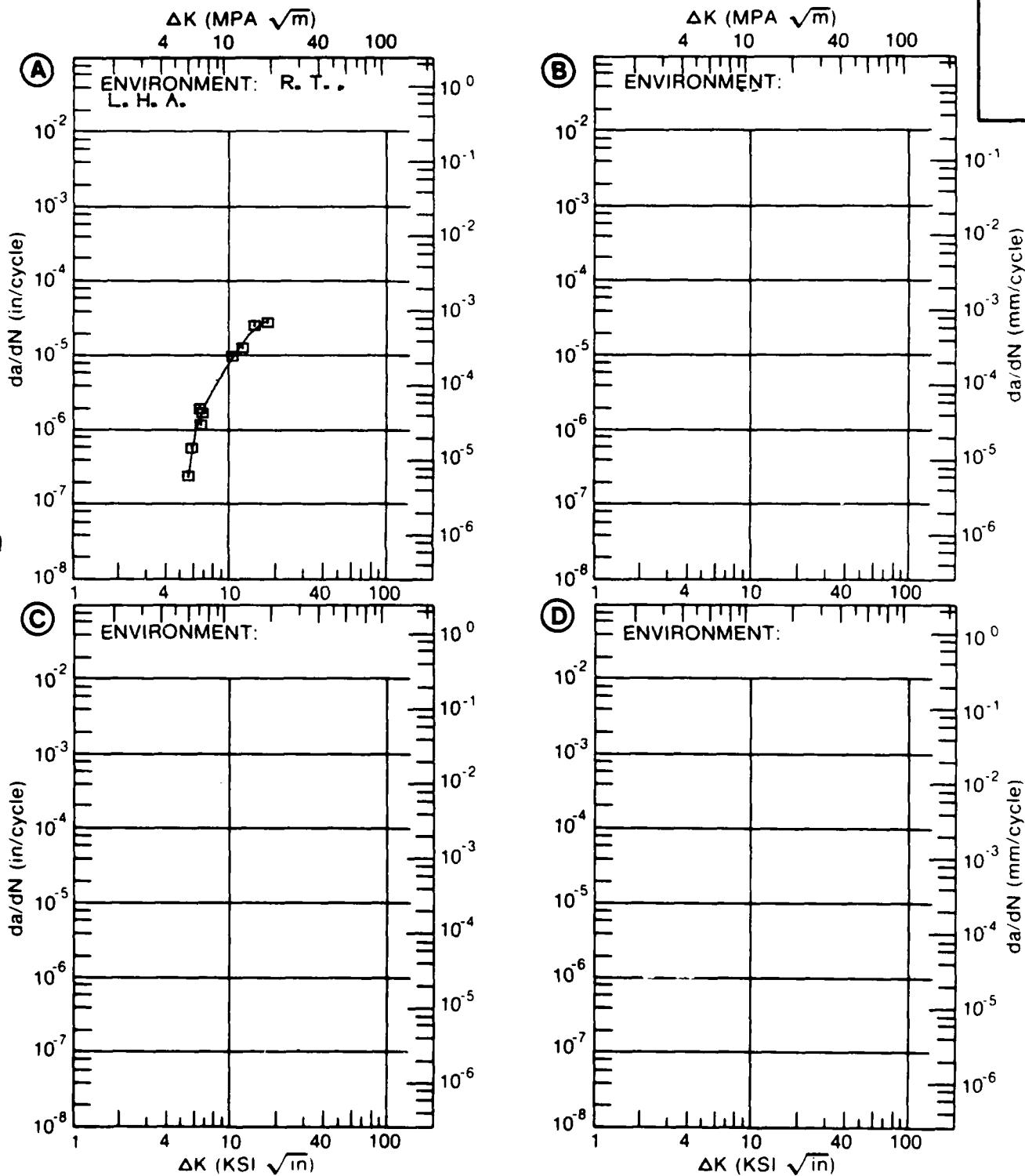


Figure 8.9.3.75

TABLE 8.9.3.76

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.76 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM 7075
CONDITION: T7352

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. I. LAB AIR			
DELTA K MIN	A:	4.10	.99		
	B:				
	C:				
	D:				
	5.00	1.86			
	6.00	3.23			
	7.00	5.08			
	8.00	7.50			
	9.00	10.6			
	10.00	14.4			
	13.00	31.4			
	16.00	60.1			
	20.00	126.			
	25.00	281.			
DELTA K MAX	A:	26.38	345.		
	B:				
	C:				
	D:				

ROOT MEAN SQUARE 16.34
PERCENT ERROR

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T7352
 FORM: FORGING
 SPECIMEN TYPE: CCP
 ORIENTATION: T-L
 STRESS RATIO: +0.02
 FREQUENCY:

YIELD STRENGTH: 57.0 KSI
 ULT. STRENGTH: 70.0 KSI
 SPECIMEN THK: 0.149"
 SPECIMEN WIDTH:
 REFERENCES: MA012

ALUM.
 ALLOY

7075

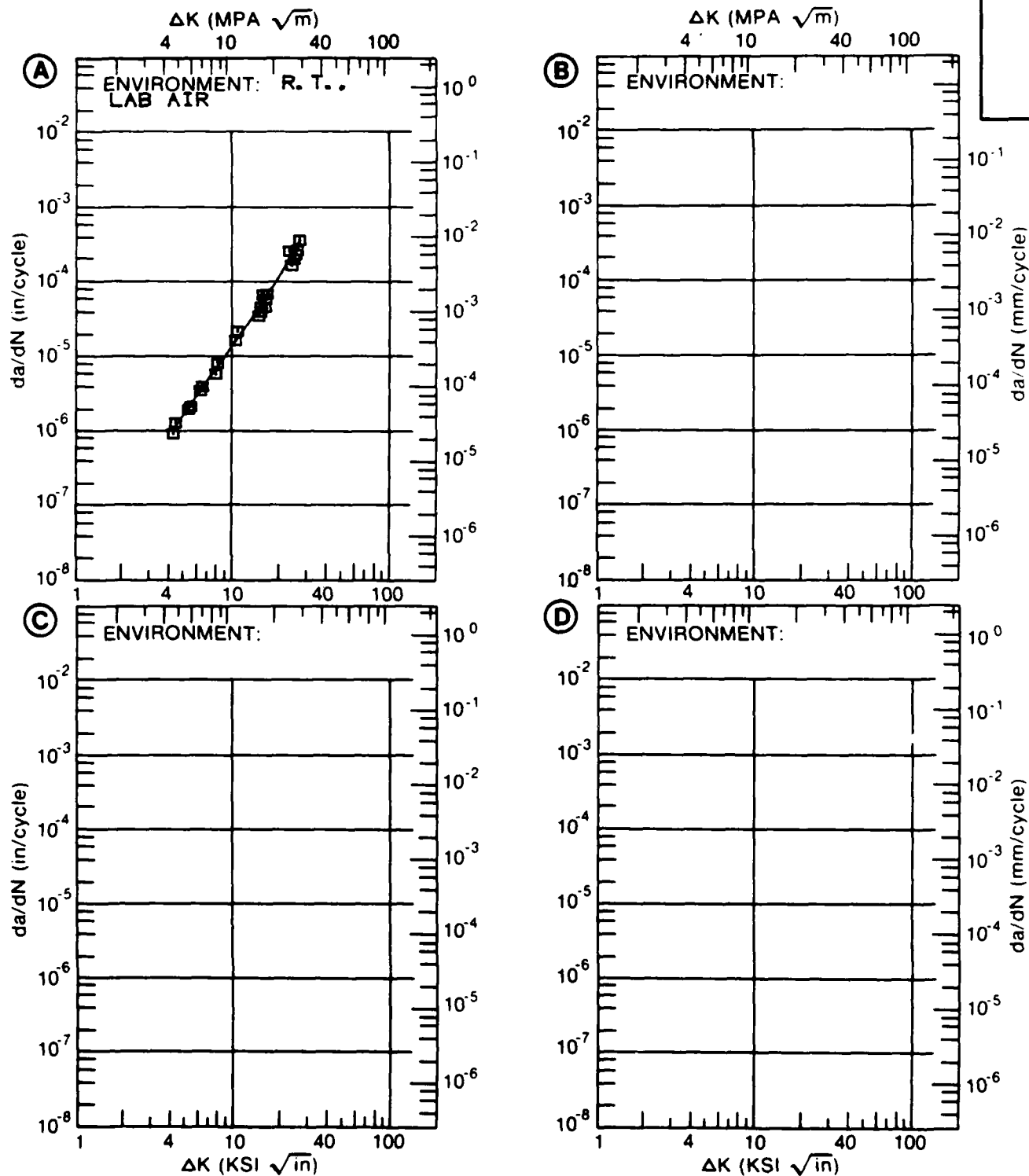


Figure 8.9.3.76

TABLE 8.9.3.77

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.77 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM 7075
CONDITION: T7352

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. LAB AIR			
DELTA K MIN	A:	19.98	27.2		
	B:				
	C:				
	D:				
		20.00	27.5		
		25.00	77.4		
DELTA K MAX	A:	29.54	509.		
	B:				
	C:				
	D:				

ROOT MEAN SQUARE 32.60
PERCENT ERROR

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T7352
 FORM: FORGING
 SPECIMEN TYPE: WOL
 ORIENTATION: T-L
 STRESS RATIO: +0.02
 FREQUENCY:

YIELD STRENGTH: 57.0 KSI
 ULT. STRENGTH: 70.0 KSI
 SPECIMEN THK: 1.250"
 SPECIMEN WIDTH:
 REFERENCES: MA012

ALUM.
 ALLOY

7075

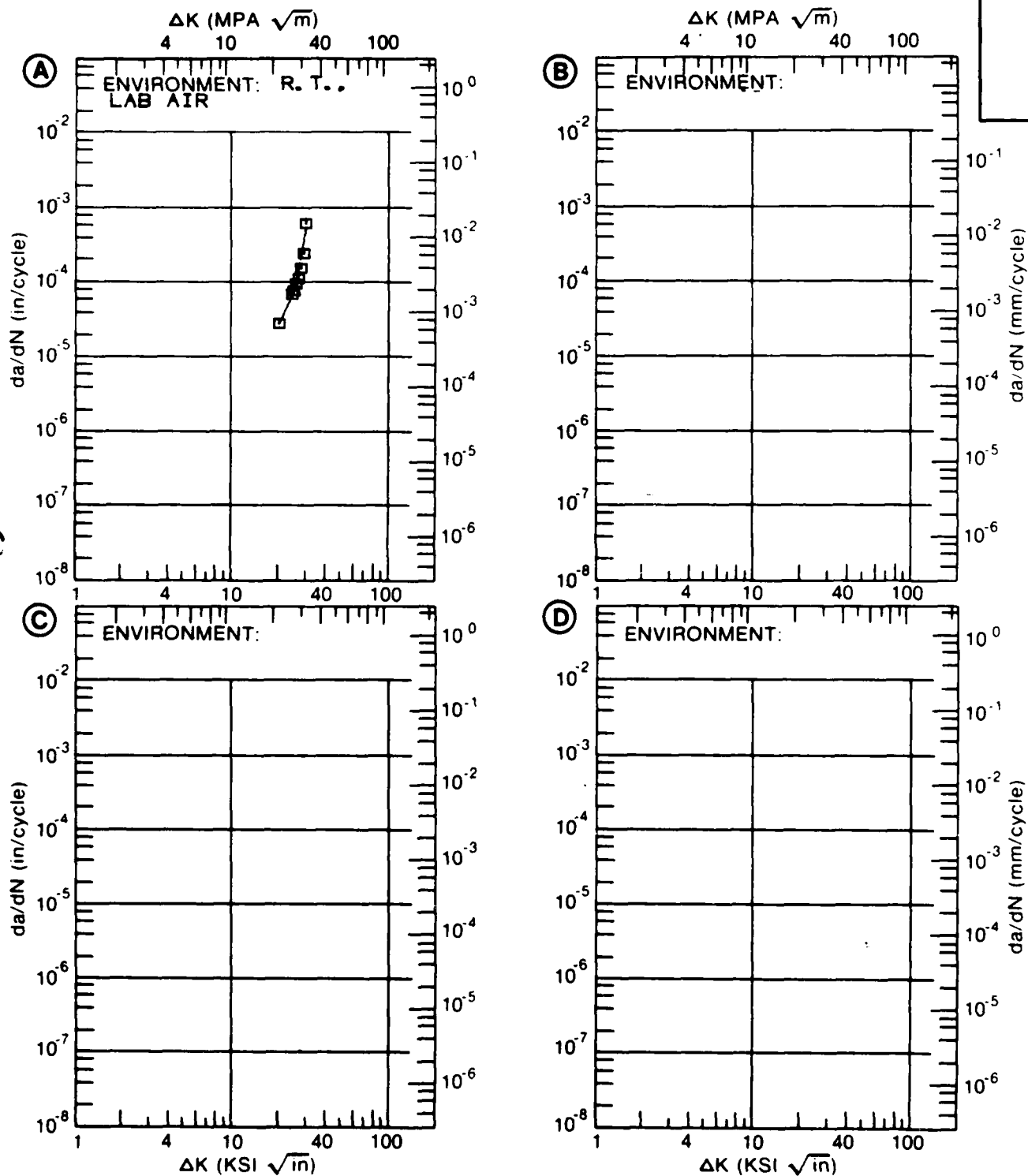


Figure 8.9.3.77

TABLE 8.9.3.78

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.78 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM 7075
CONDITION: T7352

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. LAB AIR			
DELTA K MIN	A:	5.32	1.31		
	B:				
	C:				
	D:				
		6.00	2.27		
		7.00	4.21		
		8.00	6.77		
		9.00	9.92		
		10.00	13.6		
		13.00	28.6		
		16.00	51.1		
DELTA K MAX	A:	18.81	82.3		
	B:				
	C:				
	D:				

ROOT MEAN SQUARE 6.29
PERCENT ERROR

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25 2
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T7352
 FORM: 6.00" TH FORGING
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 STRESS RATIO: +0.33
 FREQUENCY: 5.17 HZ

YIELD STRENGTH:
 ULT. STRENGTH:
 SPECIMEN THK: 0.750"
 SPECIMEN WIDTH: 3.000"
 REFERENCES: 77720

ALUM.
 ALLOY

7075

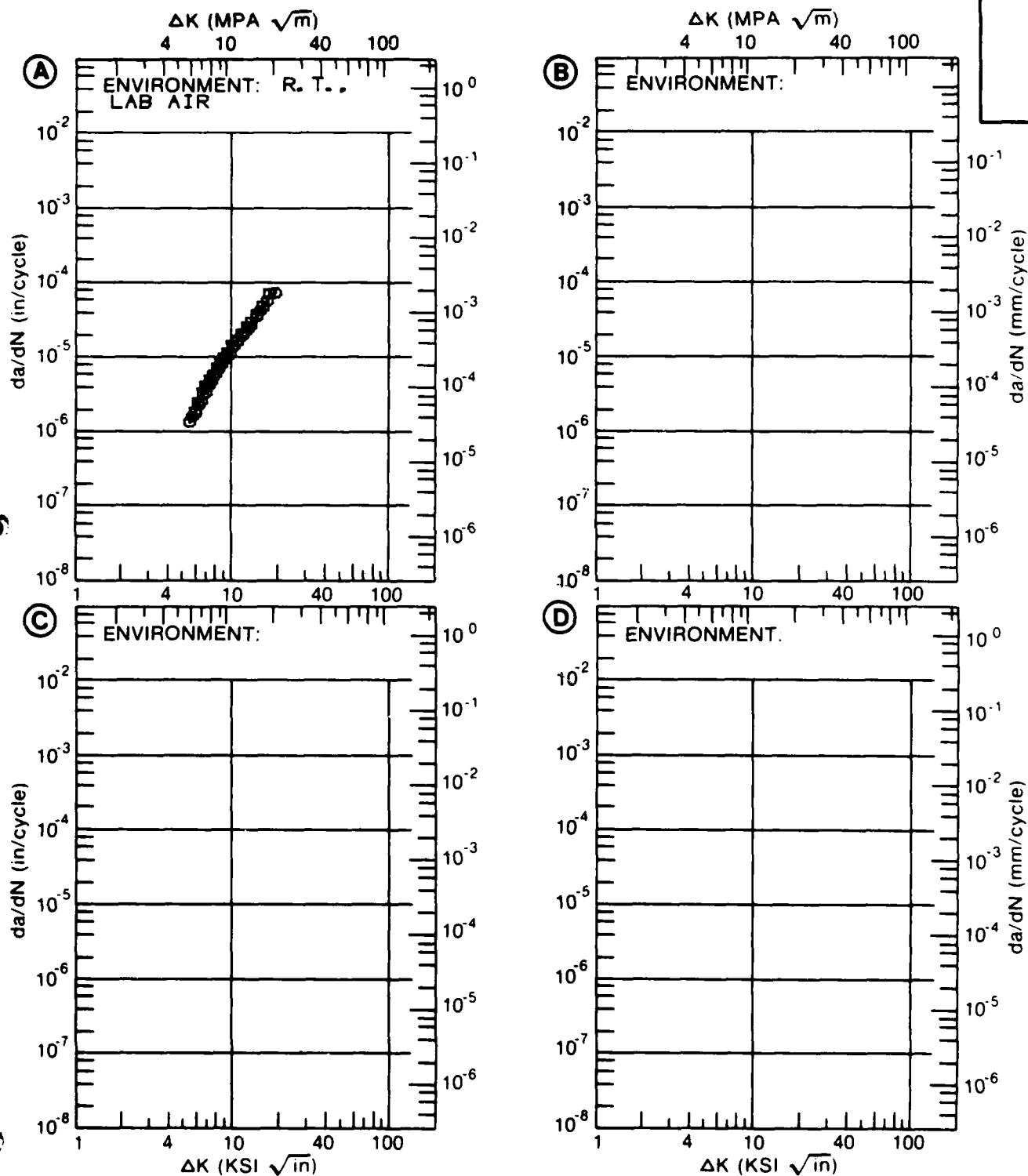


Figure 8.9.3.78

TABLE 8.9.3.79

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.79 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM 7075
CONDITION: T7352

DELTA K
(KSI*IN**1/2)

DA/DN (10**-6 IN./CYCLE)

A

B

C

D

E= R. T.
LAB AIR
DELTA K A: 5.97 2.24
MIN B:
C:
D:

6.00 2.30
7.00 4.09
8.00 5.82
9.00 7.39
10.00 8.93
13.00 15.3
16.00 31.1

DELTA K A: 16.54 36.2
MAX B:
C:
D:

ROOT MEAN SQUARE 11.63
PERCENT ERROR

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25 2
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T7352
 FORM: 6.00" TH FORGING
 SPECIMEN TYPE: CCP
 ORIENTATION: T-S
 STRESS RATIO: +0.33
 FREQUENCY: 5.17 HZ

YIELD STRENGTH:
 ULT. STRENGTH:
 SPECIMEN THK: 0.740- 0.750"
 SPECIMEN WIDTH: 3.000"
 REFERENCES: 77720

ALUM.
 ALLOY

7075

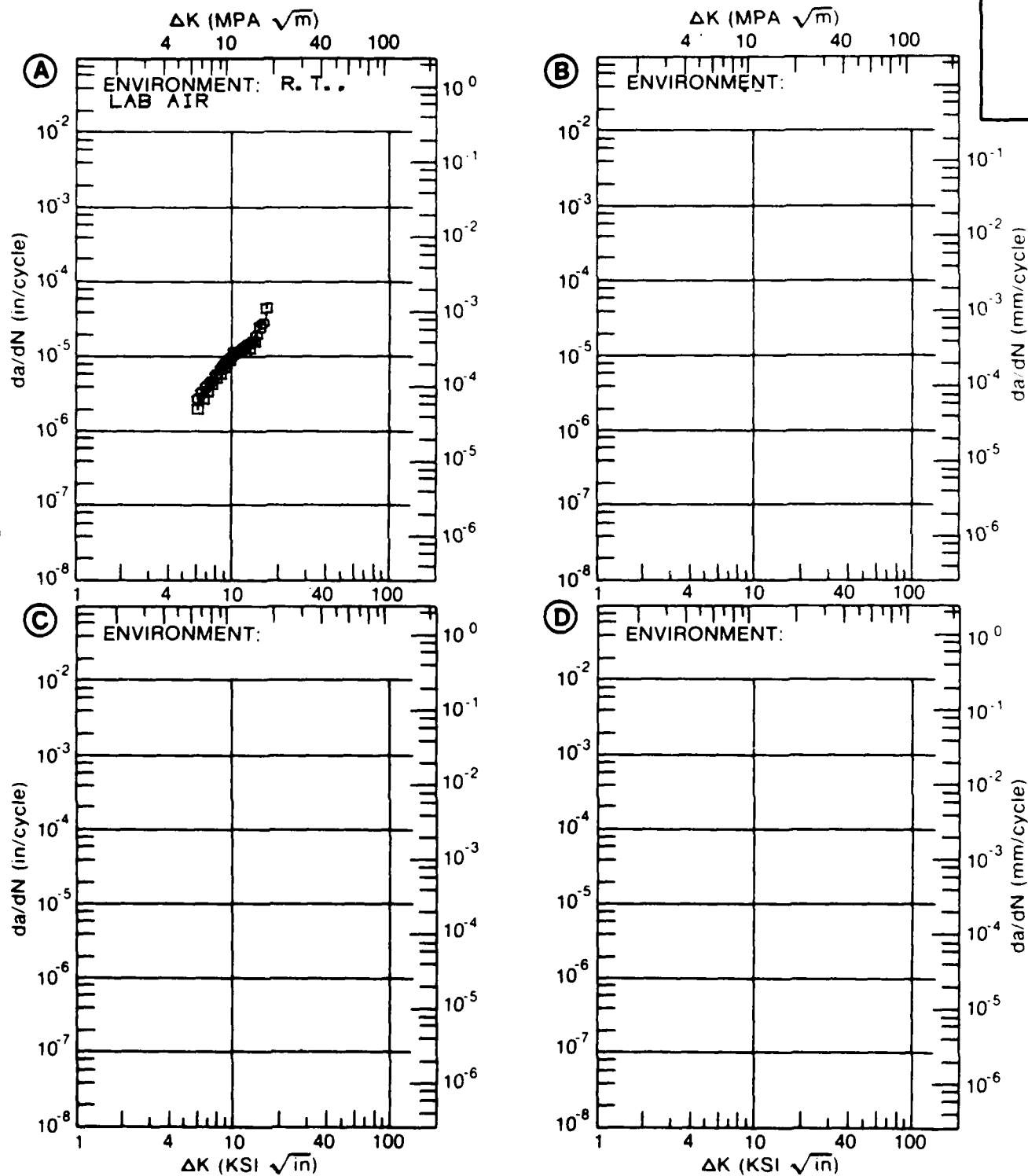


Figure 8.9.3.79

TABLE 8.9.3.80

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.80 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM 7075
CONDITION: T7352

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. H. H. A.	E= R. T. 3. 5% NACL		
DELTA K MIN	A:	5.62	2.37		
	B:	5.32	2.03		
	C:				
	D:				
	6.00	2.96	3.21		
	7.00	4.77	5.27		
	8.00	6.96	7.68		
	9.00	9.59	10.5		
	10.00	12.8	13.9		
	13.00	27.8	30.7		
	16.00	58.6			
DELTA K MAX	A:	16.40	64.8		
	B:	15.03	53.2		
	C:				
	D:				
ROOT MEAN SQUARE PERCENT ERROR		8.44	11.38		
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	2	4		
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T7352
 FORM: 6.00" TH FORGING
 SPECIMEN TYPE: CCP
 ORIENTATION: T-S
 STRESS RATIO: +0.33
 FREQUENCY: 5.17 HZ

YIELD STRENGTH:
 ULT. STRENGTH:
 SPECIMEN THK: 0.730- 0.750"
 SPECIMEN WIDTH: 3.000"
 REFERENCES: 77720

ALUM.
 ALLOY

7075

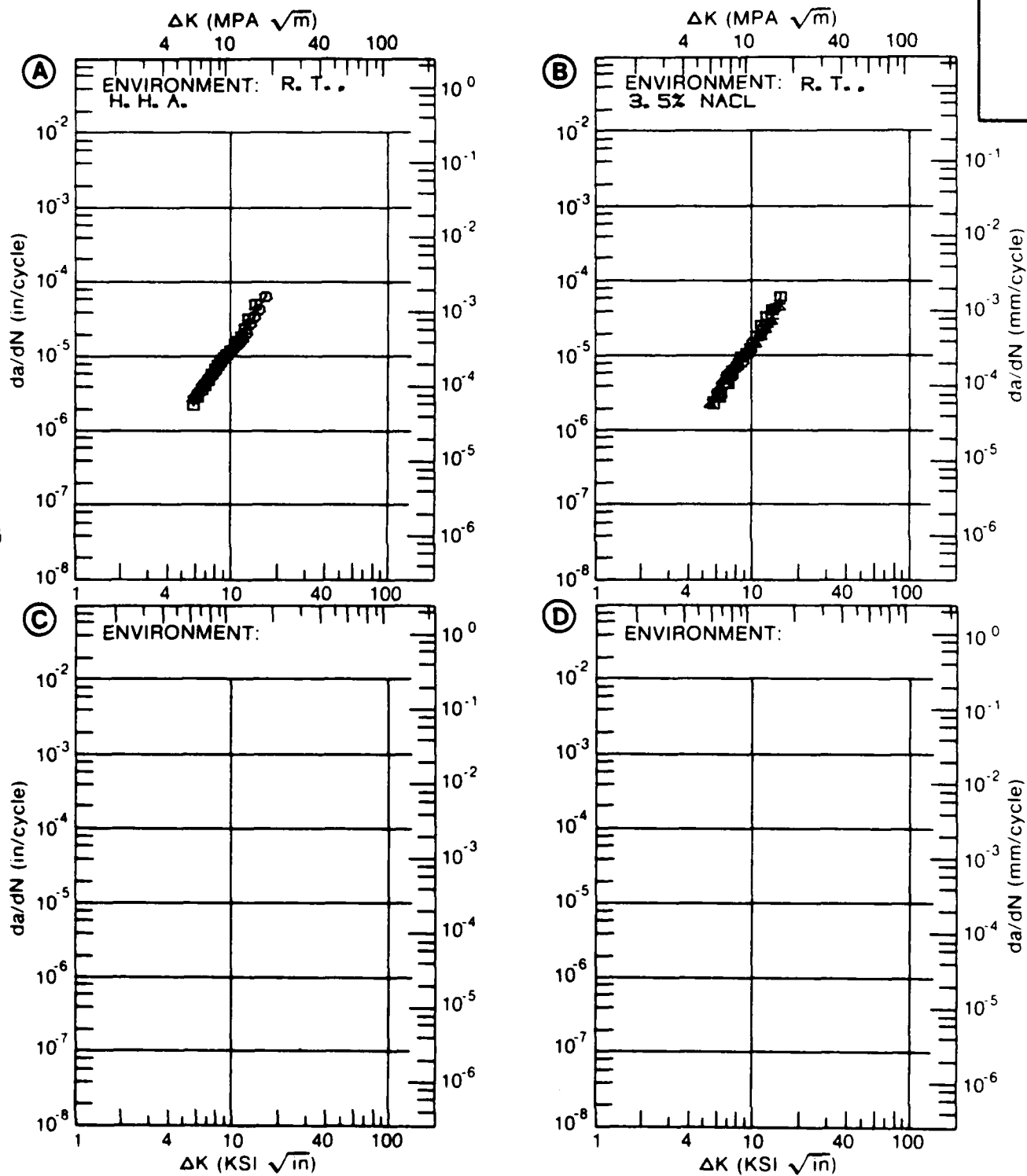


Figure 8.9.3.80

TABLE 8.9.3.81

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.81 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM 7075
CONDITION: T7352

DELTA K
(KSI*IN**1/2)

DA/DN (10**-6 IN./CYCLE)

A

B

C

D

E= R. T.
LAB AIR

DELTA K	A:	5.69	2.08
MIN	B:		
	C:		
	D:		
	6.00	2.58	
	7.00	4.42	
	8.00	6.52	
	9.00	8.80	
	10.00	11.2	
	13.00	20.2	
	16.00	33.9	
	20.00	68.5	

DELTA K	A:	22.72	114.
MAX	B:		
	C:		
	D:		

ROOT MEAN SQUARE 13.19
PERCENT ERROR

LIFE	0.0-0.5	
PREDICTION	0.5-0.8	
RATIO	0.8-1.25	8
SUMMARY	1.25-2.0	
(NP/NA)	0.2 0	

CONDITION/HT: T7352
 FORM: 6.00" TH FORGING
 SPECIMEN TYPE: CCP
 ORIENTATION: T-L
 STRESS RATIO: +0.33
 FREQUENCY: 5.17 HZ

YIELD STRENGTH:
 ULT. STRENGTH:
 SPECIMEN THK: 0.750- 0.760"
 SPECIMEN WIDTH: 3.000"
 REFERENCES: 77720

ALUM.
 ALLOY

7075

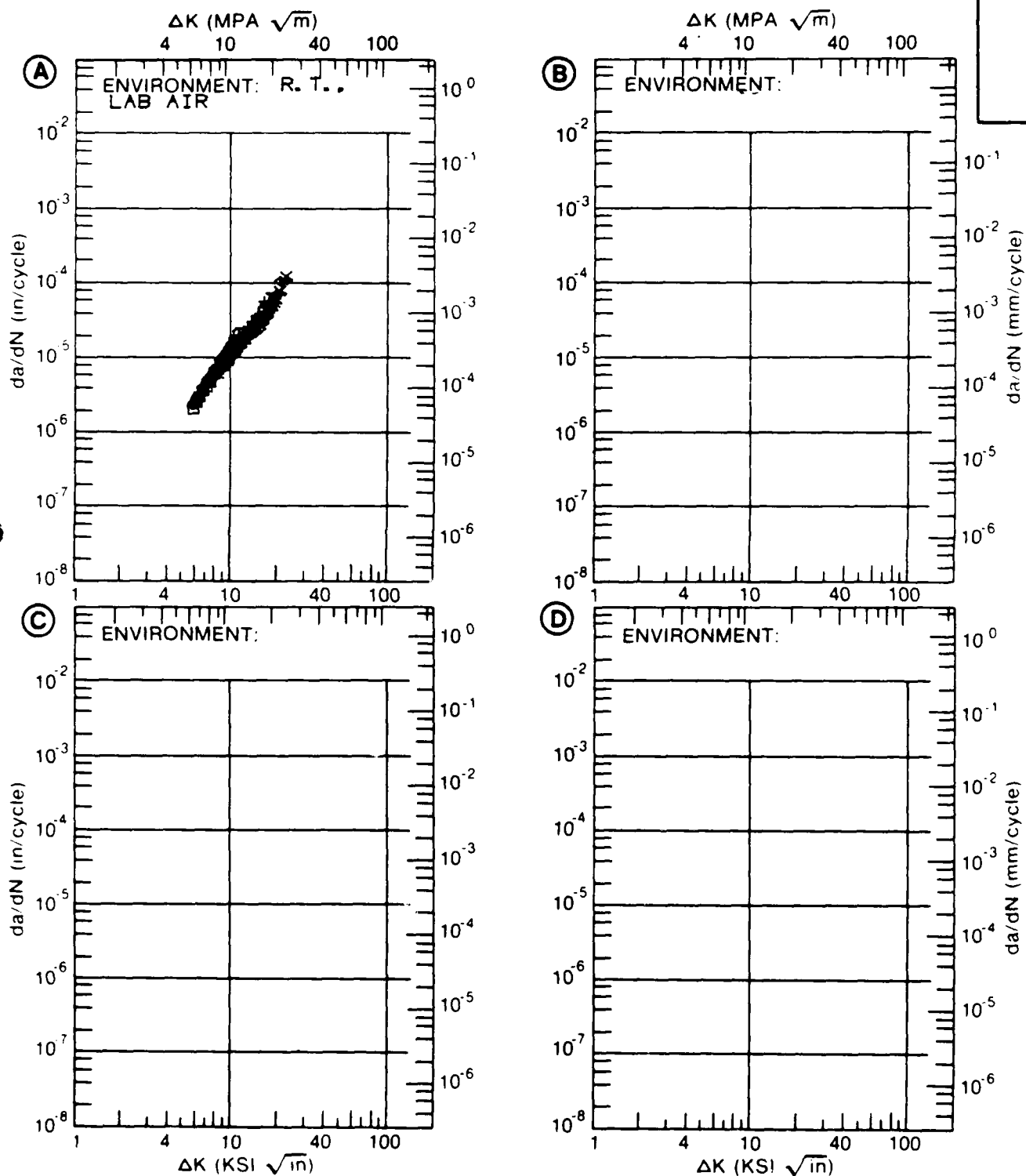


Figure 8.9.3.81

TABLE 8.9.3.82

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.82 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM 7075
CONDITION: T7352

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. LAB AIR			
DELTA K MIN	A:	5.78	2.52		
	B:				
	C:				
	D:				
		6.00	2.85		
		7.00	4.67		
		8.00	7.04		
		9.00	10.0		
		10.00	13.6		
DELTA K MAX	A:	10.85	17.3		
	B:				
	C:				
	D:				

ROOT MEAN SQUARE 2.52
PERCENT ERROR

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25 1
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT T7352
 FORM: 8.00" TH FORGING
 SPECIMEN TYPE: CCP
 ORIENTATION: S-T
 STRESS RATIO: +0.33
 FREQUENCY: 5.17 HZ

YIELD STRENGTH:
 ULT. STRENGTH:
 SPECIMEN THK: 0.750"
 SPECIMEN WIDTH: 3.000"
 REFERENCES: 77720

ALUM.
 ALLOY

7075

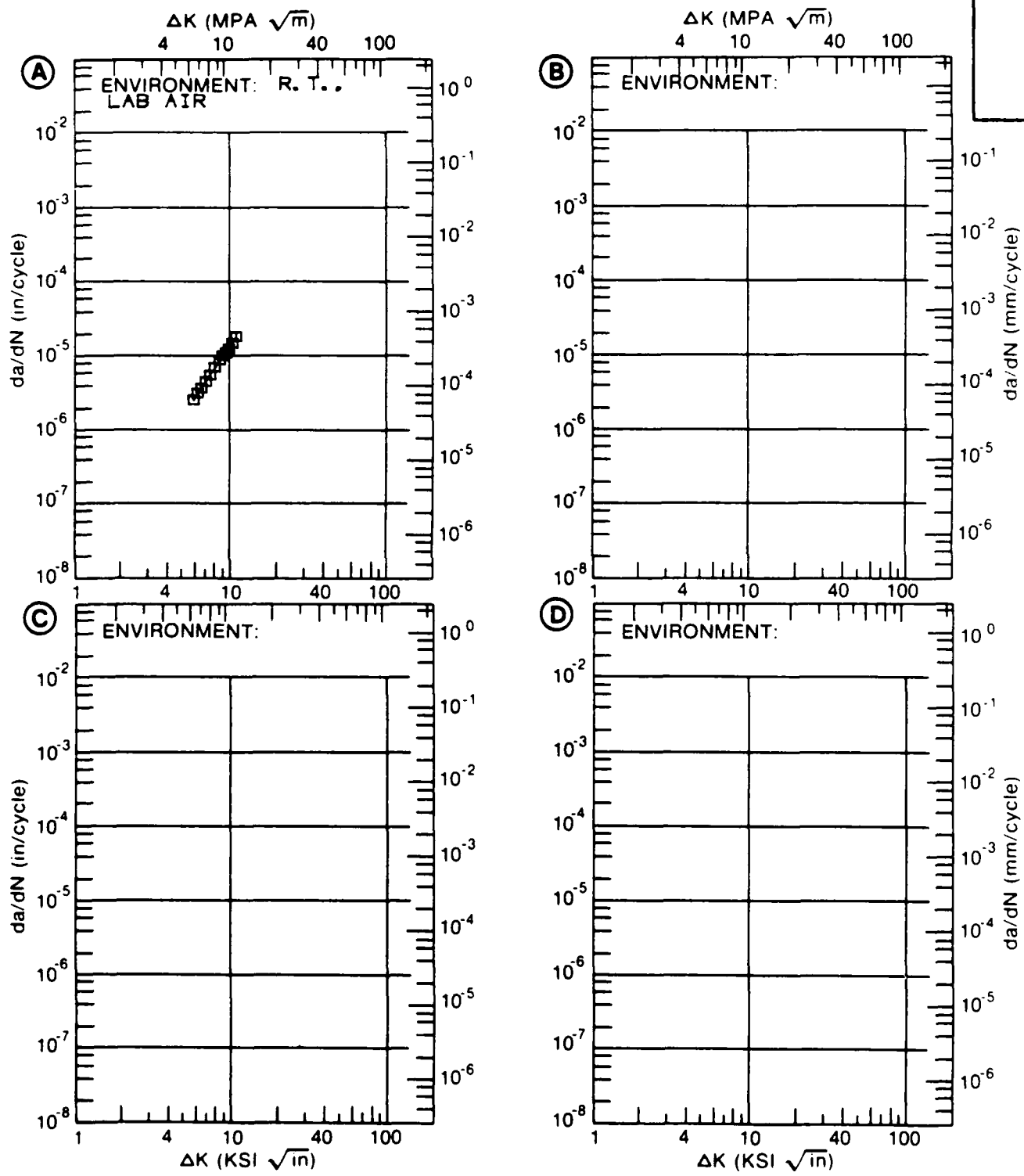


Figure 8.9.3.82

TABLE 8.9.3.83

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.83 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM 7075
CONDITION: T7352

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R.T. LAB AIR			
DELTA K MIN	A:	5.82	3.15		
	B:				
	C:				
	D:				
		6.00	3.52		
		7.00	6.01		
		8.00	9.33		
		9.00	13.7		
		10.00	19.5		
		13.00	51.3		
		16.00	130.		
DELTA K MAX	A:	16.82	168.		
	B:				
	C:				
	D:				

ROOT MEAN SQUARE 19.10
PERCENT ERROR

LIFE	0.0-0.5	
PREDICTION	0.5-0.8	2
RATIO	0.8-1.25	2
SUMMARY	1.25-2.0	
(NP/NA)	>2.0	

CONDITION/HT: T7352
 FORM: 6.00" TH FORGING
 SPECIMEN TYPE: CCP
 ORIENTATION: S-L
 STRESS RATIO: +0.33
 FREQUENCY: 5.17 HZ

YIELD STRENGTH:
 ULT. STRENGTH:
 SPECIMEN THK: 0.750"
 SPECIMEN WIDTH: 3.000"
 REFERENCES: 77720

ALUM.
 ALLOY

7075

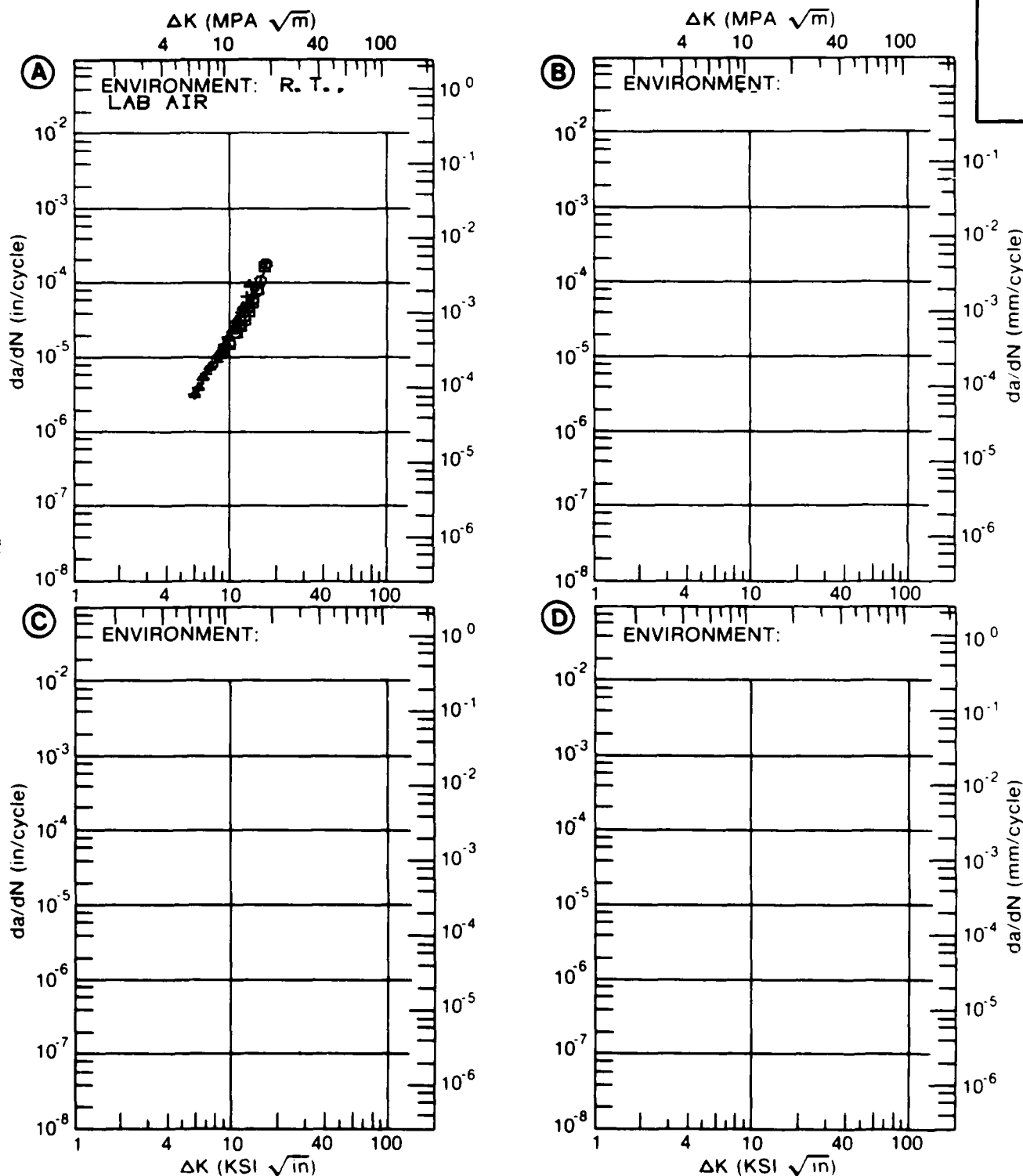


Figure 8.9.3.83

TABLE 8.9.3.84

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.84 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM 7075
CONDITION: T76
ENVIRONMENT: R.T., L.H.A.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.30			
DELTA K MIN	A:	4.26	.288		
	B:				
	C:				
	D:				
	5.00	.783			
	6.00	1.98			
	7.00	3.68			
	8.00	5.63			
	9.00	7.75			
	10.00	10.1			
	13.00	19.7			
DELTA K MAX	A:	15.89	37.3		
	B:				
	C:				
	D:				

ROOT MEAN SQUARE 12.33
PERCENT ERROR

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25 1
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T76
 FORM: 0.10" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 6.00 HZ
 ENVIRONMENT: R. T., L. H. A.

YIELD STRENGTH:
 ULT. STRENGTH:
 SPECIMEN THK: 0.0099"
 SPECIMEN WIDTH: 23.790"
 REFERENCES: 86575

ALUM.
 ALLOY

7075

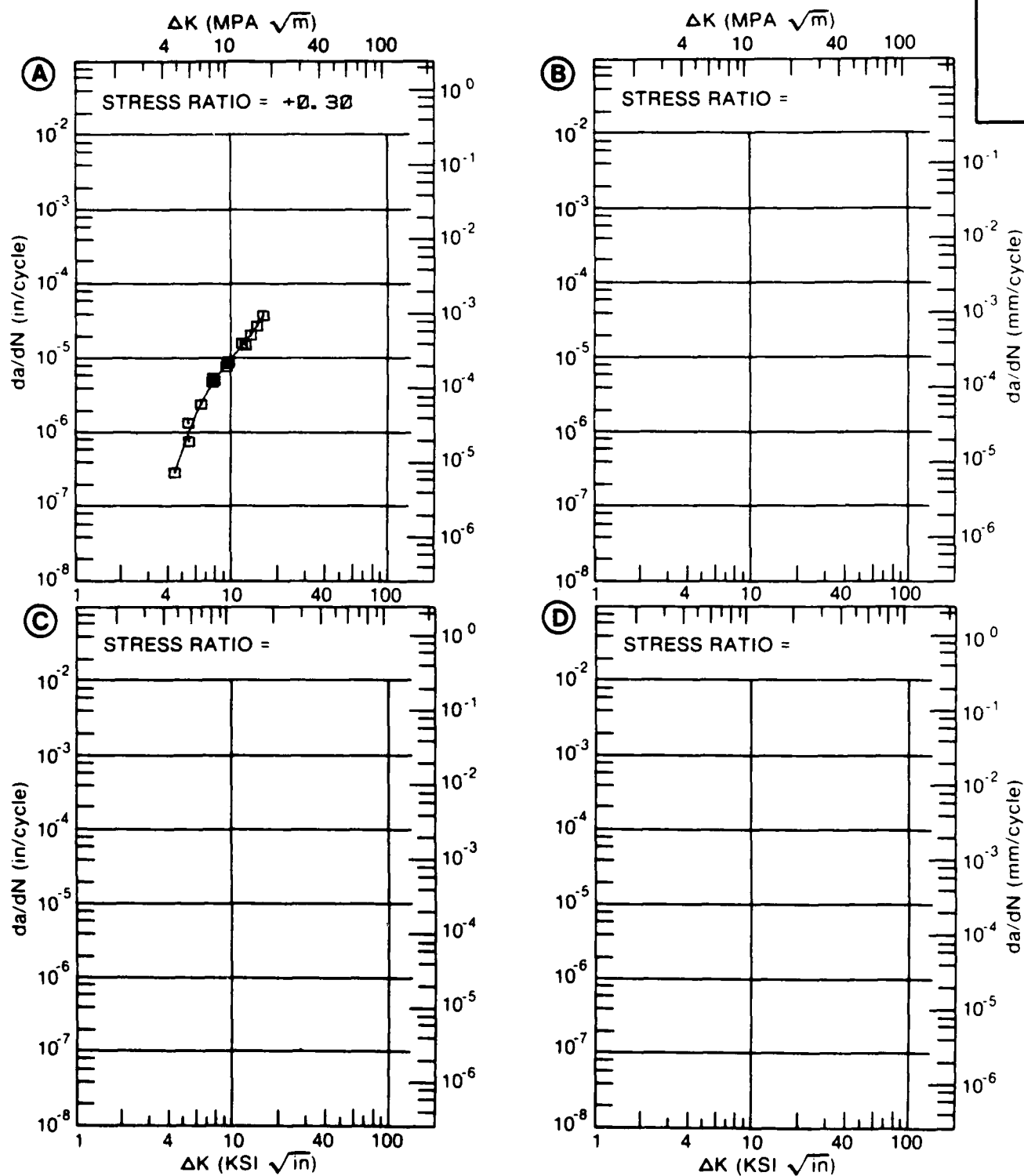


Figure 8.9.3.84

TABLE 8.9.3.85

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.85 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM		7075			
CONDITION: T76					
DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. L. H. A. , 1HZ	E= R. T. L. H. A. , 6HZ	E= R. T. S. T. W. , 1HZ	E= R. T. S. C. S. , 1HZ
DELTA K	A: 3.71	.333			
MIN	B: 3.85		.203		
	C:				
	D:				
	4.00	.347	.242		
	5.00	.567	.615		
	6.00	1.09	1.20		
	7.00	1.98	2.01		
	8.00	3.18	3.05		
	9.00	4.44	4.33		
	10.00	5.69	5.87		
	13.00	10.1	12.3		
	16.00	19.1	22.3		
	20.00		43.8		
	25.00		92.7		
DELTA K	A: 18.43	36.0			
MAX	B: 28.99		161.		
	C:				
	D:				
ROOT MEAN SQUARE		36.67	48.67	0.00	0.00
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1	1		
SUMMARY	1.25-2.0		1		
(NP/NA)	>2.0				

CONDITION/HT: T76
 FORM: 0.10" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 STRESS RATIO: +0.08
 FREQUENCY:

YIELD STRENGTH:
 ULT. STRENGTH:
 SPECIMEN THK: 0.098- 0.099"
 SPECIMEN WIDTH: 23.800- 23.850"
 REFERENCES: 86575

ALUM.
 ALLOY

7075

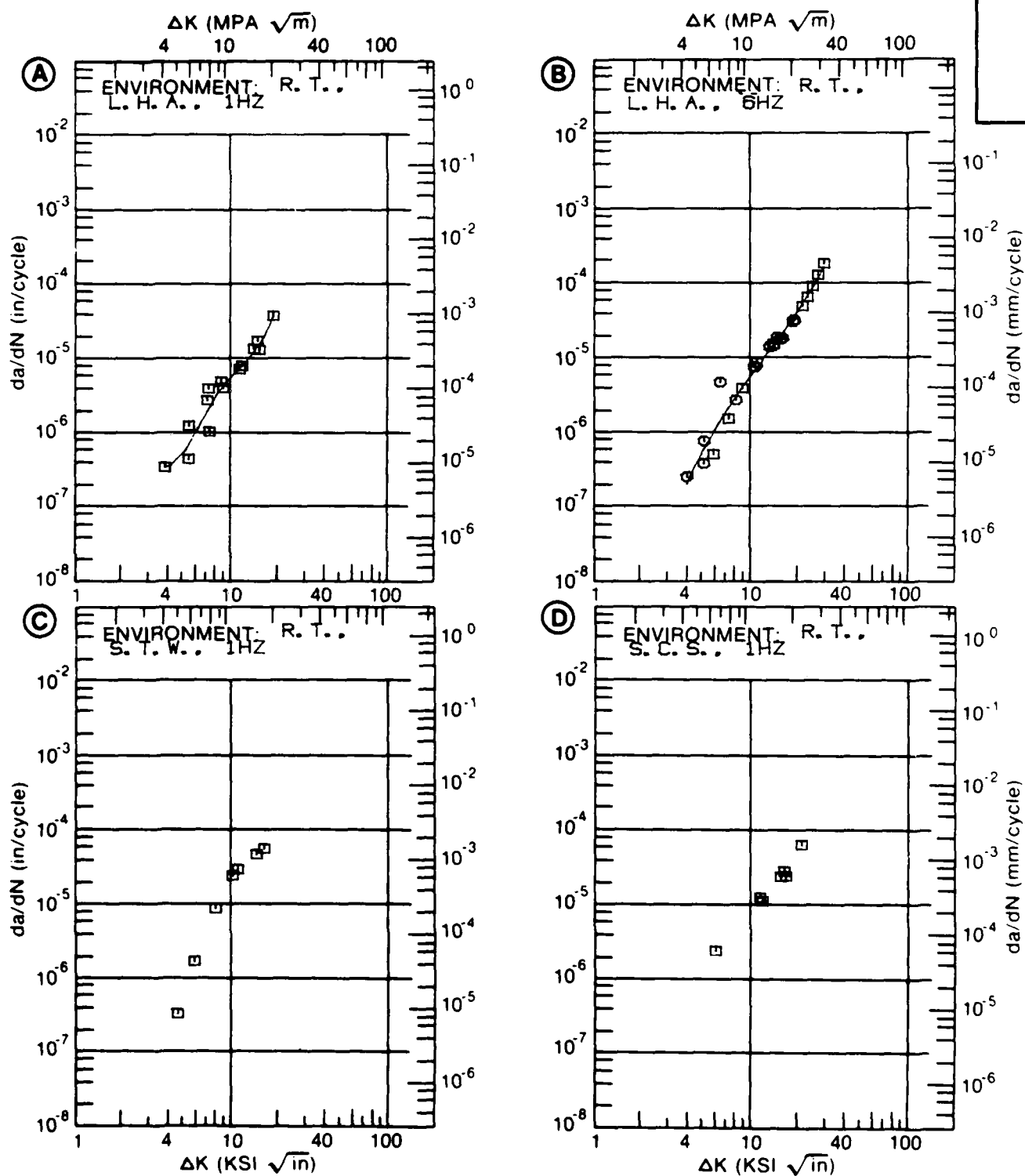


Figure 8.9.3.85

TABLE 8.9.3.86

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.86 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM 7075
 CONDITION: T76
 ENVIRONMENT: R. T. , L. H. A.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.08			
DELTA K MIN	A:	5.80	1.55		
	B:				
	C:				
	D:				
	6.00	1.57			
	7.00	2.23			
	8.00	3.92			
	9.00	6.95			
	10.00	11.2			
	13.00	23.5			
	16.00	33.5			
	20.00	58.2			
	25.00	175.			
	30.00	408.			
DELTA K MAX	A:	32.04	415.		
	B:				
	C:				
	D:				

ROOT MEAN SQUARE 12.32
 PERCENT ERROR

LIFE 0.0-0.5
 PREDICTION 0.5-0.8
 RATIO 0.8-1.25 1
 SUMMARY 1.25-2.0
 (NP/NA) >2.0

CONDITION/HT: T76
 FORM: 0.10" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: T-L
 FREQUENCY: 6.00 HZ
 ENVIRONMENT: R. T., L. H. A.

YIELD STRENGTH: 66.0 KSI
 ULT. STRENGTH: 77.0 KSI
 SPECIMEN THK: 0.099"
 SPECIMEN WIDTH: 23.790"
 REFERENCES: 86575

ALUM.
 ALLOY

7075

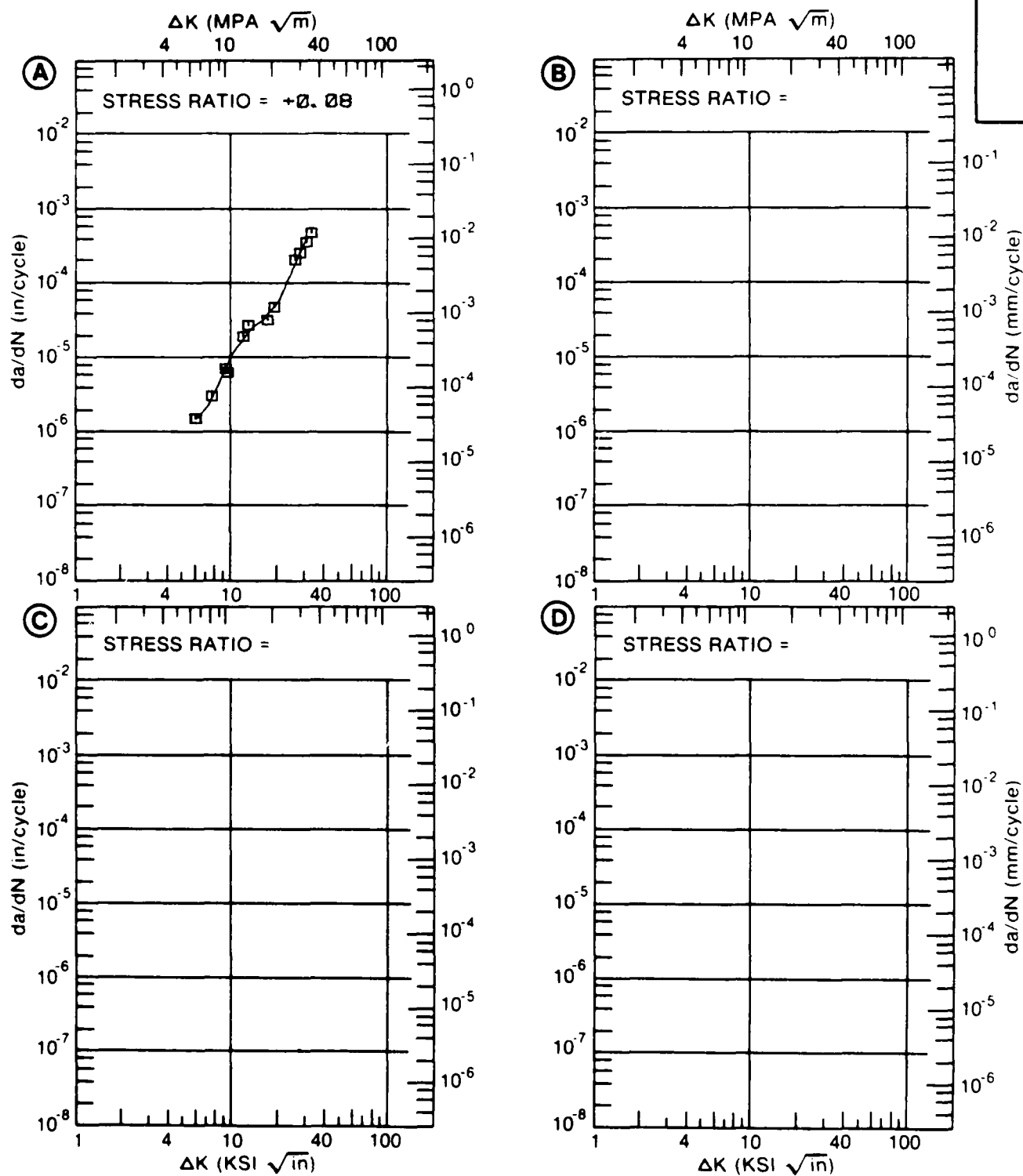


Figure 8.9.3.86

TABLE 8.9.3.87

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.87 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM		7075			
CONDITION: T7651					
ENVIRONMENT: R. T. , L. H. A.					
DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		R=+0.08	R=+0.30		
DELTA K MIN	A:				
	B:		.163		
	C:				
	D:				
	3.50		.197		
	4.00		.297		
	5.00		.668		
	6.00		1.37		
	7.00		2.52		
	8.00		4.14		
	9.00		6.22		
	10.00		8.75		
	13.00		19.1		
	16.00		34.2		
DELTA K MAX	A:				
	B:	17.22	41.9		
	C:				
	D:				
ROOT MEAN SQUARE		0.00	22.73		
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25		1		
SUMMARY	1.25-2.0		1		
(NP/NA)	>2.0				

CONDITION/HT: T7651
 FORM: 2.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 FREQUENCY: 6.00 HZ
 ENVIRONMENT: R. T., L. H. A.

YIELD STRENGTH: 63.0- 64.7 KSI
 ULT. STRENGTH: 74.0- 75.5 KSI
 SPECIMEN THK: 0.812- 0.992"
 SPECIMEN WIDTH: 6.000- 7.400"
 REFERENCES: 8579, 85837

ALUM.
 ALLOY

7075

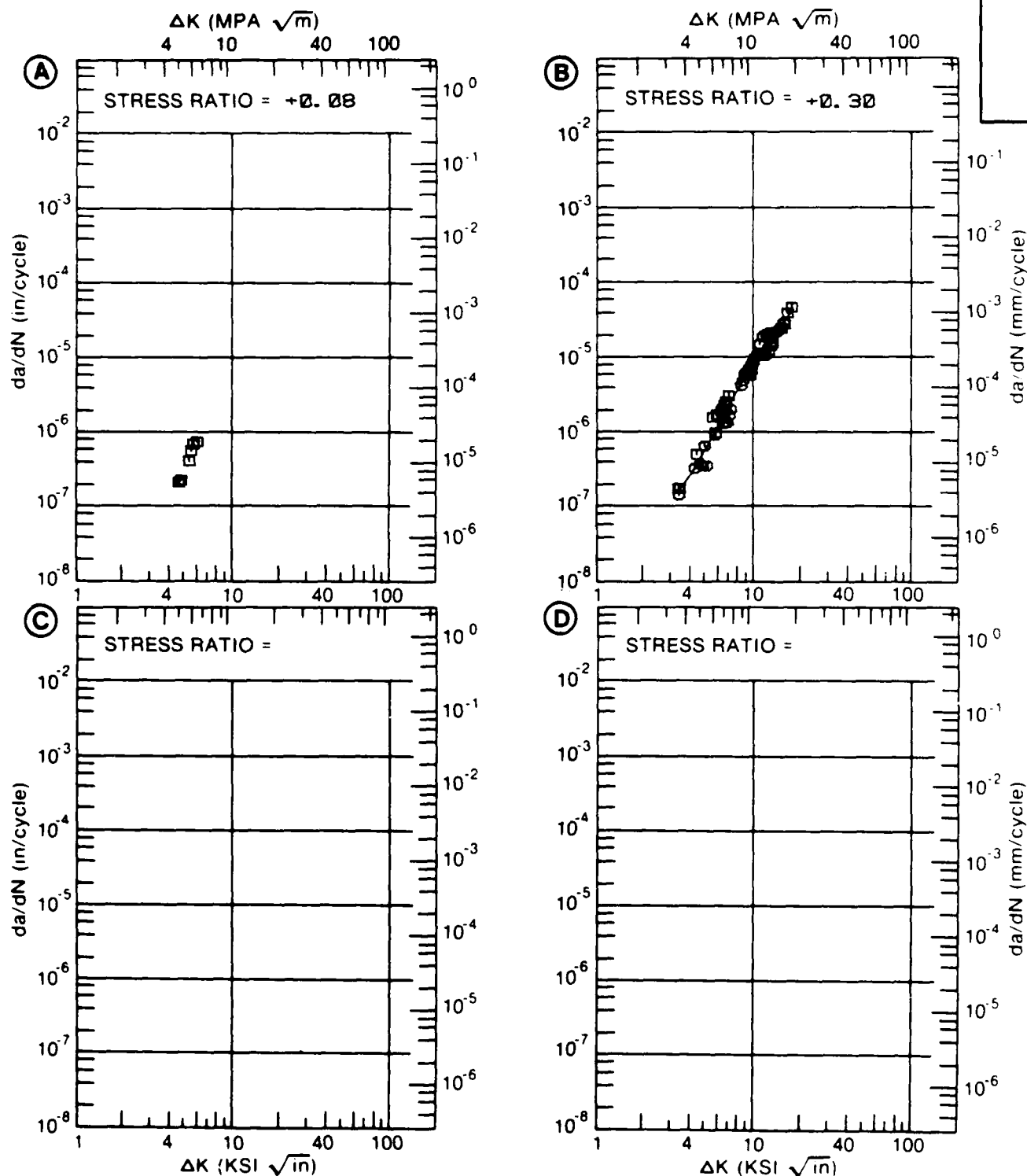


Figure 8.9.3.87

TABLE 8.9.3.88

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.88 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM 7075
CONDITION: T7651
ENVIRONMENT: R.T., S.T.W.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.08	R=+0.30	R=+0.50	
DELTA K MIN	A:	4.54	.795		
	B:	4.41	1.49		
	C:	3.35		.745	
	D:				
	3.50			.903	
	4.00			1.52	
	5.00	1.16	2.17	3.04	
	6.00	2.20	3.58	4.78	
	7.00	3.55	5.32	6.72	
	8.00	5.18	7.41	9.00	
	9.00	7.12	9.88	11.8	
	10.00	9.40	12.8	15.3	
	13.00	19.1	25.0		
DELTA K MAX	A:	13.60	21.7		
	B:	13.60	28.2		
	C:	11.02		20.0	
	D:				
ROOT MEAN SQUARE		7.56	8.12	5.93	
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1	1	1	
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T7651
 FORM: 2.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 FREQUENCY: 1.00 HZ
 ENVIRONMENT: R. T., S. T. W.

YIELD STRENGTH: 63.0 KSI
 ULT. STRENGTH: 74.0 KSI
 SPECIMEN THK: 0.992- 0.995"
 SPECIMEN WIDTH: 7.400"
 REFERENCES: 85837

ALUM.
 ALLOY

7075

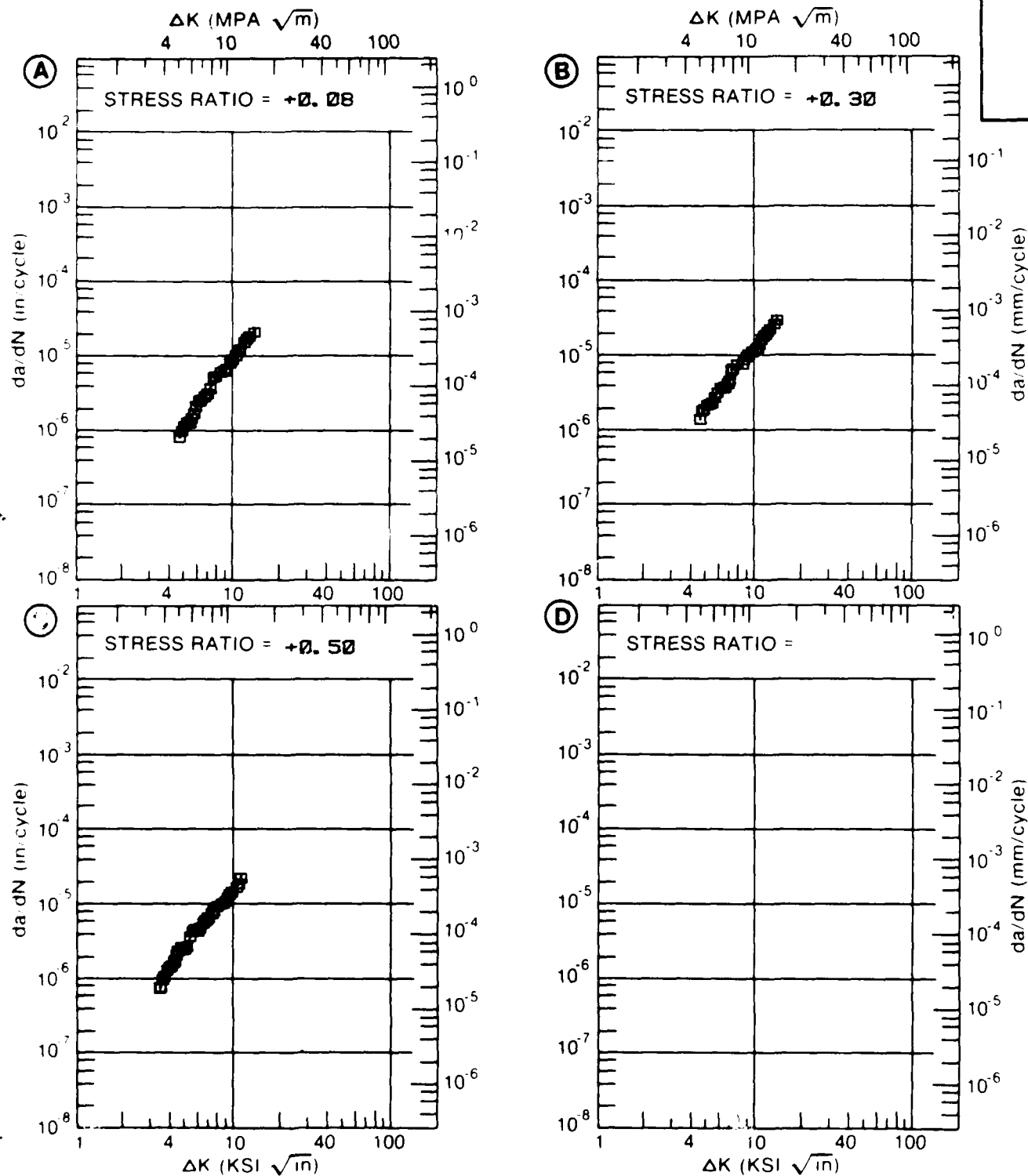


Figure 8.9.3.88

TABLE 8.9.3.89

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.89 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM 7075
CONDITION: T7651

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. L. H. A. SP. THK. = .501"		E= R. T. L. H. A. SP. THK. = .250"	
DELTA K MIN	A: 5.08	.362			
	B: 8.23		3.19		
	C:				
	D:				
	6.00	.441			
	7.00	.909			
	8.00	2.00			
	9.00	3.77	4.05		
	10.00	5.63	5.20		
	13.00		9.97		
DELTA K MAX	A: 10.11	5.78			
	B: 13.89		12.4		
	C:				
	D:				
ROOT MEAN SQUARE PERCENT ERROR		10.55	2.68		
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1	1		
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T7651
 FORM: 2.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 STRESS RATIO: +0.08
 FREQUENCY: 6.00 HZ

YIELD STRENGTH: 63.0 KSI
 ULT. STRENGTH: 74.0 KSI
 SPECIMEN THK:
 SPECIMEN WIDTH: 7.400"
 REFERENCES: 85837, 88579

ALUM.
 ALLOY

7075

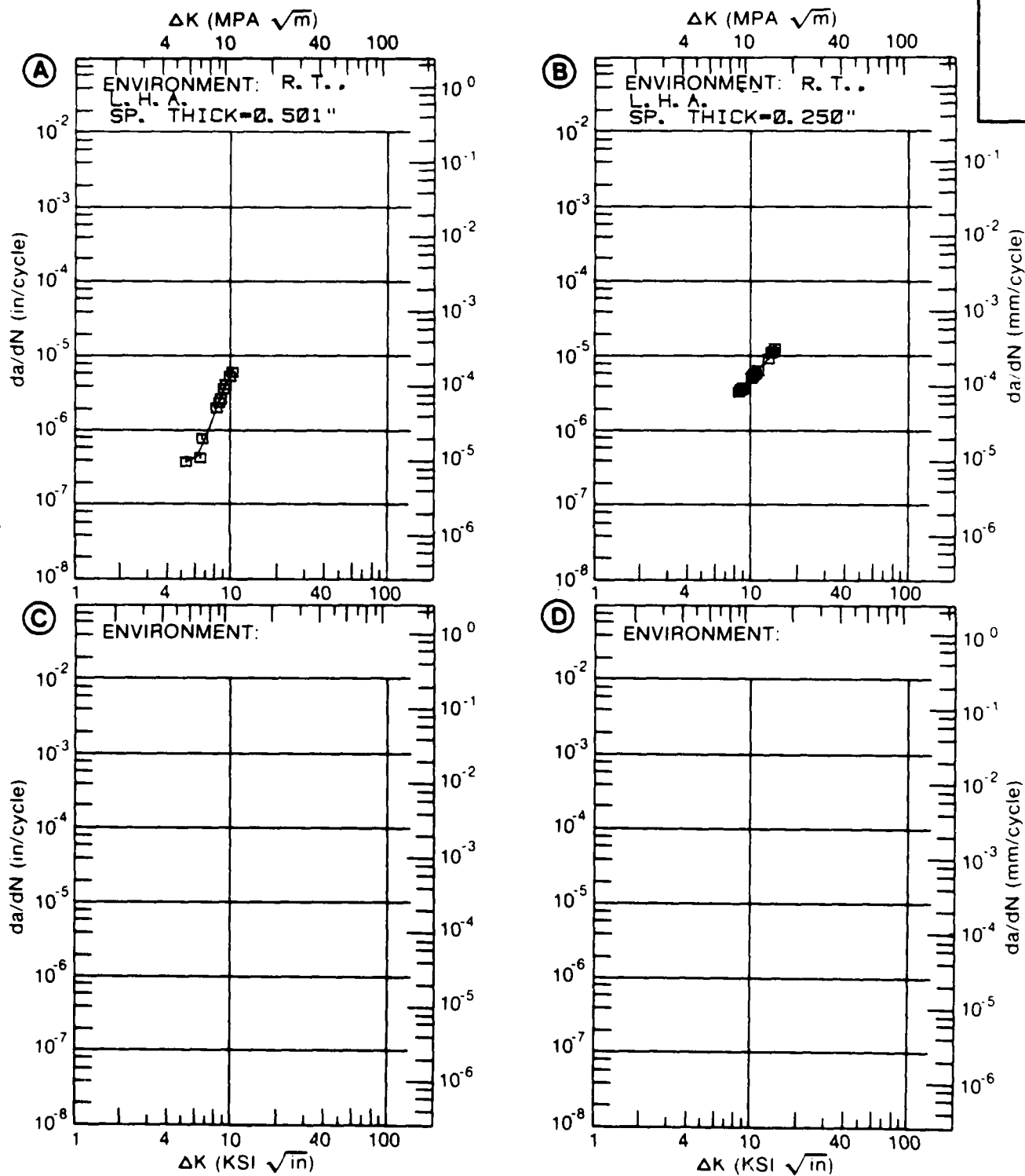


Figure 8.9.3.89

TABLE 8.9.3.90

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.90 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM 7075
CONDITION: T7651

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		E= R. T. L. H. A.	E= R. T. S. T. W.		
DELTA K MIN	A:	4.88	.391		
	B:	3.59	.349		
	C:				
	D:				
	4.00		.436		
	5.00	.385	.868		
	6.00	.933	1.77		
	7.00	2.21	3.39		
	8.00	4.18	5.95		
	9.00	6.78	9.50		
DELTA K MAX	10.00	9.90	13.9		
	13.00	21.3	27.9		
	16.00	34.2			
	20.00	53.0			
	A:	23.91	158.		
	B:	15.70	33.4		
ROOT MEAN SQUARE		12.71	11.02		
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1	1		
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T7651
 FORM: 2.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 STRESS RATIO: +0.08
 FREQUENCY: 1.00 HZ

YIELD STRENGTH: 64.7 KSI
 ULT. STRENGTH: 75.5 KSI
 SPECIMEN THK: 0.813- 0.814"
 SPECIMEN WIDTH: 6.000"
 REFERENCES: 85837

ALUM.
 ALLOY

7075

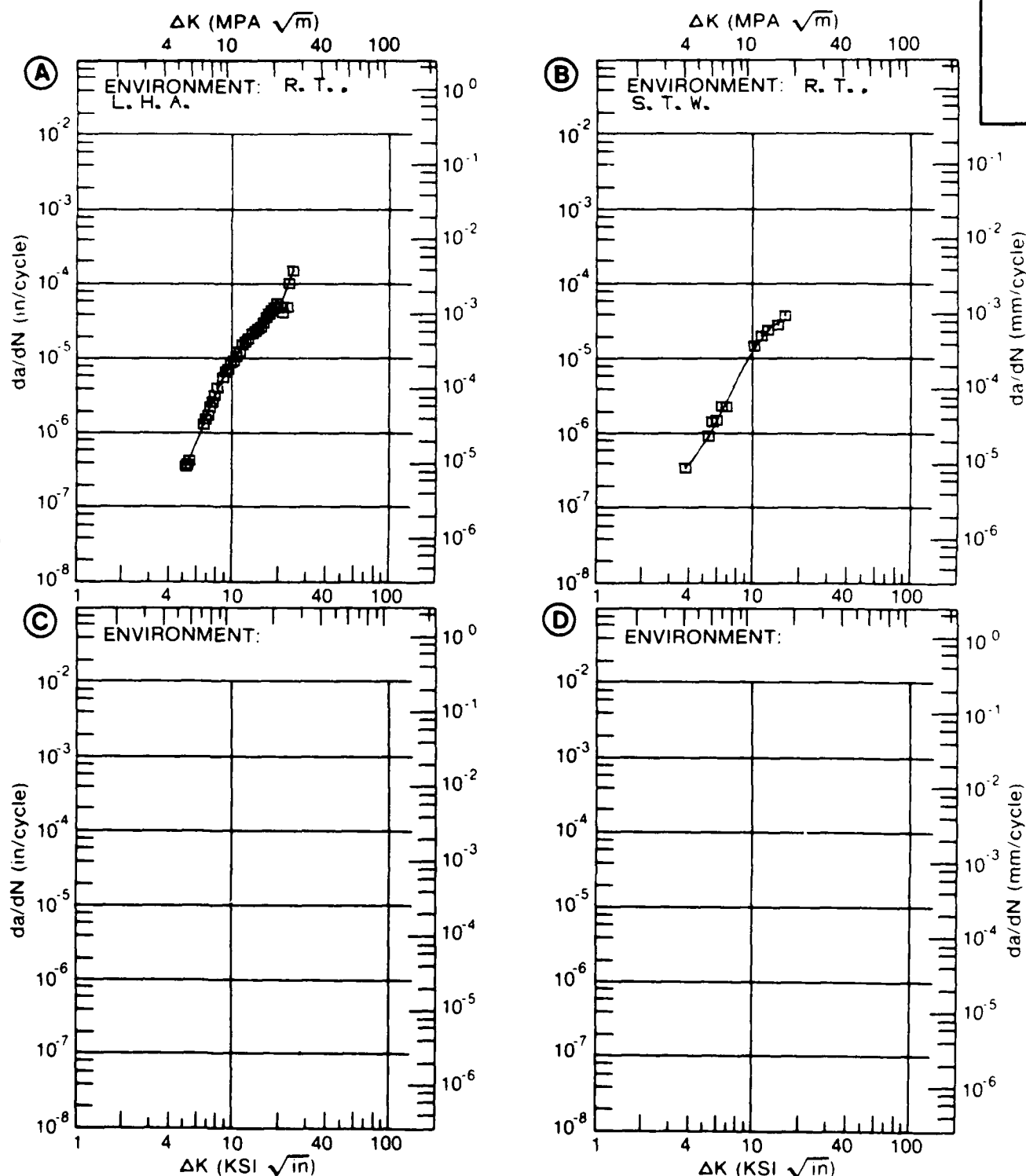


Figure 8.9.3.90

TABLE 8.9.3.91

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.91 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM
CONDITION: T7651

7075

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. L. H. A.	E= R. T. S. C. S.	E= R. T. S. T. W.	
DELTA K MIN	A: 3.94	.237			
	B: 3.88		.259		
	C: 4.54			.795	
	D:				
	4.00	.262	.316		
	5.00	.913	1.09	1.16	
	6.00	1.96	2.33	2.20	
	7.00	3.28	3.87	3.55	
	8.00	4.81	5.60	5.18	
	9.00	6.55	7.47	7.12	
	10.00	8.57	9.51	9.40	
	13.00	17.5	17.4	19.1	
	16.00	35.8	30.8		
DELTA K MAX	A: 16.45	40.0			
	B: 18.21		47.5		
	C: 13.60			21.7	
	D:				
ROOT MEAN SQUARE		11.26	8.41	7.56	
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1		1	
SUMMARY	1.25-2.0		1		
(NP/NA)	>2.0				

CONDITION/HT: T7651
 FORM: 2.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 STRESS RATIO: +0.08
 FREQUENCY: 1.00 HZ

YIELD STRENGTH: 63.0 KSI
 ULT. STRENGTH: 74.0 KSI
 SPECIMEN THK: 0.990- 0.994"
 SPECIMEN WIDTH: 7.400"
 REFERENCES: 85837, 88579

ALUM.
 ALLOY

7075

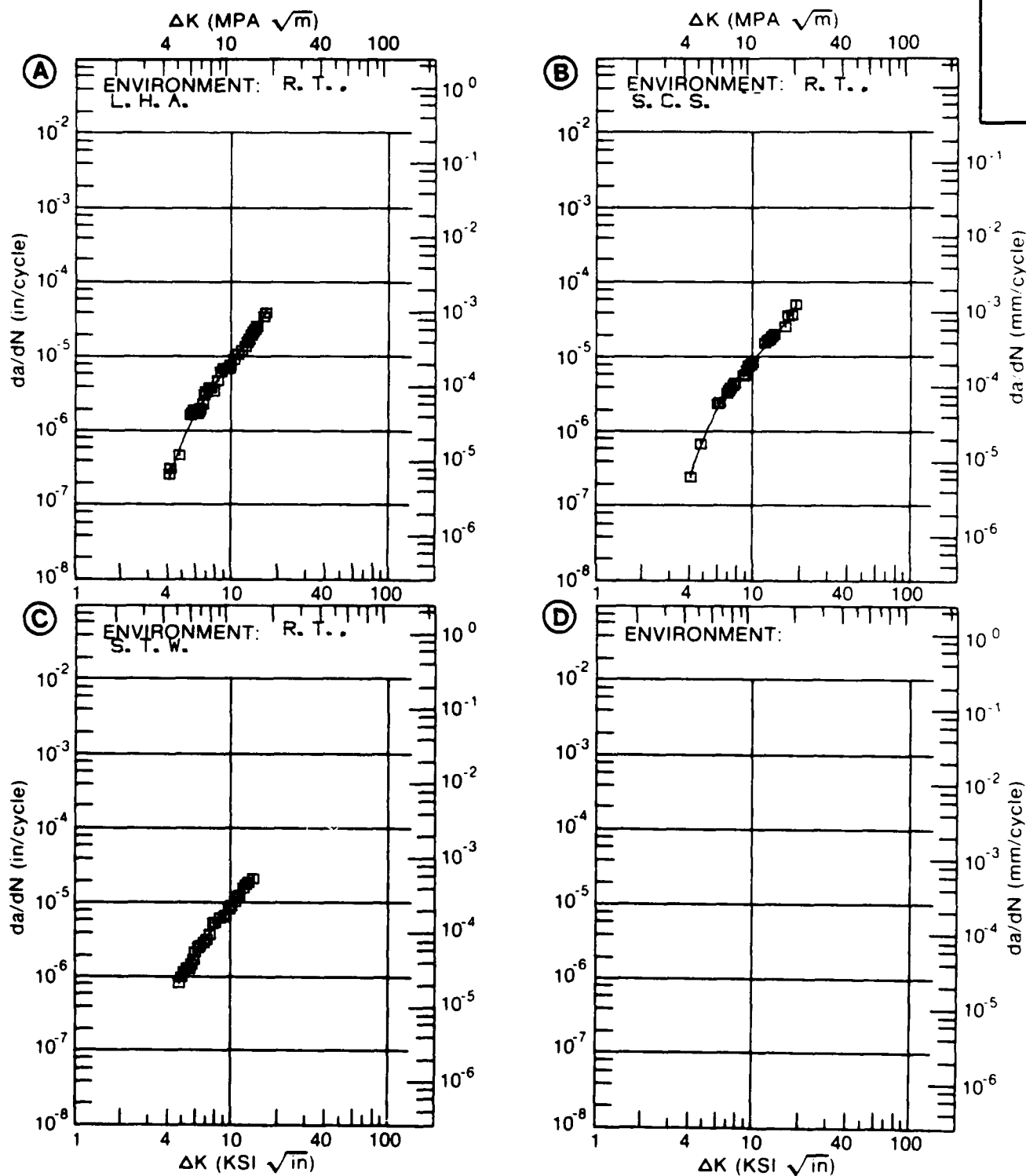


Figure 8.9.3.91

TABLE 8.9.3.92

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.92 INDICATING EFFECT
OF FREQUENCY

MATERIAL: ALUMINUM 7075
 CONDITION: T7651
 ENVIRONMENT: + 265F, L. H. A.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		F(HZ)= 1.00	F(HZ)= 6.00		
DELTA K MIN	A:	4.42	.889		
	B:	3.84	.518		
	C:				
	D:				
	4.00		.595		
	5.00	1.18	1.20		
	6.00	1.86	2.02		
	7.00	2.79	3.06		
	8.00	4.02	4.37		
	9.00	5.61	6.00		
	10.00	7.61	8.03		
	13.00	16.6	17.5		
	16.00	31.3			
	20.00	62.2			
	25.00	124.			
DELTA K MAX	A:	26.29	144.		
	B:	13.34	19.0		
	C:				
	D:				
ROOT MEAN SQUARE		9.14	6.97		
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8		1		
RATIO	0.8-1.25	1			
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T7651
 FORM: 2.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 STRESS RATIO: +0.08
 ENVIRONMENT: + 265° F. L. H. A.

YIELD STRENGTH: 63.0 KSI
 ULT. STRENGTH: 74.0 KSI
 SPECIMEN THK: 0.990"
 SPECIMEN WIDTH: 7.400"
 REFERENCES: 88579

ALUM.
 ALLOY

7075

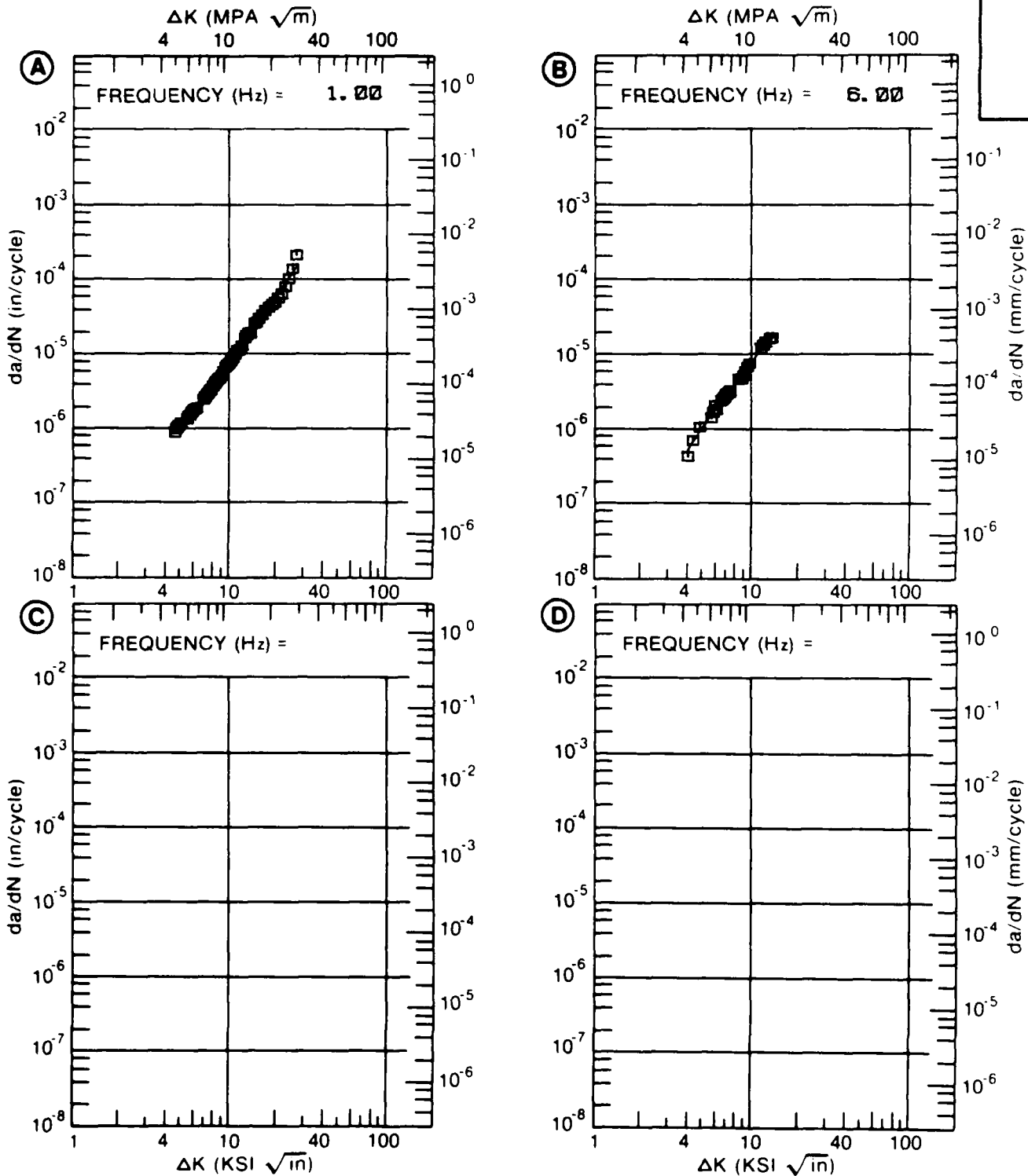


Figure 8.9.3.92

TABLE 8.9.3.93

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.93 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM 7075
CONDITION: T7651
ENVIRONMENT: R.T., L.H.A.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.08			
DELTA K MIN	A: 6.51	1.49			
	B:				
	C:				
	D:				
	7.00	1.86			
	8.00	2.61			
DELTA K MAX	9.00	3.39			
	10.00	4.31			
	13.00	9.87			
	16.00	30.6			
	A: 17.22	52.9			
	B:				
	C:				
	D:				

ROOT MEAN SQUARE 13.52
PERCENT ERROR

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25 2
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T7651
 FORM: 2.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: T-L
 FREQUENCY: 6.00 HZ
 ENVIRONMENT: R. T., L. H. A.

YIELD STRENGTH: 64.0 KSI
 ULT. STRENGTH: 74.0 KSI
 SPECIMEN THK: 0.505- 0.990"
 SPECIMEN WIDTH: 7.400"
 REFERENCES: 85837, 88579

ALUM.
 ALLOY

7075

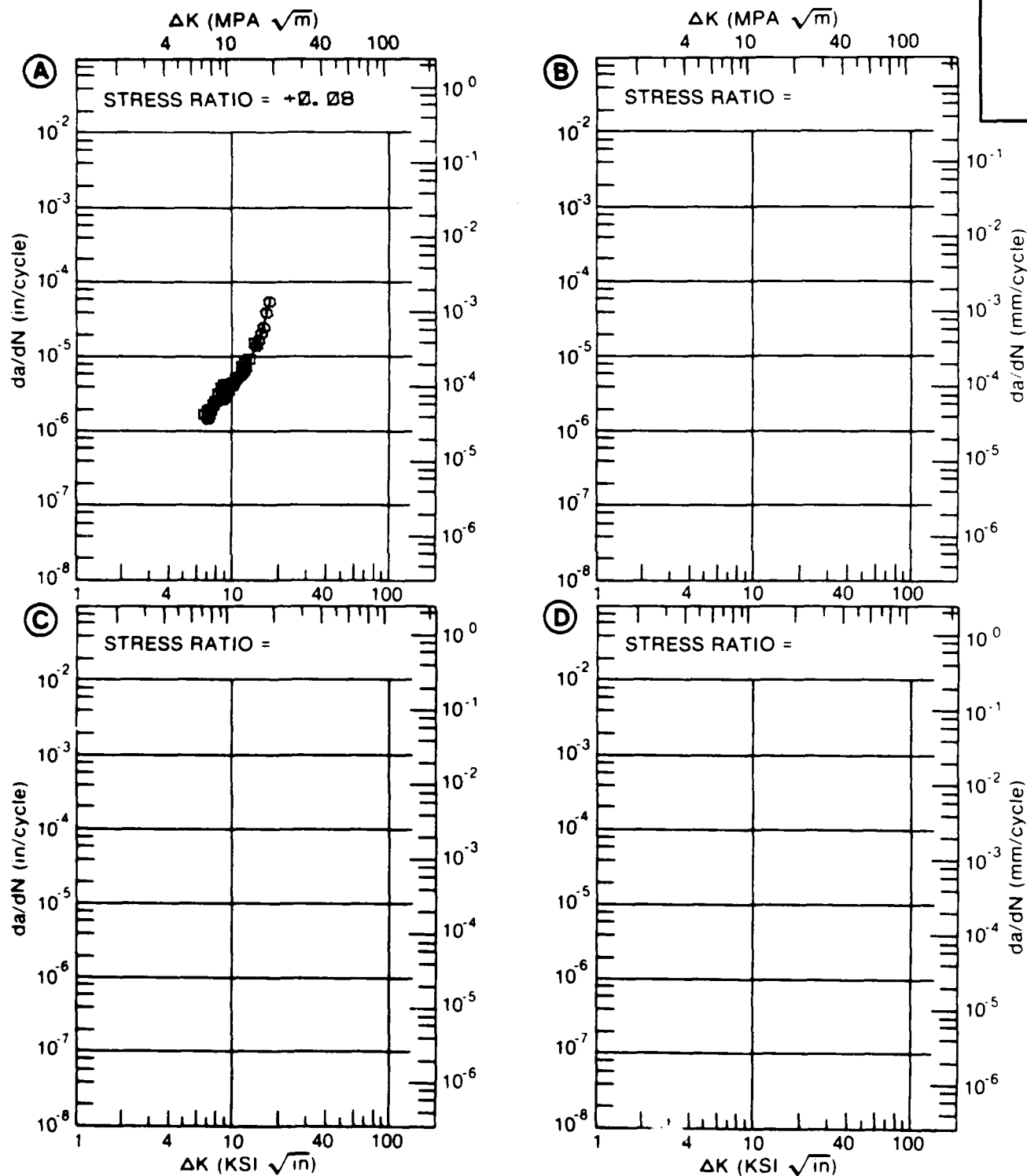


Figure 8.9.3.93

TABLE 8.9.3.94

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.94 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM 7075
CONDITION: T/651

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. S. C. S.			
DELTA K MIN	A: 4.30	.424			
	B:				
	C:				
	D:				
	5.00	.767			
	6.00	2.39			
	7.00	3.90			
DELTA K MAX	8.00	5.14			
	9.00	6.80			
	10.00	9.79			
	13.00	24.3			
	A: 14.82	36.4			
	B:				
	C:				
	D:				
ROOT MEAN SQUARE		11.33			
PERCENT ERROR					

LIFE	0.0-0.5	
PREDICTION	0.5-0.8	
RATIO	0.8-1.25	1
SUMMARY	1.25-2.0	
(NP/NA)	>2.0	

CONDITION/HT: T7651
 FORM: 2.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: T-L
 STRESS RATIO: +0.08
 FREQUENCY: 1.00 HZ

YIELD STRENGTH: 64.0 KSI
 ULT. STRENGTH: 74.0 KSI
 SPECIMEN THK: 0.990"
 SPECIMEN WIDTH: 7.400"
 REFERENCES: 88579

ALUM.
 ALLOY

7075

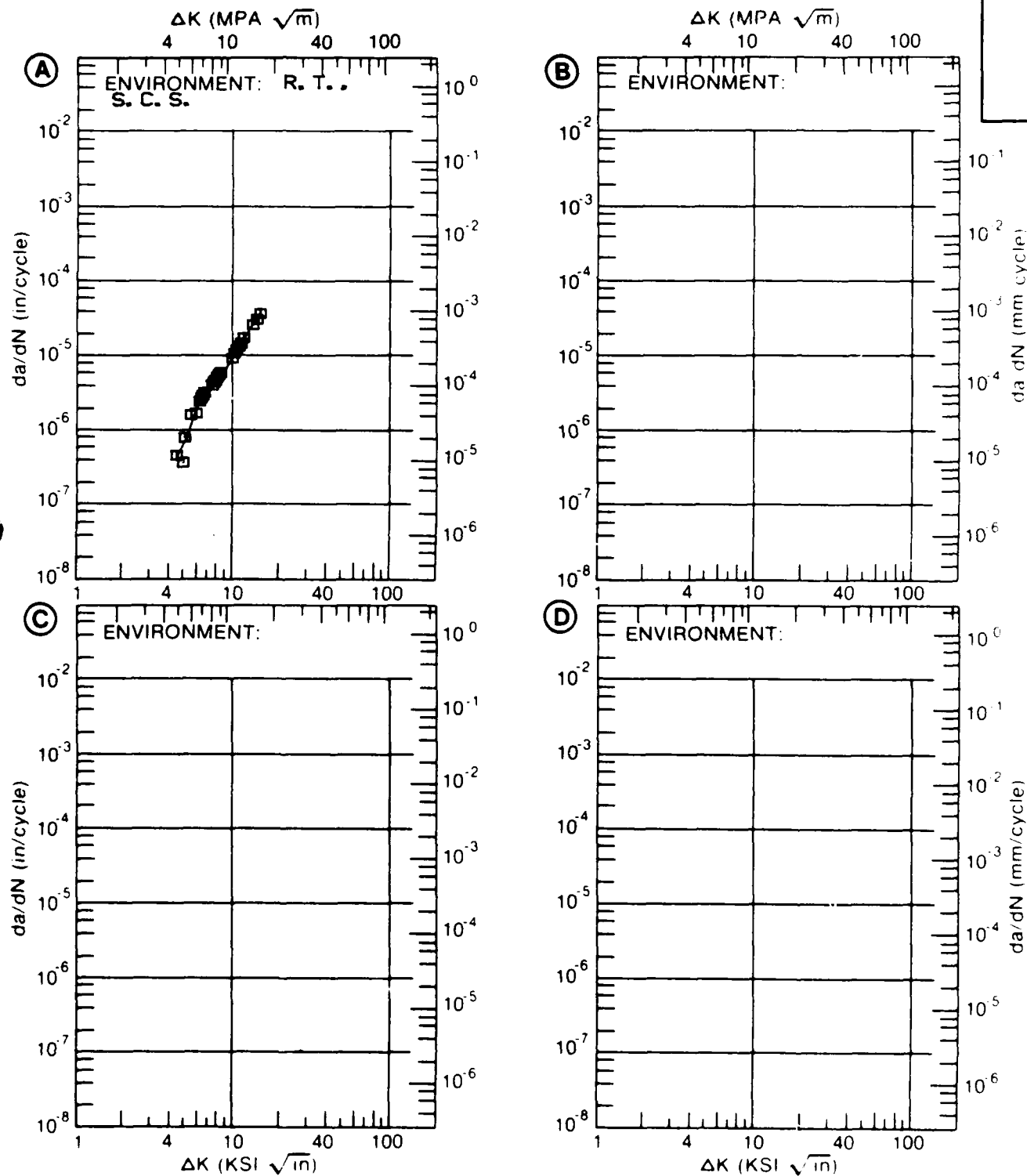


Figure 8.9.3.24

TABLE 8.9.3.95

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.95 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7075
 CONDITION: T76511
 ENVIRONMENT: R T , L. H. A.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		R=+0.08	R=+0.30		
DELTA K MIN	A:	2.99	.139		
	B:	4.80	.321		
	C:				
	D:				
	3.00	.139			
	3.50	.172			
	4.00	.271			
	5.00	.733	.506		
	6.00	1.50	1.99		
	7.00	2.43	3.61		
	8.00	3.43	5.12		
	9.00	4.50	6.55		
	10.00	5.67	7.97		
	13.00	10.3	13.5		
	16.00	18.6	25.2		
	20.00		72.6		
	25.00		338.		
DELTA K MAX	A:	16.70	21.5		
	B:	25.56	403.		
	C:				
	D:				

ROOT MEAN SQUARE 13.91 13.74
 PERCENT ERROR

LIFE 0.0-0.5
 PREDICTION 0.5-0.8
 RATIO 0.8-1.25
 SUMMARY 1.25-2.0
 (NP/NA) 2.0

1

CONDITION/HT: T76511
 FORM: EXTRUSION
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 FREQUENCY: 6.00 HZ
 ENVIRONMENT: R. T., L. H. A.

YIELD STRENGTH: 68.0 KSI
 ULT. STRENGTH: 77.0 KSI
 SPECIMEN THK: 1.000"
 SPECIMEN WIDTH: 6.000"
 REFERENCES: 88579

ALUM.
 ALLOY

7075

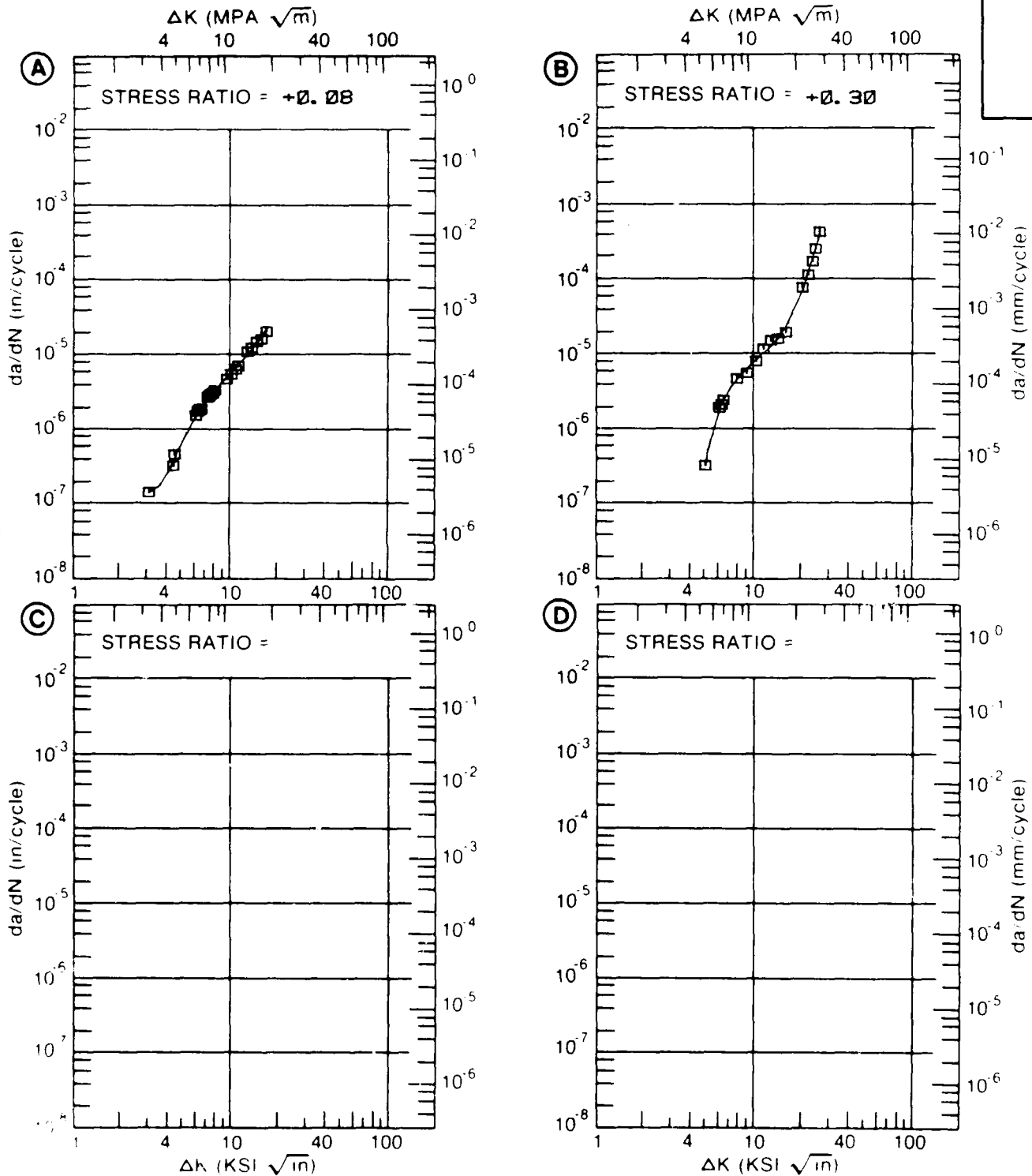


Figure 8.9.3.95

TABLE 8.9.3.96

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.96 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7075
 CONDITION: T76511
 ENVIRONMENT: R T , L H A.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=10.08			
DELTA K MIN	A:	6.23	1.65		
	B:				
	C:				
	D:				
		7.00	2.08		
		8.00	2.70		
		9.00	3.44		
		10.00	4.39		
		13.00	10.1		
		16.00	27.9		
DELTA K MAX	A:	19.09	127.		
	B:				
	C:				
	D:				

ROOT MEAN SQUARE 8.99
 PERCENT ERROR

LIFE 0.0-0.5
 PREDICTION 0.5-0.8
 RATIO 0.8-1.25 1
 SUMMARY 1.25-2.0
 (NP/NA) >2.0

CONDITION/HT: T76511
 FORM: EXTRUSION
 SPECIMEN TYPE: CT
 ORIENTATION: T-L
 FREQUENCY: 6.00 HZ
 ENVIRONMENT: R. T., L. H. A.

YIELD STRENGTH: 61.0 KSI
 ULT. STRENGTH: 72.0 KSI
 SPECIMEN THK: 1.000"
 SPECIMEN WIDTH: 6.000"
 REFERENCES: 88579

ALUM.
 ALLOY

7075

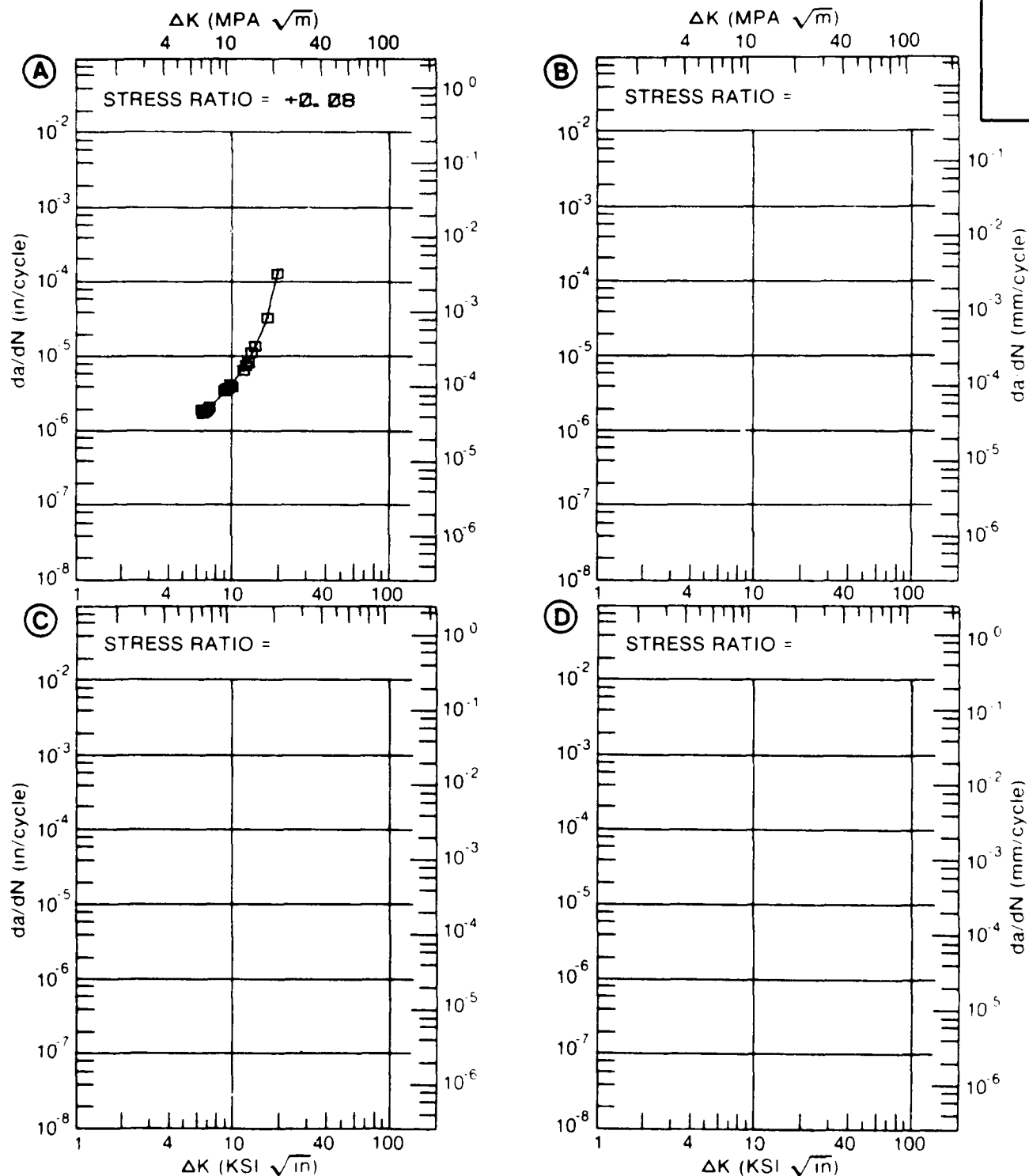


Figure 8.9.3.96

TABLE 8.9.3.97

SUSTAINED CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.97 INDICATING EFFECT
OF ENVIRONMENT

MATERIAL: ALUMINUM		7075			
CONDITION:					
K MAX (KSI*IN**1/2)		DA/DT (10**-6 IN/HOUR)			
		A	B	C	D
		E= F	E= F	E= F	
		3.5% NaCl-T6	3.5% NaCl-T6 +10HR 320F	3.5% NaCl-T6 +15HR 320F	
K MAX MIN	A:				
	B:	4.50	126.		
	C:	3.80		156.	
	D:				
	4.00			176.	
	5.00		180.	260.	
	6.00		286.	316.	
	7.00		377.	351.	
	8.00		450.	374.	
	9.00		511.	392.	
K MAX MAX	10.00		567.	409.	
	13.00		755.	479.	
	16.00		1059.	604.	
	D:				
K MAX MAX	A:				
	B:	20.00	1873.		
	C:	20.00		916.	
	D:				
ROOT MEAN SQUARE		0.00	16.25	18.15	
PERCENT ERROR					

CONDITION/HT:
 FORM: 1. 0" TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION: S-L
 YIELD STRENGTH:
 ULT. STRENGTH:

SPECIMEN THK: 1.000"
 SPECIMEN WIDTH: 5.000"
 CRACK LENGTH (A_0):
 K_{ISCC} :
 REFERENCES: 94286

ALUM.
 ALLOY

7075

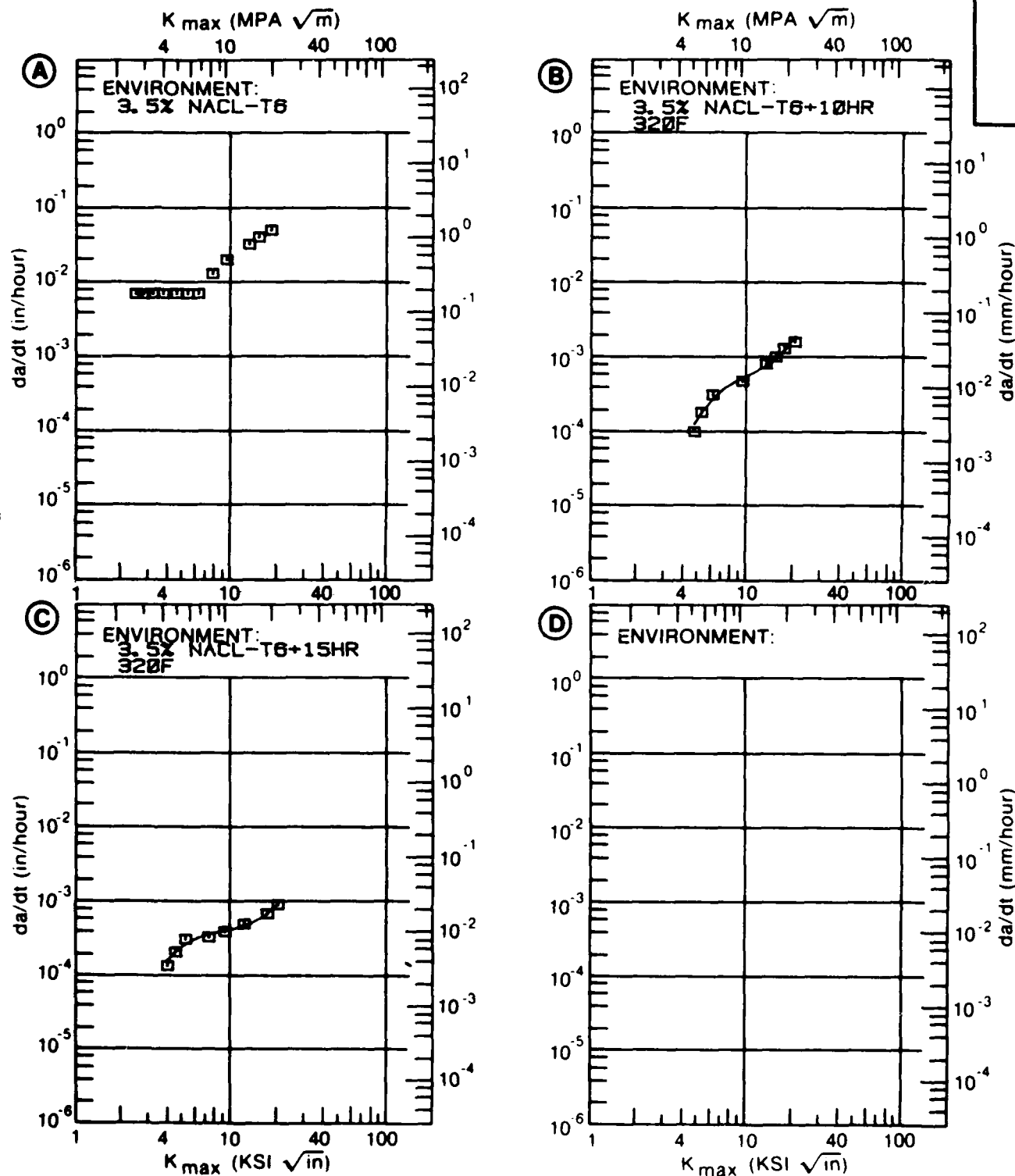


Figure 8.9.3.97

TABLE 8.9.3.98

SUSTAINED CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.98 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM
CONDITION:

7075

K MAX
(KSI*IN**1/2)

DA/DT (10**-6 IN/HOUR)

A

B

C

D

E=

3.5% NaCl-T6
+20HR 320F

E=

3.5% NaCl-T6
+40HR 320FK MAX
MINA: 3.00
B:
C:
D:

194.

3.50 : 193.
4.00 : 209.
5.00 : 258.
6.00 : 320.
7.00 : 391.
8.00 : 468.
9.00 : 548.
10.00 : 628.
13.00 : 848.
16.00 : 1007.
20.00 : 1100.K MAX
MAXA: 22.00
B:
C:
D:

1101.

ROOT MEAN SQUARE
PERCENT ERROR

10.72

0.00

CONDITION/HT:
 FORM: 1.0" TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION: S-L
 YIELD STRENGTH:
 ULT. STRENGTH:

SPECIMEN THK: 1.000"
 SPECIMEN WIDTH: 5.000"
 CRACK LENGTH (A_0):
 K_{ISCC} :
 REFERENCES: 84286

ALUM.
 ALLOY

7075

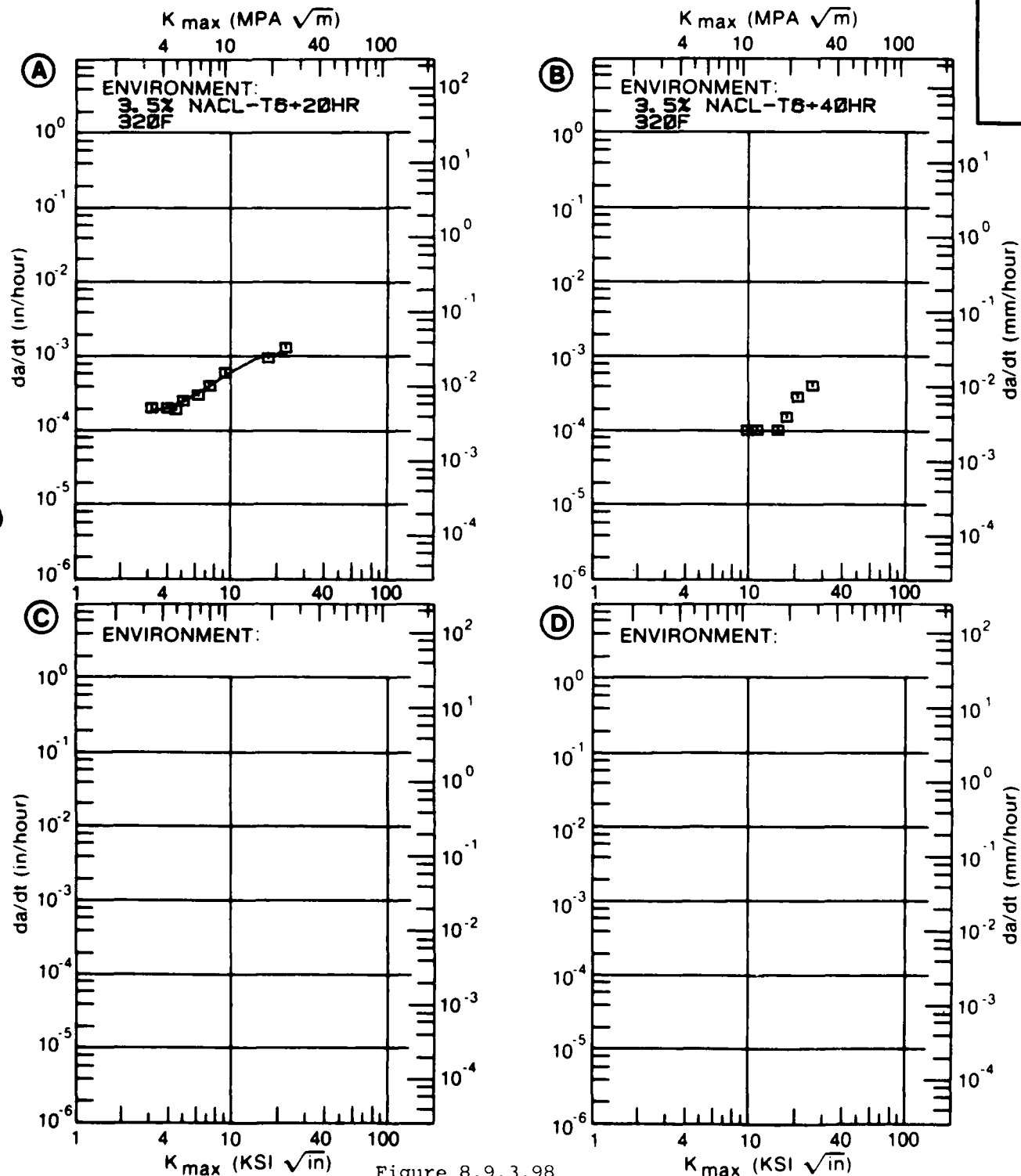


Figure 8.9.3.98

TABLE 8.9.3.99

SUSTAINED CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.99 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM 7075
CONDITION: T651K MAX
(KSI*IN**1/2)

DA/DT (10**-6 IN/HOUR)

A

B

C

D

E=
3X/DAY-3.5NACL

K MAX	A:	4.10	118
MIN	B:		
	C:		
	D:		
	5.00	260.	
	6.00	467.	
	7.00	698.	
	8.00	925.	
	9.00	1130.	
	10.00	1304.	
	13.00	1627.	
	16.00	1716.	

K MAX	A:	20.00	1640.
MAX	B:		
	C:		
	D:		

ROOT MEAN SQUARE 18.39
PERCENT ERROR

CONDITION/HT: T651
 FORM:
 SPECIMEN TYPE: DCB
 ORIENTATION: S-L
 YIELD STRENGTH:
 ULT. STRENGTH:

SPECIMEN THK: 1.000"
 SPECIMEN WIDTH: 5.000"
 CRACK LENGTH (A_0):
 K_{ISCC} :
 REFERENCES: 78313

ALUM.
 ALLOY

7075

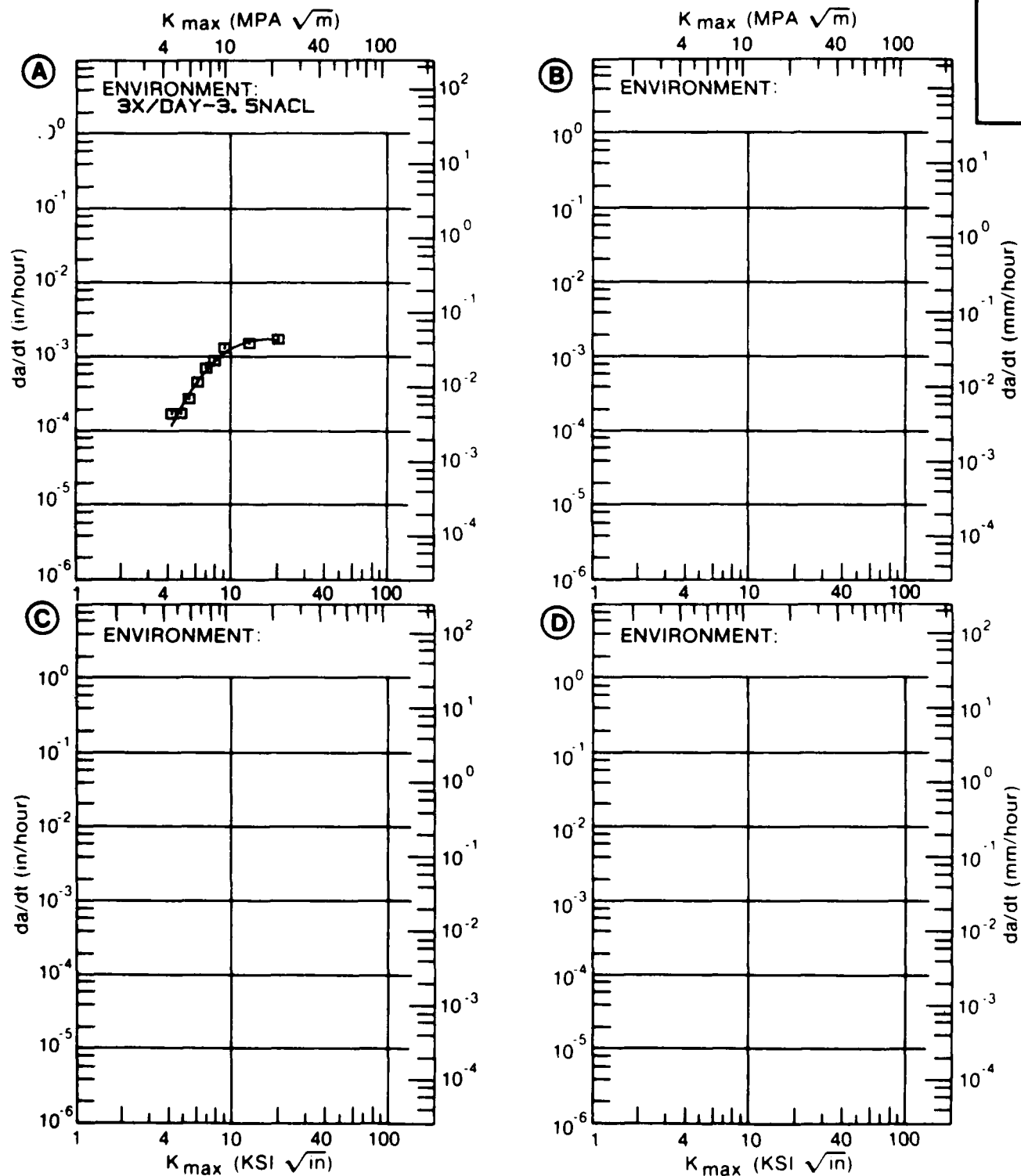


Figure 8.9.3.99

TABLE 8.9.3.100

SUSTAINED CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.100 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL ALUMINUM 7075
CONDITION T651

K MAX (KSI*IN ^{3/2})		DA/DT (10 ⁻⁶ IN/HOUR)			
		A	B	C	D
		E= R. T. H. H. A -100% REL HUM.	E= R. T. H. H. A -83% REL HUM.	E= R. T. LAB AIR-67% REL HUM.	E= R. T. LAB AIR-40% REL HUM.
K MAX MIN	A:	7.50			
	B:				
	C:	7.30		5.98	
	D:	8.70			37.1
		8.00	63.2	30.8	
		9.00	210.	130.	52.8
		10.00	405.	277.	123.
		13.00	688.	455.	296.
		16.00	699.	406.	311.
K MAX MAX	A:	18.20	821.		
	B:				
	C:	17.30		422.	
	D:	17.30			312.
ROOT MEAN SQUARE PERCENT ERROR		12.35	0.00	15.10	9.75

CONDITION/HT: T651
 FORM: 1.0" TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION: T-L
 YIELD STRENGTH: 68.0 KSI
 ULT. STRENGTH:

SPECIMEN THK:
 SPECIMEN WIDTH: 11.800"
 CRACK LENGTH (A_0):
 K_{ISCC} :
 REFERENCES: 85543

ALUM.
 ALLOY

7075

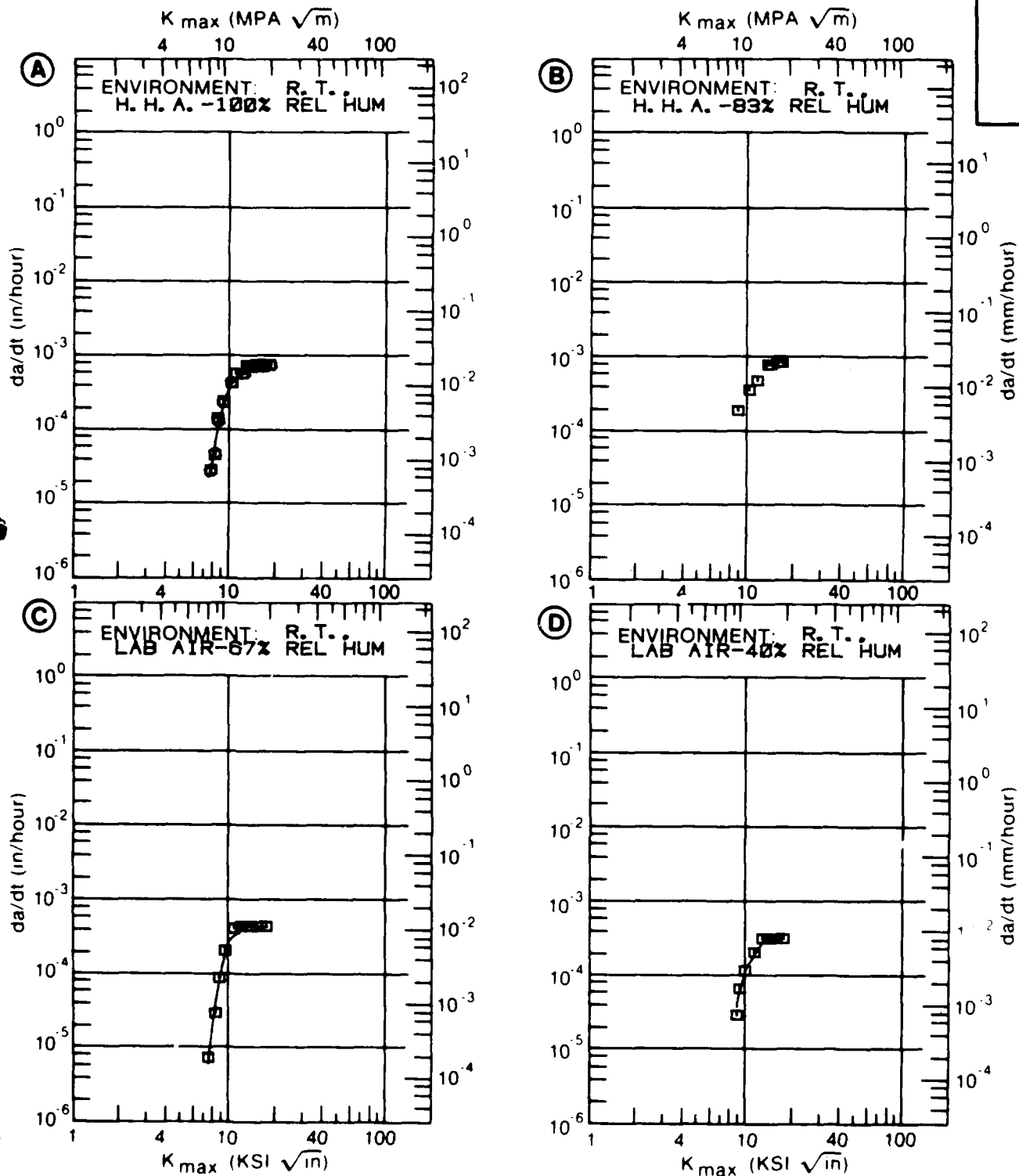


Figure 8.9.3.100

TABLE 8.9.3.101

SUSTAINED CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.101 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM		7075			
CONDITION: T651					
K MAX (KSI*IN**1/2)		DA/DT (10**-6 IN/HOUR)			
		A	B	C	D
		E= R. T. LAB AIR-27% REL HUM	E= R. T. LAB AIR-17% REL HUM	E= R. T. L. H. A.	E= R. T. 5M KI. -27% REL HUM
K MAX	A:				
MIN	B:				
	C:				
	D:				
	200.00				
K MAX	A:				
MAX	B:				
	C:				
	D:				
ROOT MEAN SQUARE		0.00	0.00	0.00	0.00
PERCENT ERROR					

CONDITION/HT: T851
 FORM: 1.0" TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION: T-L
 YIELD STRENGTH:
 ULT. STRENGTH:

SPECIMEN THK:
 SPECIMEN WIDTH: 11.800"
 CRACK LENGTH (A_0):
 K_{ISCC} :
 REFERENCES: 85543

ALUM.
 ALLOY

7075

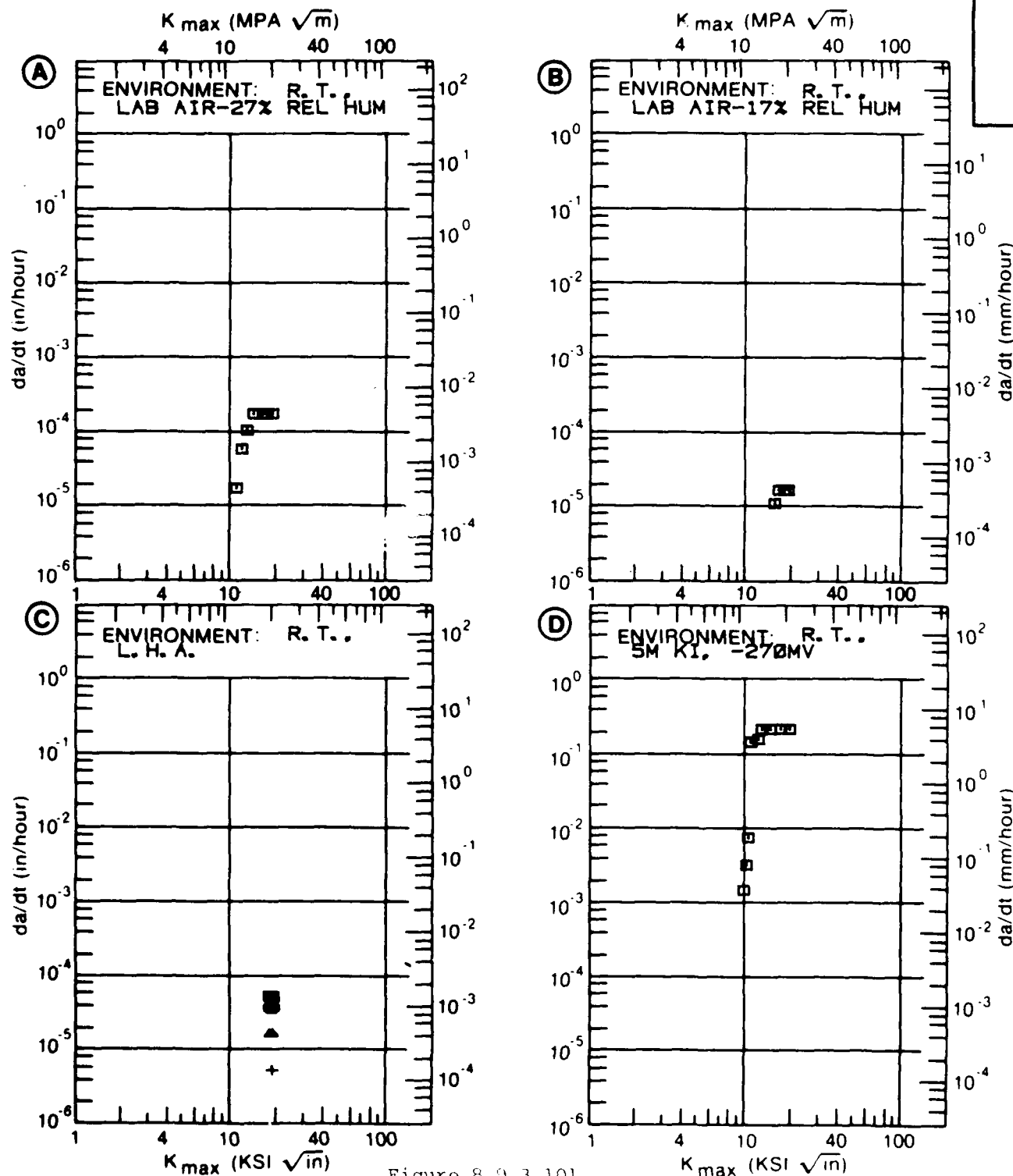


Figure 8.9.3.101

TABLE 8.9.3.102

SUSTAINED CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.102 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL : ALUMINUM		7075			
CONDITION: 1651					
K MAX (KSI*IN**1/2)		DA/DT (10**-6 IN/HOUR)			
		A	B	C	D
		E= LAB AIR	E= 3.5% NaCl	E= OUTDOORS, RENTON, WASH	E= WET 1X WITH 3.5% NaCl
K MAX MIN	A:				
	B:	9.20	472.		
	C:				
	D:				
	10.00		547.		
	13.00		886.		
	16.00		1244.		
	20.00		1600.		
	25.00		1705.		
K MAX MAX	A:				
	B:	26.00	1681.		
	C:				
	D:				
ROOT MEAN SQUARE		0.00	9.27	0.00	0.00
PERCENT ERROR					

CONDITION/HT: T851
 FORM: 1.0" TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION: S-L
 YIELD STRENGTH:
 ULT. STRENGTH:

SPECIMEN THK: 1.000"
 SPECIMEN WIDTH: 3.500- 5.000"
 CRACK LENGTH (A_0):
 K_{ISCC} :
 REFERENCES: 79313, 94294

ALUM.
 ALLOY

7075

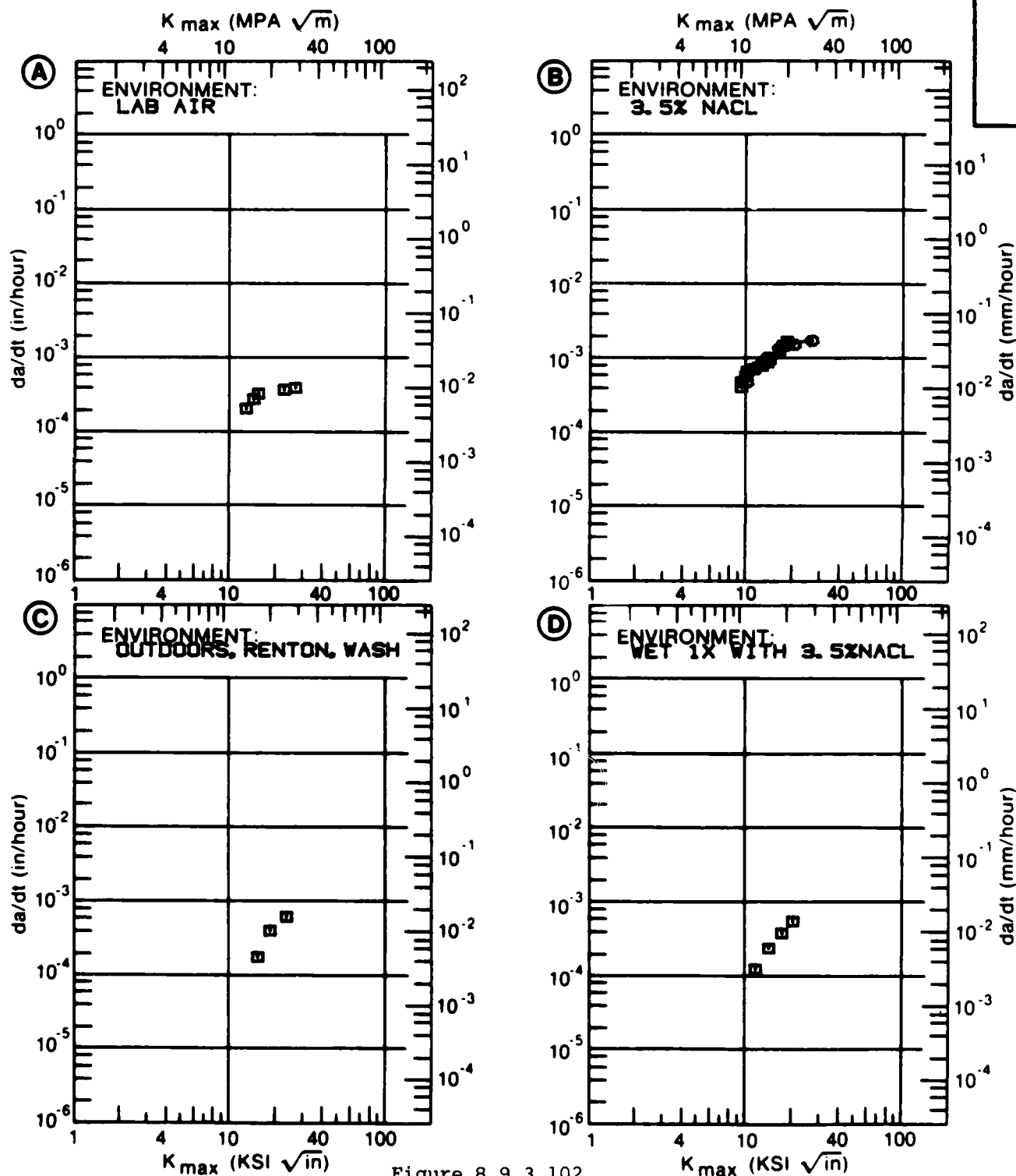


Figure 8.9.3.102

TABLE 8.9.3.103

SUSTAINED CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.103 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM		7075			
CONDITION: T6S1					
K MAX (KSI*IN**1/2)		DA/DT (10**-6 IN/HOUR)			
		A	B	C	D
		E= WET 1X/WK WITH 3.5% NACL	E= WET 1X/2 DAYS WITH 3.5%NACL	E= 1X/DAY-3.5NACL	E= ALT. IMMERSION IN 3.5%NACL
K MAX	A:				
MIN	B:				
	C:	5.60		482.	
	D:				
	6.00			497.	
	7.00			512.	
	8.00			509.	
	9.00			499.	
	10.00			487.	
	13.00			457.	
	16.00			451.	
	20.00			481.	
K MAX	A:				
MAX	B:				
	C:	21.00		495.	
	D:				
ROOT MEAN SQUARE		0.00	0.00	3.79	0.00
PERCENT ERROR					

CONDITION/HT: T651
 FORM: 1.0" TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION: S-L
 YIELD STRENGTH:
 ULT. STRENGTH:

SPECIMEN THK: 1.000"
 SPECIMEN WIDTH: 5.000"
 CRACK LENGTH (A_0):
 K_{ISCC} :
 REFERENCES: 79313

ALUM.
 ALLOY

7075

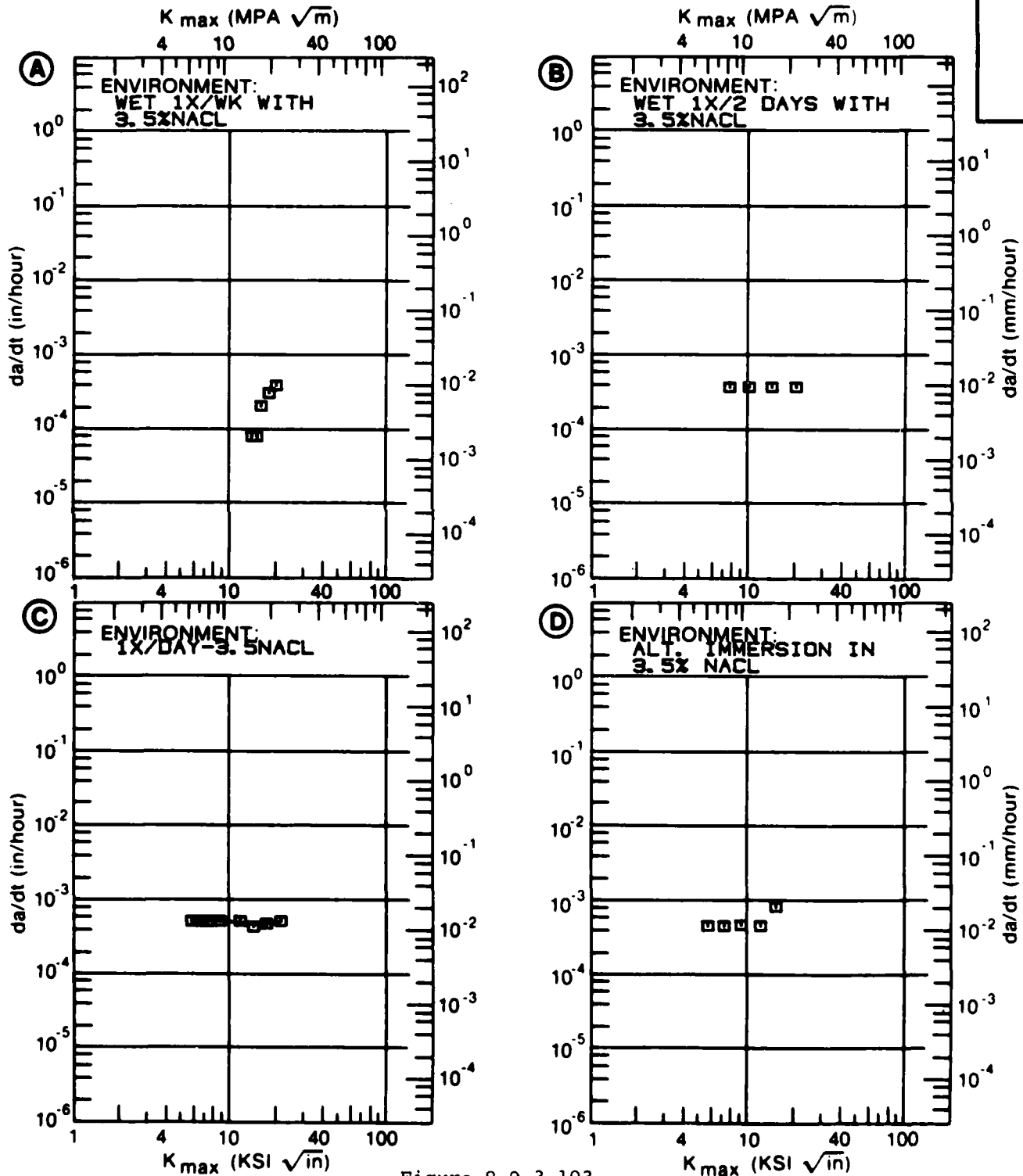


Figure 8.9.3.103

TABLE 8.9.3.104

SUSTAINED CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.104 INDICATING EFFECT
OF FORM

MATERIAL: ALUMINUM 7075
 CONDITION: T6S1
 ENVIRONMENT: 3X/DAY-3.5NACL

K MAX (KSI*IN**1/2)	DA/DT (10**-6 IN/HOUR)			
	A	B	C	D
	T(IN)= 1.0 PLATE	T(IN)= 1.5 PLATE	T(IN)= 2.0 PLATE	T(IN)= 3.0 PLATE
K MAX MIN	A: B: C: D:			
	200.00			
K MAX MAX	A: B: C: D:			
ROOT MEAN SQUARE PERCENT ERROR	0.00	0.00	0.00	0.00

CONDITION/HT: T851
 ENVIRONMENT: 3X/DAY-3. SNACL
 SPECIMEN TYPE: DCB
 ORIENTATION: S-L
 YIELD STRENGTH:
 ULT. STRENGTH:

SPECIMEN THK: 1.000"
 SPECIMEN WIDTH: 5.000"
 CRACK LENGTH (A_0):
 K_{ISCC} :
 REFERENCES: 78313

ALUM.
 ALLOY

7075

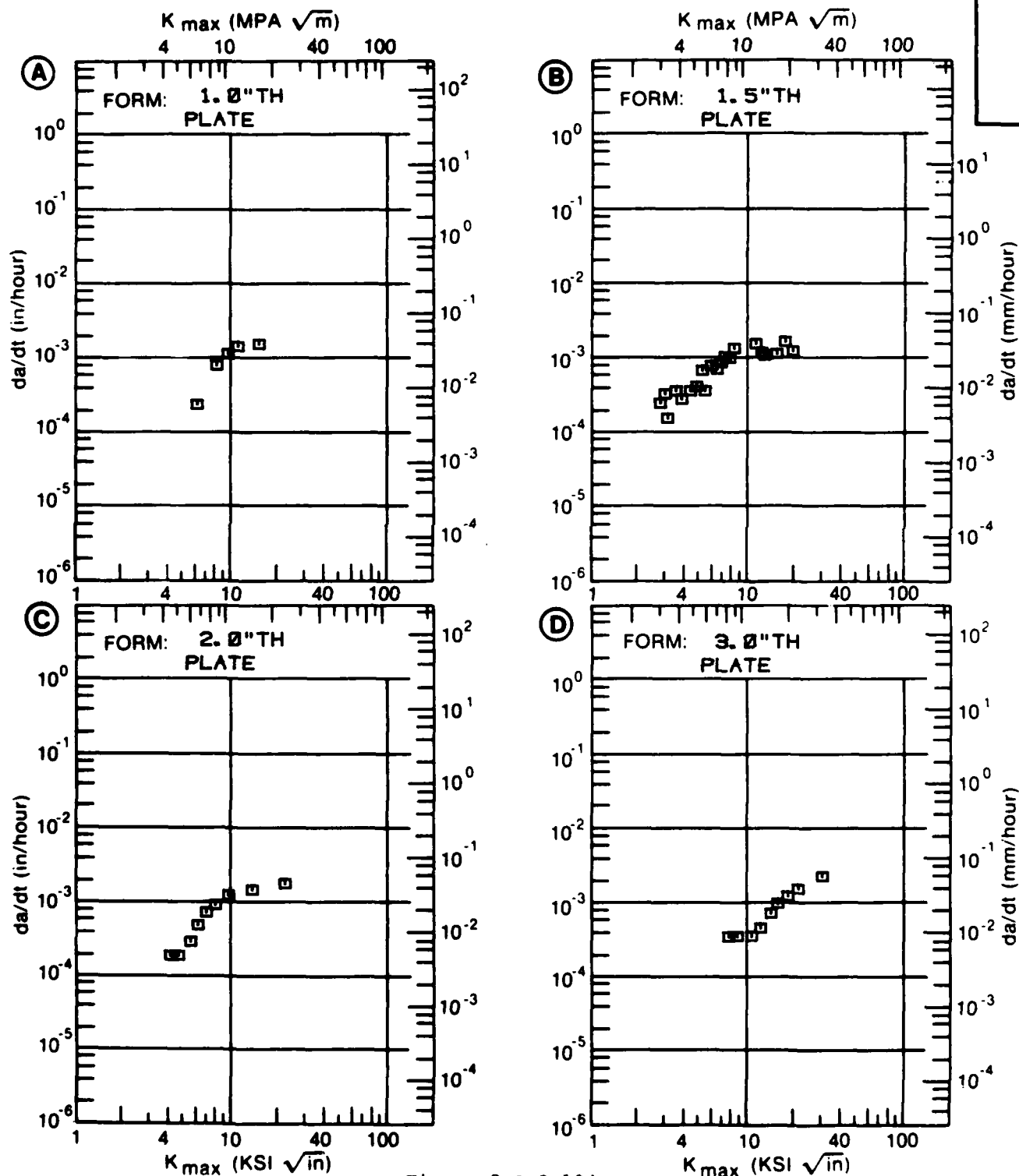


Figure 8.9.3.104

TABLE 8.9.3.105

SUSTAINED CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.9.3.105 INDICATING EFFECT
OF ENVIRONMENT

MATERIAL: ALUMINUM 7075
CONDITION: T7351

K MAX (KSI*IN**1/2)	DA/DT (10**-6 IN/HOUR)			
	A	B	C	D
	E= F 3X/DAY-3.5NACL			
K MAX MIN	A: B: C: D:			
200.00				
K MAX MAX	A: B: C: D:			

ROOT MEAN SQUARE 0.00
PERCENT ERROR

CONDITION/HT: T7351
 FORM: 1.5" TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION: S-L
 YIELD STRENGTH:
 ULT. STRENGTH:

SPECIMEN THK: 1.000"
 SPECIMEN WIDTH: 5.000"
 CRACK LENGTH (A_0):
 K_{ISCC} :
 REFERENCES: 84284, 84286

ALUM.
 ALLOY

7075

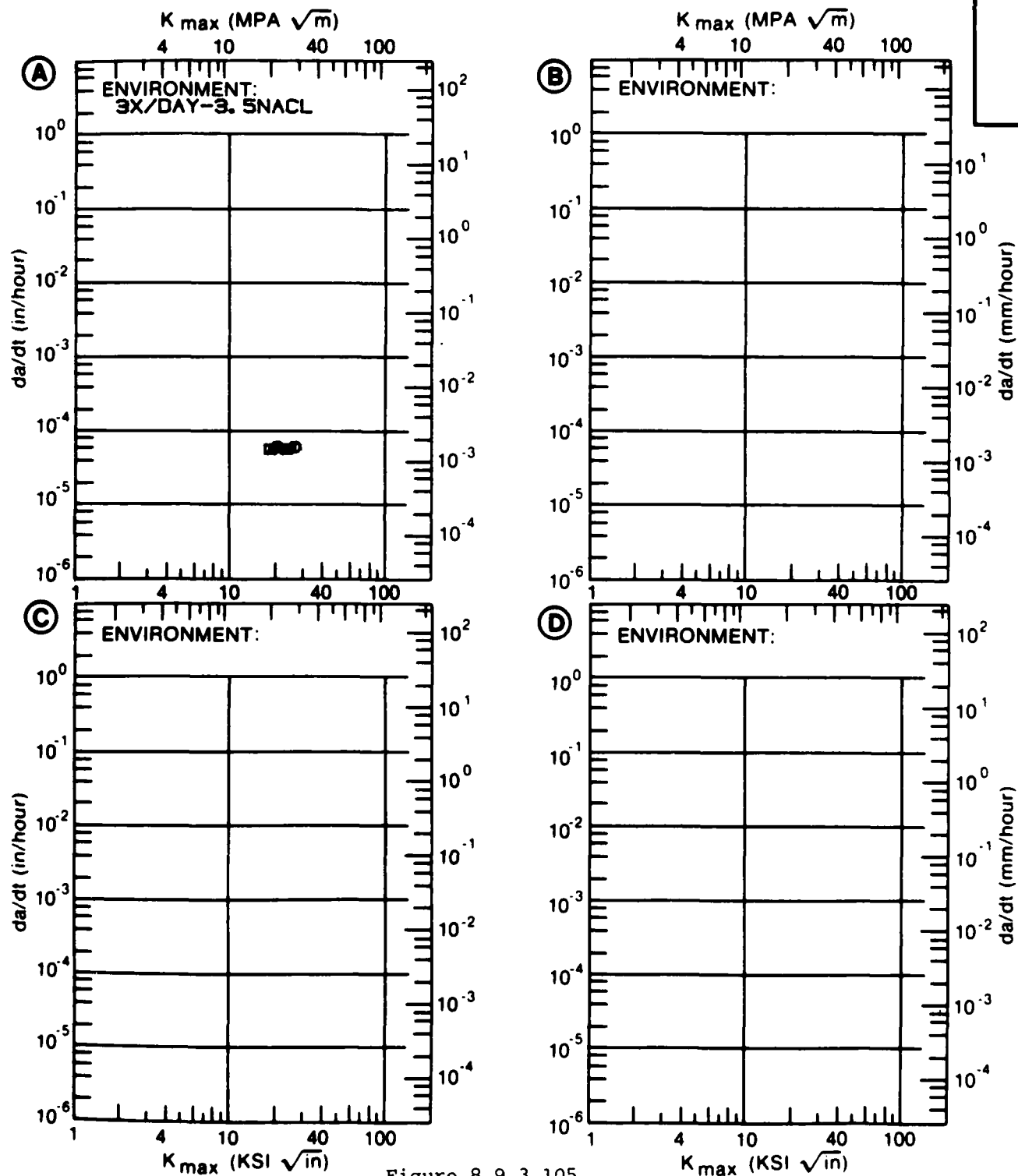


Figure 8.9.3.105

TABLE 8.9.3.106

SUSTAINED CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.9.3.106 INDICATING EFFECT

OF FORM

MATERIAL: ALUMINUM 7075
 CONDITION: UNDERAGED, 72HR 158F
 ENVIRONMENT:

K MAX
 (KSI*IN**1/2)

DA/DT (10**-6 IN/HOUR)

A

B

C

D

T (IN) = 1.0
 PLATE

A:
 K MAX B:
 MIN C:
 D:

200.00

A:
 K MAX B:
 MAX C:
 D:

ROOT MEAN SQUARE
 PERCENT ERROR

0.00

CONDITION/HT: UNDERAGED, 72HR 158F
 ENVIRONMENT:
 SPECIMEN TYPE: DCB
 ORIENTATION: S-L
 YIELD STRENGTH:
 ULT. STRENGTH:

SPECIMEN THK: 1.000"
 SPECIMEN WIDTH: 5.000"
 CRACK LENGTH (A_0):
 K_{ISCC} :
 REFERENCES: 84286

ALUM.
 ALLOY

7075

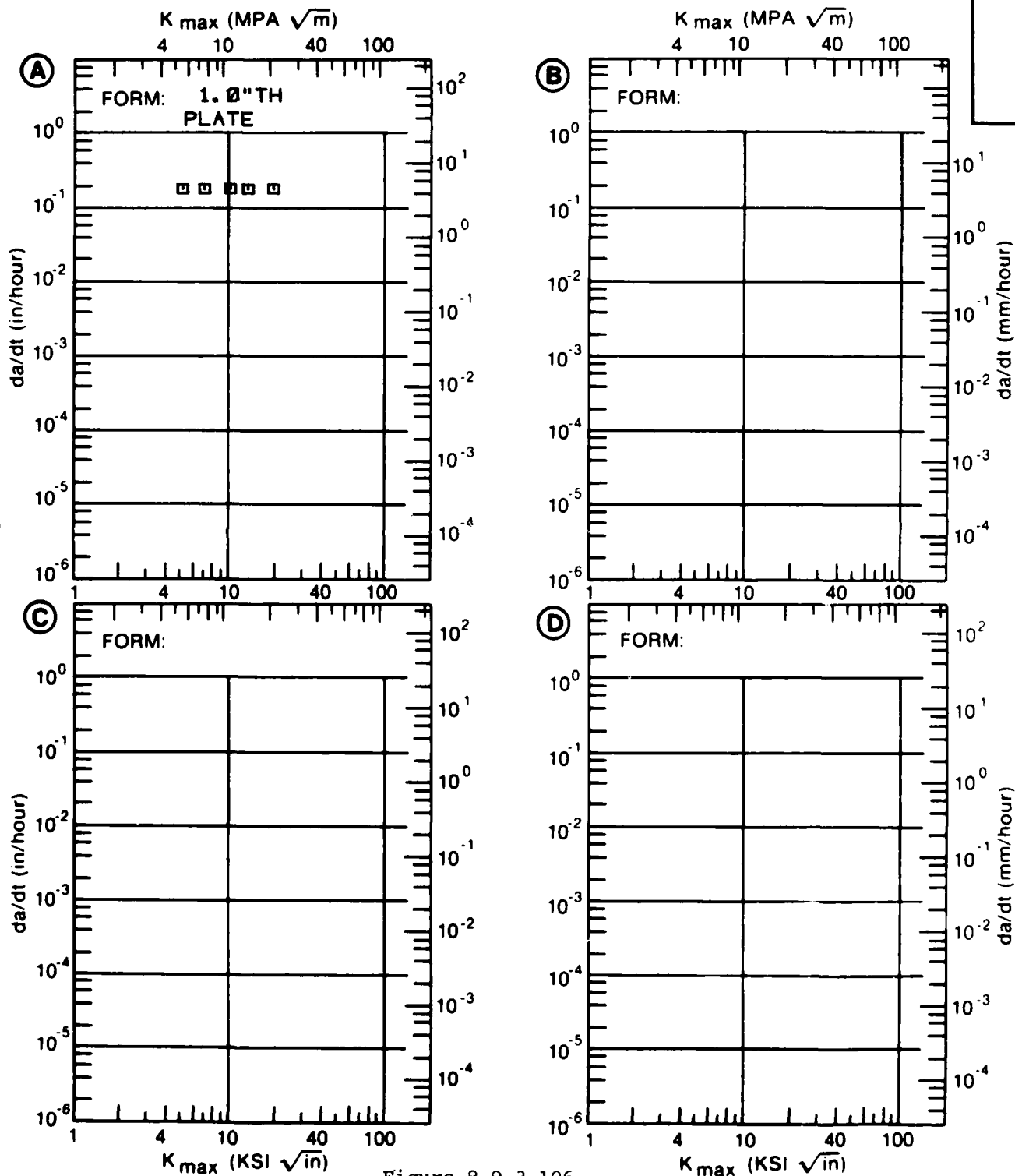


Figure 8.9.3.106

TABLE 8.9.3.107

CONDITION	ALUMINUM			7075		K (ISCC)			STAN DEV	TEST TIME (MIN)	DATE REFER
	--PRODUCT-- FORM THICK (IN)	TEST SPEC TEMP OR (F)	YIELD STR (KSI)	ENVIRONMENT	SPECIMEN		CRACK				
					WIDTH (IN) W	THICK DESIGN (IN) (**SG) B		LENGTH K(G) (IN) (KSI*SQRT IN) A			
T6	P	1.00	R.T.	S-L	73.0 3.5 PCT NACL	4.000	1.000	DCB	23.00	19.00	1968 84331
T631	P	3.00	R.T.	L-T	70.2 AIR 74PCT RH	5.000	1.250	DCB	30.00	25.30	1971 84360
T631	P	3.00	R.T.	L-T	70.2 DIST WATER	5.000	1.250	DCB	30.00	24.00	1971 84360
T631	P	3.00	R.T.	L-T	70.2 3.5 PCT NACL	5.000	1.250	DCB	30.00	28.30	1971 84360
T631	P	2.50	R.T.	S-L	64.7 INDUSTRIAL ATM	2.000	1.000	CT	19.60	10.00	1973 86688
T631	P	2.50	R.T.	S-L	66.7 SALT-DISCHRO- MATE-ACETATE	2.000	1.000	CT	19.60	5.00	1973 86688
T631	P	2.50	R.T.	S-L	66.7 SEACOAST ATM	2.000	1.000	CT	19.60	10.00	1973 86688
T631	P	1.00	R.T.	S-L	78.0 3.5 PCT NACL	4.000	1.000	DCB	21.00	17.00	1968 84331
T631	E	----	R.T.	T-L	CARBON TET, CCL4	3.000	0.750	DCB	10.00	11.0/ 1.4	1969 75787
		----				3.000	0.750	DCB	12.00		1969 75787
T631	E	----	R.T.	T-L	ETHANOL	3.000	0.750	DCB	7.00	8.0/ 1.4	1969 75787
		----				3.000	0.750	DCB	9.00		1969 75787
T73	F	----	R.T.	T-L	62.0 S.T.W.	5.500	1.000	DCB	42.00	25.00	64920 1976 R1006
T7351	P	1.25	R.T.	L-T	54.5 JP-4 FUEL	3.083	1.244	BMOL	1.358	30.80	>148320 1977 MA005
		1.25				3.087	1.251	BMOL	1.372	26.40	>148320 1977 MA005
		1.25				3.095	1.251	BMOL	1.362	31.00	>148320 1977 MA005
		1.25				3.088	1.253	BMOL	1.356	26.50	>148320 1977 MA005
T7351	P	1.25	R.T.	L-T	57.8 SIM. SEA WATER	3.086	1.249	BMOL	1.380	26.30	>195840 1977 MA005
		1.25				3.083	1.250	BMOL	1.361	31.00	>195840 1977 MA005
		1.25				3.086	1.250	BMOL	1.358	26.20	>195840 1977 MA005

TABLE 8.9.3.107 (con't)

CONDITION	--PRODUCT--		TEST TEMP OR (F)	SPEC YIELD (KSI)	ENVIRONMENT	ALUMINUM		7075	K (ISCC)		STAN DEV	TEST TIME (MIN)	DATE REFER			
	FORM	THICK (IN)				WIDTH (IN)	THICK (IN)		DESIGN (#-SQ)	LENGTH (IN)				MEAN (IN)		
T7351	P	1.25	R.T.	L-T	54.9	8IM	SEA WATER	3.086	1.251	BWDL	1.367	-----	> 30.80	>195840	1977	MA005
T7351	P	4.00	R.T.	T-L	53.2	DIST	WATER	5.000	1.250	TDCB	----	29.00	24.80	----	1972	84362
T7351	P	4.00	R.T.	T-L	53.2	3.5	PCT NACL	5.000	1.250	TDCB	----	29.00	23.90	----	1972	84362
T7351	P	2.50	R.T.	S-L	55.1	INDUSTRIAL	ATH	2.000	1.000	CT	----	21.00	20.00	----	1973	86688
T7351	P	2.00	R.T.	S-L	-----	8.T.W.	-----	5.500	1.000	DCB	----	37.00	> 13.10	76140	1976	R1006
		2.00			-----			5.500	1.000	DCB	----	37.00	15.00	61680	1976	R1006
T7351	P	2.50	R.T.	S-L	55.1	SALT-DICHRO- MATE-ACETATE	-----	2.000	1.000	CT	----	21.00	19.00	----	1973	86688
T7351	P	2.50	R.T.	S-L	55.1	SEACAST	ATH	2.000	1.000	CT	----	21.00	20.00	----	1973	86688
T7351	P	1.00	R.T.	S-L	52.0	3.5	PCT NACL	4.000	1.000	DCB	----	24.00	21.00	----	1968	84331
T73511	EB	3.00	R.T.	L-T	66.0	F.C.S.	-----	5.500	1.000	DCB	----	41.00	> 34.00	75240	1976	R1006
T73511	EB	3.00	R.T.	L-T	66.0	S.C.S.	-----	5.500	1.000	DCB	----	41.00	35.60	75240	1976	R1006
T73511	EB	3.00	R.T.	S-L	58.0	8.T.W.	-----	5.500	1.000	DCB	----	41.00	> 19.50	112200	1976	R1006
		3.00			58.0			5.500	1.000	DCB	----	41.00	> 21.00	59040	1976	R1006
		3.00			58.0			5.500	1.000	DCB	----	41.00	> 21.30	60120	1976	R1006
T7352	F	6.00	R.T.	S-L	56.3	3.5	PCT NACL	1.400	0.700	CANT	----	20.10	18.00	----	1972	82675
T7651	P	2.00	R.T.	L-T	63.0	F.C.S.	-----	5.500	1.000	DCB	----	40.00	> 24.00	75240	1976	R1006
T7651	P	2.00	R.T.	L-T	63.0	S.C.S.	-----	5.500	1.000	DCB	----	40.00	> 26.50	60180	1976	R1005
		2.00			63.0			5.500	1.000	DCB	----	40.00	> 23.50	75240	1976	R1006

TABLE 8.9.3.107 (con't)

CONDITION	--PRODUCT--		TEST SPEC OR TMP (F)	YIELD STR (KSI)	ENVIRONMENT	ALUMINUM		7075	K (ISCC)		STAN DEV	TEST TIME (MIN)	DATE REFER		
	FORM	THICK (IN)				SPECIMEN-----			CRACK						
						WIDTH (IN)	THICK (IN)		DESIGN (#SG)	LENGTH (IN)				K (ISCC)	MEAN DEV
T7651	P	2 00	R T	63 0	S T W	5 500	1 000	DCB	----	40 00	21 50	83520	1976	R1006	
		2 00		63 0			5 500	1 000	DCB	----	40 00	22 00	76140	1976	R1006
T7651	P	2 00	R T	----	S T W	5 500	1 000	DCB	----	40 00	12 70	76140	1976	R1006	
		2 00		----			5 500	1 000	DCB	----	40 00	12 70	76140	1976	R1006
		2 00		----			5 500	1 000	DCB	----	40 00	12 80	76140	1976	R1006
		2 00		----			5 500	1 000	DCB	----	40 00	13 10	83520	1976	R1006
										12 8/	0 2				
T7651	E	----	R T	64 5	3 5	PCT NACL	----	----	DCB	----	31 80	29 10*	----	1973	86212

*NOTE-DATA WHICH DO NOT MEET MINIMUM SPECIMEN THICKNESS REQUIREMENTS OF 2.5 (KISCC/TYS) SQUARED

TABLE 8.10.1.1

MEAN PLANE STRAIN FRACTURE TOUGHNESS DATA OF
ALUMINUM ALLOY 7075 (ALCLAD) AT ROOM TEMPERATURE

CONDITION/HT	MEAN K _{IC} ± STANDARD (KSI SQRT(IN)) DEVIATION		(NUMBER OF SPECIMENS)	
	PLATE			
	L-T	T-T	S-L	
17451	20.6 ± 2.2 (3)	25.2 ± 1.9 (26)	-----	

TABLE 8.10.1.2

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR
ALUMINUM 7075 (ALCLAD)

TEST CONDITIONSSPECIMEN
ORIENTATION T-LENVIRONMENT LAB AIR
AT R.T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ. (HZ)	DELTA K LEVELS (KSI SQRT(IN))	FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)				
					2.5	5	10	20	50
T6	SHEET	0.00	13.30				6.99	68.3	
T6	SHEET	0.05	30.00			0.45			
T6	SHEET	0.20	30.00		0.08	0.70			
T6	SHEET	0.33	13.30				12.8	290	
T6	SHEET	0.40	30.00		0.17				

TABLE 8.10.2.1

CONDITION	ALUMINUM										7075 (ALCLAD)		K(IIC)							
	--PRODUCT--		TEST SPECIMEN ORIENT	YIELD (KSI)	-----SPECIMEN-----			CRACK		2.5* (IN)	K(IIC)/(TVS)**2 (KSI*SQRT IN)	K(IIC) MEAN DEV	STAN	DATE	REFER					
	FORM	THICK (IN)			THICK (IN)	DESIGN (IN)	LENGTH (IN)	A	B							W				
T7651	P	0.62	R. T.	L-T	66.0	2.002	0.617	CT	1.021	0.48	0.36	29.10		1978	MPC01					
		0.62			66.0	2.008	0.617	CT	1.064	0.52	0.36	30.50		1978	MPC01					
		0.62			67.6	2.011	0.637	CT	1.086	0.36		26.20	28.6/	2.2	1978	MPC01				
T7651	P	0.50	82	L-T	62.3	1.000	0.502	CT	0.516	0.36	0.36	23.60		1973	86213					
		0.50			62.3	1.000	0.502	CT	0.531	0.36	0.36	23.60		1973	86213					
		0.50			62.3	1.000	0.502	CT	0.527	0.33	0.33	22.90		1973	86213					
		0.50			64.5	1.000	0.503	CT	0.515	0.33	0.33	23.40		1973	86213					
		0.50			64.5	1.000	0.503	CT	0.517	0.33	0.33	23.50		1973	86213					
		0.50			64.5	1.000	0.503	CT	0.516	0.33	0.33	23.40	23.3/	0.4	1973	86213				
T7651	P	0.50	84	L-T	61.0	1.000	0.494	CT	0.514	0.40	0.40	24.50		1973	86213					
		0.62			62.8	1.500	0.612	CT	0.773	0.41	0.41	25.30		1973	86213					
		0.62			62.8	1.500	0.612	CT	0.787	0.41	0.41	25.40		1973	86213					
		0.62			63.2	1.500	0.603	CT	0.768	0.37	0.37	24.20		1973	86213					
		0.62			63.7	1.500	0.615	CT	0.778	0.47	0.47	27.60		1973	86213					
		0.62			63.7	1.500	0.614	CT	0.778	0.49	0.49	27.10		1973	86213					
		0.50			64.0	1.000	0.505	CT	0.532	0.43	0.43	26.50		1973	86213					
		0.62			64.9	1.500	0.602	CT	0.755	0.40	0.40	25.50		1973	86213					
		0.62			64.9	1.500	0.601	CT	0.791	0.41	0.41	26.20	25.9/	1.1	1973	86213				
T7651	P	0.62	86	L-T	59.3	1.500	0.611	CT	0.818	0.48	0.48	25.90		1973	86213					
		0.62			59.3	1.500	0.611	CT	0.771	0.47	0.47	25.70		1973	86213					
		0.50			59.6	1.000	0.500	CT	0.515	0.40	0.40	23.70		1973	86213					
		0.50			59.6	1.000	0.500	CT	0.534	0.40	0.40	23.80		1973	86213					
		0.50			59.6	1.000	0.500	CT	0.514	0.40	0.40	23.70		1973	86213					
		0.62			62.6	1.500	0.615	CT	0.773	0.43	0.43	26.00		1973	86213					
		0.62			62.6	1.500	0.615	CT	0.787	0.43	0.43	26.00		1973	86213					
		0.62			63.0	1.500	0.620	CT	0.788	0.46	0.46	27.00		1973	86213					
		0.62			63.0	1.500	0.622	CT	0.750	0.48	0.48	27.50		1973	86213					
		0.62			64.2	1.500	0.596	CT	0.780	0.42	0.42	26.20		1973	86213					
		0.62			63.8	1.500	0.615	CT	0.781	0.37	0.37	25.30		1973	86213					
		0.62			65.8	1.500	0.615	CT	0.762	0.38	0.38	25.70	25.5/	1.2	1973	86213				
T7651	P	0.62	R. T.	T-L	62.6	2.017	0.636	CT	1.049	0.44	0.44	23.10		1978	MPC01					
		0.62			62.6	2.000	0.632	CT	1.000	0.46	0.46	26.40		1978	MPC01					
		0.62			62.6	1.996	0.632	CT	1.018	0.46	0.46	27.10		1978	MPC01					
		0.62			62.6	1.985	0.632	CT	1.032	0.46	0.46	27.10		1978	MPC01					
		0.62			64.1	1.998	0.624	CT	1.039	0.46	0.46	27.80		1978	MPC01					

TABLE 8.10.2.1 (con't)

CONDITION	ALUMINUM				7075 (ALCLAD)				K(1C)				DATE	REFER		
	--PRODUCT--		YIELD (KSI)	STRENGTH (KSI)	-----SPECIMEN-----		CRACK LENGTH (IN)	2.5* K(1C)/(TYS)**2 (IN)	K(1C) STAN							
	FORM	THICK (IN)			TEMP (F)	ORIENT			WIDTH (IN)	THICK (IN)	DESIGN	LENGTH (IN)			MEAN	DEV

T7651	P	0.62	64.1	64.1	R. T.	T-L	1.984	0.625	CT	0.992	0.46	27.90	1978	MPC01		
		0.62	64.1	64.1			1.984	0.623	CT	0.992	0.48	28.70	1978	MPC01		
		0.50	64.4	64.4			1.000	0.506	CT	0.520	0.27	21.80	1978	MPC01		
		0.50	64.4	64.4			1.006	0.506	CT	0.503	0.28	22.50	1978	MPC01		
		0.50	64.8	64.8			1.012	0.502	CT	0.516	0.28	22.20	1978	MPC01		
		0.62	65.0	65.0			2.005	0.615	CT	1.002	0.40	26.60	1978	MPC01		
		0.62	65.0	65.0			2.006	0.615	CT	1.023	0.42	26.90	1978	MPC01		
		0.62	65.0	65.0			2.000	0.617	CT	1.000	0.42	26.90	1978	MPC01		
		0.62	67.5	67.5			2.011	0.617	CT	1.066	0.32	24.80	1978	MPC01		
		0.62	67.5	67.5			1.990	0.617	CT	1.015	0.32	24.50	1978	MPC01		
		0.62	67.5	67.5			1.984	0.617	CT	1.091	0.36	26.00	1978	MPC01		
		0.62	67.8	67.8			2.002	0.605	CT	1.001	0.34	25.20	1978	MPC01		
		0.60	67.8	67.8			2.018	0.605	CT	1.009	0.34	25.60	1978	MPC01		
		0.62	67.8	67.8			2.002	0.605	CT	1.001	0.34	25.70	1978	MPC01		
		0.62	68.7	68.7			2.012	0.635	CT	1.006	0.30	24.20	1978	MPC01		
		0.62	68.7	68.7			2.006	0.635	CT	1.023	0.27	22.70	1978	MPC01		
		0.62	69.3	69.3			2.016	0.611	CT	1.008	0.30	24.50	1978	MPC01		
		0.62	69.3	69.3			2.018	0.609	CT	0.989	0.28	24.20	1978	MPC01		
		0.62	71.2	71.2			2.016	0.624	CT	1.008	0.27	23.70	1978	MPC01		
0.62	71.2	71.2			1.984	0.625	CT	0.992	0.27	23.70	1978	MPC01				
0.62	71.2	71.2			2.015	0.625	CT	1.068	0.28	24.90	25.2/	1.9	1978	MPC01		
T7651	P	0.50	63.0	63.0	82	T-L	1.000	0.502	CT	0.538	0.29	21.40	1973	86213		
		0.50	64.8	64.8			1.000	0.502	CT	0.510	0.29	22.20	1973	86213		
		0.50	64.8	64.8			1.000	0.502	CT	0.501	0.28	21.50	1973	86213		

T7651	P	0.50	64.8	64.8			1.000	0.502	CT	0.516	0.29	22.20	21.8/	0.4	1973	86213
		0.50	61.2	61.2	84	T-L	1.000	0.494	CT	0.527	0.34	22.70	1973	86213		
		0.50	61.2	61.2			1.000	0.494	CT	0.518	0.34	22.90	1973	86213		
		0.50	61.2	61.2			1.000	0.494	CT	0.517	0.33	22.30	1973	86213		
		0.62	62.4	62.4			1.500	0.603	CT	0.771	0.33	22.50	1973	86213		
		0.62	62.4	62.4			1.500	0.603	CT	0.767	0.33	22.70	1973	86213		
		0.62	63.0	63.0			1.500	0.612	CT	0.779	0.40	25.30	1973	86213		
		0.62	63.0	63.0			1.500	0.615	CT	0.827	0.40	25.20	1973	86213		
		0.62	64.0	64.0			1.500	0.602	CT	0.771	0.35	23.80	1973	86213		
		0.62	64.0	64.0			1.500	0.601	CT	0.755	0.32	22.90	1973	86213		
		0.50	64.4	64.4			1.000	0.506	CT	0.503	0.33	23.50	1973	86213		
		0.50	64.4	64.4			1.000	0.506	CT	0.520	0.31	22.60	1973	86213		
		0.62	64.6	64.6			1.500	0.612	CT	0.764	0.31	22.60	1973	86213		

TABLE 8.10.2.1 (con't)

CONDITION	ALUMINUM										7075 (ALCLAD)		K (IC)		
	--PRODUCT--		TEST SPECIMEN ORIENT	YIELD (KSI)	WIDTH (IN)	-----SPECIMEN-----		DESIGN LENGTH (IN)	CRACK LENGTH (IN)	2.5* K (IC)/TYS**2 (IN)	K (IC) MEAN DEV (KSI*SQRT IN)	K (IC) STAN DEV	DATE	REFER	
	FORM	THICK (IN)				THICK (IN)	B								
															A
T7651	P	0.62	84	T-L	64.6	1.500	0.612	CT	0.797	0.33	23.30	23.2/	1.0	1973	86213
T7651	P	0.62	86	T-L	59.2	1.500	0.615	CT	0.768	0.40	23.80			1973	86213
		0.62			59.2	1.500	0.615	CT	0.775	0.41	24.10			1973	86213
		0.62			59.4	1.500	0.596	CT	0.771	0.39	23.40			1973	86213
		0.62			59.4	1.500	0.596	CT	0.773	0.37	22.70			1973	86213
		0.62			60.6	1.500	0.611	CT	0.796	0.38	23.50			1973	86213
T651	P	1.37	R.T.	T-S	74.2	1.002	0.500	CT	0.501	0.27	24.80			1978	MPC01
		1.37			74.2	0.996	0.500	CT	0.488	0.27	24.60	24.7/	0.1	1978	MPC01
		1.37	88	T-S	74.2	1.000	0.500	CT	0.488	0.27	24.50			1973	86213
		1.37			74.2	1.000	0.500	CT	0.501	0.31	26.00	25.3/	1.1	1973	86213
T651	P	1.38	- 320	T-L	90.6	3.000	1.380	NB	1.560	0.20	25.90			1971	84288
		1.38			90.6	3.000	1.380	NB	1.450	0.20	25.90			1971	84288
		1.38			90.6	3.000	1.380	NB	1.530	0.24	28.20	26.7/	1.3	1971	84288
T651	P	1.38	- 112	T-L	81.2	3.000	1.383	NB	1.652	0.23	27.50			1971	84288
		1.38			81.2	3.000	1.385	NB	1.695	0.19	24.70	26.1/	2.0	1971	84288
T651	P	5.00	R.T.	T-L	65.2	2.000	1.001	CT	1.044	0.37	25.00			1973	86213
		65.2			2.000	1.001	CT	1.050	0.42	26.60			1973	86213	
		5.00			2.000	1.001	CT	1.019	0.36	25.00			1973	86213	
		1.38			72.8	2.000	1.000	NB	1.034	0.26	23.30			1972	82880
		1.37			72.8	2.000	1.000	CT	1.003	0.29	24.70			1973	86213
		1.37			72.8	2.000	1.001	CT	1.008	0.26	23.70			1973	86213
		1.37			72.8	1.996	1.000	CT	0.998	0.27	24.50			1978	MPC01
		1.38			72.8	2.000	1.000	NB	1.078	0.25	22.80			1972	82880
		1.37			72.8	2.008	1.002	CT	0.984	0.24	22.70			1978	MPC01
		1.38			72.8	1.000	0.500	NB	0.486	0.23	21.90			1972	82880
		1.37			72.8	3.002	1.382	NB	1.471	0.25	24.00			1978	MPC01
		1.38			72.8	3.000	1.380	NB	1.628	0.28	24.30			1972	82880
		1.37			72.8	2.982	1.384	NB	1.491	0.27	24.70			1978	MPC01
		1.37			72.8	2.000	1.002	CT	1.000	0.25	23.20			1973	86213
		1.38			72.8	1.500	0.750	NB	0.781	0.29	24.90			1972	82880
		1.38			72.8	3.000	1.380	NB	1.617	0.23	22.30			1972	82880
		1.38			72.8	1.500	0.750	NB	0.757	0.26	23.50			1972	82880
		1.38			72.8	2.000	1.000	NB	1.128	0.16	18.60			1972	82880
		1.38			72.8	3.000	1.380	NB	1.677	0.26	23.60			1972	82880
		1.38			72.8	1.000	0.500	NB	0.487	0.30	25.10			1972	82880
1.37	74.2	3.000	1.384	NB	1.470	0.19	21.50			1978	MPC01				
1.37	74.2	2.984	1.385	NB	1.462	0.25	24.30			1978	MPC01				
1.37	74.2	3.006	1.384	NB	1.473	0.19	21.20			1978	MPC01				

TABLE 8.10.2.2

CONDITION	--PRODUCT-- FORM	THICK (IN)	TEST SPEC OR (F)	YIELD STR (KSI)	ALUMINUM		7075 (ALCLAD)		K(C)										
					SPECIMEN		CRACK LENGTH		GROSS STRESS										
					WIDTH (IN)	THICK (IN)	INIT (IN)	FINAL (IN)	ONSET (KSI)	MAX (KSI)									
					W	B	2A(O)	2A(F)	S(O)	S(MAX)									
BUCKLING OF CRACK EDGES RESTRAINED																			
T6	S	0.01	R. T.	L-T	67.4	15.000	0.009	7.500	8.480	---	18.70	76.33	85.92	91.70	88.8/	4.1	1966	86734	
		0.01			67.4	15.000	0.009	7.500	9.380	---	17.80	72.66	74.5/	2.6			1966	86734	
T6	S	0.08	R. T.	L-T	73.1	5.900	0.079	0.790	0.980	---	47.40	53.39	59.83	---	---	---	1965	70485	
		0.08			73.1	5.900	0.079	0.390	---	---	57.00	44.73*	---	---	---	---	1965	70485	
		0.08			73.1	5.900	0.079	3.150	---	---	19.60	53.32	---	---	---	---	1965	70485	
		0.08			73.1	5.900	0.079	0.790	0.980	38.80	42.80	48.21	54.02	---	---	---	1965	70485	
		0.08			73.1	5.900	0.079	0.390	---	51.50	58.50	45.91*	---	---	---	---	1965	70485	
		0.08			73.1	5.900	0.079	0.790	0.980	---	46.50	52.38	58.70	---	---	---	1965	70485	
		0.08			73.1	5.900	0.079	1.580	1.970	---	36.70	60.51	69.39	---	---	---	1965	70485	
		0.08			73.1	5.900	0.079	1.580	---	---	32.10	52.93	---	---	---	---	1965	70485	
		0.08			73.1	5.900	0.079	3.150	3.420	19.50	19.80	53.87	58.60	---	---	---	1965	70485	
		0.08			73.1	5.900	0.079	1.580	2.010	---	31.40	51.78	60.16	---	---	---	1965	70485	
		0.08			73.1	5.900	0.079	3.150	---	---	20.10	54.69	---	---	---	---	1965	70485	
		0.08			73.1	5.900	0.079	0.390	0.670	---	58.90	46.23*	33.5/	3.2	60.91*	60.1/	5.1	1965	70485
T6	S	0.08	R. T.	L-T	73.1	11.800	0.079	0.980	1.380	42.10	48.80	60.81	72.46	---	---	---	1965	70485	
		0.08			73.1	11.800	0.079	1.770	2.130	25.50	33.30	56.31	62.16	---	---	---	1965	70485	
		0.08			73.1	11.800	0.079	4.720	5.860	19.20	21.00	63.57	75.57	---	---	---	1965	70485	
		0.08			73.1	11.800	0.079	2.360	2.950	30.20	32.20	63.57	72.11	---	---	---	1965	70485	
		0.08			73.1	11.800	0.079	2.360	2.600	25.90	32.30	63.77	67.30	---	---	---	1965	70485	
		0.08			73.1	11.800	0.079	3.540	4.210	18.60	32.30	80.69	90.25	---	---	---	1965	70485	
		0.08			73.1	11.800	0.079	0.980	1.260	41.60	46.40	57.82	65.74	---	---	---	1965	70485	
		0.08			73.1	11.800	0.079	1.770	2.280	21.90	34.30	58.00	66.45	---	---	---	1965	70485	
		0.08			73.1	11.800	0.079	3.540	3.940	18.00	33.00	57.46	61.50	---	---	---	1965	70485	
		0.08			73.1	11.800	0.080	2.360	2.800	24.20	32.20	63.57	69.97	---	---	---	1966	65697	
		0.08			73.1	11.800	0.080	2.360	3.340	17.60	30.80	60.81	74.25	---	---	---	1966	65697	
		0.08			73.1	11.800	0.080	0.990	1.260	36.70	45.60	57.11	64.61	---	---	---	1966	65697	
		0.08			73.1	11.800	0.080	0.990	1.320	34.30	49.20	61.62	71.40	---	---	---	1966	65697	
		0.08			73.1	11.800	0.080	0.990	1.280	35.30	46.00	57.61	65.70	---	---	---	1966	65697	
		0.08			73.1	11.800	0.080	2.360	3.150	---	33.20	65.55	77.27	---	---	---	1966	65697	
		0.08			73.1	11.800	0.080	2.360	2.840	23.20	28.30	55.87	62.00	---	---	---	1966	65697	
		0.08			73.1	11.800	0.080	0.990	1.400	21.00	49.00	61.37	73.30	70.1/	7.2	1966	65697		
T6	S	0.08	R. T.	L-T	73.1	23.600	0.079	1.580	1.890	35.60	39.70	62.72	68.68	---	---	---	1965	70485	

*NOTE- NET SECTION STRESS EXCEEDS BOX OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV.

TABLE 8.10.2.2 (con't)

CONDITION	ALUMINUM		7075 (ALCLAD)										K(C)							
	--PRODUCT-- FORM	THICK (IN)	TEST SPEC OR (F)	YIELD STR (KSI)	---SPECIMEN---		CRACK LENGTH				GROSS STRESS		K (APP) (KSI*SQRT IN)	STAN DEV	K (C) (KSI*SQRT IN)	STAN DEV	K (C) (KSI*SQRT IN)	REFER		
					W	B	INIT (IN)	FINAL (IN)	ONSET (KSI)	MAX (KSI)										
											2A(D)	2A(F)							S(D)	S(MAX)
T6	S	0.08	R. T.	L-T	73.1	23.600	0.079	0.790	1.300	---	45.50	50.72	65.14	1965	70485					
		0.08			73.1	23.600	0.079	4.720	5.000	14.60	22.70	63.38	65.44	1965	70485					
		0.08			73.1	23.600	0.079	6.300	6.700	14.20	18.90	62.21	64.55	1965	70485					
		0.08			73.1	23.600	0.079	0.930	0.870	46.10	48.00	47.77	56.16	1965	70485					
		0.08			73.1	23.600	0.079	3.940	5.200	22.20	28.90	73.16	85.16	1965	70485					
		0.08			73.1	23.600	0.079	1.180	1.380	38.00	45.10	61.90	66.54	1965	70485					
		0.08			73.1	23.600	0.079	1.180	1.380	44.30	46.50	63.41	68.61	1965	70485					
		0.08			73.1	23.600	0.079	4.720	5.000	17.10	20.60	57.52	59.38	1965	70485					
		0.08			73.1	23.600	0.079	6.300	6.850	15.90	21.20	69.78	73.39	1965	70485					
		0.08			73.1	23.600	0.079	1.580	2.240	---	29.90	47.23	56.40	1965	70485					
		0.08			73.1	23.600	0.079	1.180	1.340	38.20	45.10	61.90	70.33	1965	70485					
		0.08			73.1	23.600	0.079	2.360	2.680	28.50	33.00	63.93	68.25	1965	70485					
		0.08			73.1	23.600	0.079	1.580	2.560	33.80	37.20	58.77	75.14	1965	70485					
		0.08			73.1	23.600	0.079	2.360	2.950	24.50	32.20	62.38	69.99	1965	70485					
		0.08			73.1	23.600	0.079	3.150	3.580	22.60	29.30	65.90	70.48	1965	70485					
		0.08			73.1	23.600	0.079	0.790	0.990	---	47.50	52.95	59.30	1965	70485					
		0.08			73.1	23.600	0.079	3.150	3.460	24.00	29.70	66.80	70.17	1965	70485					
		0.08			73.1	23.600	0.079	3.150	3.700	21.00	28.30	63.65	69.28	1965	70485					
		0.08			73.1	23.600	0.079	11.800	13.220	10.00	18.10	92.67	62.4/ 9.8	103.33	69.3/10.4	1965	70485			

BUCKLING OF CRACK EDGES RESTRAINED

BUCKLING OF CRACK EDGES NOT RESTRAINED

T6	S	0.02	R. T.	L-T	70.3	15.000	0.020	7.500	9.300	---	16.70	48.17	85.14	1966	86734
		0.02			70.3	15.000	0.020	7.500	8.640	---	17.00	69.39	79.67	1966	86734
T6	S	0.03	R. T.	L-T	68.8	15.000	0.030	7.500	8.050	---	17.50	71.43	76.30	1966	86734
		0.03			68.8	15.000	0.030	7.500	8.520	---	19.40	79.19	89.58	1966	86734
T6	S	0.04	R. T.	L-T	69.8	7.500	0.040	3.000	---	---	18.00	43.44	---	1966	86734
		0.04			69.8	7.500	0.040	3.000	---	---	21.20	51.17	---	1966	86734
		0.04			69.8	7.500	0.040	3.000	---	---	19.65	47.42	---	1966	86734
T6	S	0.04	R. T.	L-T	63.0	9.000	0.040	5.460	5.740	6.90	11.60	44.63	47.45	1965	62311

TABLE 8.10.2.2 (con't)

		ALUMINUM		7075 (ALCLAD)		K(C)									
CONDITION	--PRODUCT-- FORM THICK (IN)	TEST SPEC OR STR (KSI)	--SPECIMEN--		CRACK LENGTH GROSS STRESS										
			WIDTH (IN)	THICK (IN)	INIT (IN)	FINAL (IN)	ONSET (KSI)	MAX (KSI)							
									2A(D)	2A(F)	B(D)	B(MAX)			
T6	S	R. T. L-T	63.0	0.04	0.040	5.560	5.740	10.70	11.80	46.39	48.27	1965	62311		
			63.0	0.04	0.040	5.480	5.680	9.70	11.30	43.67	45.61	1965	62311		
			63.0	0.04	0.040	1.800	2.030	31.90	35.10	60.52	64.72	1965	62311		
			63.0	0.04	0.040	1.840	1.940	15.80	28.80	50.26	52.06	1965	62311		
			63.0	0.04	0.040	3.640	4.180	17.10	20.70	55.17	61.43	1965	62311		
			63.0	0.040	0.040	0.290	0.600	62.90	64.20	43.36*	62.50*	1965	62311		
			63.0	0.04	0.040	0.260	0.580	64.00	64.90	41.90*	62.11*	1965	62311		
			63.0	0.040	0.040	1.790	2.350	30.60	33.80	58.10	67.81	1965	62311		
			63.0	0.040	0.040	0.940	0.680	52.60	55.40	51.14*	57.46*	1965	62311		
			63.0	0.04	0.040	5.480	5.840	6.90	11.40	44.05	47.70	1965	62311		
			63.0	0.040	0.040	3.630	4.030	11.10	19.90	53.15	57.33	1965	62311		
			63.0	0.040	0.040	0.380	0.720	53.60	56.10	53.68*	59.90*	1965	62311		
			63.0	0.04	0.040	1.860	1.940	15.80	29.30	51.44	52.66	1965	62311		
			63.0	0.040	0.040	0.780	0.960	89.90	47.40	52.71*	58.62*	1965	62311		
			63.0	0.040	0.040	3.640	4.030	10.60	19.60	52.24	56.47	1965	62311		
			63.0	0.040	0.040	0.790	1.130	42.20	46.70	52.27*	62.83*	1965	62311		
T6	S	R. T. L-T	63.0	0.040	0.040	3.960	4.120	19.20	20.00	56.83	58.66	55.0/ 7.3	1965	62311	
			63.0	0.04	0.040	---	2.470	---	27.50	---	---	45.48	1965	62311	
			63.0	0.040	0.040	---	10.530	---	9.20	---	---	43.47	1965	62311	
			63.0	0.040	0.040	---	1.960	---	29.60	---	---	52.25	1965	62311	
			63.0	0.040	0.040	---	6.100	---	16.00	---	---	52.58	1965	62311	
			63.0	0.040	0.040	---	2.080	---	32.10	---	---	58.41	1965	62311	
			63.0	0.040	0.040	---	2.400	---	26.90	---	---	52.70	1965	62311	
			63.0	0.040	0.040	---	3.940	---	20.50	---	---	52.26	1965	62311	
			63.0	0.040	0.040	---	2.440	---	26.30	---	---	51.97	1965	62311	
			63.0	0.040	0.040	---	6.220	---	15.30	---	---	50.89	1965	62311	
			63.0	0.040	0.040	---	2.420	---	27.20	---	---	53.52	1965	62311	
			63.0	0.040	0.040	---	3.860	---	20.30	---	---	51.17	1965	62311	
			63.0	0.040	0.040	---	7.300	---	13.00	---	---	48.03	1965	62311	
			63.0	0.040	0.040	---	7.300	---	13.20	---	---	48.77	1965	62311	
			63.0	0.040	0.040	---	10.530	---	11.10	---	---	53.86	51.4/ 5.7	1965	62311
			T6	S	R. T. L-T	71.1	0.04	0.039	15.000	---	---	13.60	78.51	---	1966
71.1	0.04	0.039				15.000	---	---	14.00	80.81	---	---	1966	86734	

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV.

TABLE 8.10.2.2 (con't)

CONDITION	--PRODUCT--		TEST SPEC OR THICK TEMP (IN) (F)	ALUMINUM				7075 (ALCLAD)				K(C)					
	FORM	THICK (IN)		YIELD STR (KSI)		WIDTH (IN)		--SPECIMEN--		CRACK LENGTH CROSS STRESS							
				YIELD (KSI)	STR (KSI)	W	B	INIT (IN)	THICK (IN)	INIT (IN)	FINAL (IN)	ONSET (KSI)	MAX (KSI)	K (APP) MEAN DEV (KSI*SQRT IN)	K (C) STAN MEAN DEV (KSI*SQRT IN)		
BUCKLING OF CRACK EDGES NOT RESTRAINED																	
T6	S	0.04	R.T.	L-T	69.8	30.000	0.040	12.000	---	---	16.90	81.37	---	---	1966 86734		
		0.04			72.7	30.000	0.040	6.000	---	---	15.64	49.23	---	---	1966 86734		
		0.04			72.9	30.000	0.040	12.000	---	---	10.15	48.99	---	---	1966 86734		
		0.04			73.4	30.000	0.040	3.000	---	---	23.10	50.46	64.9/16.9	---	1966 86734		
T6	S	0.06	R.T.	L-T	69.1	7.500	0.064	1.500	---	---	34.80	54.77	---	---	1966 86734		
		0.06			69.1	7.500	0.064	3.000	---	---	34.50	83.26*	---	---	1966 86734		
		0.06			69.2	7.500	0.064	3.000	---	---	20.90	50.44	52.6/ 3.1	---	1966 86734		
T6	S	0.06	R.T.	L-T	71.8	30.000	0.060	15.000	19.060	---	12.70	73.31	94.39	90.0/ 6.2	1966 86734		
		0.06			71.8	30.000	0.060	15.000	17.300	---	12.90	74.46	73.9/ 0.8	85.61	1966 86734		
T6	S	0.08	R.T.	L-T	72.9	30.000	0.081	15.000	18.420	---	8.80	50.80	62.71	70.3/10.7	1966 86734		
		0.08			72.9	30.000	0.081	15.000	21.200	---	9.00	51.95	51.4/ 0.8	77.89	1966 86734		
T6	S	0.09	R.T.	L-T	63.0	9.000	0.091	0.540	0.800	48.30	51.60	47.63*	58.13*	1965 62311			
		0.09			63.0	9.000	0.091	3.500	3.960	23.20	25.90	67.10	73.59	1965 62311			
		0.09			63.0	9.000	0.091	5.360	5.940	14.00	17.20	64.79	67.33	1965 62311			
		0.09			63.0	9.000	0.091	0.540	0.900	47.60	51.50	47.54*	61.61*	1965 62311			
		0.09			63.0	9.000	0.091	3.840	4.080	24.80	25.50	70.74	74.20	1965 62311			
		0.09			63.0	9.000	0.091	5.320	5.440	14.00	16.70	62.38	63.98	1965 62311			
		0.09			63.0	9.000	0.091	1.960	2.270	36.00	36.90	66.71	72.54	1965 62311			
		0.09			63.0	9.000	0.091	1.780	2.200	28.20	36.00	61.69	69.90	1965 62311			
		0.09			63.0	9.000	0.091	0.750	1.080	39.50	46.50	50.69*	61.11*	1965 62311			
		0.09			63.0	9.000	0.091	0.780	1.170	39.60	44.40	49.38	60.83*	1965 62311			
		0.09			63.0	9.000	0.091	0.290	0.700	59.70	61.10	41.26*	64.31*	1965 62311			
		0.09			63.0	9.000	0.091	3.360	3.900	15.90	17.20	64.79	66.75	1965 62311			
		0.09			63.0	9.000	0.091	3.540	3.740	23.20	27.50	71.83	74.78	1965 62311			
		0.09			63.0	9.000	0.091	1.780	2.220	29.10	35.70	61.18	69.28	1965 62311			
		0.09			63.0	9.000	0.091	3.680	3.800	25.60	26.50	71.20	72.93	1965 62311			
		0.09			63.0	9.000	0.091	5.320	5.600	16.50	16.70	62.38	66.24	1965 62311			
		0.09			63.0	9.000	0.091	---	1.960	---	38.00	---	64.5/ 6.1	68.70/ 3.6	1965 62311		
T6	S	0.09	R.T.	L-T	63.0	20.000	0.091	1.860	2.400	19.20	32.70	56.19	64.06	1965 62311			
		0.09			63.0	20.000	0.091	3.650	4.280	15.40	24.60	60.14	65.65	1965 62311			

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV.

TABLE 8.10.2.2 (con't)

CONDITION	ALUMINUM		7075 (ALCLAD)										K(C)					
	--PRODUCT-- FORM THICK TEMP OR (IN) (F)	TEST SPEC STR (KSI)	---SPECIMEN---				CRACK LENGTH				CROSS STRESS		K(AFP) (KSI*SQRT IN)	STAN DEV	K(C) (KSI*SQRT IN)	K(C) STAN MEAN DEV DATE REFER		
			W	B	(IN)	THICK (IN)	INIT (IN)	FINAL (IN)	ONSET (KSI)	MAX (KSI)	S(O)	S(MAX)						
BUCKLING OF CRACK EDGES NOT RESTRAINED																		
T6	S	0 16	84	L-T	70.4	3.000	0.164	1.087	1.580	---	36.80	52.36*	---	70.47*	---	1973	86213	
		0 16			70.4	3.000	0.164	1.157	1.726	---	35.90	53.35*	---	75.15*	---	1973	86213	
		0 16			70.4	3.000	0.164	1.200	1.747	---	35.00	53.42*	---	74.19*	---	1973	86213	
		0 16			71.2	3.000	0.164	1.220	1.654	---	33.60	51.91	---	67.29*	---	1973	86213	
		0 16			71.2	3.000	0.164	1.207	1.659	---	34.00	52.09	---	68.25*	---	1973	86213	
		0 16			71.2	3.000	0.164	1.230	1.647	---	33.50	52.07	---	66.76*	---	1973	86213	
		0 16			73.4	3.000	0.160	1.203	1.943	---	30.10	46.00	---	72.48*	---	1973	86213	
		0 16			73.4	3.000	0.160	1.210	1.994	---	30.30	46.53	---	75.63*	---	1973	86213	
		0 16			73.4	3.000	0.160	1.207	2.539	---	29.90	45.81	---	49.1/ 3.2	121.98*	---	1973	86213
T6	S	0 01	R T	T-L	67.1	15.000	0.010	7.500	8.380	---	14.40	58.78	---	65.36	---	1966	86734	
		0 01			67.1	15.000	0.010	7.500	8.590	---	13.90	56.74	---	57.8/ 1.4	64.74	65.1/ 0.4	1966	86734
T6	S	0 02	R T	T-L	65.8	15.000	0.020	7.500	8.560	---	16.50	67.35	---	76.57	---	1966	86734	
		0 02			65.8	15.000	0.020	7.500	8.610	---	17.20	70.21	---	68.8/ 2.0	80.31	78.4/ 2.6	1966	86734
T6	S	0 03	R T	T-L	69.6	15.000	0.030	7.500	9.360	---	17.60	71.84	---	90.43	---	1966	86734	
		0 03			69.6	15.000	0.030	7.500	9.190	---	18.10	73.88	---	72.9/ 1.4	90.49	90.5/ 0.0	1966	86734
T6	S	0 04	R T	T-L	65.8	7.500	0.040	3.000	---	---	19.25	46.46	---	---	---	1966	86734	
		0 04			66.2	7.500	0.040	3.000	---	---	18.54	44.75	---	45.6/ 1.2	---	---	1966	86734
T6	S	0 04	R T	T-L	69.9	30.000	0.039	15.000	---	---	11.10	64.07	---	---	---	1966	86734	
		0 04			69.9	30.000	0.039	15.000	---	---	11.70	67.54	---	65.8/ 2.5	---	---	1966	86734
T6	S	0 06	R T	T-L	69.8	30.000	0.064	15.000	16.760	---	11.80	68.12	---	75.74	---	1966	86734	
		0 06			69.8	30.000	0.064	15.000	16.640	---	11.80	68.12	---	68.1/ 0.0	75.18	75.5/ 0.4	1966	86734
T6	S	0 08	R T	T-L	67.2	30.000	0.081	15.000	16.800	---	8.20	47.33	---	52.76	---	1966	86734	
		0 08			69.2	30.000	0.081	15.000	16.590	---	8.10	46.76	---	47.0/ 0.4	51.33	52.0/ 1.0	1966	86734
T6	S	0 09	82	T-L	67.2	3.000	0.089	1.320	2.056	---	27.10	44.46	---	70.71*	---	1973	86213	
		0 09			67.2	3.000	0.089	1.200	1.862	---	29.30	44.72	---	66.89*	---	1973	86213	
		0 09			67.2	3.000	0.089	1.270	1.960	---	28.10	44.74	---	44.6/ 0.2	68.50*	---	1973	86213

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV

TABLE 8.10.2.2 (con't)

CONDITION	ALUMINUM		7075 (ALCLAD)										K(C)										
	--PRODUCT-- FORM	THICK (IN)	TEST SPEC TEMP OR (F)	YIELD STR (KSI)	--SPECIMEN--			CRACK LENGTH				GROSS STRESS											
					WIDTH (IN)	THICK (IN)	B	INIT (IN)	FINAL (IN)	ONSET (KSI)	MAX (KSI)	K(APP) (KSI*80RT IN)	STAN DEV	K(C) (KSI*80RT IN)	STAN DEV	REFER							
T6	S	0.09	83 T-L	67.4	3.000	0.088	1.290	1.962	---	27.40	44.15	66.89*	1973	86213									
															0.088	1.250	1.990	---	27.70	43.58	68.95*	1973	86213
T6	S	0.12	83 T-L	69.4	3.000	0.127	1.240	1.902	---	30.00	46.91	70.32*	1973	86213									
															0.125	1.250	2.032	---	30.40	47.82	79.09*	1973	86213
T6	S	0.09	84 T-L	69.0	3.000	0.089	1.270	1.989	---	27.20	43.31	67.61*	1973	86213									
															0.089	1.220	1.871	---	28.20	43.57	64.72*	1973	86213
T6	S	0.09	84 T-L	69.1	16.000	0.089	4.000	5.100	16.60	22.80	59.46	68.90	1973	86213									
															0.090	4.000	4.920	18.10	22.60	58.94	59.2/ 0.4	67.8/ 1.5	1973
T6	S	0.12	84 T-L	69.1	3.000	0.126	1.350	2.031	---	27.90	46.59	71.44*	1973	86213									
															0.126	1.300	1.925	---	29.10	47.17	69.22*	1973	86213
T6	S	0.16	84 T-L	69.2	3.000	0.164	1.201	1.906	---	30.30	46.25	71.21*	1973	86213									
															0.163	1.230	1.981	---	30.20	46.94	74.65*	1973	86213
0.16	1.200	1.991	---	29.80	45.49	74.18*	1973	86213															
0.16	1.037	1.470	---	32.30	45.10	57.92*	1973	86213															
0.16	1.173	1.542	---	30.70	46.07	57.46*	1973	86213															
0.16	1.207	1.589	---	29.70	45.50	57.14*	1973	86213															
0.16	1.230	1.968	---	25.90	40.26	49.24	1973	86213															
0.16	1.280	1.683	---	24.60	39.40	50.12	1973	86213															
0.16	1.197	1.590	---	27.20	41.42	49.7/ 0.6	1973	86213															
									44.0/ 2.9	52.40*	49.7/ 0.6	1973	86213										

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV.

TABLE 8.10.3.1

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.10.3.1 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM		7075(ALCLAD)			
CONDITION: T6					
ENVIRONMENT: R.T., LAB AIR					
DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.05	R=+0.20	R=+0.40	R=+0.60
DELTA K MIN	A:	2.83	.108		
	B:	2.49	.0825		
	C:	1.82		.0657	
	D:	1.56			.0699
		1.60			.0762
		2.00		.107	.136
		2.50	.0837	.175	
		3.00	.134	.250	
		3.50	.188		
		4.00	.229		
DELTA K MAX		5.00	.450		
		6.00	1.83	2.71	
	A:	6.96	3.91		
	B:	6.09	3.12		
	C:	3.40		.347	
	D:	2.40			.193
ROOT MEAN SQUARE		11.22	9.55	5.07	4.26
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1	1	1	1
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T6
 FORM: SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: T-L
 FREQUENCY: 30.00 HZ
 ENVIRONMENT: R. T., LAB AIR

YIELD STRENGTH: 47.2 KSI
 ULT. STRENGTH: 68.2 KSI
 SPECIMEN THK: 0.090"
 SPECIMEN WIDTH: 14.000"
 REFERENCES: EFM01

ALUM.
 ALLOY

7075
 (ALCLAD)

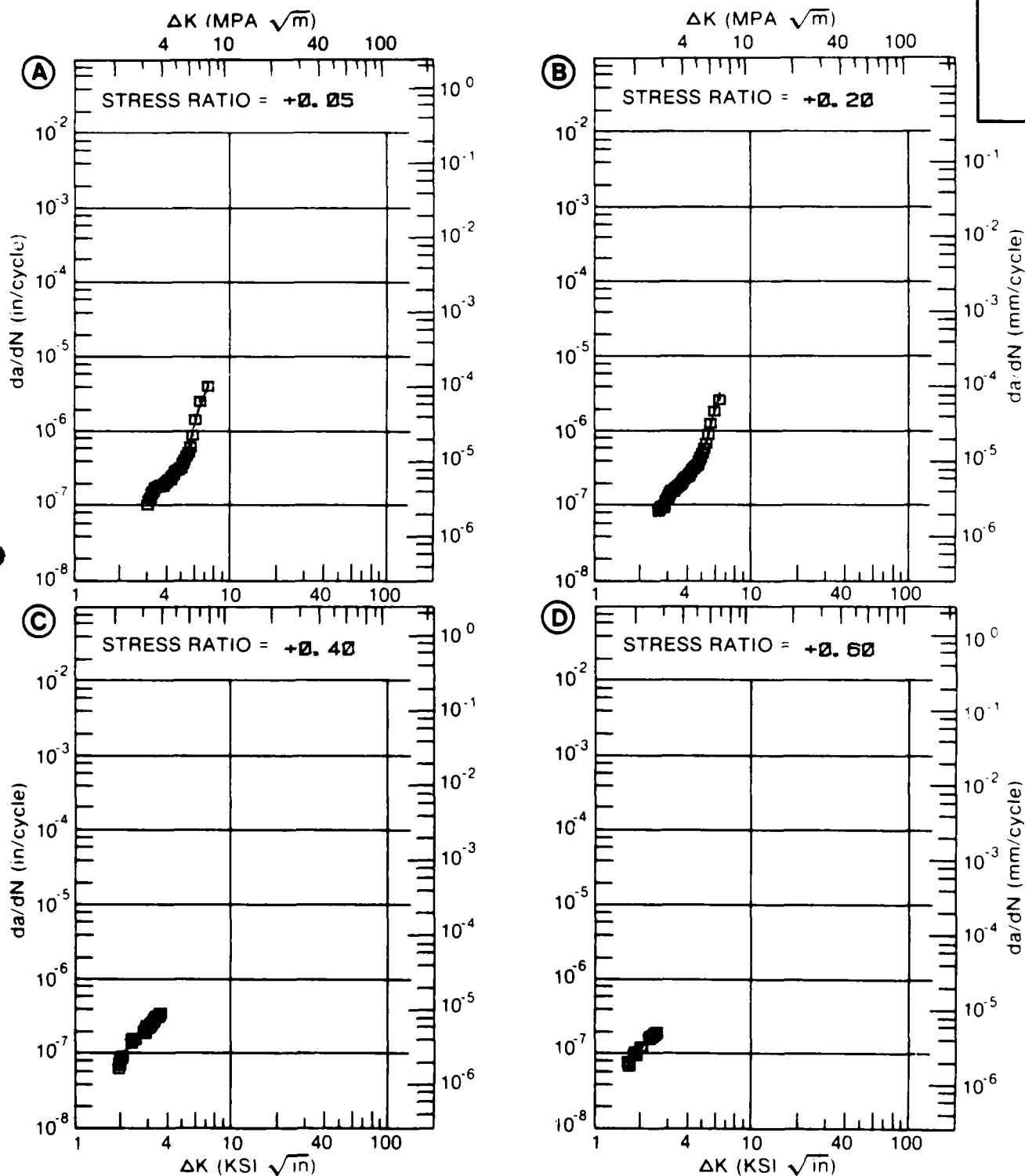


Figure 8.10.3.1

TABLE 8.10.3.2

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.10.3.2 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM 7075 (ALCLAD)
CONDITION: T6
ENVIRONMENT: R T / LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**+6 IN./CYCLE)			
		A	B	C	D
		R=+0.00	R=+0.33		
DELTA K	A: 8.86	4.97			
MIN	B: 6.36		4.28		
	C:				
	D:				
	7.00		4.77		
	8.00		6.31		
	9.00	5.20	8.91		
	10.00	6.99	12.8		
	13.00	14.7	34.4		
	16.00	28.6	86.2		
	20.00	68.3	290.		
	25.00	228.			
	30.00	996.			
DELTA K	A: 30.12	1035.			
MAX	B: 21.86		652.		
	C:				
	D:				
ROOT MEAN SQUARE		13.41	9.91		
PERCENT ERROR					
FE	0.0-0.5				
CTION	0.5-0.8				
DO	0.8-1.25	2	3		
MARY	1.25-2.0				
(NA)	>2.0				

CONDITION/HT: T6
 FORM: 0.09" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: T-L
 FREQUENCY: 13.30 HZ
 ENVIRONMENT: R. T., LAB AIR

YIELD STRENGTH: 67.7 KSI
 ULT. STRENGTH: 77.8 KSI
 SPECIMEN THK: 0.089"
 SPECIMEN WIDTH: 4.000"
 REFERENCES: 86213

ALUM.
 ALLOY

7075
 (ALCLAD)

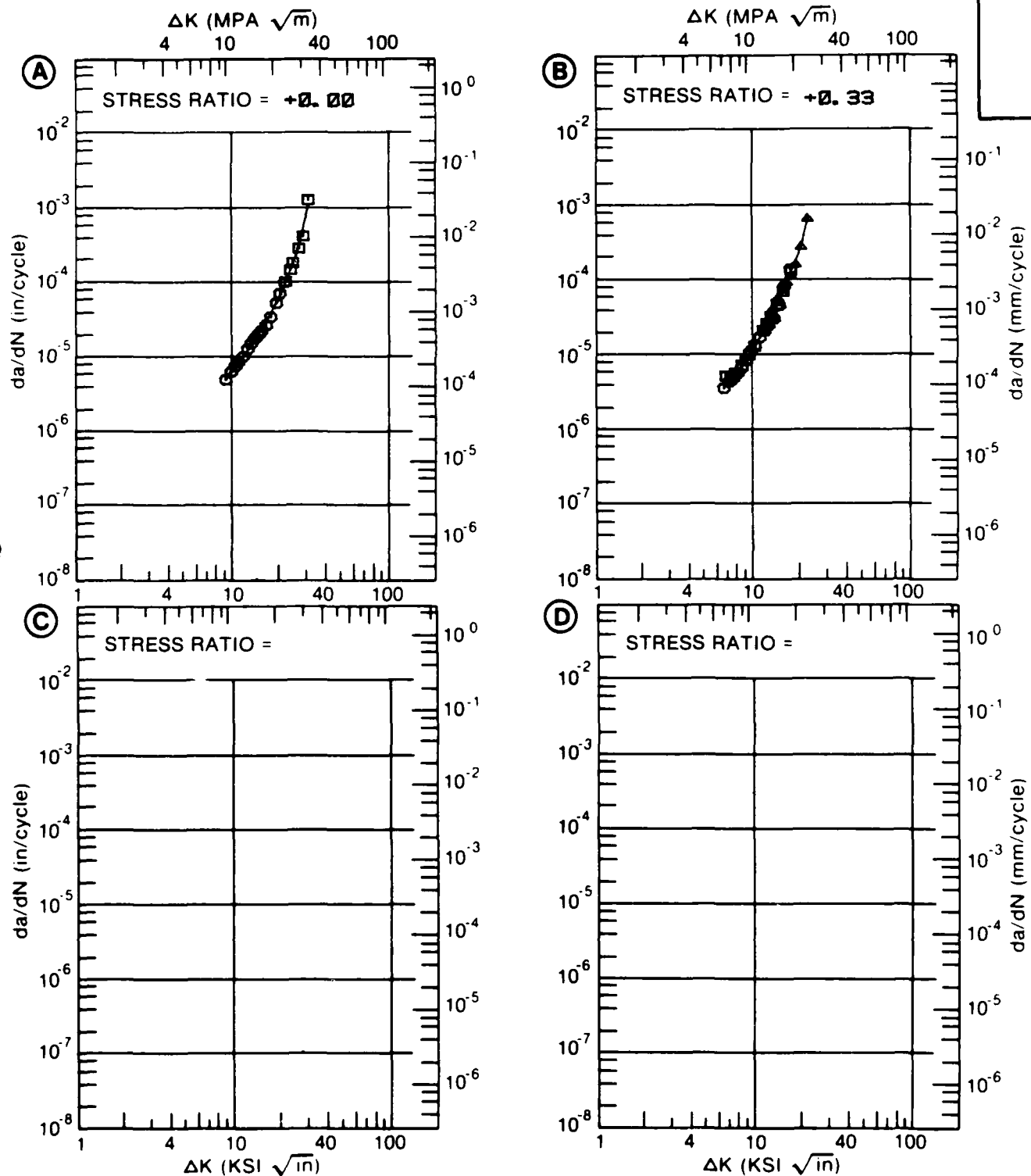


Figure 8.10.3.2

TABLE 8.11.1.1

MEAN PLANE STRAIN FRACTURE TOUGHNESS DATA OF
ALUMINUM ALLOY 7079 AT ROOM TEMPERATURE

CONDITION/HT	MEAN K _{IC} ± STANDARD (KSI SQRT(IN)) DEVIATION	(NUMBER OF SPECIMENS)
PLATE		
	L ₁ L	S ₁ L
T6	33.0 ± 2.9 (8)	-----
T651	27.6 ± 1.8 (39)	23.3 ± 2.0 (27)
T851	28.6 ± 1.6 (7)	21.3 ± 3.4 (2)
FORGING		
	L ₁ L	S ₁ L
T652	27.8 ± 2.2 (13)	23.1 ± 2.2 (10)
		18.1 ± 0.7 (12)

TABLE 8.11.1.2

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7079

TEST CONDITIONS

SPECIMEN
ORIENTATION L-TENVIRONMENT: LAB AIR
AT R.T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ (HZ)	DELTA K LEVELS (KSI SQRT(IN))	FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)				
				2	5	10	20	50	100
T6	SHEET	0.05	2.00				64.8		
T6	SHEET	0.50	2.00				364		
T6	BILLET	0.02	1.00-30.00			10.7	110		
T651	SHEET	0.05	2.00			14.0	92.6		
T652	FORGING	0.33	5.17			22.2	145		

TABLE 8.11.1.3

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7079

TEST CONDITIONSSPECIMEN
ORIENTATION T-1ENVIRONMENT LAB AIR
AT R.T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ (HZ)	DELTA K LEVELS (KSI SQRT(IN))	FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)				
					2.5	5	10	20	50 100
T6	FORGING	0.05	9.00			0.38	7.81	42.8	
T6	FORGING	0.50	9.00		0.19	2.08	22.0		
T6S2	FORGING	0.33	5.17				18.3		

TABLE 8.11.1.4

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7079

TEST CONDITIONS

SPECIMEN
ORIENTATION T-TENVIRONMENT
H H A
A T R T

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ (HZ)	DELTA K LEVELS (KSI SQRT(IN))	FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)				
					2.5	5	10	20	50 100
T6	FORGING	0.05	9.00			2.52	17.4	70.4	
T6	FORGING	0.50	9.00		0.26	3.77			

TABLE 8.11.2.1

CONDITION	ALUMINUM				7079				K(1C)				K(1C)				DATE	REFER
	--PRODUCT-- FORM	THICK (IN)	TEST TEMP (F)	SPECIMEN ORIENT	YIELD (KSI)	-----SPECIMEN-----			CRACK LENGTH (IN)	2.5* (IN)	K(1C)/TVS**2 (KSI*SQRT IN)	K(1C) MEAN (KSI*SQRT IN)	STAN DEV					
						WIDTH (IN)	THICK (IN)	DESIGN										
T651	P	1.37	R. T.	T-L	74.2	3.000	1.385	NB	1.500	0.27		24.90		1978	MPC01			
		1.37			74.2	3.000	1.384	NB	1.560	0.26		23.70		1973	86213			
		1.00			74.8	2.006	0.968	CT	1.063	0.14		18.20		1978	MPC01			
		1.37			75.6	3.000	1.397	NB	1.612	0.21		20.60	23.3/ 2.0	1973	86213			
T651	P	1.37	82	T-L	74.2	2.000	1.000	CT	1.012	0.22		22.10		1973	86213			
		1.37			74.2	2.000	1.001	CT	1.007	0.21		21.60		1973	86213			
		1.37			74.2	2.000	1.001	CT	1.017	0.21		21.50	21.7/ 0.3	1973	86213			
T651	P	5.00	88	T-L	65.5	2.000	1.001	CT	1.019	0.36		24.70		1973	86213			
		5.00			65.5	2.000	1.002	CT	1.047	0.36		25.00	24.9/ 0.2	1973	86213			
T651	P	1.37	88	S-T	69.1	1.000	0.500	CT	0.483	0.15		16.70		1973	86213			
		1.37			69.1	1.000	0.500	CT	0.523	0.15		17.20	17.0/ 0.4	1973	86213			
T651	P	5.00	R. T.	S-L	60.6	2.000	1.001	CT	1.002	0.37		23.40		1973	86213			
		5.00			60.6	2.000	1.001	CT	0.994	0.33		21.90		1973	86213			
		5.00			61.6	2.000	1.001	CT	1.015	0.30		21.50		1973	86213			
		5.00			61.6	2.000	1.001	CT	1.024	0.31		21.60		1973	86213			
		1.37			67.3	1.011	0.501	CT	0.465	0.13		15.70		1978	MPC01			
		1.37			67.3	1.000	0.500	CT	0.473	0.15		16.50		1973	86213			
		1.37			67.3	1.008	0.501	CT	0.484	0.13		15.80		1978	MPC01			
		1.37			67.3	1.000	0.501	CT	0.480	0.15		16.90		1978	MPC01			
		1.37			67.3	1.000	0.500	CT	0.472	0.14		16.10		1973	86213			
		1.37			67.3	1.000	0.501	CT	0.485	0.14		15.90	18.6/ 3.2	1973	86213			
T651	P	1.37	86	S-L	69.1	1.000	0.500	CT	0.507	0.13		16.00		1973	86213			
		1.37			69.1	1.000	0.500	CT	0.505	0.17		17.90		1973	86213			
		1.37			69.1	1.000	0.500	CT	0.490	0.16		17.40	17.1/ 1.0	1973	86213			
T651	P	5.00	88	S-L	60.5	2.000	1.001	CT	1.016	0.31		21.30		1973	86213			
		5.00			60.5	2.000	1.001	CT	1.022	0.33		22.00		1973	86213			
		5.00			61.8	2.000	1.002	CT	1.030	0.33		22.60		1973	86213			
		5.00			61.8	2.000	1.001	CT	1.024	0.32		22.10	22.0/ 0.5	1973	86213			
T652	F	6.00	R. T.	L-T	63.9	4.000	2.001	NB	1.990	0.67		33.10		1970	77720			
		6.00			63.9	4.000	2.001	NB	2.055	0.51		28.60		1970	77720			

TABLE 8.11.2.1 (con't)

CONDITION	--PRODUCT--			TEST SPECIMEN ORIENT	YIELD STRENGTH (KSI)	ALUMINUM		7079		K(1C)		K(1C) STAN	DATE	REFER		
	FORM	THICK (IN)	THICK (F)			-----SPECIMEN-----		W	THICK (IN)	DESIGN	CRACK LENGTH (IN)				2.5* (IN)	K(1C)/TVS)**2 (KSI*SQRT IN)
T652	F	6.00	R. T.	L-T	63.9	4.000	2.001	NB	1.942	0.50	28.50	1970	77720			
		5.00			65.6	3.000	1.502	NB	1.495	0.37	25.10	1970	77720			
		5.00			65.6	3.000	1.500	NB	1.593	0.43	27.10	1970	77720			
		4.00			68.0	3.000	1.500	NB	1.587	0.40	27.10	1970	77720			
		4.00			68.0	3.000	1.500	NB	1.573	0.37	26.20	1970	77720			
		4.00			68.0	3.000	1.500	NB	1.570	0.38	26.40	1970	77720			
		3.00			68.7	2.000	1.000	NB	1.022	0.39	27.10	1970	77720			
		3.00			68.7	2.000	0.999	NB	1.015	0.40	27.70	1970	77720			
		2.00			71.0	1.490	0.753	NB	0.753	0.38	27.70	1970	77720			
		2.00			71.0	1.490	0.751	NB	0.845	0.47	30.60	1970	77720			
T652	F	6.00	R. T.	T-S	59.1	4.000	2.002	CT	2.167	0.38	22.90	1973	86213			
		T652	F	6.00	R. T.	T-L	57.5	4.000	2.001	NB	2.170	0.44	24.10	1970	77720	
				6.00			57.5	4.000	2.001	NB	2.035	0.38	22.40	1970	77720	
				6.00			57.5	4.000	2.001	NB	2.092	0.46	24.60	1970	77720	
				5.00			61.4	3.000	1.500	NB	1.527	0.44	25.60	1970	77720	
				5.00			61.4	3.000	1.500	NB	1.578	0.34	22.50	1970	77720	
				4.00			63.0	3.000	1.500	NB	1.602	0.24	19.50	1970	77720	
				2.00			64.9	1.500	0.751	NB	0.797	0.36	24.70	1970	77720	
				3.00			65.7	2.000	1.000	NB	1.032	0.39	26.00	1970	77720	
				3.00			65.7	2.000	0.998	NB	0.990	0.24	20.50	1970	77720	
T652	F	6.00	R. T.	S-L	58.1	1.000	0.500	NB	0.963	0.26	21.10	23.1/	2.2	1970	77720	
		6.00			58.1	1.000	0.500	NB	0.495	0.23	17.60	1970	77720			
		6.00			58.1	1.000	0.500	NB	0.493	0.26	18.70	1970	77720			
		6.00			58.3	1.000	0.499	NB	0.482	0.24	18.00	1970	77720			
		5.00			58.3	1.000	0.500	NB	0.485	0.22	18.30	1970	77720			
		5.00			58.3	1.000	0.500	NB	0.517	0.22	18.10	1970	77720			
		5.00			58.3	1.000	0.500	NB	0.487	0.22	18.30	1970	77720			
		6.00			58.5	2.000	1.000	CT	0.978	0.23	17.60	1973	86213			
		6.00			58.5	2.000	1.000	CT	0.981	0.23	17.70	1973	86213			
		6.00			58.5	2.000	1.000	CT	0.996	0.25	18.60	1973	86213			
T652	F	4.00			62.9	0.500	0.250	NB	0.257	0.19	17.20	1970	77720			
		4.00			62.9	0.500	0.250	NB	0.263	0.18	17.10	1970	77720			
		4.00			62.9	0.500	0.250	NB	0.263	0.24	19.70	18.1/	0.7	1970	77720	
		4.00			62.9	0.500	0.250	NB	0.262	0.24	19.70	18.1/	0.7	1970	77720	

TABLE 8.11.2.1 (con't)

CONDITION	ALUMINUM				7079		K(1C)		CRACK		2.5*		K(1C) STAN		K(1C) MEAN DEV		DATE		REFER	
	--PRODUCT--		TEST SPECIMEN		YIELD		W		SPECIMEN		LENGTH		K(1C)/TVS)**2		K(1C)*SQRT IN)					
	FORM	THICK	TEMP	ORIENT	STRENGTH	WIDTH	THICK	DESIGN	(IN)	(IN)	(IN)	(IN)	(IN)	(IN)	(IN)	(IN)				
	(IN)	(F)			(KSI)	(IN)	(IN)													
T851	P	1.37	R. T.	L-T	75.2	2.982	1.397	NB	1.640	0.28	25.90	1978	MPC01							
		1.37			75.2	2.994	1.398	NB	1.557	0.36	28.70	1978	MPC01							
		1.37			75.2	2.984	1.398	NB	1.522	0.32	27.20	1978	MPC01							
		1.37			75.2	3.020	1.397	NB	1.540	0.40	30.60	1978	MPC01							
		1.37			75.2	3.010	1.398	NB	1.505	0.38	29.90	1978	MPC01							
		1.50			76.8	2.016	1.002	CT	1.109	0.36	29.70	1978	MPC01							
T851		1.50			76.8	2.006	1.002	CT	1.083	0.32	28.40	1978	MPC01							
	P	1.37	R. T.	T-L	72.6	2.988	1.397	NB	1.524	0.16	18.90	1978	MPC01							
		1.50			74.4	2.006	1.001	CT	1.063	0.24	23.70	1978	MPC01							

TABLE 8.11.2.2

CONDITION	ALUMINUM		7079		K(C)									
	--PRODUCT--		CRACK LENGTH		GROSS STRESS									
	FORM	THICK (IN)	TEST SPEC OR TEMP (F)	YIELD STR (KSI)	---SPECIMEN---									
					WIDTH (IN)	THICK (IN)								
					INIT (IN)	FINAL (IN)	MAX (KSI)	K (APP) MEAN DEV (KSI*80RT IN)	K (APP) MEAN DEV (KSI*80RT IN)	K (C) MEAN DEV (KSI*80RT IN)	K (C) STAN DEV	DATE	REFER	
					W	2A(D)	2A(F)	S(D)	S(MAX)					
BUCKLING OF CRACK EDGES NOT RESTRAINED														
T6	S	0.06	R.T.	L-T	64.0	2.000	0.062	0.623	0.750	---	43.20	45.44*	51.42*	1973 86213
		0.06			64.0	2.000	0.062	0.622	0.870	---	42.90	45.13*	56.95*	1973 86213
		0.06			64.0	2.000	0.062	0.624	0.820	---	42.30	44.58*	53.68*	1973 86213
		0.06			70.2	2.000	0.063	0.625	1.150	---	43.20	45.53*	73.79*	1973 86213
		0.06			70.2	2.000	0.061	0.625	1.270	---	42.40	44.69*	81.31*	1973 86213
		0.06			70.2	2.000	0.063	0.625	1.120	---	43.60	45.95*	72.43*	1973 86213
		0.06			70.2	2.000	0.063	0.625	1.150	---	43.20	45.53*	73.79*	1973 86213
		0.06			70.2	2.000	0.061	0.625	1.220	---	42.60	44.90*	77.77*	1973 86213
T6	S	0.10	R.T.	L-T	75.6	3.000	0.112	1.000	1.410	---	39.70	53.47	68.70*	1973 86213
		0.10			75.6	3.000	0.112	1.000	---	---	40.50	54.54*	---	1973 86213
		0.10			75.6	3.000	0.112	1.000	1.370	---	40.60	54.68*	68.61*	1973 86213
		0.10			75.6	3.000	0.112	1.000	1.480	---	40.20	54.14	72.51*	1973 86213
T6	S	0.12	R.T.	L-T	72.0	2.990	0.120	0.991	1.300	---	42.00	56.22*	68.14*	1973 86213
		0.12			72.0	2.990	0.120	0.995	1.210	---	42.30	56.77*	65.01*	1973 86213
T6	S	0.12	R.T.	L-T	72.0	3.000	0.119	0.995	1.320	---	42.40	56.88*	69.55*	1973 86213
		0.12			72.0	3.000	0.119	0.997	1.320	---	42.40	56.95*	69.55*	1973 86213
T6	S	0.14	R.T.	L-T	74.2	3.000	0.128	1.143	1.949	---	36.00	53.04	87.04*	1973 86213
		0.14			74.2	3.000	0.128	1.180	1.951	---	35.30	53.23	85.47*	1973 86213
		0.14			75.7	3.000	0.136	1.133	1.873	---	35.70	52.27	82.04*	1973 86213
		0.14			75.7	3.000	0.136	1.107	1.951	---	36.20	52.15	87.65*	1973 86213
T6	S	0.10	82	L-T	72.5	3.000	0.099	1.110	2.010	---	37.10	53.59*	93.65*	1973 86213
		0.10			72.5	3.000	0.099	1.150	2.032	---	35.50	52.56	91.03*	1973 86213
T6	S	0.10	84	L-T	71.6	3.000	0.099	1.150	2.145	---	35.50	52.56*	98.96*	1973 86213
		0.10			71.6	3.000	0.099	1.130	2.041	---	35.50	51.91	91.56*	1973 86213
T6	S	0.06	R.T.	T-L	62.4	2.000	0.062	0.622	0.830	---	41.80	43.97*	53.53*	1973 86213
		0.06			62.4	2.000	0.062	0.623	0.800	---	40.90	43.02*	50.97*	1973 86213
		0.06			62.4	2.000	0.061	0.624	0.850	---	41.00	43.21*	53.46*	1973 86213
		0.06			67.3	2.000	0.062	0.625	1.040	---	40.30	42.48*	62.26*	1973 86213

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV.

TABLE 8.11.2.2 (con't)

CONDITION	ALUMINUM				7079		K(C)																																																			
	--PRODUCT-- FORM THICK (IN)		TEST SPEC OR TEMP (F)		YIELD STR (KSI)		---SPECIMEN---		CRACK LENGTH CROSS STRESS				K(IAPP) STAN				K(C) STAN																																									
							W	B	INIT (IN)	FINAL (IN)	ONSET (KSI)	MAX (KSI)	K(IAPP) (KSI*SQRT IN)	MEAN DEV	K(C) (KSI*SQRT IN)	MEAN DEV	K(C) (KSI*SQRT IN)	STAN DEV																																								
																			2A(D)	2A(F)	S(O)	S(MAX)																																				
BUCKLING OF CRACK EDGES NOT RESTRAINED																																																										
T6	S	0.06	R. T.	T-L	67.3	2.000	0.062	0.625	1.180	---	41.10	43.32*	72.21*	1973 86213																																												
																				0.06	2.000	0.062	0.625	1.260	---	41.10	43.32*	78.04*	1973 86213																													
																														0.06	2.000	0.062	0.625	1.110	---	39.80	41.95*	65.52*	1973 86213																			
																																								0.06	2.000	0.062	0.625	1.060	---	41.30	43.53*	64.96*	1973 86213									
T6	S	0.10	R. T.	T-L	68.3	3.000	0.099	1.150	2.035	---	33.80	50.04*	86.80*	1973 86213																																												
															0.10	3.000	0.099	1.160	2.005	---	33.60	50.05*	84.46*	1973 86213																																		
T6	S	0.10	R. T.	T-L	73.8	3.000	0.112	1.000	1.320	---	36.60	49.29	60.04*	973 86213																																												
															0.10	3.000	0.112	1.000	1.520	---	36.30	48.89	67.06*	1973 86213																																		
																													0.10	3.000	0.112	1.000	1.430	---	35.70	48.08	62.51*	1973 86213																				
																																							0.10	3.000	0.112	1.000	---	---	37.10	49.97	49.1/ 0.8	1973 86213										
T6	S	0.12	R. T.	T-L	69.6	2.990	0.119	0.995	1.300	---	39.20	52.61*	63.60*	1973 86213																																												
																			0.12	2.990	0.119	0.992	1.350	---	38.10	51.07*	63.69*	1973 86213																														
																													0.12	2.990	0.119	0.992	1.350	---	37.30	50.00*	62.35*	1973 86213																				
																																							T6	S	0.14	R. T.	T-L	71.3	3.000	0.129	1.240	1.962	---	30.20	47.23	73.72*	1973 86213					
0.14	3.000	0.128	1.180	1.964	---	31.80	47.95	77.74*	1973 86213																																																	
										0.14	3.000	0.137	1.160	1.902	---	29.10	43.35	68.21*	1973 86213																																							
																				0.14	3.000	0.137	1.160	1.911	---	29.70	44.24	45.7/ 2.2	69.99*	1973 86213																												
T6	S	0.10	84	T-L	69.1	3.000	0.099	1.170	1.993	---	31.00	46.46	77.27*	1973 86213																																												
																			0.10	3.000	0.100	1.110	2.047	---	31.70	45.79	46.1/ 0.5	82.11*	1973 86213																													
																														BUCKLING OF CRACK EDGES NOT RESTRAINED																												
																														T651	S	0.12	R. T.	L-T	74.3	3.000	0.126	1.130	1.530	18.70	33.90	49.57	63.00*	1973 86213														
0.12	3.000	0.126	1.100	1.390	20.50	35.30	50.67	60.37*	1973 86213																																																	
										0.12	3.000	0.125	1.000	1.300	20.70	38.10	51.31	61.76*	1973 86213																																							
																				0.12	3.000	0.126	1.000	1.540	21.20	36.00	48.48	67.30*	1973 86213																													
																																																	0.12	3.000	0.125	1.090	1.430	19.40	35.00	49.92	61.29*	1973 86213

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV.

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV

TABLE 8.11.3.1

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.11.3.1 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7079
 CONDITION: T6
 ENVIRONMENT: R.T., LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.05	R=+0.50		
DELTA K MIN	A: 19.31	55.4			
	B: 16.89		172.		
	C:				
	D:				
	20.00	64.8	364.		
	25.00	167.	989.		
	30.00		2676.		
DELTA K MAX	A: 26.41	218.			
	B: 31.99		4067.		
	C:				
	D:				
ROOT MEAN SQUARE		6.21	9.61		
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8		1		
RATIO	0.8-1.25	2	1		
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T6
 FORM: 0.17" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 2.00 HZ
 ENVIRONMENT: R.T., LAB AIR

YIELD STRENGTH: 57.0 KSI
 ULT. STRENGTH:
 SPECIMEN THK: 0.170"
 SPECIMEN WIDTH: 15.000"
 REFERENCES: 86734

ALUM.
 ALLOY

7079

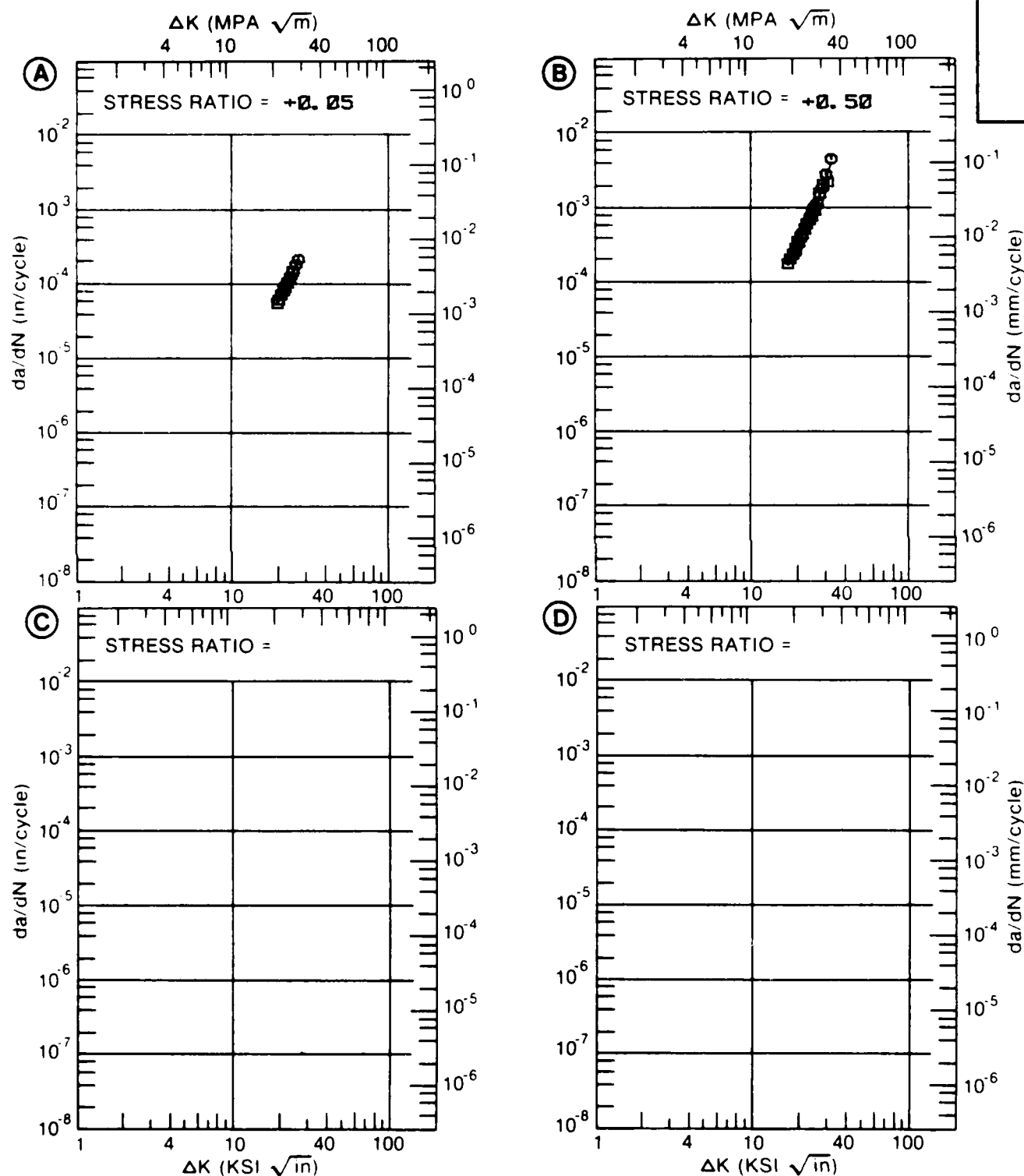


Figure 8.11.3.1

TABLE 8.11.3.2

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.11.3.2 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM 7079
CONDITION: T6
ENVIRONMENT: R.T., LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.02			
DELTA K	A: 5.46	.114			
MIN	B:				
	C:				
	D:				
	6.00	.262			
	7.00	1.01			
	8.00	2.84			
	9.00	6.13			
	10.00	10.7			
	13.00	27.4			
	16.00	53.6			
	20.00	110.			
DELTA K	A: 20.96	123.			
MAX	B:				
	C:				
	D:				
ROOT MEAN SQUARE		25.00			
PERCENT ERROR					

LIFE 0.0-0.9
PREDICTION 0.5-0.8
RATIO 0.8-1.25
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T6
 FORM: 1.70" TH BILLET
 SPECIMEN TYPE: WOL
 ORIENTATION: L-T
 FREQUENCY: 1.00- 30.00 HZ
 ENVIRONMENT: R. T., LAB AIR

YIELD STRENGTH: 79.0 KSI
 ULT. STRENGTH: 96.0 KSI
 SPECIMEN THK: 1.250"
 SPECIMEN WIDTH: 5.000"
 REFERENCES: MA011

ALUM.
 ALLOY

7079

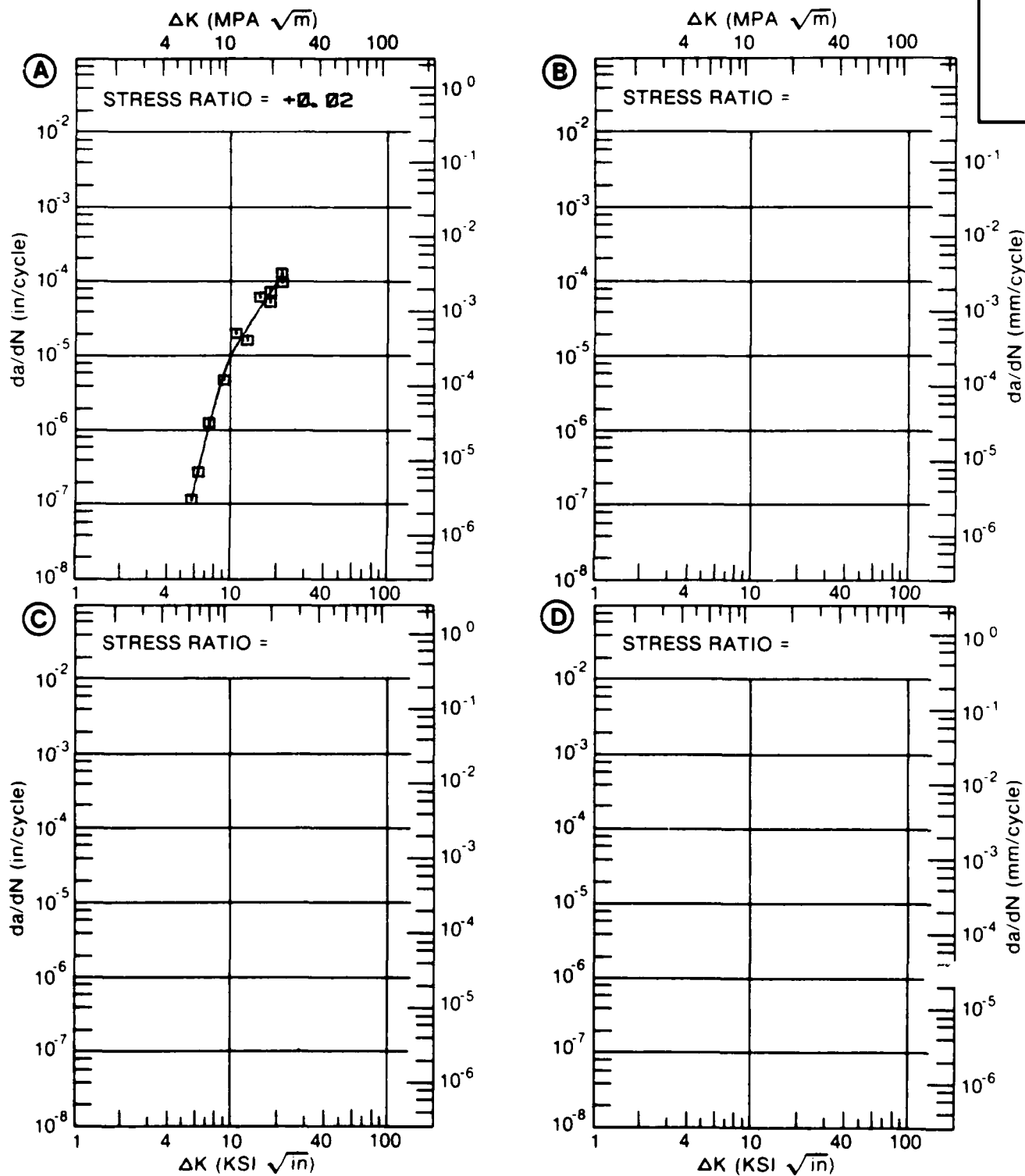


Figure 8.11.3.2

TABLE 8.11.3.3

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.11.3.3 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7079
CONDITION: T6
ENVIRONMENT: R. T., LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.05	R=+0.50		
DELTA K MIN	A: 4.14	.284			
	B: 2.16		.137		
	C:				
	D:				
	2.50		.193		
	3.00		.317		
	3.50		.517		
	4.00		.833		
	5.00	.387	2.08		
	6.00	.922	4.65		
	7.00	1.91	8.94		
	8.00	3.29	15.3		
	9.00	5.17	21.3		
	10.00	7.81	22.0		
	13.00	21.8			
	16.00	35.7			
	20.00	42.8			
	25.00	55.4			
DELTA K MAX	A: 27.05	67.8			
	B: 10.09		21.7		
	C:				
	D:				
ROOT MEAN SQUARE		41.55	30.01		
PERCENT ERROR					

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T6
 FORM: FORGING
 SPECIMEN TYPE: CT
 ORIENTATION: T-L
 FREQUENCY: 9.00 HZ
 ENVIRONMENT: R. T., LAB AIR

YIELD STRENGTH: 72.6 KSI
 ULT. STRENGTH: 83.4 KSI
 SPECIMEN THK: 0.400"
 SPECIMEN WIDTH:
 REFERENCES: BW001

ALUM.
 ALLOY

7079

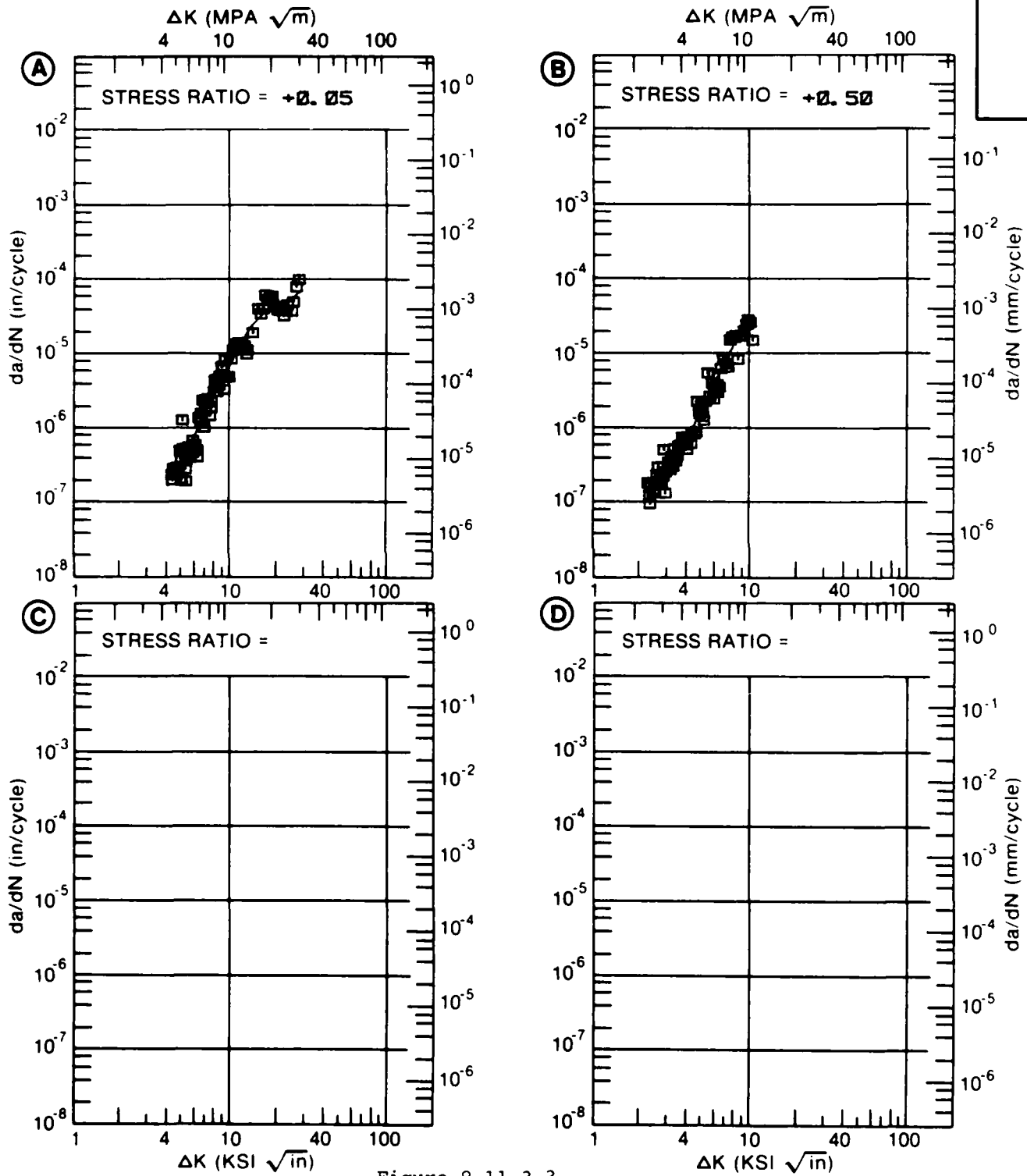


Figure 8.11.3.3

TABLE 8.11.3.4

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.11.3.4 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7079
 CONDITION: T6
 ENVIRONMENT: R. T., H. H. A.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.05	R=+0.50		
DELTA K MIN	A:	4.09	.377		
	B:	2.22	.197		
	C:				
	D:				
	2.50		.264		
	3.00		.537		
	3.50		1.04		
	4.00		1.70		
	5.00	2.52	3.77		
	6.00	4.34	8.18		
	7.00	6.76	14.2		
	8.00	9.78	20.8		
	9.00	13.4	34.9		
	10.00	17.4			
	13.00	32.0			
	16.00	48.4			
	20.00	70.4			
	25.00	98.4			
DELTA K MAX	A:	29.94	129.		
	B:	9.83	68.0		
	C:				
	D:				
ROOT MEAN SQUARE		24.19	19.85		
PERCENT ERROR					

LIFE 0.0-0.5
 PREDICTION 0.5-0.8
 RATIO 0.8-1.25
 SUMMARY 1.25-2.0
 (NP/NA) >2.0

CONDITION/HT: T6
 FORM: FORGING
 SPECIMEN TYPE: CT
 ORIENTATION: T-L
 FREQUENCY: 9.00 HZ
 ENVIRONMENT: R. T., H. H. A.

YIELD STRENGTH: 68.8 KSI
 ULT. STRENGTH: 78.7 KSI
 SPECIMEN THK: 0.400"
 SPECIMEN WIDTH: 4.500"
 REFERENCES: BW001

ALUM.
 ALLOY

7079

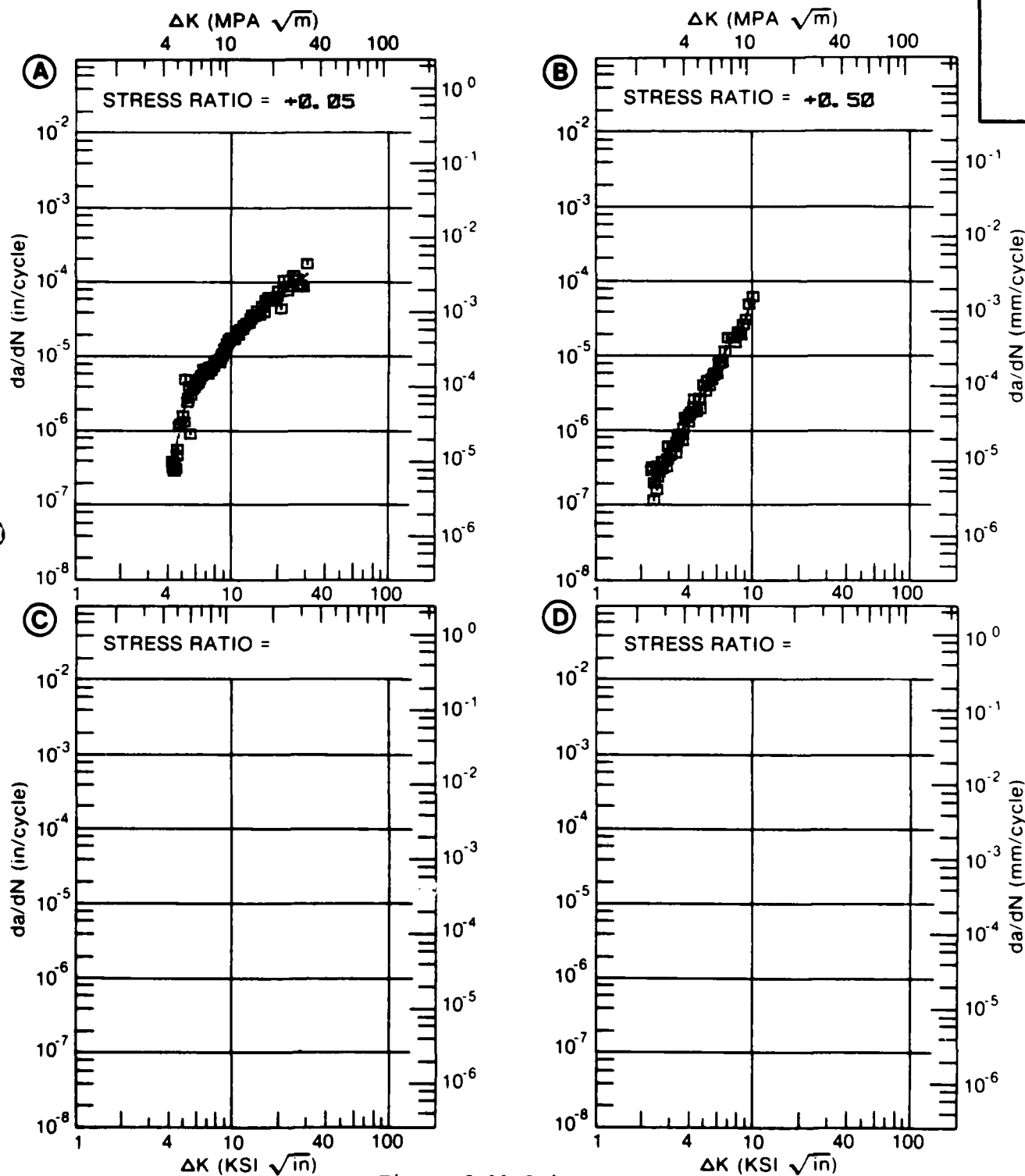


Figure 8.11.3.4

TABLE 8.11.3.5

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.11.3.5 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM 7079
CONDITION: T651

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. LAB AIR			
DELTA K MIN	A: 5.75	2.85			
	B:				
	C:				
	D:				
	6.00	3.17			
	7.00	4.79			
	8.00	7.07			
	9.00	10.1			
	10.00	14.0			
	13.00	30.9			
DELTA K MAX	16.00	55.0			
	20.00	92.6			
	25.00	135.			
	A: 26.66	145.			
	B:				
	C:				
	D:				

ROOT MEAN SQUARE 9.67
PERCENT ERROR

LIFE 0.0-0.3
PREDICTION 0.5-0.8
RATIO 0.8-1.25 4
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T651
 FORM: 0.18" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 STRESS RATIO: +0.05
 FREQUENCY: 2.00 HZ

YIELD STRENGTH: 72.6 KSI
 ULT. STRENGTH: 79.1 KSI
 SPECIMEN THK: 0.160- 0.161"
 SPECIMEN WIDTH: 3.000- 14.010"
 REFERENCES: 86734

ALUM.
 ALLOY

7079

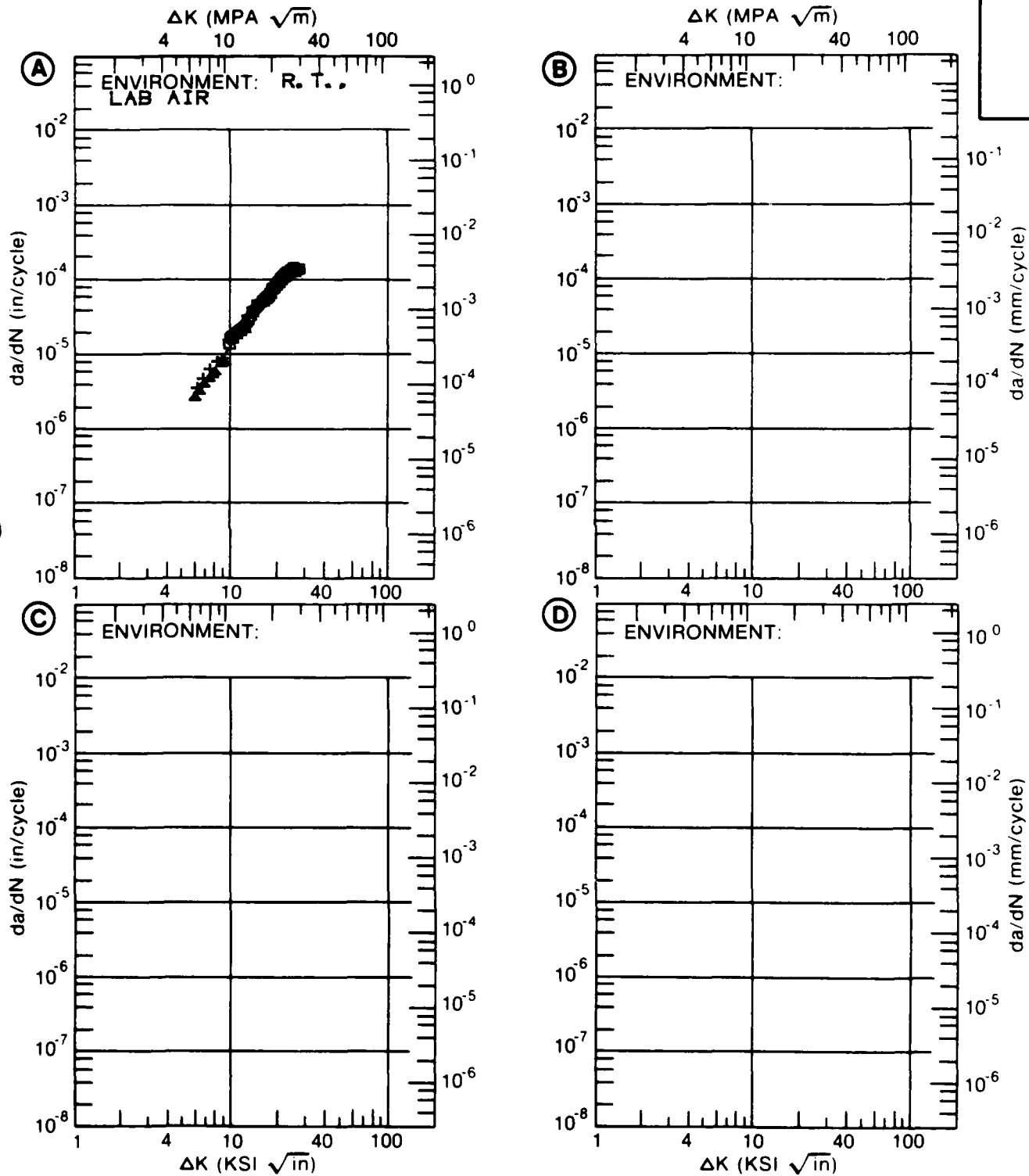


Figure 8.11.3.5

TABLE 8.11.3.6

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.11.3.6 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM 7079
CONDITION: T652
ENVIRONMENT: R.T., LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.33			
DELTA K MIN	A:	5.82	2.27		
	B:				
	C:				
	D:				
		6.00	2.61		
		7.00	4.95		
		8.00	8.02		
DELTA K MAX		9.00	11.6		
		10.00	15.6		
		13.00	27.6		
		16.00	37.3		
	A:	17.35	40.7		

ROOT MEAN SQUARE 5.08
PERCENT ERROR

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25 2
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T652
 FORM: 6.00" TH FORGING
 SPECIMEN TYPE: CCP
 ORIENTATION: L-S
 FREQUENCY: 5.17 HZ
 ENVIRONMENT: R.T., LAB AIR

YIELD STRENGTH:
 ULT. STRENGTH:
 SPECIMEN THK: 0.750"
 SPECIMEN WIDTH: 3.000"
 REFERENCES: 77720

ALUM.
 ALLOY

7079

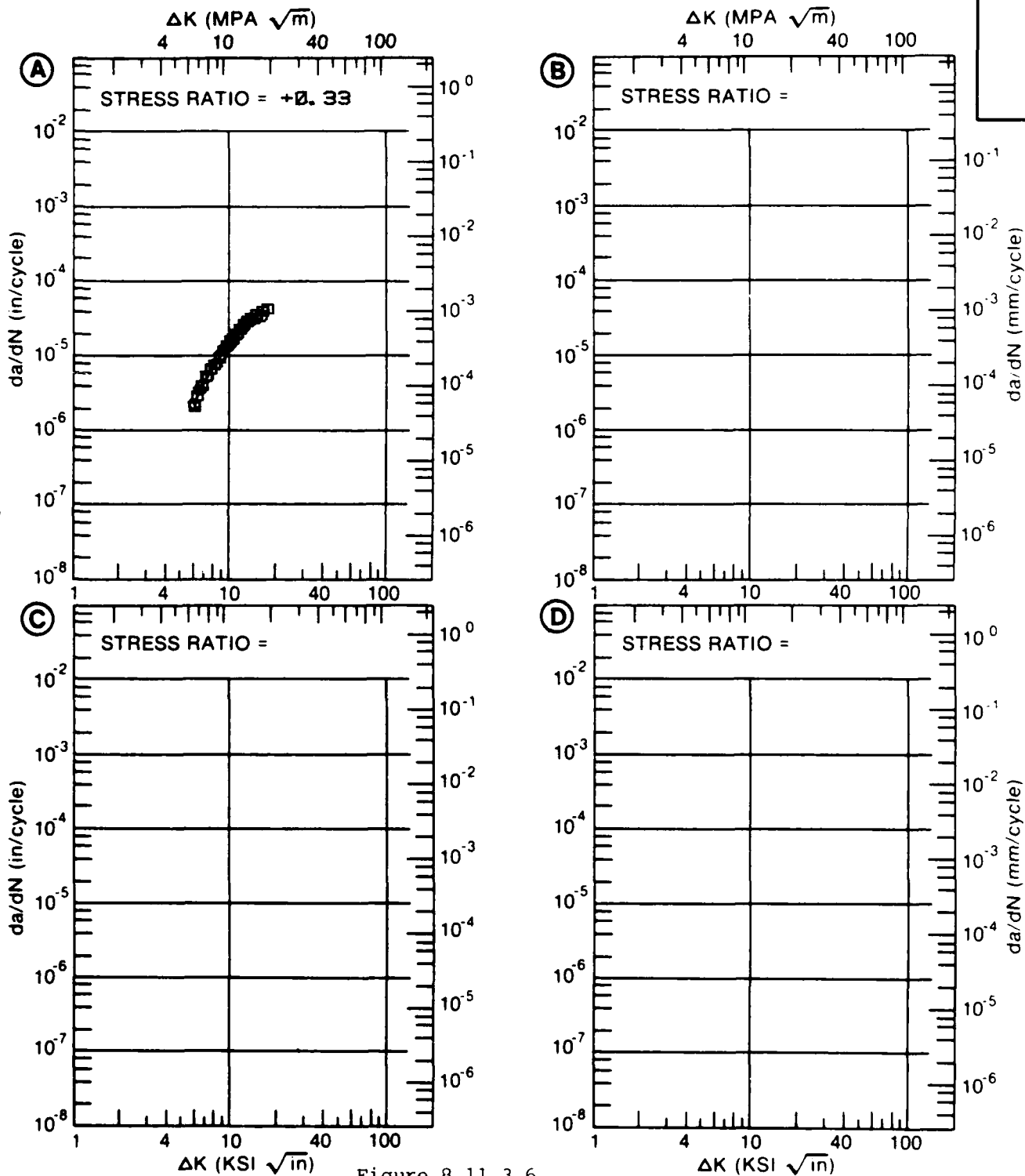


Figure 8.11.3.6

TABLE 8.11.3.7

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.11.3.7 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM 7079
CONDITION: T652
ENVIRONMENT: R.T., LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.33			
DELTA K MIN	A:	5.59	4.14		
	B:				
	C:				
	D:				
	6.00	5.36			
	7.00	8.82			
	8.00	12.8			
	9.00	17.3			
	10.00	22.2			
	13.00	41.2			
DELTA K MAX	16.00	71.0			
	20.00	145.			
	A:	21.86	204.		
	B:				
	C:				
	D:				
ROOT MEAN SQUARE		18.53			
PERCENT ERROR					

LIFE	0.0-0.5	
PREDICTION	0.5-0.8	2
RATIO	0.8-1.25	2
SUMMARY	1.25-2.0	
(NP/NA)	>2.0	

CONDITION/HT: T652
 FORM: 6.00" TH FORGING
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 5.17 HZ
 ENVIRONMENT: R. T., LAB AIR

YIELD STRENGTH:
 ULT. STRENGTH:
 SPECIMEN THK: 0.750"
 SPECIMEN WIDTH: 3.000"
 REFERENCES: 77720

ALUM.
 ALLOY

7079

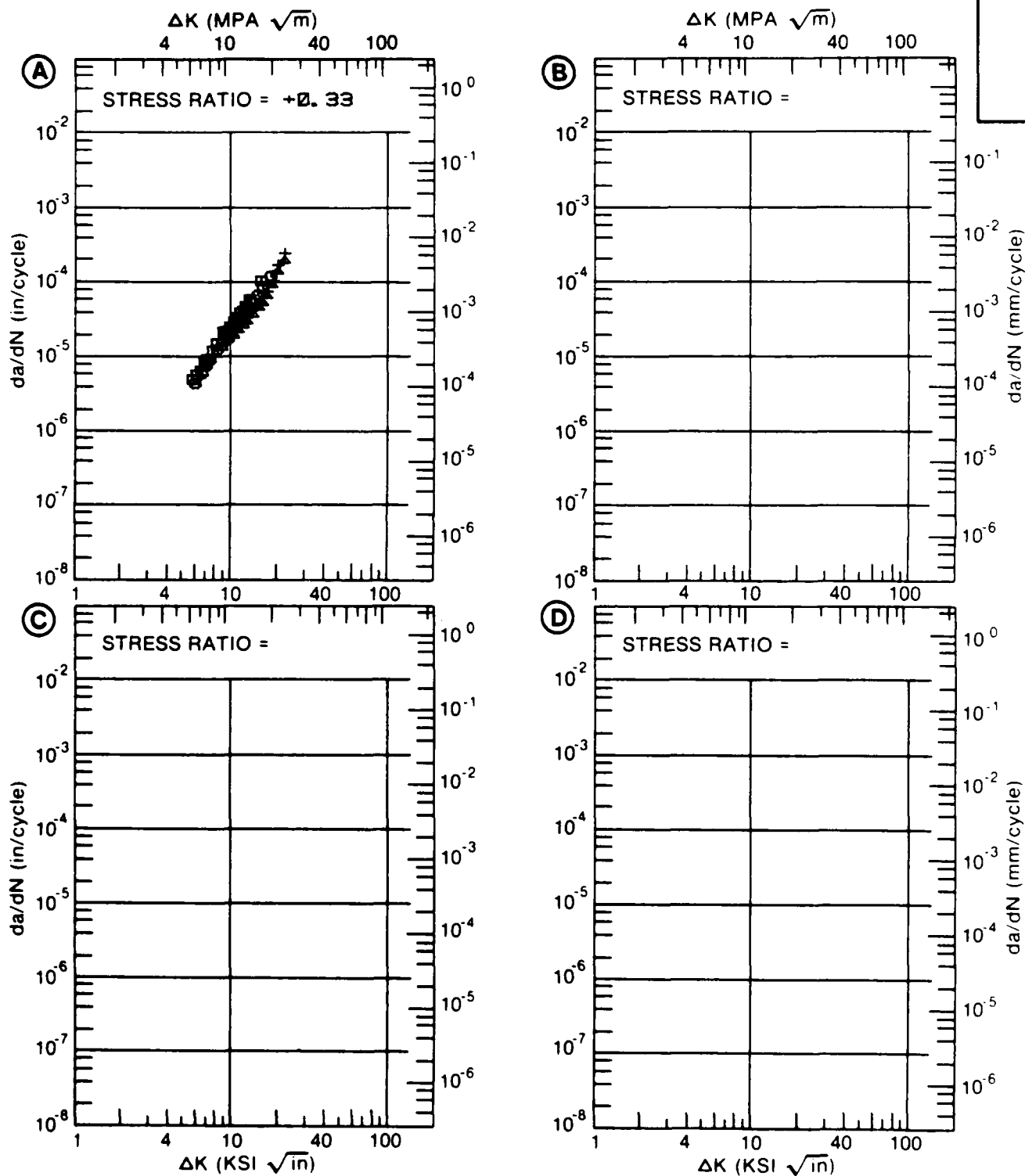


Figure 8.11.3.7

TABLE 8.11.3.8

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.11.3.8 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM 7079
CONDITION: T652

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		E= R. T. L. H. A.	E= R. T. LAB AIR	E= R. T. 90% R. H.	E= R. T. SALT FOG
DELTA K MIN	A:	5.83	2.61		
	B:	5.53	2.48		
	C:	5.59		3.29	
	D:	5.46			3.21
		6.00	2.80	4.32	4.76
		7.00	4.05	7.10	8.01
		8.00	5.44	10.2	11.5
		9.00	6.95	13.6	15.2
		10.00	8.56	17.5	19.4
		13.00	13.6	35.6	38.2
DELTA K MAX		16.00	16.8	76.9	81.4
		20.00	60.9		
	A:	16.92	17.0		
	B:	22.12	91.5		
DELTA K MAX	C:	17.28		110.	
	D:	16.26			87.4
ROOT MEAN SQUARE PERCENT ERROR		16.35	11.53	8.60	10.74

LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	2	6	2	4
SUMMARY	1.25-2.0				
(NP/NA)	2.0				

CONDITION/HT: T652
 FORM: 6.00" TH FORGING
 SPECIMEN TYPE: CCP
 ORIENTATION: T-S
 STRESS RATIO: +0.33
 FREQUENCY: 5.17 HZ

YIELD STRENGTH:
 ULT. STRENGTH:
 SPECIMEN THK: 0.750"
 SPECIMEN WIDTH: 3.000"
 REFERENCES: 77720

ALUM.
 ALLOY

7079

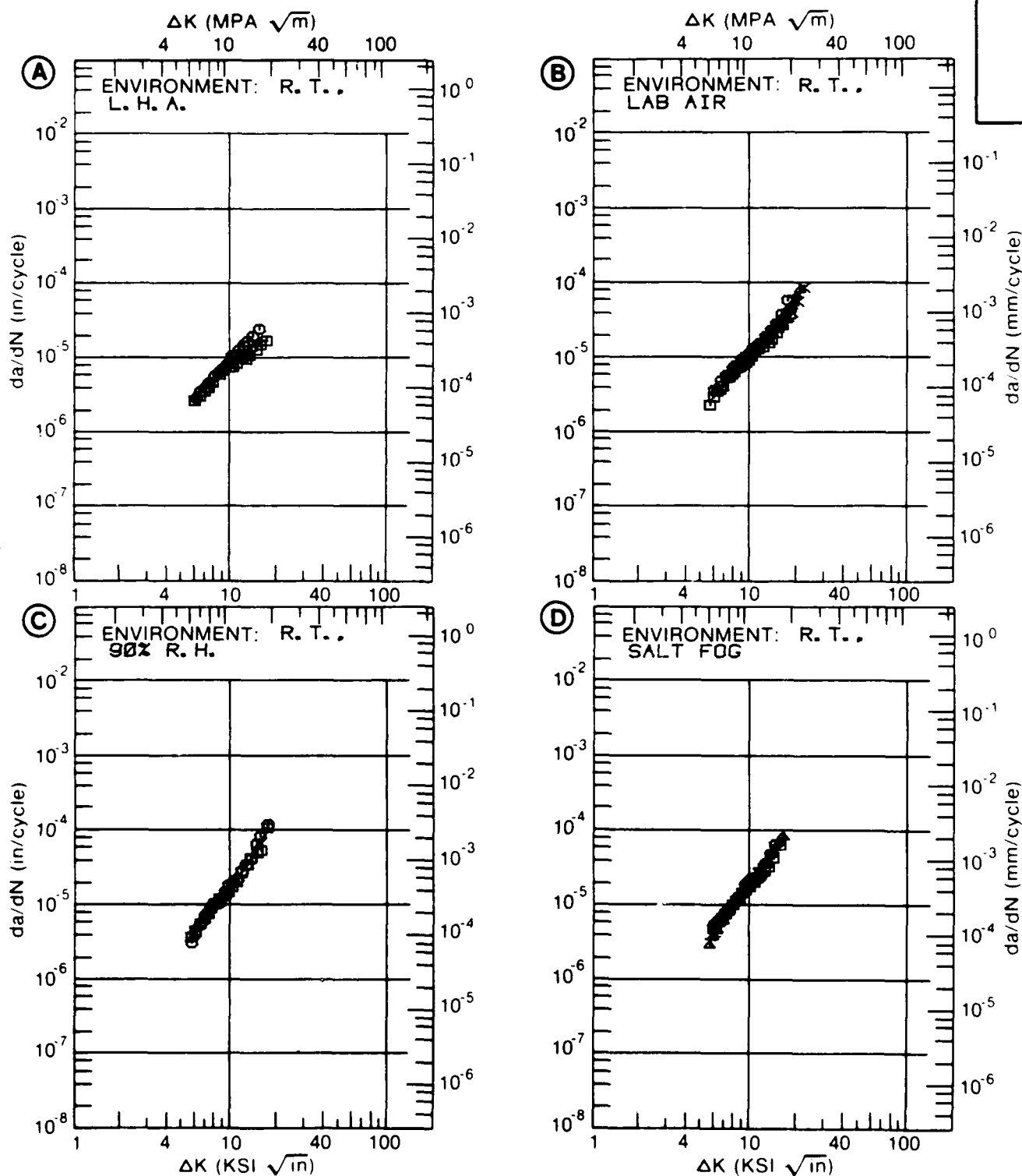


Figure 8.11.3.8

TABLE 8.11.3.9

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.11.3.9 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM 7079
CONDITION: T652

DELTA K (KSI*IN**1/2)		DA/DN (10**--6 IN./CYCLE)			
		A	B	C	D
		E: R. T. LAB AIR			
DELTA K MIN	A:	5.52	2.82		
	B:				
	C:				
	D:				
	6.00	3.73			
	7.00	6.04			
	8.00	9.02			
DELTA K MAX	9.00	13.0			
	10.00	18.3			
	13.00	51.3			
	A:	15.68	95.3		
	B:				
	C:				
	D:				

ROOT MEAN SQUARE 12.51
PERCENT ERROR

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25 2
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T652
 FORM: 6.00" TH FORGING
 SPECIMEN TYPE: CCP
 ORIENTATION: T-L
 STRESS RATIO: +0.33
 FREQUENCY: 5.17 HZ

YIELD STRENGTH:
 ULT. STRENGTH:
 SPECIMEN THK: 0.750"
 SPECIMEN WIDTH: 3.000"
 REFERENCES: 77720

ALUM.
 ALLOY

7079

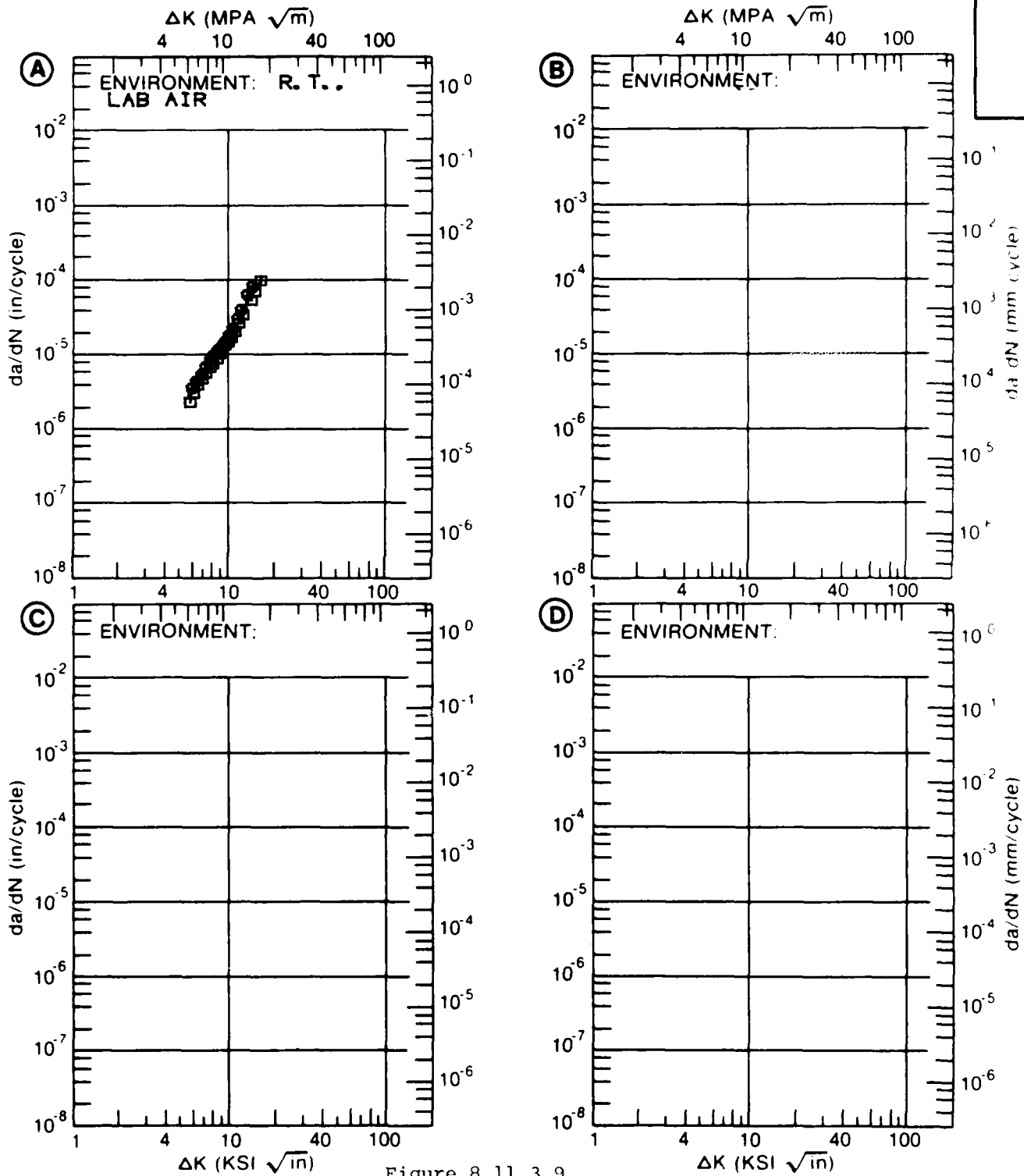


Figure 8.11.3.9

TABLE 8.11.3.10

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.11.3.10 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM 7079
CONDITION: T652

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. LAB AIR			
DELTA K MIN	A:	5.58	2.93		
	B:				
	C:				
	D:				
		6.00	3.50		
		7.00	5.44		
		8.00	8.40		
		9.00	12.6		
		10.00	18.3		
DELTA K MAX	A:	11.52	29.9		
	B:				
	C:				
	D:				

ROOT MEAN SQUARE 12.23
PERCENT ERROR

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25 2
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T652
 FORM: 6.00" TH FORGING
 SPECIMEN TYPE: CCP
 ORIENTATION: S-T
 STRESS RATIO: +0.33
 FREQUENCY: 5.17 HZ

YIELD STRENGTH:
 ULT. STRENGTH:
 SPECIMEN THK: 0.750"
 SPECIMEN WIDTH: 3.000"
 REFERENCES: 77720

ALUM.
 ALLOY

7079

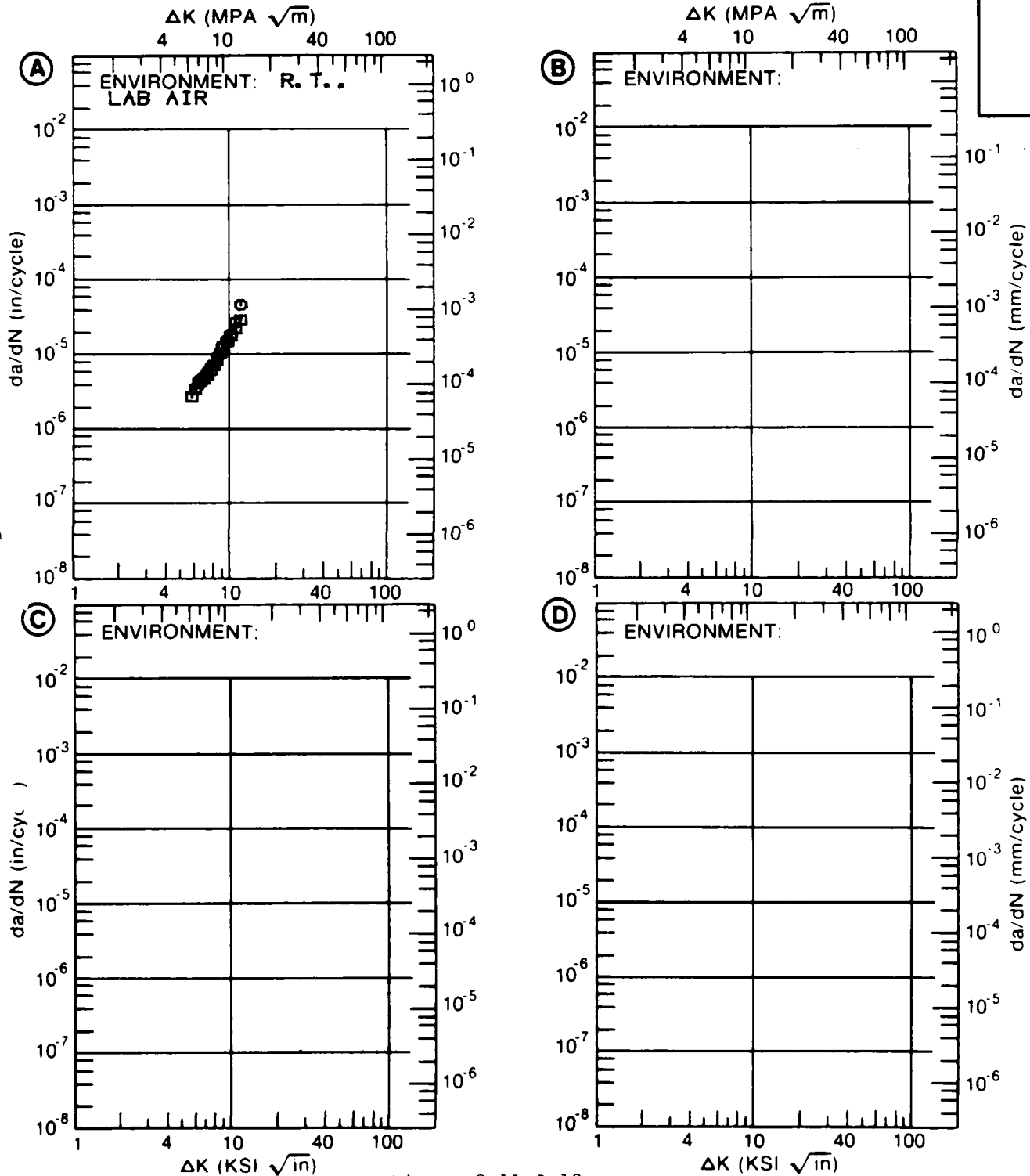


Figure 8.11.3.10

TABLE 8.11.3.11

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.11.3.11 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7079
 CONDITION: T652
 ENVIRONMENT: R.T., LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.33			
DELTA K MIN	A:	8.37	3.13		
	B:				
	C:				
	D:				
		9.00	4.98		
		10.00	9.73		
DELTA K MAX	A:	12.82	56.4		
	B:				
	C:				
	D:				

ROOT MEAN SQUARE 21.17
 PERCENT ERROR

LIFE 0.0-0.5
 PREDICTION 0.5-0.8 2
 RATIO 0.8-1.25 1
 SUMMARY 1.25-2.0
 (NP/NA) >2.0

CONDITION/HT: T652
 FORM: 6.00" TH FORGING
 SPECIMEN TYPE: CCP
 ORIENTATION: S-L
 FREQUENCY: 5.17 HZ
 ENVIRONMENT: R. T., LAB AIR

YIELD STRENGTH:
 ULT. STRENGTH:
 SPECIMEN THK: 0.750"
 SPECIMEN WIDTH: 3.000"
 REFERENCES: 77720

ALUM.
 ALLOY

7079

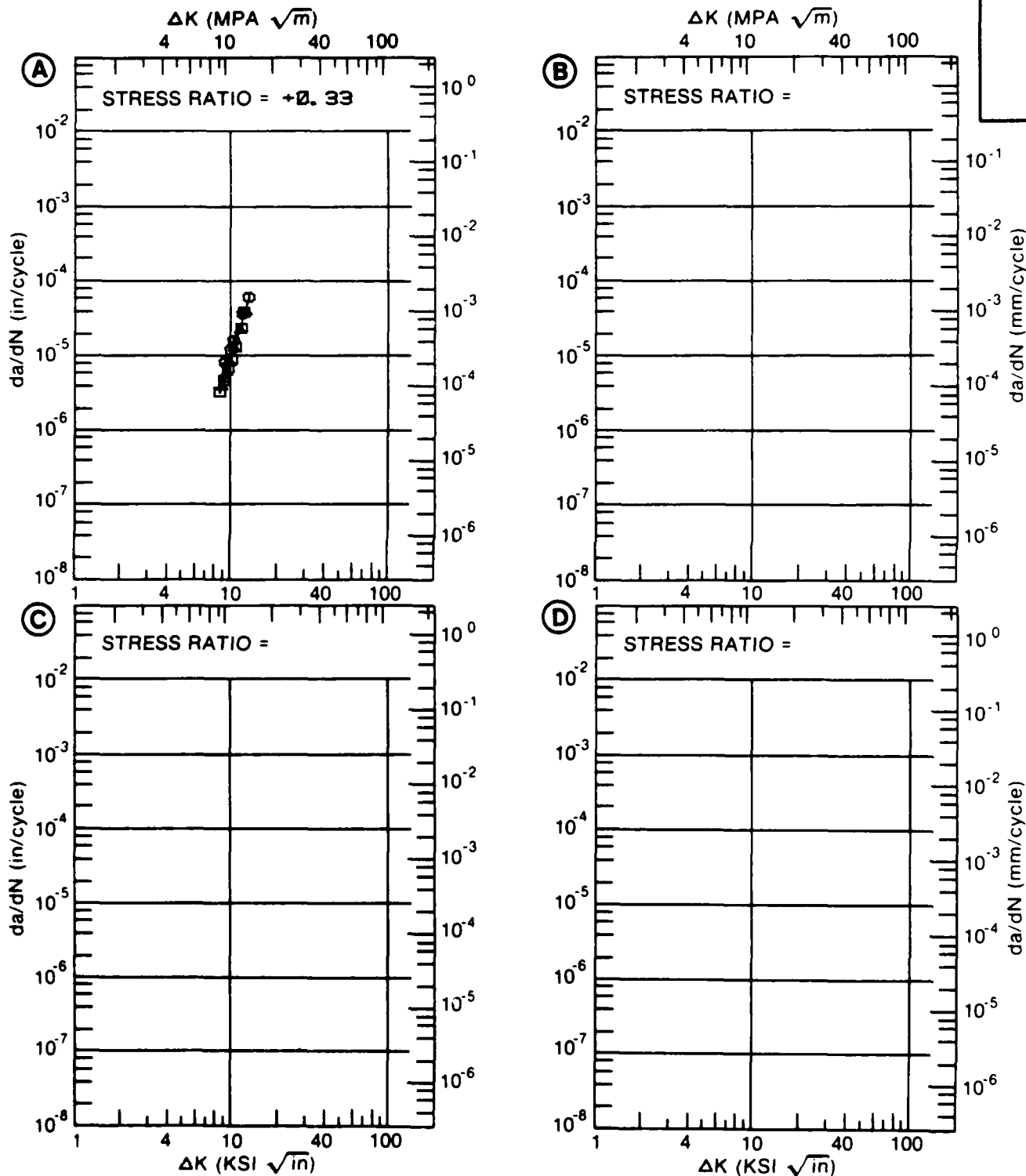


Figure 8.11.3.11

TABLE 8.11.3.12

SUSTAINED CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.11.3.12 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM 7079
CONDITION: T6K MAX
(KSI*IN**1/2)

DA/DT (10**-6 IN/HOUR)

A

B

C

D

E=

3.5PCT NACL

K MAX	A:	5.20	:	88938.
MIN	B:		:	
	C:		:	
	D:		:	

	6.00	:	229024.
	7.00	:	313826.

K MAX	A:	7.20	:	332604.
MAX	B:		:	
	C:		:	
	D:		:	

ROOT MEAN SQUARE 4.14
PERCENT ERROR

CONDITION/HT: T6
 FORM: 1.0" TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION:
 YIELD STRENGTH:
 ULT. STRENGTH:

SPECIMEN THK: 1.000"
 SPECIMEN WIDTH: 3.500"
 CRACK LENGTH (A_0):
 K_{ISCC} : 4.30 KSI (SQRT IN)
 REFERENCES: 84330

ALUM.
 ALLOY

7079

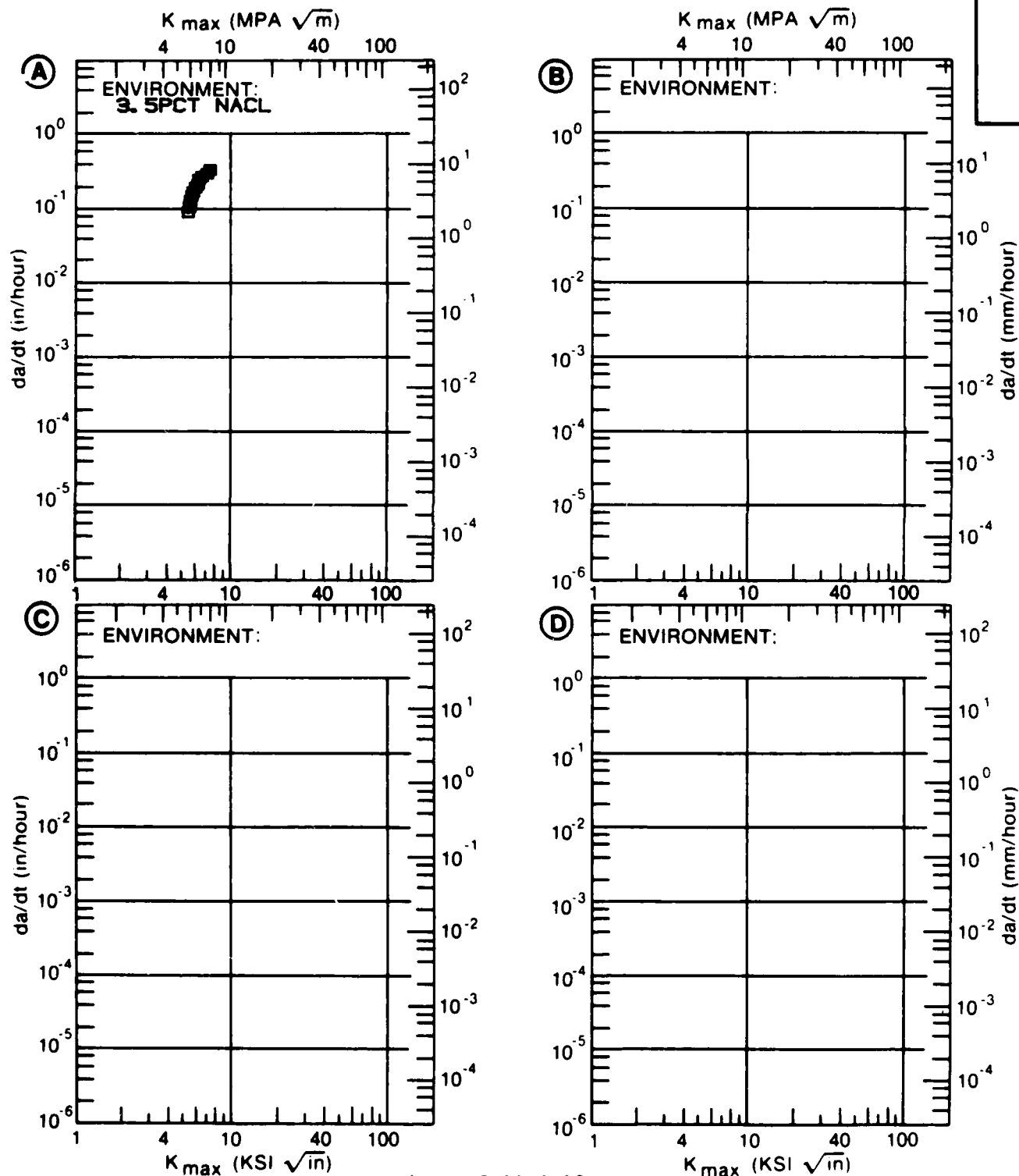


Figure 8.11.3.12

TABLE 8.11.3.13

SUSTAINED CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.11.3.13 INDICATING EFFECT
OF ENVIRONMENT

MATERIAL: ALUMINUM		7079			
CONDITION: T651					
K MAX (KSI*IN**1/2)		DA/DT (10**-3 IN/HOUR)			
		A	B	C	D
		E= R. T.	E= R. T.	E= R. T.	
		8M NAI, -700MV	0 6M KI, -700MV	5M KF, -700MV	
K MAX	A:				
MIN	B:				
	C:				
	D:				
	200.00				
K MAX	A:				
MAX	B:				
	C:				
	D:				
ROOT MEAN SQUARE		0.00	0.00	0.00	
PERCENT ERROR					

CONDITION/HT: T651
 FORM:
 SPECIMEN TYPE: DCB
 ORIENTATION: S-L
 YIELD STRENGTH:
 ULT. STRENGTH:

SPECIMEN THK:
 SPECIMEN WIDTH:
 CRACK LENGTH (A_0):
 K_{ISCC} :
 REFERENCES: 76442

ALUM.
 ALLOY

7079

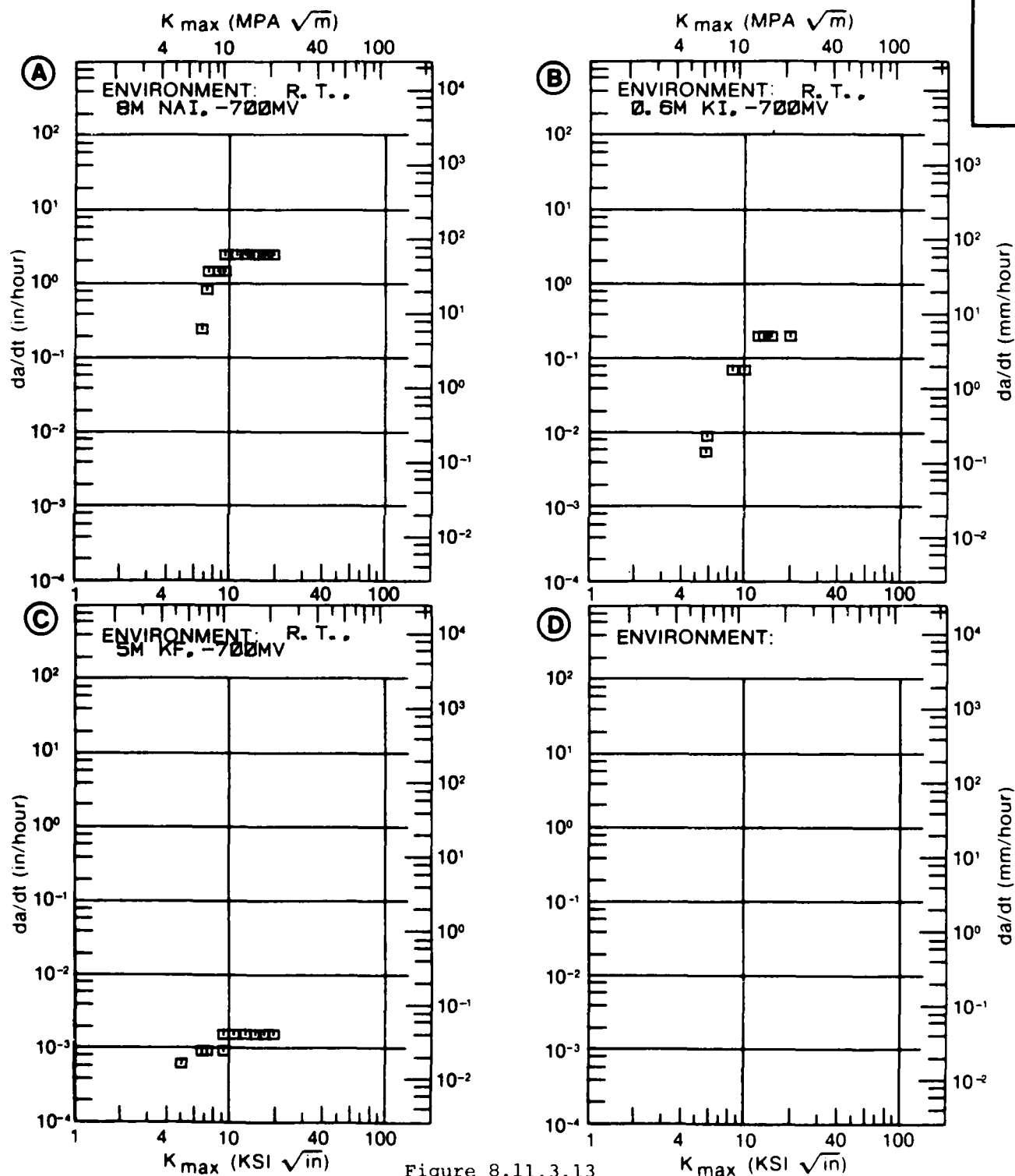


Figure 8.11.3.13

TABLE 8.11.3.14

SUSTAINED CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.11.3.14 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM
CONDITION: T651

7079

K MAX
(KSI*IN*1/2)DA/DT (10**⁻⁶ IN/HOUR)

A

B

C

D

E= R.T.

E=

DIST. WATER, DC 3X/DAY-3.5NACL

K MAX
MINA:
B:
C:
D:

3.60

308.

4.00

618.

5.00

2371.

6.00

6209.

7.00

12697.

8.00

21890.

9.00

33357.

10.00

46345.

13.00

85851.

16.00

113221.

K MAX
MAXA:
B:
C:
D:

19.00

123028.

ROOT MEAN SQUARE
PERCENT ERROR

0.00

24.67

CONDITION/HT: T651
 FORM:
 SPECIMEN TYPE: DCB
 ORIENTATION: S-L
 YIELD STRENGTH:
 ULT. STRENGTH:

SPECIMEN THK: 1.000"
 SPECIMEN WIDTH: 5.000"
 CRACK LENGTH (A_0):
 K_{ISCC} :
 REFERENCES: 76442, 78313

ALUM.
 ALLOY

7079

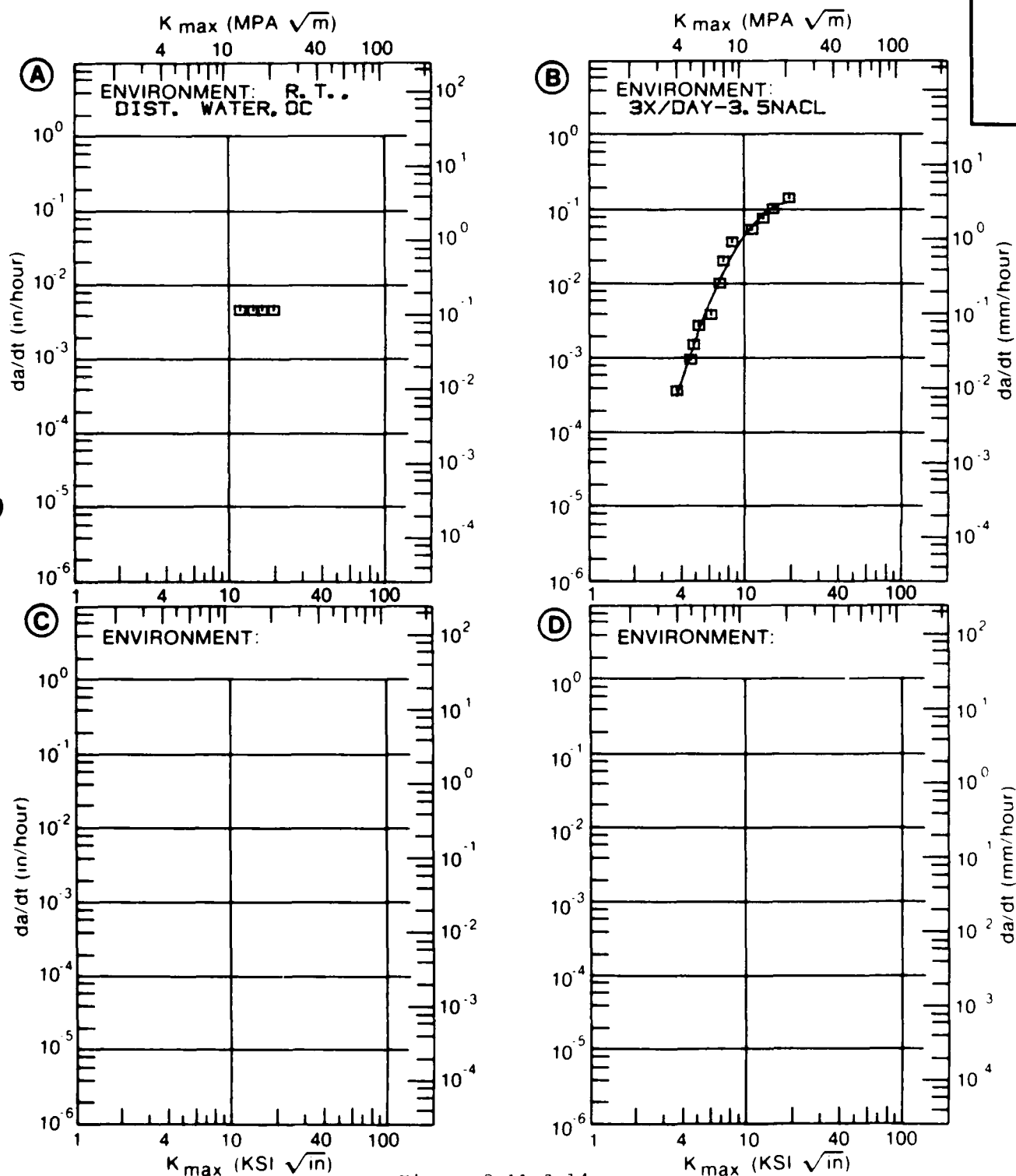


Figure 8.11.3.14

TABLE 8.11.3.15

SUSTAINED CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.11.3.15 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM
CONDITION: T651

7079

K MAX
(KSI*IN**1/2)

DA/DT (10**-6 IN/HOUR)

A

B

C

D

E= R.T.
AIRK MAX
MINA:
B:
C:
D:

200.00

K MAX
MAXA:
B:
C:
D:ROOT MEAN SQUARE
PERCENT ERROR

0.00

CONDITION/HT: T651
 FORM: 1.0" TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION: T-L
 YIELD STRENGTH: 65.0 KSI
 ULT. STRENGTH:

SPECIMEN THK:
 SPECIMEN WIDTH: 11.800"
 CRACK LENGTH (A_0):
 K_{ISCC} :
 REFERENCES: 85543

ALUM.
 ALLOY

7079

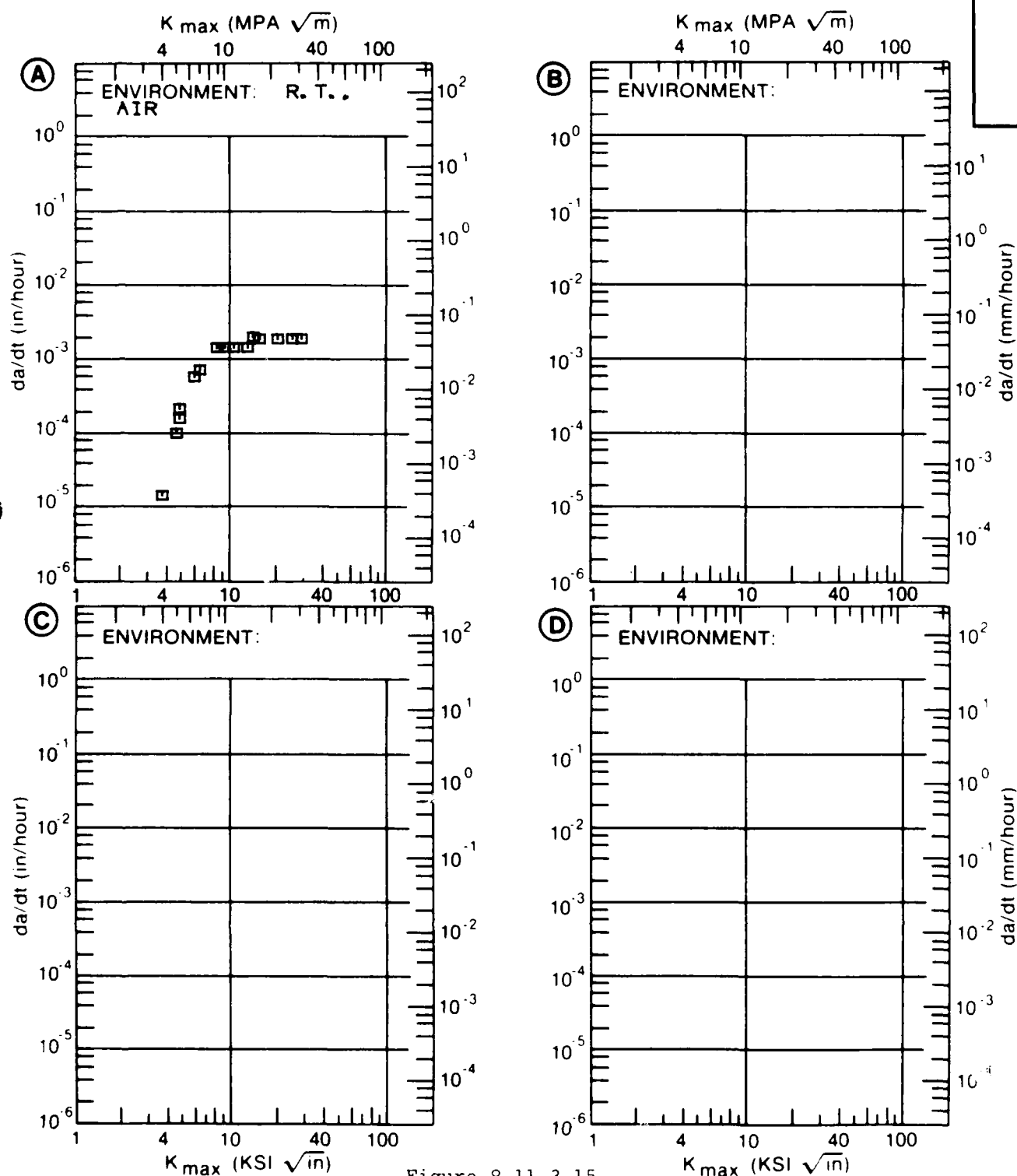


Figure 8.11.3.15

TABLE 8.11.3.16

SUSTAINED CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.11.3.16 INDICATING EFFECT
OF ENVIRONMENT

MATERIAL: ALUMINUM		7079			
CONDITION: T651					
K MAX (KSI*IN**1/2)		DA/DT (10**-3 IN/HOUR)			
		A	B	C	D
		E= R. T.	E= R. T.	E= R. T.	E= R. T.
		AIR, 100PCT REL HUM	3.5% NACL	AQUEOUS IODIDE, PH=0	AQUEOUS IODIDE PH=11
A:					
B:					
C:					
D:					
200.00					
A:					
B:					
C:					
D:					
ROOT MEAN SQUARE		0.00	0.00	0.00	0.00
PERCENT ERROR					

CONDITION/HT: T651
 FORM: 1.0" TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION: T-L
 YIELD STRENGTH: 65.0 KSI
 ULT. STRENGTH:

SPECIMEN THK:
 SPECIMEN WIDTH: 11.800"
 CRACK LENGTH (A_0):
 K_{ISCC} :
 REFERENCES: 85543

ALUM.
 ALLOY

7079

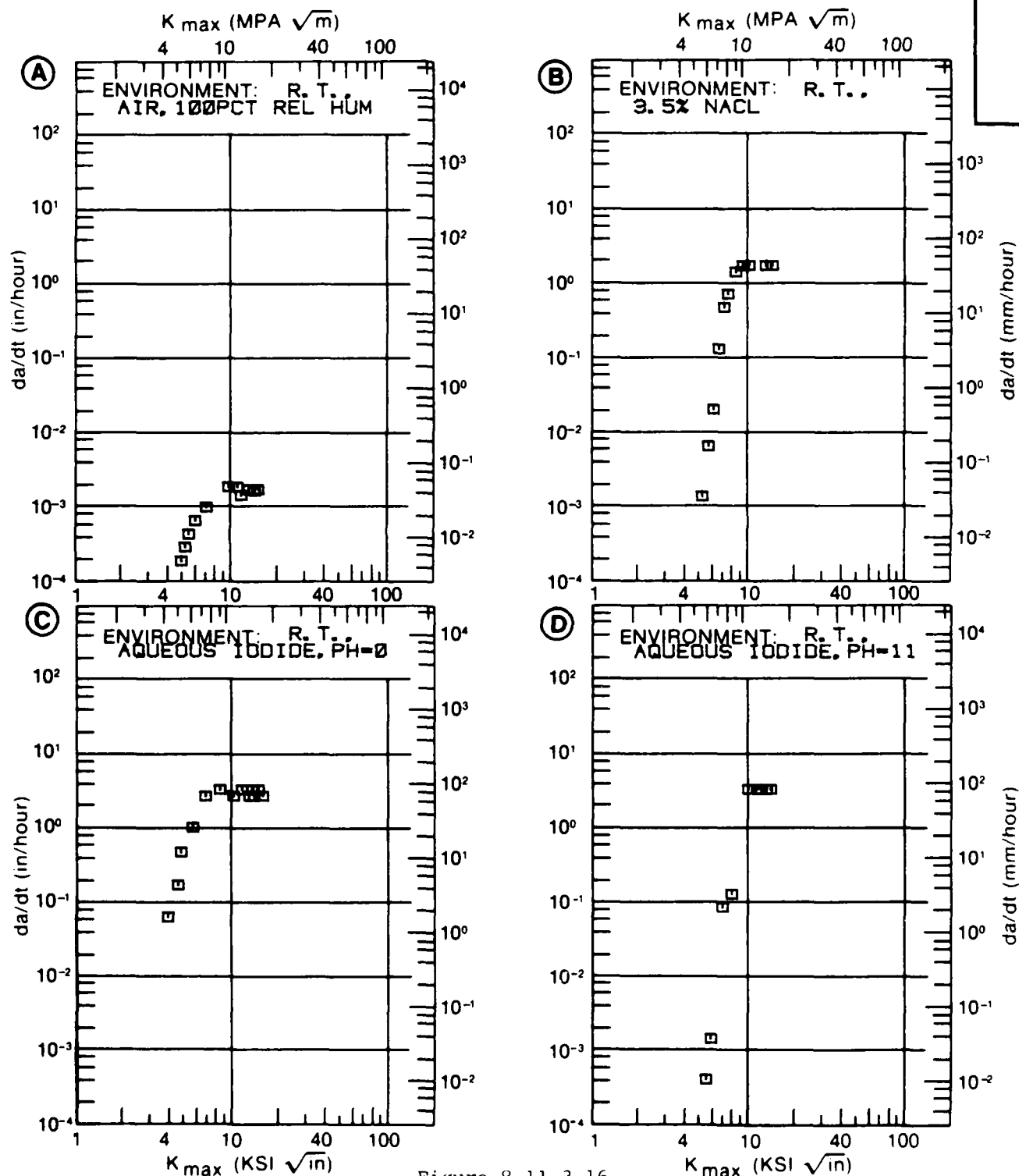


Figure 8.11.3.16

TABLE 8.11.3.17

SUSTAINED CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.11.3.17 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL ALUMINUM		7079			
CONDITION: T651					
K MAX (KSI*IN**1/2)		DA/DT (10**-6 IN/HOUR)			
		A	B	C	D
		E= R. T. 0.002M KI, -450MV	E= R. T. 0.02M KI, -450MV	E= R. T. 0.05M KI, -450MV	E= R. T. 0.1M KI, -450MV
K MAX	A:				
MIN	B:				
	C:				
	D:				
	200.00				
K MAX	A:				
MAX	B:				
	C:				
	D:				
ROOT MEAN SQUARE		0.00	0.00	0.00	0.00
PERCENT ERROR					

CONDITION/HT: T651
 FORM: 1.0" TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION: T-L
 YIELD STRENGTH:
 ULT. STRENGTH:

SPECIMEN THK:
 SPECIMEN WIDTH:
 CRACK LENGTH (A_0):
 K_{ISCC} :
 REFERENCES: 85543

ALUM.
 ALLOY

7079

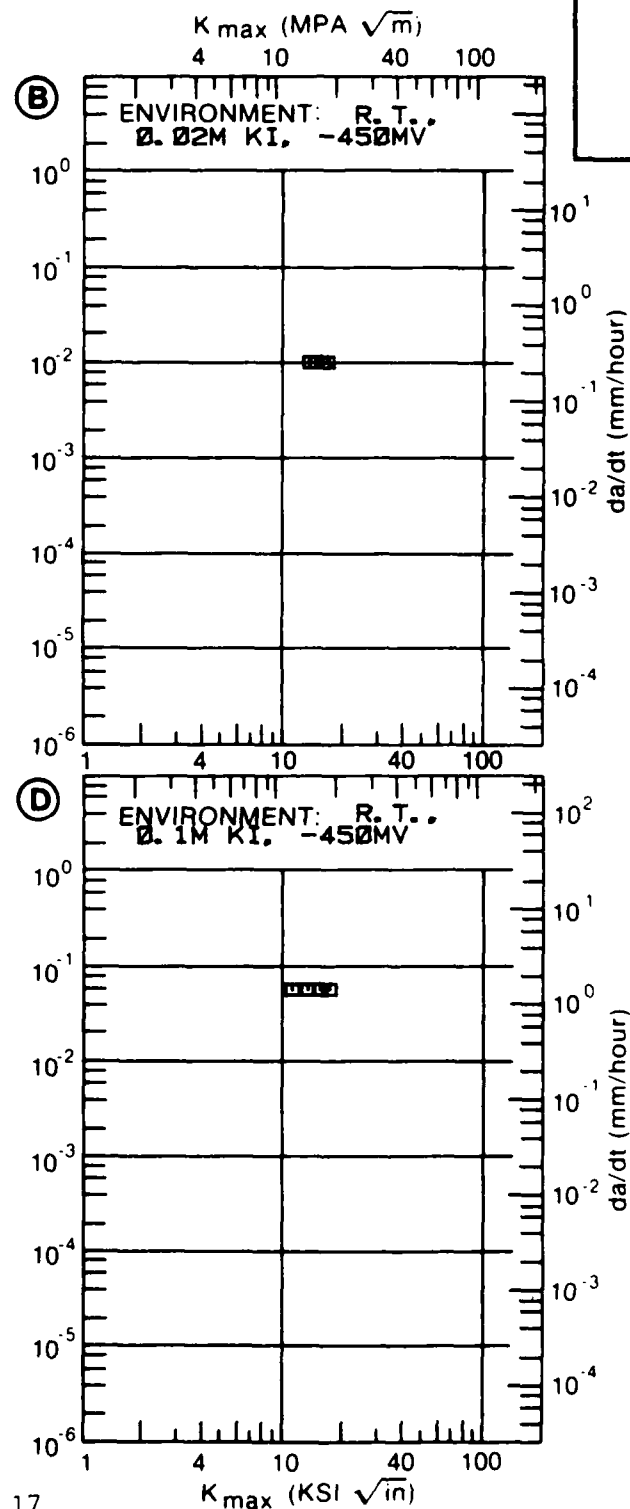
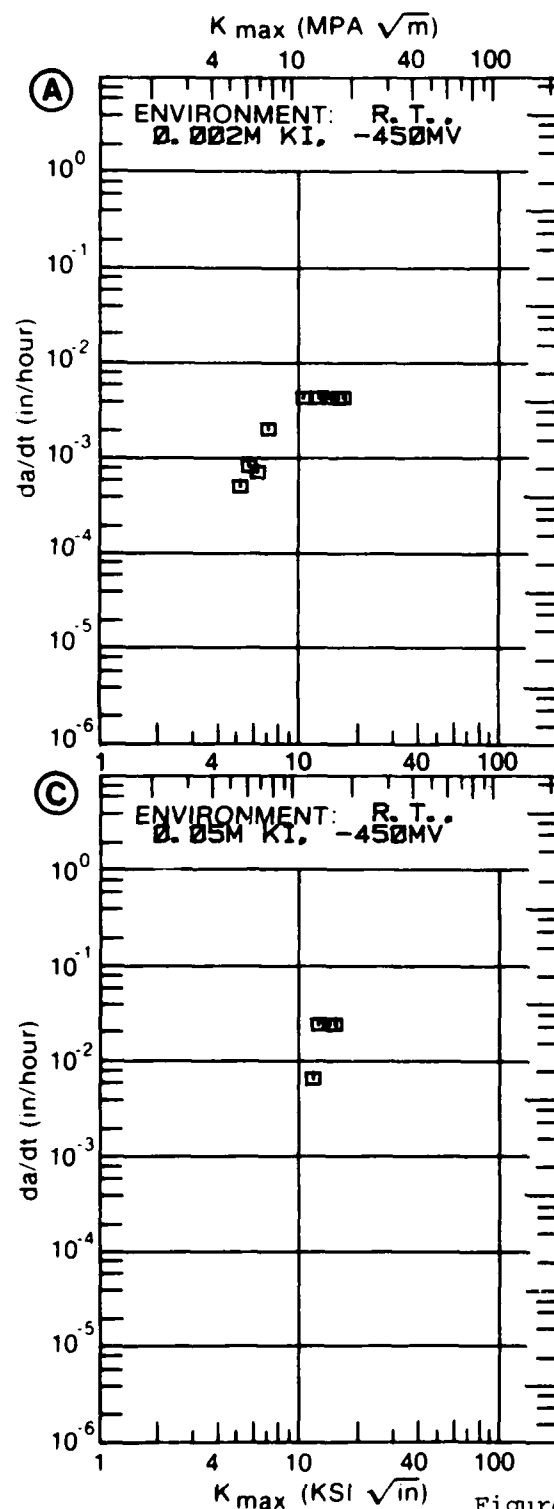


Figure 8.11.3.17

TABLE 8.11.3.18

SUSTAINED CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.11.3.18 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM
CONDITION: T651

7079

K MAX
(KSI*IN**1/2)

DA/DT (10**-6 IN/HOUR)

A

B

C

D

E= R. T.
0.2M KI,
-450MVE= R. T.
0.5M KI,
-450MVE= R. T.
2M KI,
-450MVK MAX A:
MIN B:
C:
D:

200.00

K MAX A:
MAX B:
C:
D:ROOT MEAN SQUARE
PERCENT ERROR

0.00

0.00

0.00

CONDITION/HT: T651
 FORM: 1. 0" TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION: T-L
 YIELD STRENGTH:
 ULT. STRENGTH:

SPECIMEN THK:
 SPECIMEN WIDTH:
 CRACK LENGTH (A_0):
 K_{ISCC} :
 REFERENCES: 85543

ALUM.
 ALLOY

7079

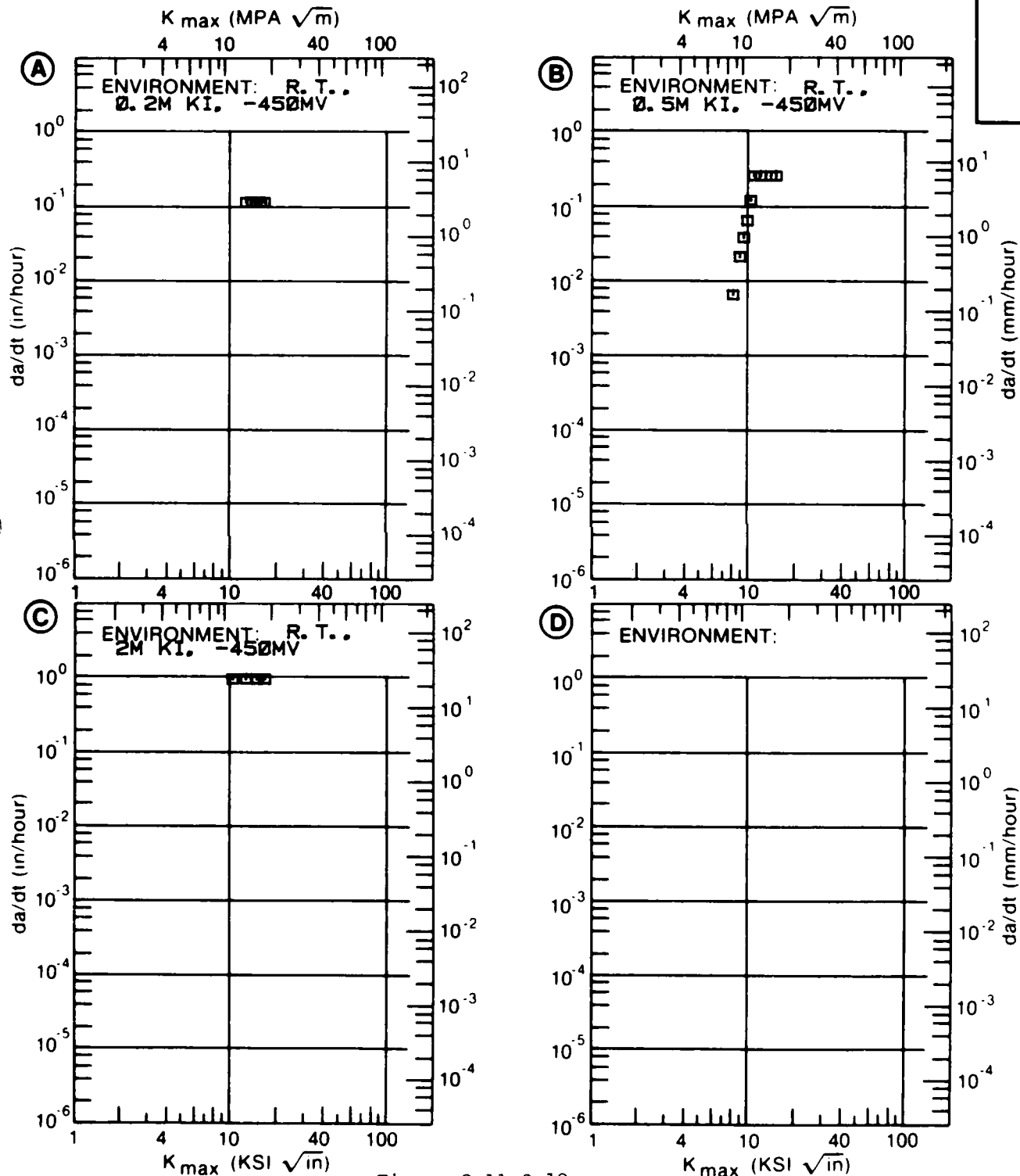


Figure 8.11.3.18

TABLE 8.11.3.19

SUSTAINED CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.11.3.19 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM
CONDITION: T651

7079

K MAX (KSI*IN**1/2)		DA/DT (10**-3 IN/HOUR)			
		A	B	C	D
		E= 3M KI, 221F, -450MV	E= 3M KI, 201F, -450MV	E= 3M KI, 176F, -450MV	E= 3M KI, 156F, -450MV
K MAX MIN	A: 2.90	82.9			
	B:				
	C:				
	D: 4.00				2.70
	3.00	124.			
	3.50	502.			
	4.00	1080.			
	5.00	2167.			43.2
	6.00	3109.			264.
	7.00	4633.			1740.
	8.00	6976.			3093.
K MAX MAX	9.00	8905.			3726.
	10.00	9784.			4031.
	13.00	9372.			4015.
	16.00	9096.			3921.
	A: 18.50	10477.			
	B:				
	C:				
	D: 17.90				4111.
ROOT MEAN SQUARE		22.88	0.00	0.00	30.16
PERCENT ERROR					

CONDITION/HT: T851
 FORM: 1.0" TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION: T-L
 YIELD STRENGTH:
 ULT. STRENGTH:

SPECIMEN THK:
 SPECIMEN WIDTH:
 CRACK LENGTH (A_0):
 K_{ISCC} :
 REFERENCES: 85543

ALUM.
 ALLOY

7079

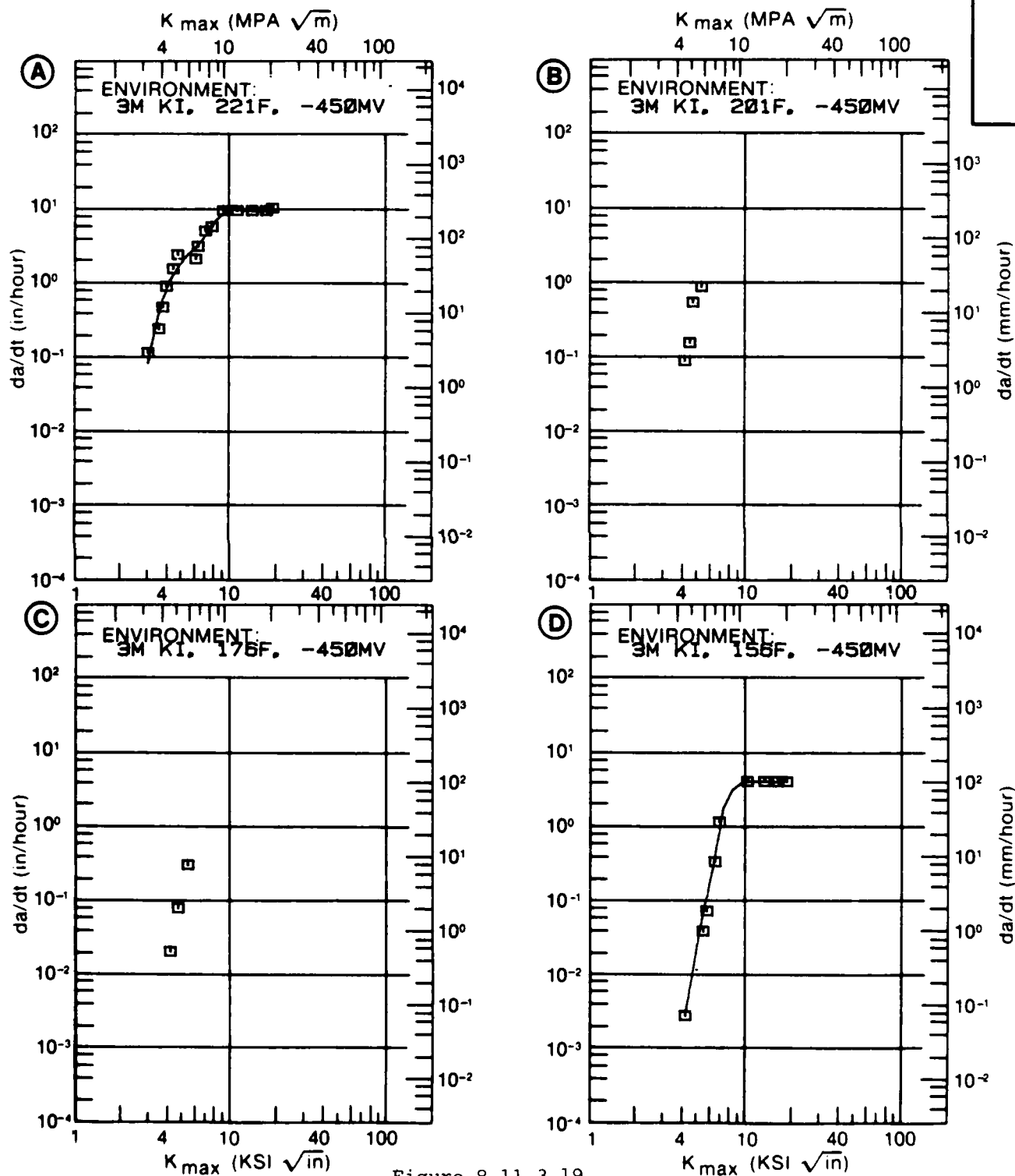


Figure 8.11.3.19

TABLE 8.11.3.20

SUSTAINED CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.11.3.20 INDICATING EFFECT
OF ENVIRONMENT

MATERIAL: ALUMINUM		7079			
CONDITION T651					
K MAX (KSI*IN**1/2)		DA/DT (10**-3 IN/HOUR)			
		A	B	C	D
		E= 3M KI, 113F, -450MV	E= 3M KI, 70F, -450MV	E= 3M KI, 37F, 50MV	E= 3M KI, 12F, -450MV
K MAX	A:				
MIN	B:				
	C:				
	D:				
	200.00				
K MAX	A:				
MAX	B:				
	C:				
	D:				
ROOT MEAN SQUARE		0.00	0.00	0.00	0.00
PERCENT ERROR					

CONDITION/HT: T651
 FORM: 1. Ø"TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION: T-L
 YIELD STRENGTH:
 ULT. STRENGTH:

SPECIMEN THK:
 SPECIMEN WIDTH:
 CRACK LENGTH (A_0):
 K_{ISCC} :
 REFERENCES: 85543

ALUM.
 ALLOY

7079

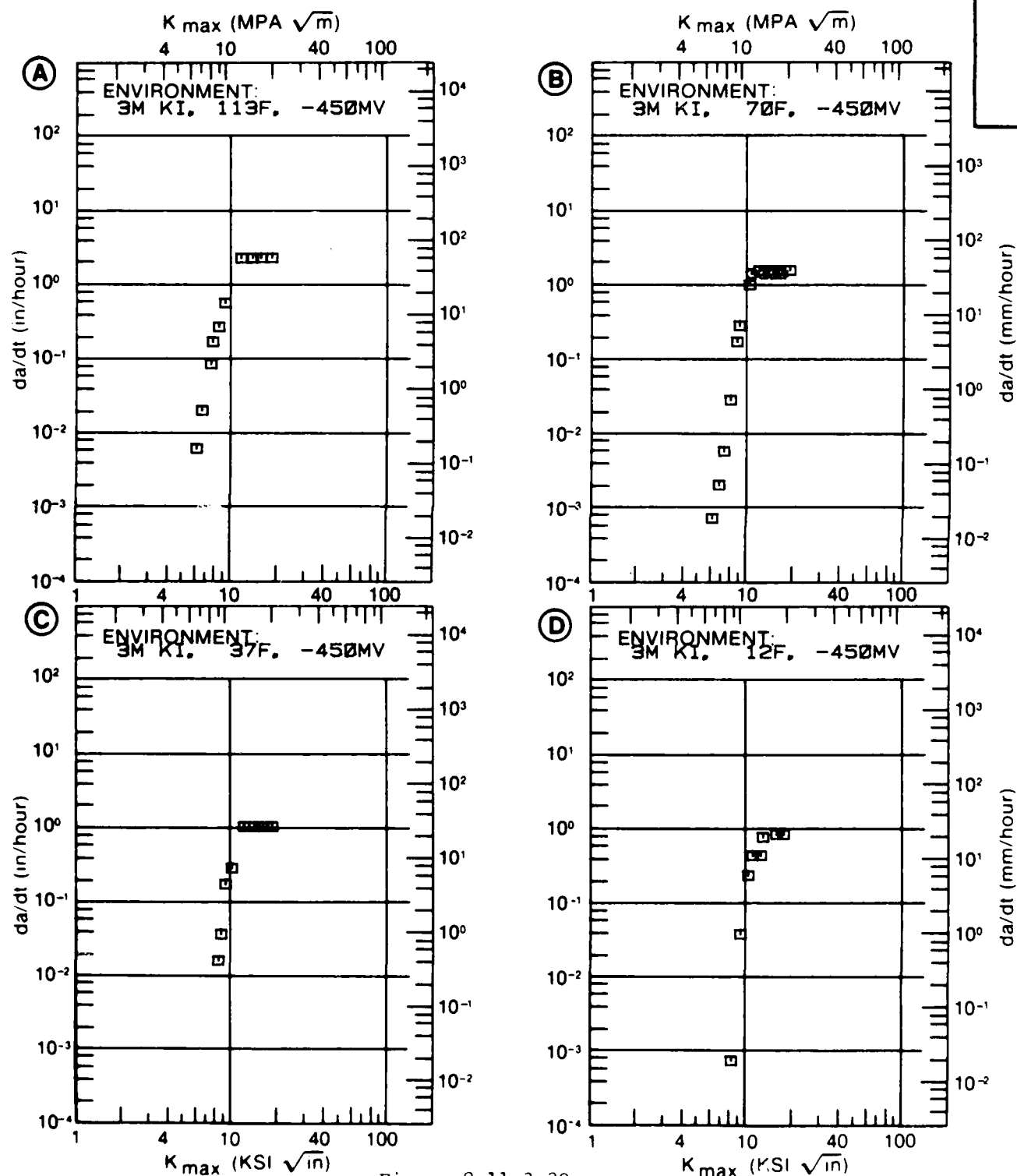


Figure 8.11.3.20

TABLE 8.11.3.21

SUSTAINED CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.11.3.21 INDICATING EFFECT
OF ENVIRONMENT

MATERIAL: ALUMINUM		7079			
CONDITION: T651					
K MAX (KSI*IN**1/2)		DA/DT (10**-3 IN/HOUR)			
		A	B	C	D
		E= R. T. 5.0M KI	E= R. T. 5M KI, -350MV	E= R. T. 5M KI, -450MV	E= R. T. 5M KI, -635MV(DC)
K MAX MIN	A: 7.50	1.71			
	B: 5.20		3.54		
	C:				
	D: 6.10				1.30
	6.00		325.		
	7.00		2027.		40.2
	8.00	4.80	2545.		317.
	9.00	8.71			870.
	10.00	10.7			1326.
	13.00	11.6			1308.
K MAX MAX	A: 15.00	11.5			
	B: 8.00		2545.		
	C:				
	D: 15.00				1220.
ROOT MEAN SQUARE PERCENT ERROR		2.82	40.87	0.00	36.57

CONDITION/HT: T651
 FORM: 1.0" TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION: T-L
 YIELD STRENGTH:
 ULT. STRENGTH:

SPECIMEN THK:
 SPECIMEN WIDTH:
 CRACK LENGTH (A_0):
 K_{ISCC} :
 REFERENCES: 85543

ALUM.
 ALLOY

7079

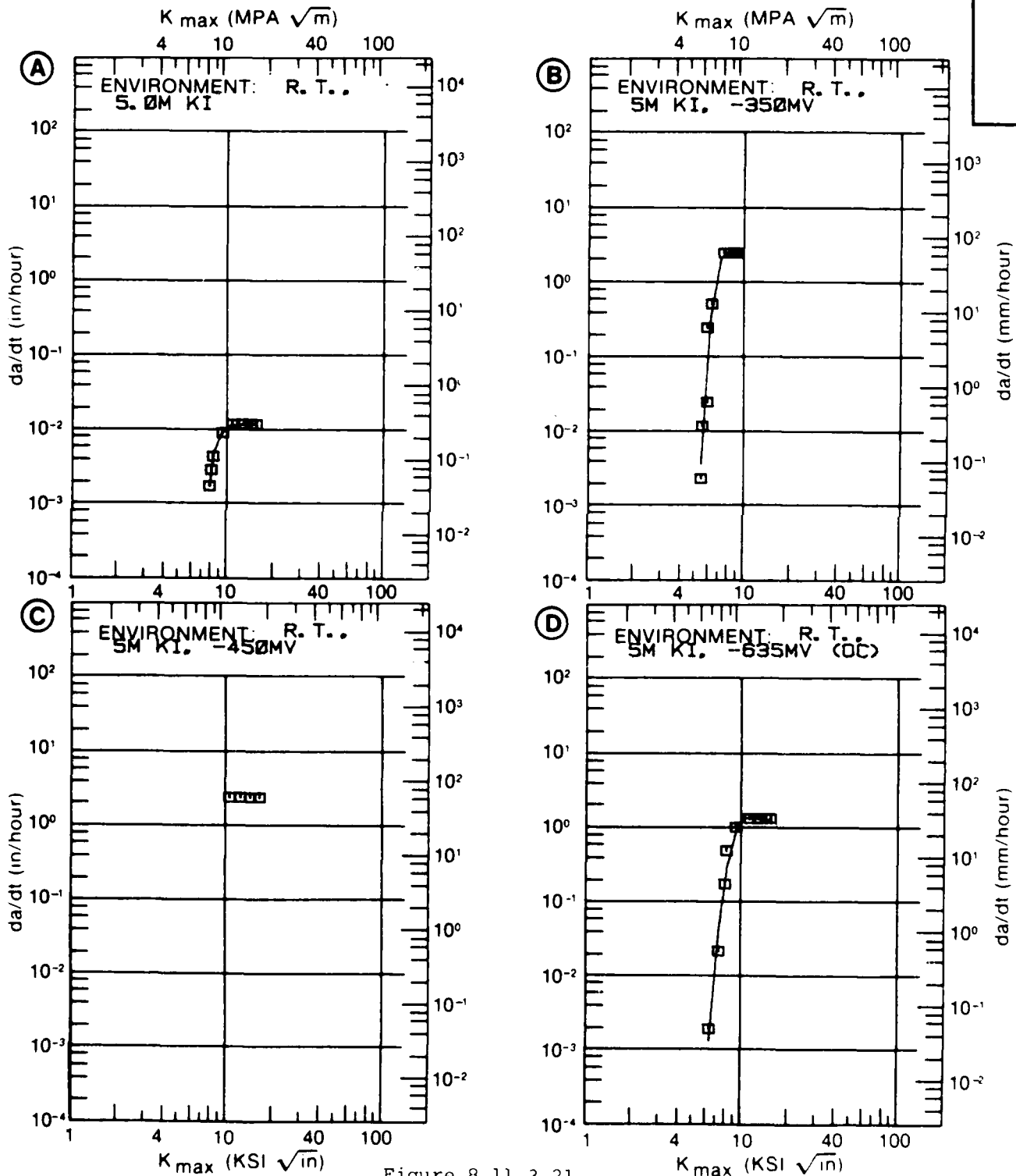


Figure 8.11.3.21

TABLE 8.11.3.22

SUSTAINED CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.11.3.22 INDICATING EFFECT
OF ENVIRONMENT

MATERIAL ALUMINUM		7079			
CONDITION T6S1					
K MAX (KSI*IN**1/2)		DA/DT (10**-6 IN/HOUR)			
		A	B	C	D
		E= R.T.	E= R.T.	E= R.T.	E= R.T.
		5M KI, -800MV	5M KI, -850MV	5M KI, -900MV	5M KI, -950MV
K MAX MIN	A:				
	B:				
	C:				
	D:				
200.00					
K MAX MAX	A:				
	B:				
	C:				
	D:				
ROOT MEAN SQUARE		0.00	0.00	0.00	0.00
PERCENT ERROR					

CONDITION/HT: T651
 FORM: 1.0" TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION: T-L
 YIELD STRENGTH:
 ULT. STRENGTH:

SPECIMEN THK:
 SPECIMEN WIDTH:
 CRACK LENGTH (A_0):
 K_{ISCC} :
 REFERENCES: 85543

ALUM.
 ALLOY

7079

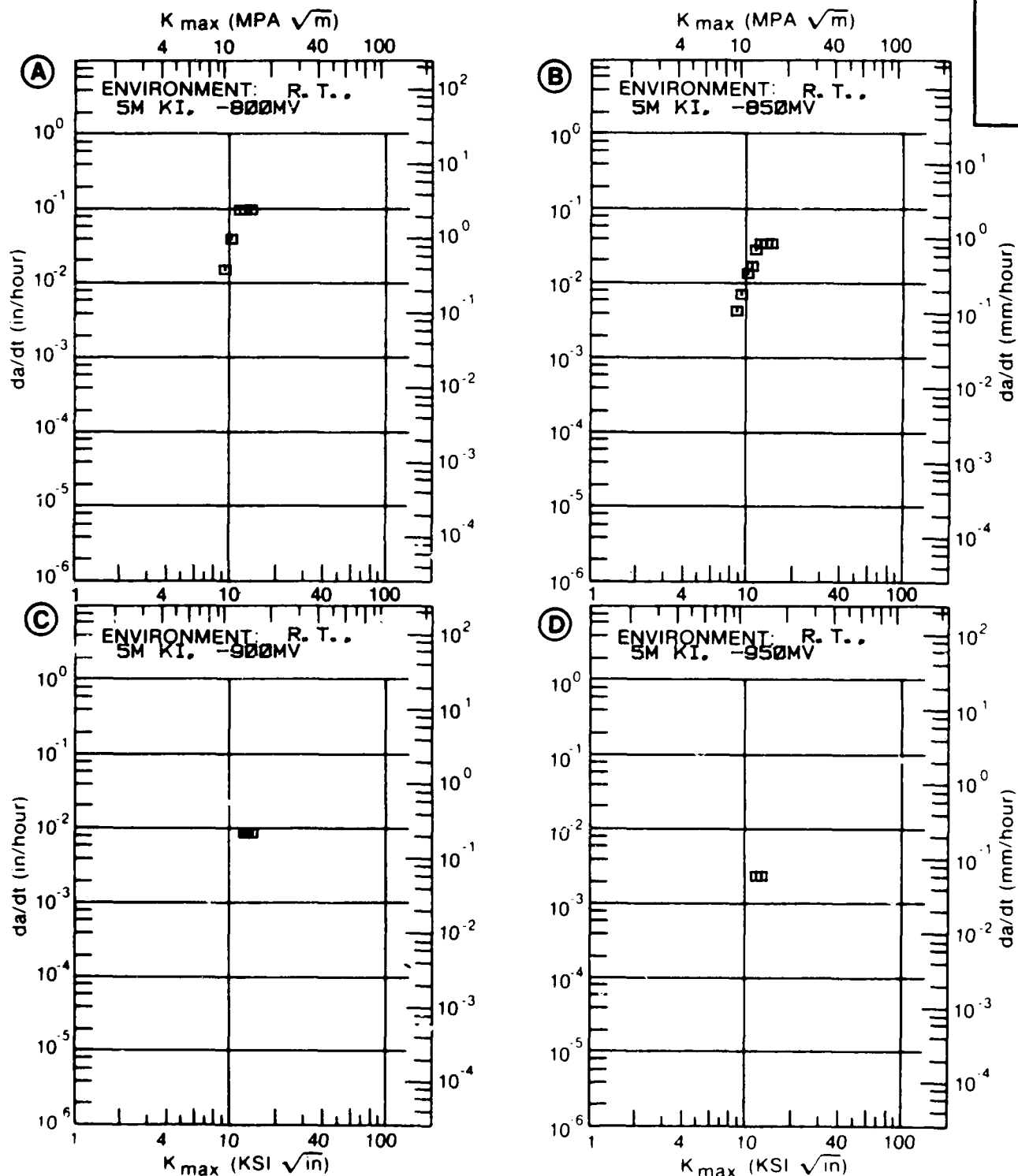


Figure 8.11.3.22

TABLE 8.11.3.23

SUSTAINED CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.11.3.23 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM
CONDITION: T651

7079

K MAX
(KSI*IN**1/2)

DA/DT (10**-3 IN/HOUR)

A

B

C

D

E= R. T.

E= R. T.

E= R. T.

E= R. T.

5M KI, -1000MV 3.4M KCL

3.8M KBR

8M NAI, -450MV

A:
K MAX B:
MIN C:
D:

200.00

A:
K MAX B:
MAX C:
D:ROOT MEAN SQUARE
PERCENT ERROR

0.00

0.00

0.00

0.00

CONDITION/HT: T651
 FORM: 1.0" TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION: T-L
 YIELD STRENGTH:
 ULT. STRENGTH:

SPECIMEN THK:
 SPECIMEN WIDTH:
 CRACK LENGTH (A_0):
 K_{ISCC} :
 REFERENCES: 85543

ALUM.
 ALLOY

7079

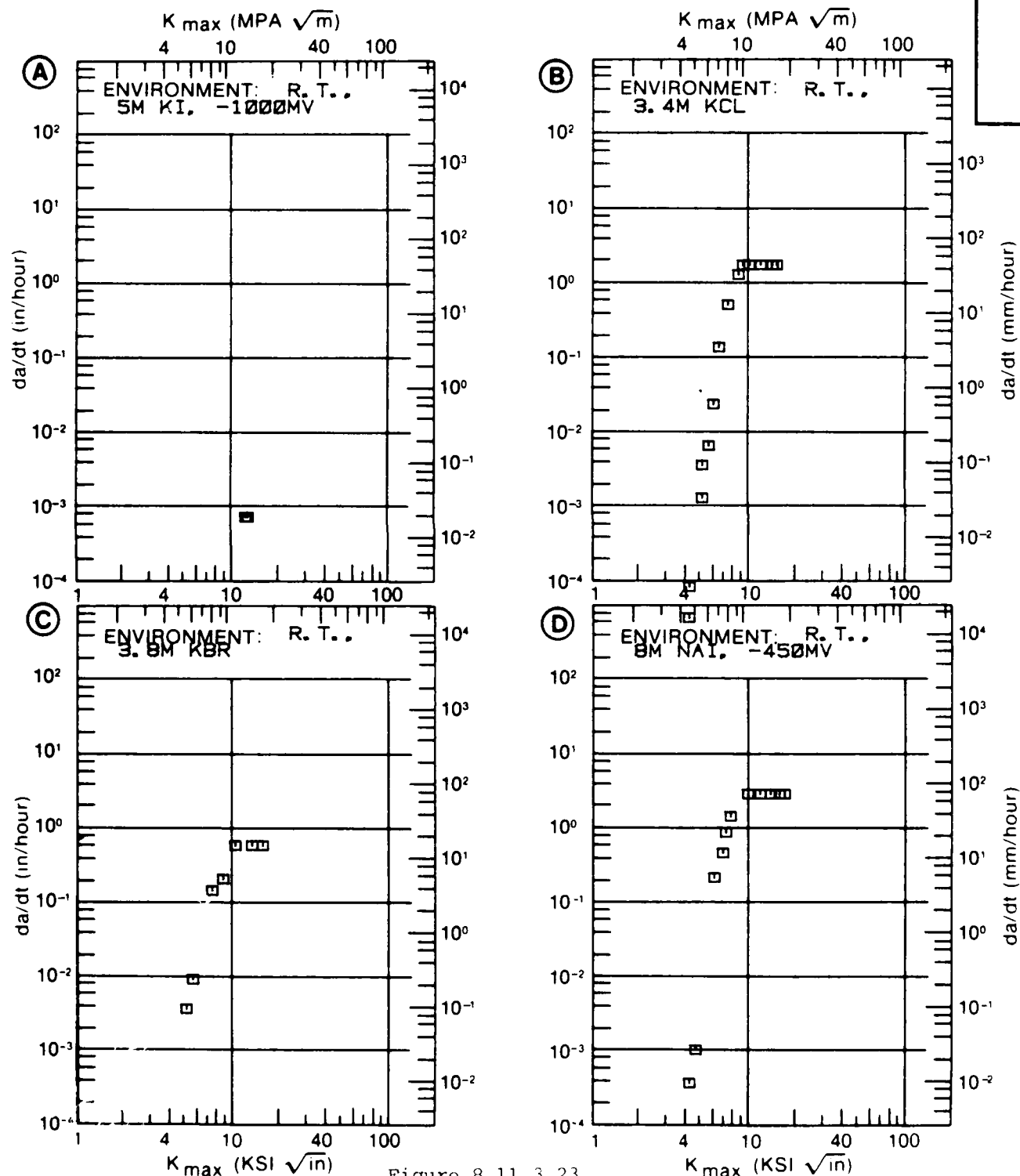


Figure 8.11.3.23

TABLE 8.11.3.24

SUSTAINED CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.11.3.24 INDICATING EFFECT

OF FORM

MATERIAL: ALUMINUM 7079
 CONDITION: T651
 ENVIRONMENT: 3.5% NaCl

K MAX (KSI*IN**1/2)		DA/DT (10**-6 IN/HOUR)			
		A	B	C	D
		T(IN)= 1.0 PLATE	T(IN)= 1.5 PLATE	T(IN)= 2.0 PLATE	
K MAX	A: 2.40	365.			
MIN	B: 3.70		449.		
	C: 2.80			164.	
	D:				
	2.50	573.			
	3.00	2816.		218.	
	3.50	6754.		430.	
	4.00	10931.	806.	799.	
	5.00	16247.	3639.	2323.	
	6.00	18045.	10271.	5506.	
	7.00	19011.	21381.	11054.	
	8.00	20818.	36079.	19406.	
	9.00	24517.	52335.	30552.	
	10.00		67826.	43987.	
	13.00			88051.	
	16.00			116680.	
K MAX	A: 9.50	27442.			
MAX	B: 13.00		94452.		
	C: 18.50			119909.	
	D:				
ROOT MEAN SQUARE		25.56	9.41	23.56	
PERCENT ERROR					

CONDITION/HT: T851
 ENVIRONMENT: 3.5% NaCl
 SPECIMEN TYPE: DCB
 ORIENTATION: S-L
 YIELD STRENGTH:
 ULT. STRENGTH:

SPECIMEN THK: 1.000"
 SPECIMEN WIDTH: 3.500- 5.000"
 CRACK LENGTH (A_0):
 K_{ISCC} :
 REFERENCES: 84284, 78313

ALUM.
 ALLOY

7079

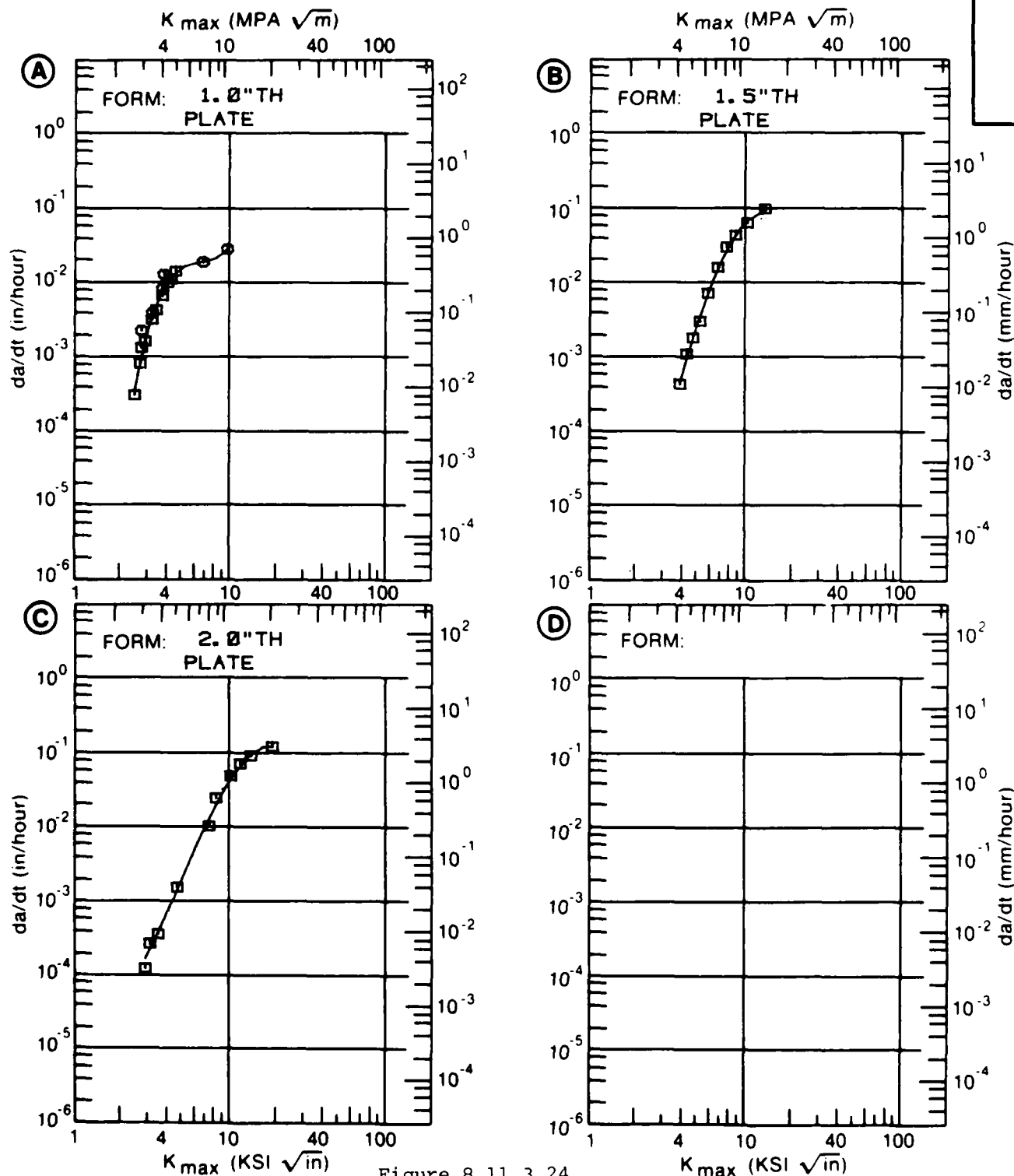


Figure 8.11.3.24

TABLE 8.11.3.25

SUSTAINED CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.11.3.25 INDICATING EFFECT

OF FORM

MATERIAL: ALUMINUM 7079
 CONDITION: T651+50HR AT 320F
 ENVIRONMENT: R T

K MAX (KSI*IN**1/2)		DA/DT (10**-6 IN/HOUR)			
		A	B	C	D
		T(N)= 1.0 PLATE			
K MAX MIN	A: 9.10	174			
	B:				
	C:				
	D:				
	10.00	402			
	13.00	38038.			
	16.00	708032.			
	20.00	761290.			
K MAX MAX	A: 22.00	976050.			
	B:				
	C:				
	D:				
ROOT MEAN SQUARE		38.72			
PERCENT ERROR					

CONDITION/HT: T651+50HR AT 320F
 ENVIRONMENT: R. T..
 SPECIMEN TYPE: DCB
 ORIENTATION: T-L
 YIELD STRENGTH:
 ULT. STRENGTH:

SPECIMEN THK:
 SPECIMEN WIDTH:
 CRACK LENGTH (A_0):
 K_{ISCC} :
 REFERENCES: 85543

ALUM.
 ALLOY

7079

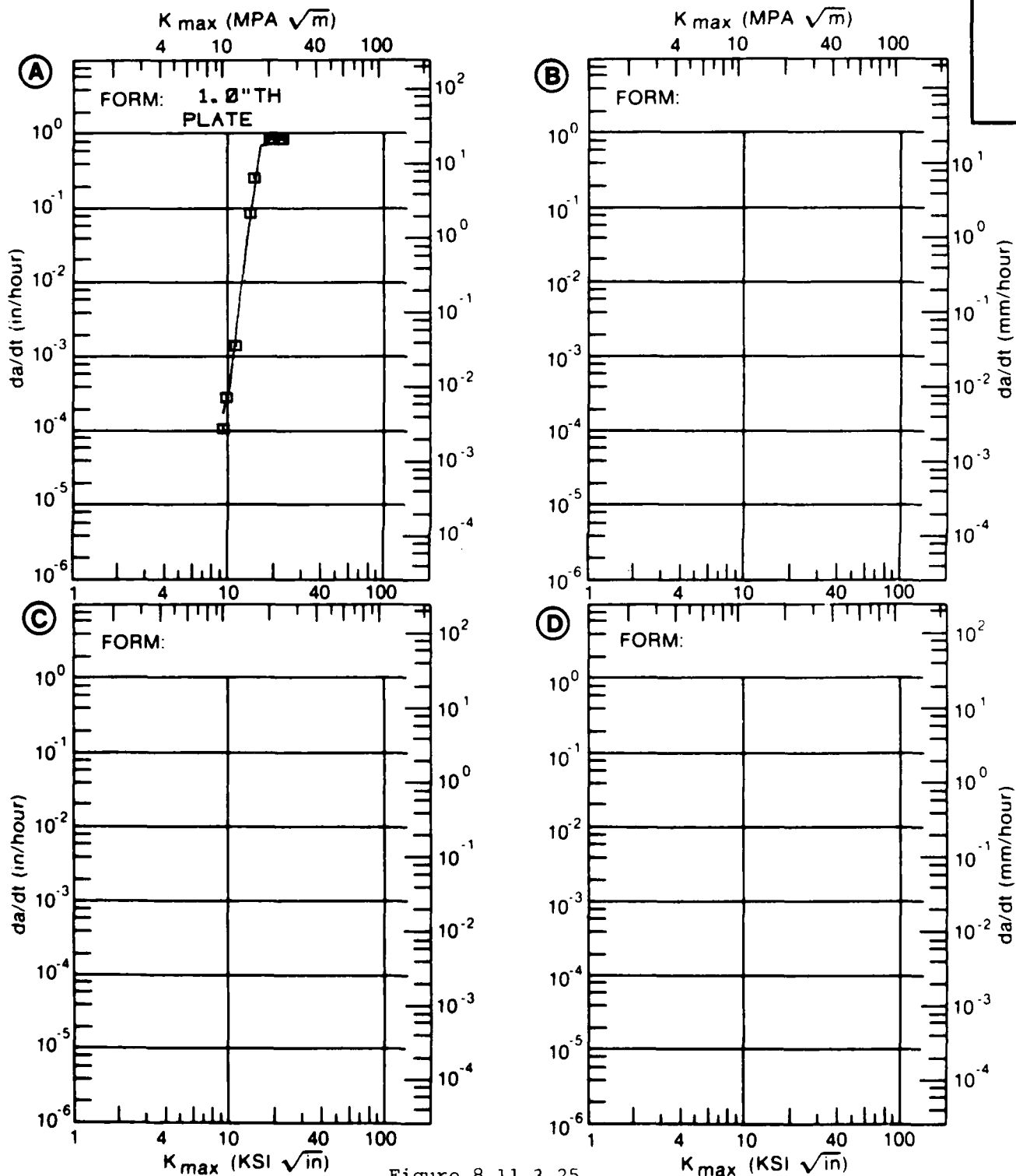


Figure 8.11.3.25

TABLE 8.11.3.26

SUSTAINED CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.11.3.26 INDICATING EFFECT
OF FORM

MATERIAL: ALUMINUM 7079
 CONDITION: T651+500HR AT 320F
 ENVIRONMENT: R T ,

K MAX (KSI*IN**1/2)	DA/DT (10**-6 IN/HOUR)			
	A	B	C	D
	T(IN)= 1.0 PLATE			
K MAX MIN	A: B: C: D:			
200.00				
K MAX MAX	A: B: C: D:			
ROOT MEAN SQUARE PERCENT ERROR	0.00			

CONDITION/HT: T651+500HR AT 320F
 ENVIRONMENT: R. T.,
 SPECIMEN TYPE: DCB
 ORIENTATION: T-L
 YIELD STRENGTH:
 ULT. STRENGTH:

SPECIMEN THK:
 SPECIMEN WIDTH:
 CRACK LENGTH (A_0):
 K_{ISCC} :
 REFERENCES: 85543

ALUM.
 ALLOY

7079

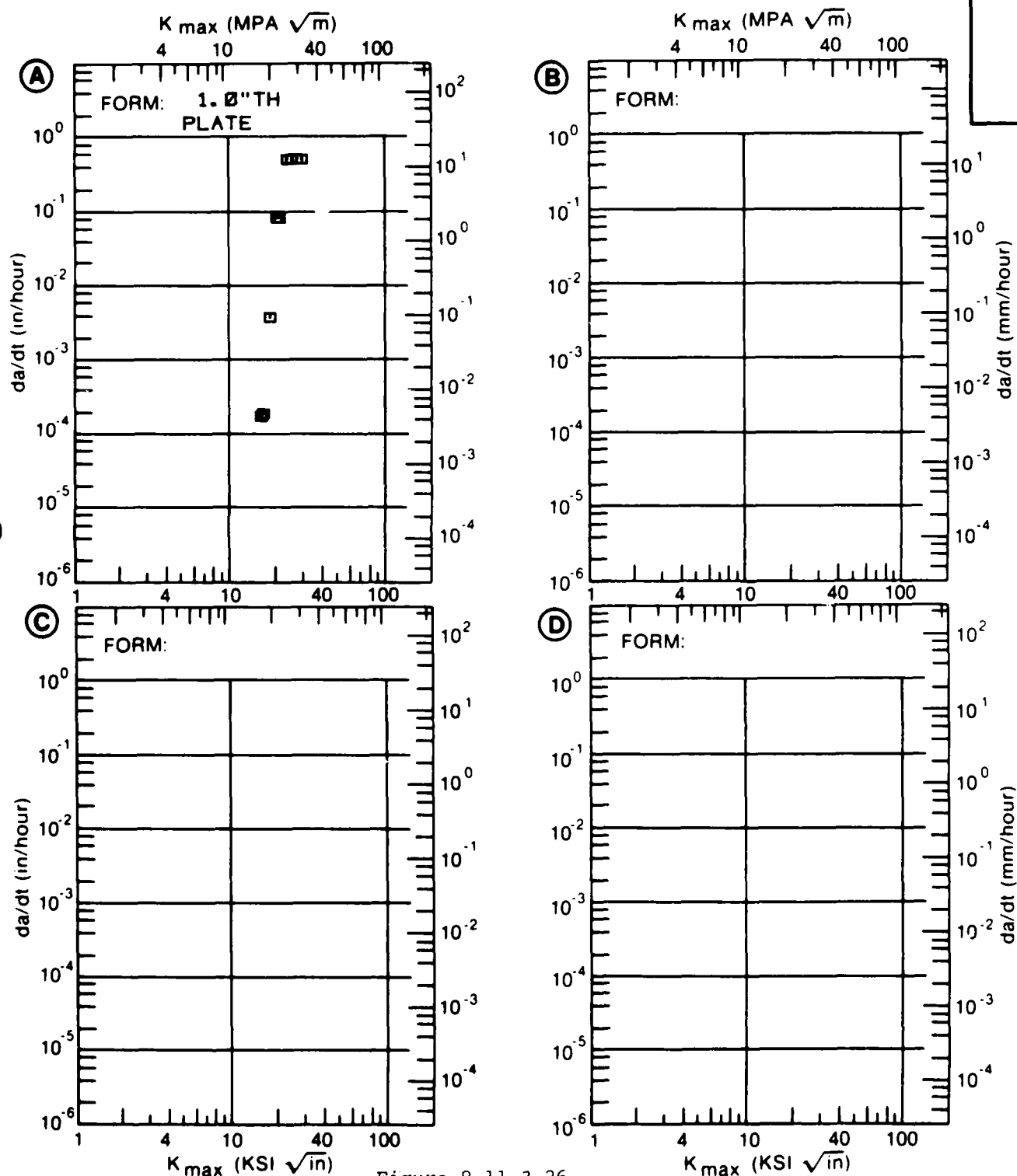


Figure 8.11.3.26

8.11-64

TABLE 8.12.2.1

CONDITION		ALUMINUM		7079 (ALCLAD) K(C)										K(C)							
		--PRODUCT-- FORM THICK TEMP OR (IN) (F)		TEST SPEC YIELD STR (KSI)		---SPECIMEN--- WIDTH THICK (IN) (IN)		CRACK LENGTH CROSS STRESS INIT FINAL (IN) (IN)		MAX (KSI)		K(APP) STAN K(APP) MEAN DEV (KSI*SQRT IN)		K(C) STAN K(C) MEAN DEV (KSI*SQRT IN)		DATE REFER					
		W	B	2A(O)	2A(F)	S(O)	S(MAX)	BUCKLING OF CRACK EDGES NOT RESTRAINED													
T6	S	0 06	R T	L-T	61.2	2.000	0.062	0.625	1.200	---	39.10	41.21*	70.02*		1973	86213					
		0 06			61.2	2.000	0.062	0.625	1.180	---	39.60	41.74*	69.58*		1973	86213					
		0 06			61.2	2.000	0.062	0.625	1.280	---	38.20	40.26*	74.00*		1973	86213					
		0 06			71.2	2.000	0.069	0.614	1.040	---	41.80	43.61*	64.57*		1973	86213					
		0 06			71.2	2.000	0.069	0.612	1.020	---	42.60	44.36*	64.64*		1973	86213					
T6	S	0 06			71.2	2.000	0.069	0.613	1.090	---	41.60	43.32*	67.24*		1973	86213					
		0 06			71.2	2.000	0.069	0.616	1.100	---	42.20	44.12*	68.83*		1973	86213					
		0 11	R T	L-T	73.1	3.000	0.109	1.150	2.024	---	38.00	56.26*	96.89*		1973	86213					
		0 11			73.1	3.000	0.109	1.180	2.085	---	37.40	56.40*	99.61*		1973	86213					
		0 06	84	L-T	69.9	3.000	0.058	1.230	2.353	---	34.50	53.63*	114.95*		1973	86213					
T6	S	0 06			69.9	3.000	0.058	1.200	2.088	---	34.40	52.51*	91.90*		1973	86213					
		0 09	84	L-T	72.1	3.000	0.087	1.230	2.264	---	36.30	56.42*	111.63*		1973	86213					
		0 09			72.1	3.000	0.088	1.190	2.281	---	37.60	57.05*	117.28*		1973	86213					
		0 04	R T	T-L	63.2	3.000	0.037	1.142	2.184	---	32.30	47.59*	92.94*		1973	86213					
		0 04			63.2	3.000	0.037	1.123	1.954	---	33.70	50.26*	81.82*		1973	86213					
T6	S	0 04			63.2	3.000	0.037	1.125	1.883	---	34.00	49.54*	78.65*		1973	86213					
		0 05	R T	T-L	67.0	3.000	0.050	1.155	2.084	---	34.70	51.50*	92.42*		1973	86213					
		0 05			67.0	3.000	0.050	1.153	2.091	---	34.60	51.29*	92.57*		1973	86213					
		0 05			67.0	3.000	0.050	1.152	2.087	---	34.40	50.99*	91.76*		1973	86213					
		0 06	R T	T-L	58.7	2.000	0.062	0.625	1.120	---	36.50	38.47*	60.64*		1973	86213					
T6	S	0 06			58.7	2.000	0.062	0.625	1.150	---	36.40	38.37*	62.18*		1973	86213					
		0 06			58.7	2.000	0.062	0.625	1.080	---	37.00	39.00*	59.26*		1973	86213					
		0 06			68.7	2.000	0.069	0.616	0.975	---	39.70	41.51*	57.82*		1973	86213					
		0 06			68.7	2.000	0.069	0.618	0.910	---	39.80	41.70*	54.75*		1973	86213					
		0 06			68.7	2.000	0.069	0.614	0.990	---	39.60	41.32*	58.50*		1973	86213					
T6	S	0 06			68.7	2.000	0.069	0.617	0.930	---	39.80	41.61*	55.74*		1973	86213					
		0 11	R T	T-L	69.5	3.000	0.109	1.590	2.421	---	25.70	49.51	91.63*		1973	86213					
		0 11			69.5	3.000	0.110	1.280	2.066	---	31.80	50.94	83.38*		1973	86213					

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV.

TABLE 8.12.2.1 (con't)

CONDITION	ALUMINUM		7079 (ALCLAD)										K(C)								
--PRODUCT-- FORM	THICK (IN)	TEST SPEC OR (F)	YIELD STR (KSI)	---SPECIMEN---		CRACK LENGTH CROSS STRESS						K(C)		K(C)		K(C)		K(C)			
				W	B	INIT (IN)	THICK (IN)	INIT (IN)	FINAL (IN)	ONSET (KSI)	MAX (KSI)	K(APP) (KSI*SQRT IN)	MEAN DEV	K(AFF) (KSI*SQRT IN)	MEAN DEV	K(C) (KSI*SQRT IN)	MEAN DEV	K(C) (KSI*SQRT IN)	MEAN DEV	STAN DEV	REFER
				W	B	2A(0)	2A(F)	S(0)	S(MAX)												

BUCKLING OF CRACK EDGES NOT RESTRAINED																					
T6	S	0 05	84 T-L	64 3	3 000	0 049	1 190	2 305	---	32 70	49 61*	104 20*							1973 86213		
		0 05		64 3	3 000	0 049	1 030	2 156	---	35 00	48 06*	98 49*							1973 86213		
T6	S	0 06	84 T-L	68 2	3 000	0 058	1 130	1 952	---	33 00	48 26	80 01*							1973 86213		
		0 06		68 2	3 000	0 058	1 200	2 126	---	31 90	48 69	87 70*							1973 86213		
		0 06		67 2	3 000	0 062	1 160	2 267	---	35 80	53 33*	110 31*							1973 86213		
		0 06		67 2	3 000	0 062	1 230	2 273	---	34 90	54 25*	108 10*							1973 86213		
T6	S	0 09	84 T-L	66 1	3 000	0 087	1 230	2 347	---	32 70	50 83*	108 33*							1973 86213		
		0 09		66 1	3 000	0 087	1 250	2 124	---	32 30	50 81*	88 67*							1973 86213		
		0 09		68 3	3 000	0 088	1 170	2 096	---	31 80	47 66	85 46*							1973 86213		
		0 09		68 3	3 000	0 089	1 230	2 129	---	31 40	48 81	86 46*							1973 86213		
		0 09		69 3	3 000	0 088	1 220	2 086	---	33 10	51 14*	88 29*							1973 86213		
		0 09		69 3	3 000	0 089	1 200	2 166	---	33 80	51 59*	95 87*							1973 86213		
T6	S	0 19	84 T-L	66 4	3 000	0 194	1 160	2 162	---	32 60	48 56	92 17*							1973 86213		
		0 19		66 4	3 000	0 194	1 177	2 192	---	32 00	48 14	92 67*							1973 86213		

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV.

TABLE 8.13.2.1

CONDITION	--PRODUCT--		TEST SPECIMEN ORIENT	YIELD STRENGTH (KSI)	ALUMINUM			7080		K(1C)		K(1C) STAN	DATE	REFER
	FORM	THICK (IN)			THICK (IN)	WIDTH (IN)	SPECIMEN		CRACK LENGTH (IN)	2.5* (IN)				
							A	B						
T7	F	---	R.T.	62.2	1.500	0.750	CT	0.750	0.21	18.10	18.7/	0.8	1972	82879
		---		62.2	1.500	0.750	CT	0.750	0.24	19.20			1972	82879
T7	F8	4.50	82	51.0	1.500	0.748	CT	0.715	0.44	21.40	21.9/	0.7	1973	86213
		4.50		51.0	1.500	0.749	CT	0.758	0.48	22.40			1973	86213
T7	F8	4.50	86	51.0	1.500	0.753	CT	0.822	0.51	23.10	23.2/	0.1	1973	86213
		4.50		51.0	1.500	0.752	CT	0.754	0.52	23.20			1973	86213

TABLE 8.14.3.1

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.14.3.1 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM
CONDITION: T7E69

X7090

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. NITROGEN GAS 10-20HZ	E= R. T. 3.5% NACL 13-20HZ		
DELTA K MIN	A:	3.53	1.39		
	B:	3.77	6.82		
	C:				
	D:				
		4.00	1.88	6.82	
		5.00	3.30	12.6	
		6.00	5.78	26.0	
		7.00	10.4		
DELTA K MAX	A:	7.30	12.6		
	B:	6.31	28.9		
	C:				
	D:				
ROOT MEAN SQUARE		13.68	21.67		
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	3	3		
SUMMARY	1.25-2.0				
(NP/NA)	22.0				

CONDITION/HT: T7E69
 FORM: 1.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: S-T
 STRESS RATIO: +0.50
 FREQUENCY:

YIELD STRENGTH: 60.0- 70.0 KSI
 ULT. STRENGTH:
 SPECIMEN THK: 0.508- 0.510"
 SPECIMEN WIDTH: 1.028- 1.030"
 REFERENCES:MR001

ALUM.
 ALLOY

X7090

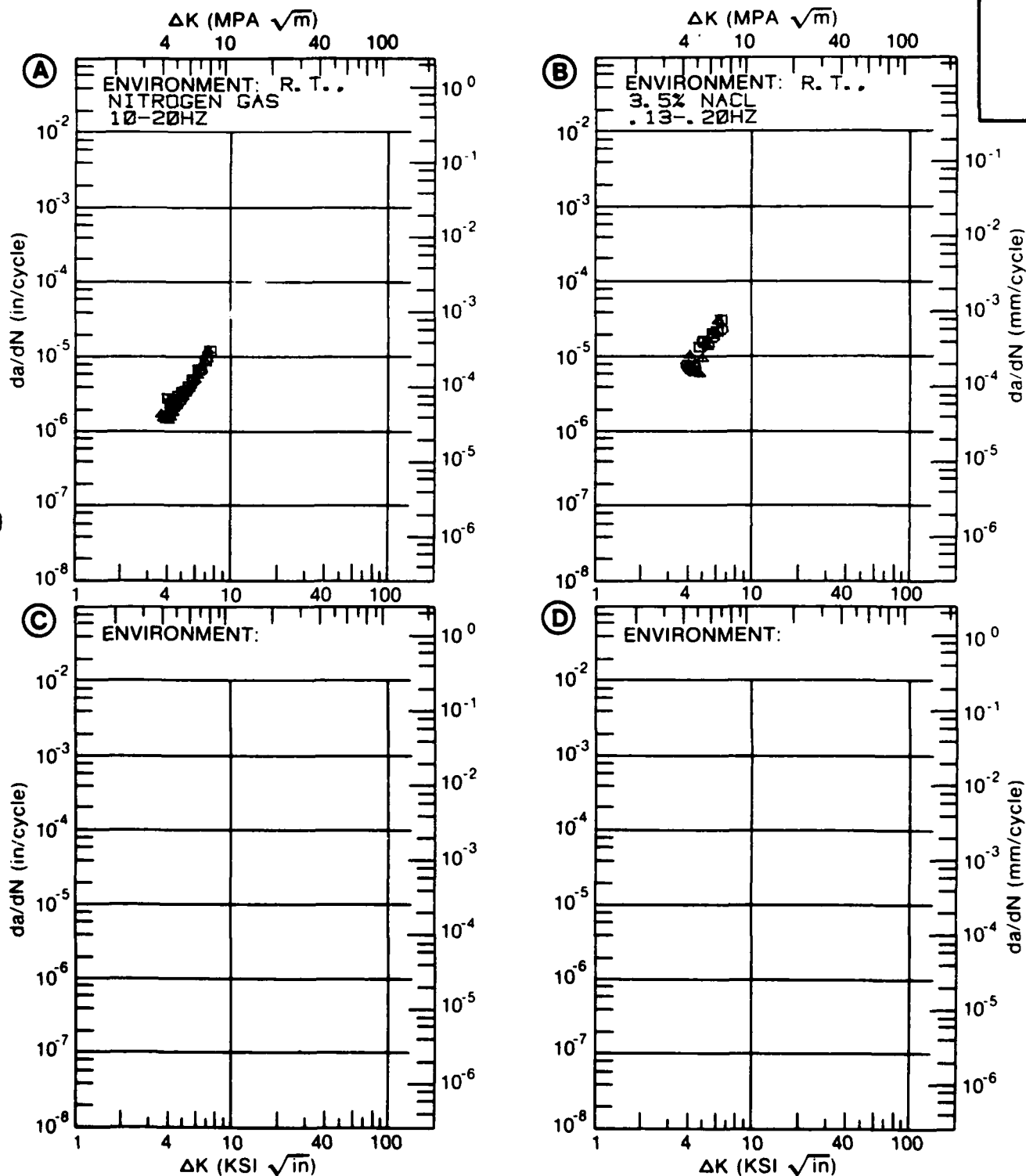


Figure 8.14.3.1

TABLE 8.15.1.1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM X7091

TEST CONDITIONS

SPECIMEN
ORIENTATION S TENVIRONMENT NITROGEN GAS
AT R 1

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ (HZ)	DELTA K LEVELS (KSI SQRT(IN))		FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)				
				2	5	10	20	50	100	
T7E70	PLATE	0.10	20.00			13.0	110			
T7E70	PLATE	0.50	20.00			3.07	20.3			

TABLE 8.15.3.1

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.15.3.1 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM X7091
CONDITION: T7E70

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		E= R. T. NITROGEN GAS			
DELTA K MIN	A: 3.06	.496			
	B:				
	C:				
	D:				
	3.50	.816			
	4.00	1.31			
	5.00	2.74			
	6.00	4.85			
	7.00	7.74			
	8.00	11.5			
DELTA K MAX	9.00	16.3			
	10.00	22.2			
	13.00	48.4			
	A: 15.71	86.4			
	B:				
		C:			
		D:			

ROOT MEAN SQUARE 19.83
PERCENT ERROR

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25 2
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T7E70
 FORM: 1.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: T-L
 STRESS RATIO: +0.50
 FREQUENCY: 20.00 HZ

YIELD STRENGTH: 60.0 KSI
 ULT. STRENGTH: 73.2 KSI
 SPECIMEN THK: 0.510- 0.513"
 SPECIMEN WIDTH: 1.032- 1.033"
 REFERENCES: MR001

ALUM.
 ALLOY

X7091

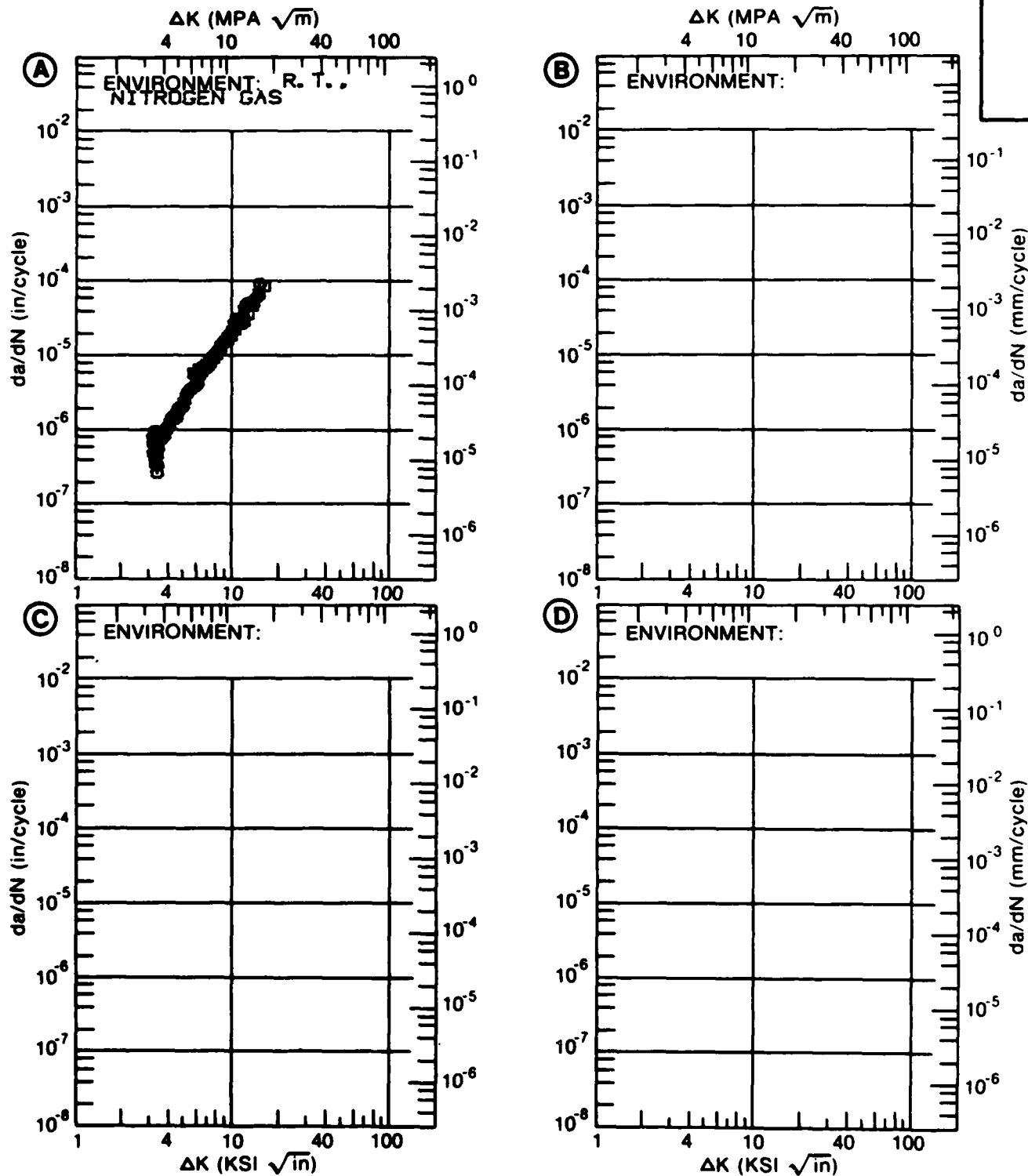


Figure 8.15.3.1

TABLE 8.15.3.2

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.15.3.2 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM X7091
CONDITION: T7E70
ENVIRONMENT: R.T., NITROGEN GAS

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=-0.10	R=+0.50		
DELTA K MIN	A:	6.32	3.11		
	B:	3.10	.566		
	C:				
	D:				
	3.50		.929		
	4.00		1.51		
	5.00		3.07		
	6.00		5.13		
	7.00	4.29	7.73		
	8.00	6.51	11.0		
	9.00	9.40	15.1		
	10.00	13.0	20.3		
	13.00	29.2	46.1		
	16.00	55.3	100.		
	20.00	110.			
DELTA K MAX	A:	22.48	157.		
	B:	16.82	124.		
	C:				
	D:				
ROOT MEAN SQUARE		4.64	14.64		
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1	2		
SUMMARY	1.25-2.0		1		
(NP/NA)	>2.0				

CONDITION/HT: T7E70
 FORM: 1.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: S-T
 FREQUENCY: 20.00 HZ
 ENVIRONMENT: R. T., NITROGEN GAS

YIELD STRENGTH: 60.0- 70.0 KSI
 ULT. STRENGTH:
 SPECIMEN THK: 0.483- 0.515"
 SPECIMEN WIDTH: 1.021- 1.034"
 REFERENCES: MR001

ALUM.
 ALLOY

X7091

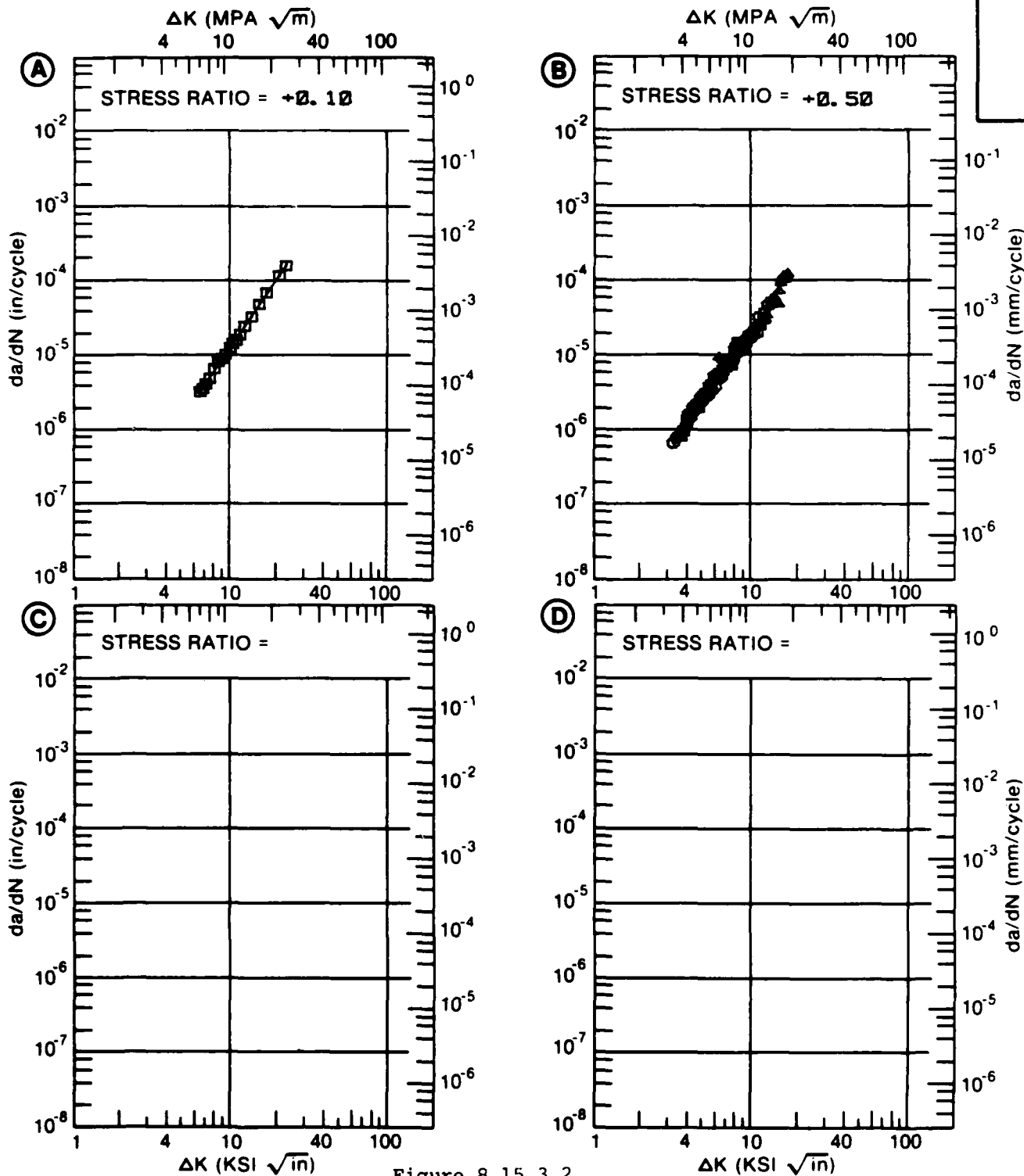


Figure 8.15.3.2

TABLE 8.15.3.3

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.15.3.3 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM X7091
CONDITION: T7E70
ENVIRONMENT: R. T. , 3.5% NaCl.

DELTA K (KSI*IN**1/2)	DA/DN (10**-6 IN. /CYCLE)			
	A	B	C	D
	R=+0.10	R=+0.50		
DELTA K A:				
MIN B:				
C:				
D:				
200.00				
DELTA K A:				
MAX B:				
C:				
D:				
ROOT MEAN SQUARE	0.00	0.00		
PERCENT ERROR				

LIFE	0.0-0.5
PREDICTION	0.5-0.8
RATIO	0.8-1.25
SUMMARY	1.25-2.0
(NP/NA)	>2.0

CONDITION/HT: T7E70
 FORM: 1.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: S-T
 FREQUENCY: 0.20 HZ
 ENVIRONMENT: R. T., 3.5% NaCl

YIELD STRENGTH: 60.0- 70.0 KSI
 ULT. STRENGTH:
 SPECIMEN THK: 0.485- 0.513"
 SPECIMEN WIDTH: 1.032- 1.040"
 REFERENCES: MR001

ALUM.
 ALLOY

X7091

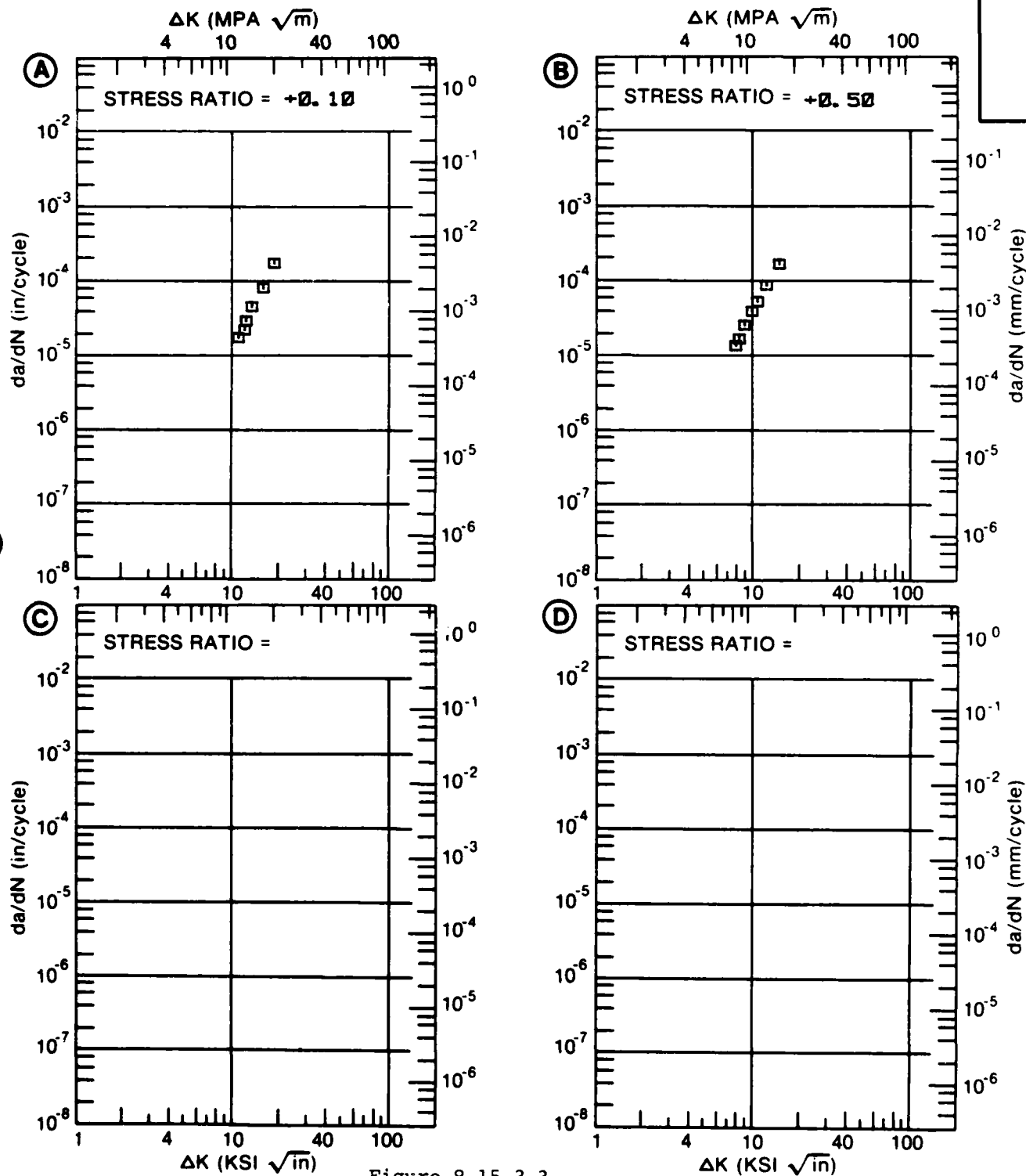


Figure 8.15.3.3

TABLE 8.16.1.1

MEAN PLANE STRAIN FRACTURE TOUGHNESS DATA OF
ALUMINUM ALLOY 7149 AT ROOM TEMPERATURE

CONDITION/HT	MEAN K _{IC} ± STANDARD (KSI SORT(IN)) DEVIATION	(NUMBER OF SPECIMENS)	
		L-T	S-T
T73511	31.5 ± 0.8 (3)	24.2 ± 0.3 (3)	-----
		EXTRUSION	

8.16-2

TABLE 8.16.3.1

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.16.3.1 INDICATING EFFECT
OF ENVIRONMENT

MATERIAL: ALUMINUM		7149			
CONDITION: T73511					
DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. LAB AIR, 1-20HZ		E= R. T. SIM. SEA WATER, 1-10HZ	
DELTA K MIN	A:	4.54	1.29		
	B:	4.39		.836	
	C:				
	D:				
	5.00	1.64	1.70		
	6.00	2.52	4.00		
	7.00	3.60	7.47		
	8.00	4.91	12.0		
	9.00	6.47	17.6		
	10.00	8.32	24.1		
	13.00	16.2	49.0		
	16.00	28.8	82.9		
	20.00	57.9	148.		
	25.00	128.	279.		
DELTA K MAX	A:	27.96	199.		
	B:	26.48		334.	
	C:				
	D:				
ROOT MEAN SQUARE PERCENT ERROR		9.17	14.65		
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	2	2		
SUMMARY	1.25-2.0	1			
(NP/NA)	>2.0				

CONDITION/HT: T73511
 FORM: 3.00" TH EXTRUSION
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 STRESS RATIO: +0.10
 FREQUENCY:

YIELD STRENGTH: 88.3 KSI
 ULT. STRENGTH: 78.4 KSI
 SPECIMEN THK: 1.003- 1.004"
 SPECIMEN WIDTH: 4.500"
 REFERENCES: NC002

ALUM.
 ALLOY

7149

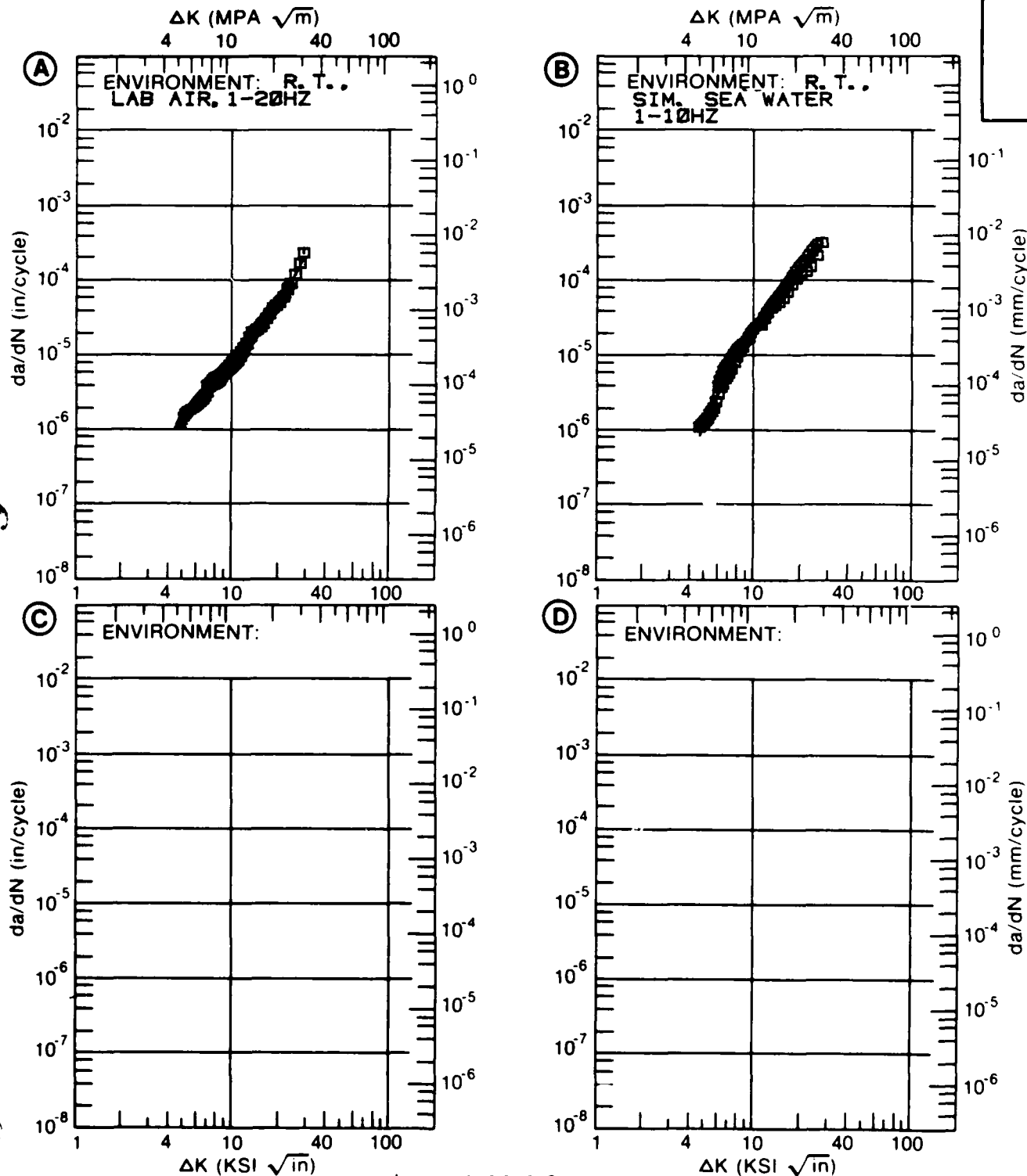


Figure 8.16.3.1

TABLE 8.16.3.2

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.16.3.2 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM 7149
CONDITION: T73511

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		E= R. T. LAB AIR 1-20HZ	E= R. T. SIM. SEA WATER 1-10HZ		
DELTA K MIN	A:	4.06	.949		
	B:	3.59	1.39		
	C:				
	D:				
	4.00		1.46		
	5.00	1.97	2.75		
	6.00	3.28	5.82		
	7.00	4.75	10.4		
	8.00	6.43	16.0		
	9.00	8.41	22.3		
	10.00	10.8	29.4		
	13.00	22.8	57.2		
	16.00	49.7	103.		
	20.00	152.	223.		
DELTA K MAX	A:	22.13	283.		
	B:	22.13	342.		
	C:				
	D:				

ROOT MEAN SQUARE 19.89 8.79
PERCENT ERROR

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25 3 2
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T73511
 FORM: 3.00" TH EXTRUSION
 SPECIMEN TYPE: CT
 ORIENTATION: T-L
 STRESS RATIO: +0.10
 FREQUENCY:

YIELD STRENGTH: 63.7 KSI
 ULT. STRENGTH: 74.5 KSI
 SPECIMEN THK: 1.002- 1.004"
 SPECIMEN WIDTH: 7.400"
 REFERENCES: NC002

ALUM.
 ALLOY

7149

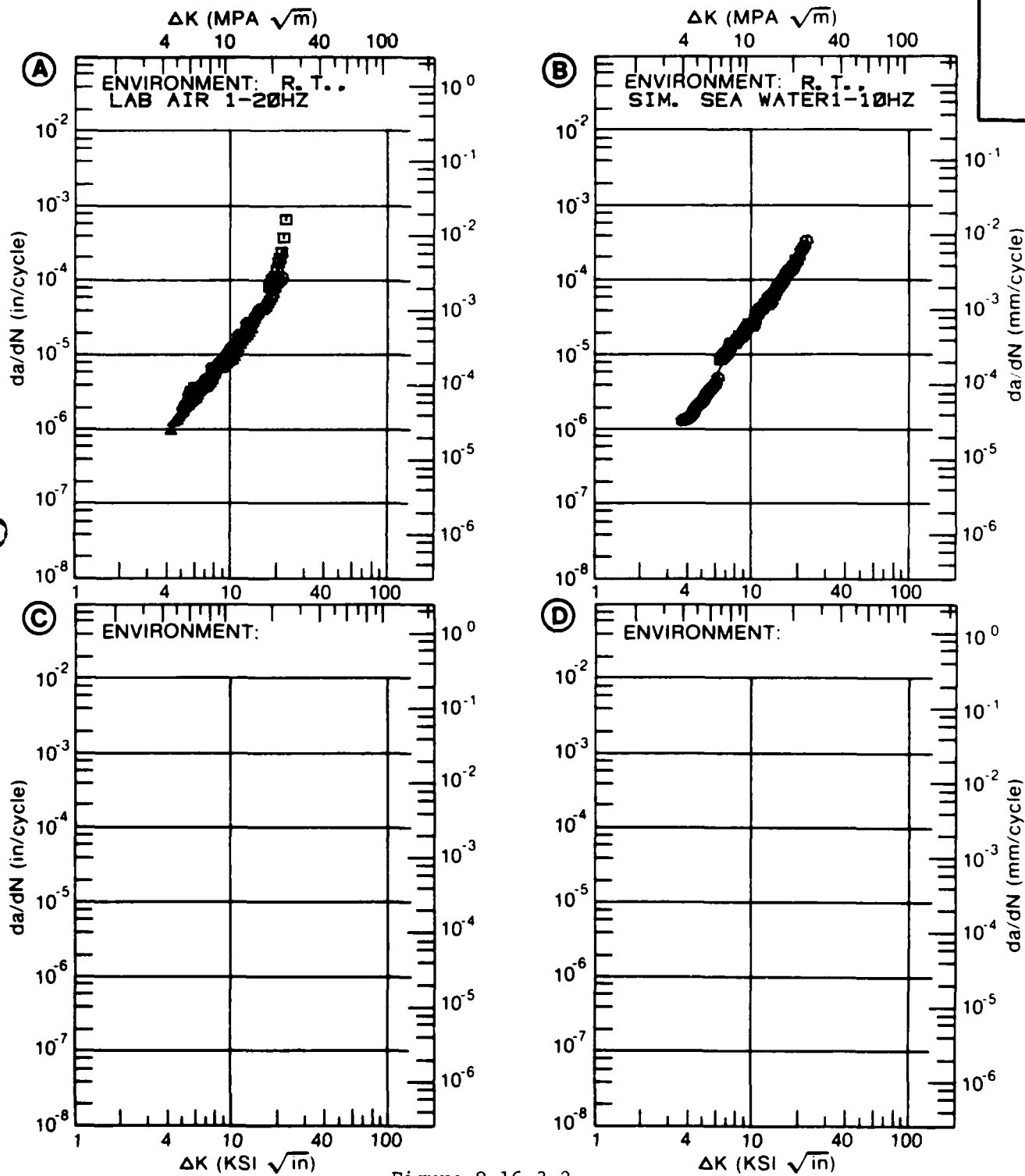


Figure 8.16.3.2

TABLE 8.16.3.3

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.16.3.3 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7150
 CONDITION: T651
 ENVIRONMENT: R T , H. H. A.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		R=+0.33	R=+0.33		
DELTA K MIN	A: 1.85	.02			
	B: 1.99		.01		
	C: 9				
	D:				
	2.00	.0355	.0125		
	2.50	.121	.0937		
	3.00	.306	.352		
	3.50	.639	.885		
	4.00	1.16	1.74		
	5.00	2.90	4.32		
	6.00	5.65	7.77		
	7.00	9.37	11.8		
	8.00	13.9	16.2		
	9.00	19.0	21.1		
	10.00	24.5	26.5		
	13.00	41.0	48.4		
	16.00	54.4	84.9		
	20.00		182.		
DELTA K MAX	A: 16.19	55.2			
	B: 20.66		207.		
	C:				
	D:				
ROOT MEAN SQUARE		23.19	37.79		
PERCENT ERROR					

LIFE	0.0-0.5	1	1
PREDICTION	0.5-0.8	1	1
RATIO	0.8-1.25	3	1
SUMMARY	1.25-2.0		1
(NP/NA)	>2.0		

CONDITION/HT: T651
 FORM: 1.00" TH PLATE
 SPECIMEN TYPE: WOL
 ORIENTATION: L-T
 FREQUENCY: 25.00 HZ
 ENVIRONMENT: R. T., H. H. A.

YIELD STRENGTH:
 ULT. STRENGTH:
 SPECIMEN THK: 0.249- 0.253"
 SPECIMEN WIDTH: 2.550- 2.554"
 REFERENCES: AL014

ALUM.
 ALLOY

7150

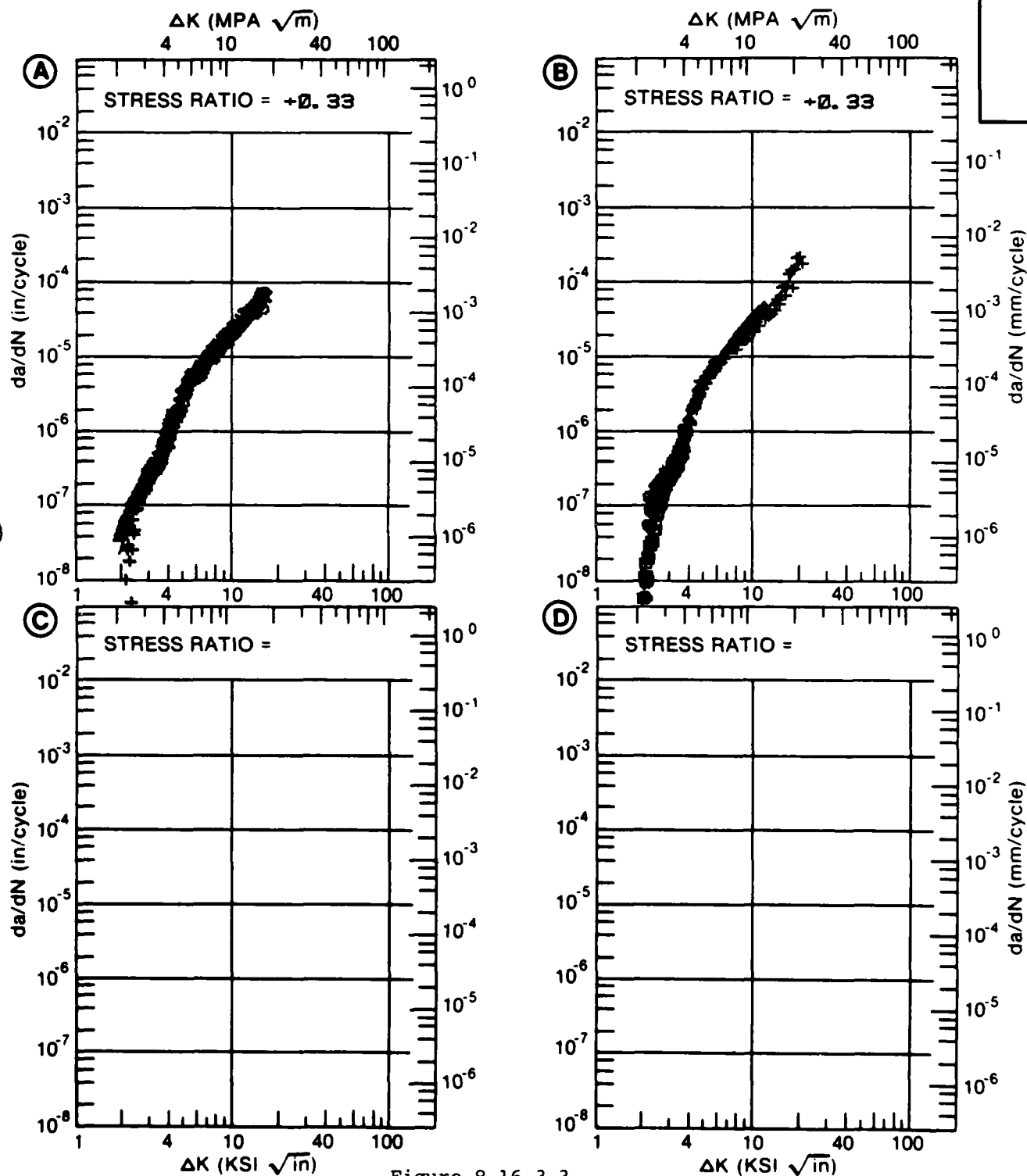


Figure 8.16.3.3

TABLE 8.17.1.1

MEAN PLANE STRAIN FRACTURE TOUGHNESS DATA OF
ALUMINUM ALLOY 7175 AT ROOM TEMPERATURE

CONDITION/HT	MEAN K _{IC} ± STANDARD (KSI SQRT(IN)) DEVIATION	(NUMBER OF SPECIMENS)
FORGING		
	L-T	S-L
T64	-----	23.2 ± 3.1 (2) 20.8 ± 1.1 (7)
T73	-----	----- 27.1 ± 1.2 (4)
T7352	-----	24.5 ± 0.5 (2) -----
T736	31.2 ± 3.8 (4)	26.4 ± 3.6 (10) 25.3 ± 2.1 (23)
T73652	32.7 ± 8.0 (2)	-----
EXTRUSION		
	L-T	S-L
T73511	32.8 ± 4.5 (17)	27.0 ± 4.9 (12) -----
T76511	32.9 ± 3.5 (48)	22.6 ± 2.5 (36) 20.9 ± 1.3 (3)

TABLE 8.17.1.2

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7175

TEST CONDITIONSSPECIMEN
ORIENTATION L TENVIRONMENT DRY AIR
AT R T

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ. (HZ)	DELTA K LEVELS (KSI SQRT(IN))		FATIGUE CRACK GROWTH RATES (MICRO IN./CYCLE)				
				2	5	10	20	50	100	
T7354	FORGING	0.10	6.00			1.15	10.6	83.1		
T736	FORGING	0.02	0.08-10.00					38.8		
T736	FORGING	0.10	6.00			1.11	12.2			
T736	FORGING	0.30	6.00			3.81	19.7			
T736	FORGING	0.33	5.20				16.6			

TABLE 8.17.1.3

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7175

TEST CONDITIONSSPECIMEN
ORIENTATION L TENVIRONMENT: L H A.
AT R. T

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ (HZ)	DELTA K LEVELS: (KSI SQRT(IN))	2.5	5	10	20	50	100
T73652	FORGING	0.08	0.10				10.1			
T73652	FORGING	0.08	1.00			0.43	9.52	53.8		
T73652	FORGING	0.08	6.00				6.50	40.0		
T73652	FORGING	0.30	6.00			0.52	10.2			

TABLE 8.17.1.4

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7175

TEST CONDITIONS

SPECIMEN ORIENTATION	ENVIRONMENT	LAB AIR AT R T								
CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ (HZ)	DELTA K LEVELS (KSI SQRT(IN))	FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)					
					2.5	5	10	20	50	100
1776	FORGING	0.02	10.00				9.87	56.8		
1776-50	FORGING	0.02	1.00-20.00					7.92	33.3	
1776-50	FORGING	0.02	1.00-18.00			0.10	0.80	6.03		

TABLE 8.17.1.5

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7175

TEST CONDITIONS

SPECIMEN
ORIENTATION L TENVIRONMENT H H A
AT R T

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ (HZ)	DELTA K LEVELS (KSI SQRT(IN))	FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)				
					2.5	5	10	20	50
T736	FORGING	0.10	1.00		2.03	11.2	55.1		
T736	FORGING	0.30	1.00		1.78	15.8			
T736	FORGING	0.33	5.20			18.9			
T736	FORGING	0.50	1.00		2.83	16.4			

TABLE 8.17.1.6

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7175

TEST CONDITIONS

SPECIMEN
ORIENTATION L-TENVIRONMENT: S.T.W., 1HZ
AT R.T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ (HZ)	DELTA K LEVELS (KSI SQRT(IN))	FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)				
				2.5	5	10	20	50	100
T7354	FORGING	0.10	1.00		0.61	26.5			
T736	FORGING	0.10	1.00		1.46				
T736	FORGING	0.50	1.00	0.32	6.13	59.3			
T73652	FORGING	0.08	1.00					22.4	
T73652	FORGING	0.30	1.00		3.12	27.9			
T73652	FORGING	0.50	1.00					33.3	

TABLE 8.17.1.7

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7175

TEST CONDITIONSSPECIMEN
ORIENTATION

T-L

ENVIRONMENT

DRY AIR
AT R. T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ (HZ)	DELTA K LEVELS (KSI SQRT(IN))	FATIGUE CRACK GROWTH RATES (MICRO IN./CYCLE)				
					2.5	5	10	20	50 100
T736	FORGING	0.33	5 20				15.5		
T736	FORGING	0.33	18 30				10.1		
T736	FORGING	0.33	18 30				16.1		

TABLE 8.17.1.8

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7175

TEST CONDITIONSSPECIMEN
ORIENTATION T LENVIRONMENT
L H A
A T R T

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ (HZ)	DELTA K LEVELS (KSI SQRT(IN))	FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)					
					2.5	5	10	20	50	100
173652	FORGING	0.08	6.00				4.09			
173652	FORGING	0.08	6.00				1.95			

TABLE 8.17.1.9
FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR
ALUMINUM 7175

TEST CONDITIONS				ENVIRONMENT	H. H. A. AT R. T.	FATIGUE CRACK GROWTH RATES							
SPECIMEN ORIENTATION	T-L	CONDICTION/HT	PRODUCT FORM			STRESS RATIO	FREQ. (HZ)	DELTA K LEVELS (KSI SQRT(IN))	2.5	5	10	20	50
T736			FORGING	0.33	5.20					18.2			
T736			FORGING	0.33	18.30					22.8			
T736			FORGING	0.33	18.30					24.0			

TABLE 8.17.1.1.10

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7175

TEST CONDITIONSSPECIMEN
ORIENTATION T-LENVIRONMENT: SALT FOG
AT R T

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ (HZ)	DELTA K LEVELS (KSI SQRT(IN))	FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)							
					2	5	5	10	20	50	100	
T736	FORGING	0.33	5.20					31.0				
T736	FORGING	0.33	18.30					22.4				
T736	FORGING	0.33	18.30					20.7				

TABLE 8.17.2.1

CONDITION	ALUMINUM						7175		K(1C)		K(1C)		K(1C) STAN		DATE	REFER
	--PRODUCT-- FORM	THICK (IN)	TEST TEMP (F)	SPECIMEN ORIENT	YIELD STRENGTH (KSI)	WIDTH (IN)	-----SPECIMEN-----		CRACK LENGTH (IN)	2.5* (K(1C)/TVS)**2 (IN)	K(1C)*2 (KSI*SQRT IN)	K(1C) MEAN (KSI*SQRT IN)	DEV			
							THICK (IN)	DESIGN (IN)								
T66	F	1.00	R. T.	L-T	82.4	1.000	0.500	CT	0.541	0.49		36.30			1973	86213
T66	F	0.50	89	L-T	80.4	1.000	0.500	CT	0.538	0.47		34.90			1973	86213
		0.50			80.4	1.000	0.501	CT	0.541	0.46		34.50	34.7/	0.3	1973	86213
T66	F	1.00	R. T.	T-L	80.2	1.000	0.499	CT	0.551	0.25		25.40			1973	86213
		1.00			80.2	1.000	0.499	CT	0.541	0.17		21.00	23.2/	3.1	1973	86213
T66	F	0.50	89	T-L	82.2	1.000	0.500	CT	0.531	0.24		25.70			1973	86213
T66	F	1.00	R. T.	S-L	70.4	1.000	0.500	CT	0.525	0.23		21.50			1973	86213
		1.00			70.4	1.000	0.499	CT	0.535	0.25		22.30			1973	86213
		1.00			70.4	1.000	0.499	CT	0.523	0.19		19.40			1973	86213
		1.00			73.0	1.000	0.500	CT	0.539	0.20		20.70			1973	86213
		1.00			73.0	1.000	0.499	CT	0.528	0.23		21.90			1973	86213
		1.00			73.0	1.000	0.500	CT	0.533	0.18		19.40			1973	86213
		1.00			73.0	1.000	0.500	CT	0.503	0.20		20.60	20.8/	1.1	1973	86213
T73	F	8.50	R. T.	T-L	47.7	1.500	0.750	CT	0.775	0.52		21.80			1973	86213
T73	F	1.00	R. T.	S-L	64.9	1.000	0.500	CT	0.517	0.46		27.90			1973	86213
		1.00			64.9	1.000	0.500	CT	0.520	0.41		26.40			1973	86213
		1.00			64.9	1.000	0.500	CT	0.480	0.40		25.80			1973	86213
		1.00			64.9	1.000	0.500	CT	0.525	0.47		28.20	27.1/	1.2	1973	86213
T73	E	4.50	82	L-C	62.2	2.000	1.002	CT	1.052	0.87		36.60			1973	86213
T73511	E	1.30	-	L-T	62.4	2.000	1.017	CT	1.040	0.59		30.50			1977	L6001
		1.30			63.5	2.497	1.250	CT	1.320	0.58		30.79			1977	L6001
		1.30			65.6	2.997	1.500	CT	1.562	0.55		30.90			1977	L6001
		1.30			65.8	2.501	1.250	CT	1.360	1.00		41.70			1977	L6001
		1.30			67.2	1.999	1.020	CT	1.084	0.85		39.40			1977	L6001
		1.30			67.6	2.994	1.503	CT	1.572	0.65		34.70			1977	L6001
		1.30			67.6	1.498	0.750	CT	0.749	0.60		33.20	34.5/	4.5	1977	L6001

TABLE 8.17.2.1 (con't)

CONDITION	ALUMINUM				7175			K(1C)			K(1C) STAN DEV	DATE	REFER
	---PRODUCT---		TEST SPECIMEN ORIENT	YIELD STRENGTH (KSI)	-----SPECIMEN-----		CRACK LENGTH (IN)	2.5* (K(1C)/TYS)**2 (IN)	K(1C) MEAN (KSI*SQRT IN)				
	FORM	THICK (IN)			THICK (IN)	WIDTH (IN)				THICK (IN)			
T73511	E	1.80	R.T.	L-T	62.4	3.000	1.500	CT	---	0.87	36.90	1981	L0003
		1.30			66.1	2.999	1.500	CT	1.532	1.28	47.40	1977	L0001
		1.30			66.7	2.999	1.500	CT	1.516	0.84	38.80	1977	L0001
		1.30			66.9	2.495	1.250	CT	1.292	0.51	30.40	1977	L0001
		1.30			67.1	2.003	1.001	CT	1.045	0.51	30.40	1977	L0001
		1.30			67.1	1.503	0.746	CT	0.765	0.93	30.90	1977	L0001
		1.30			67.1	1.503	0.749	CT	0.770	0.47	29.10	1977	L0001
		1.30			67.1	2.002	1.000	CT	1.019	0.50	30.29	1977	L0001
		1.30			68.0	1.500	0.752	CT	0.786	0.33	24.90	1977	L0001
		1.30			68.0	1.000	0.501	CT	0.534	0.29	23.40	1977	L0001
		1.30			68.0	2.000	1.000	CT	1.088	0.47	29.60	1977	L0001
		1.30			68.0	2.400	1.200	CT	1.288	0.45	29.00	1977	L0001
		1.30			68.3	2.505	1.250	CT	1.310	0.72	36.90	1977	L0001
		1.30			68.7	3.000	1.505	CT	1.580	0.87	40.70	1977	L0001
		1.30			68.7	2.505	1.250	CT	1.355	0.40	27.70	1977	L0001
		1.30			68.8	3.000	1.505	CT	1.550	0.91	41.70	1977	L0001
		1.30			70.6	3.001	1.500	CT	1.521	0.44	29.79	1977	L0001
T73511	E	1.30	- 65	T-L	60.9	3.000	1.500	CT	1.520	0.25	19.29	1977	L0001
		1.30			60.9	2.000	1.013	CT	1.147	0.45	25.90	1977	L0001
		1.30			60.9	3.003	1.499	CT	1.504	0.28	20.50	1977	L0001
		1.30			60.9	2.501	1.250	CT	1.306	0.45	24.10	1977	L0001
		1.30			64.0	2.501	1.250	CT	1.353	0.47	28.60	1977	L0001
		1.30			64.0	1.501	0.752	CT	0.765	0.59	31.20	1977	L0001
		1.30			64.0	1.990	1.008	CT	1.118	0.56	30.90	1977	L0001
		1.30			65.6	2.501	1.251	CT	1.325	0.41	26.60	1977	L0001
		1.30			65.6	1.499	0.751	CT	0.763	0.57	31.40	1977	L0001
		1.30	R.T.	T-L	62.6	2.501	1.250	CT	1.345	0.57	29.90	1977	L0001
		1.80			63.2	3.000	1.500	CT	---	0.79	35.50	1981	L0003
		1.30			63.7	1.505	0.749	CT	0.825	0.29	21.79	1977	L0001
		1.30			63.7	3.000	1.499	CT	1.533	0.27	21.00	1977	L0001
		1.30			64.1	1.500	0.751	CT	0.807	0.50	28.70	1977	L0001
		1.30			64.7	1.998	1.012	CT	1.063	0.48	28.40	1977	L0001
		1.30			64.8	1.000	0.501	CT	0.933	0.40	26.10	1977	L0001
		1.30			65.0	2.500	1.251	CT	1.203	0.39	25.70	1977	L0001
1.30			65.0	2.500	1.243	CT	1.294	0.31	22.90	1977	L0001		
1.30			67.1	2.000	1.005	CT	1.047	0.23	20.50	1977	L0001		
1.30			68.0	2.000	1.000	CT	1.088	0.59	33.20	1977	L0001		

TABLE 8.17.2.1 (con't)

CONDITION	ALUMINUM				7175				K(IIC)		K(IIC) STAN (KSI*SQRT IN)	DATE	REFER
	--PRODUCT-- FORM	THICK (IN)	TEST SPECIMEN ORIENT	YIELD STRENGTH (KSI)	-----SPECIMEN-----		CRACK LENGTH (IN)	2.5* (K(IIC)/TYS)**2 (IN)					
					WIDTH (IN)	THICK (IN)							
T73511	E	1.30	R.T.	T-L	2.400	1.200	CT	1.290	0.49	30.40	27.0/ 4.9	1977 LG001	
T7352	F	2.75	82	L-S	2.000	0.998	CT	1.023	0.96	37.70		1973 86213	
T7352	F	0.75	R.T.	T-L	1.500	0.622	NB	0.729	0.50	24.10	24.5/ 0.5	1973 86213	
		0.75			1.500	0.622	NB	0.754	0.53	24.80		1973 86213	
T7352	F	3.00	86	T-L	1.990	1.000	CT	1.015	0.87	30.80	30.7/ 0.1	1973 86213	
		3.00			1.990	1.000	CT	1.045	0.86	30.60		1973 86213	
T7352	F	3.00	86	S-L	1.990	0.999	CT	1.018	0.47	24.20	24.5/ 0.4	1973 86213	
		3.00			1.990	1.000	CT	1.015	0.49	24.80		1973 86213	
T736	F	3.00	R.T.	L-S	2.000	1.000	CT	1.073	0.86	37.40	32.1/ 7.5	1973 86213	
		3.00			2.000	1.000	CT	1.012	0.42	26.80		1973 86213	
T736	F	2.00	R.T.	L-T	1.500	0.749	CT	0.804	0.41	27.40		1973 86213	
		----			1.400	0.698	CT	0.740	0.67	36.40		1973 85880	
		3.00			1.500	0.750	CT	0.825	0.46	29.60		1973 86213	
		1.00			1.000	0.500	CT	0.480	0.42	31.50	31.2/ 3.8	1972 84368	
T736	F	0.50	82	L-T	1.000	0.500	CT	0.517	0.37	27.20		1973 86213	
		0.50			1.000	0.501	CT	0.539	0.38	27.50		1973 86213	
		1.50			0.990	0.499	CT	0.477	0.42	31.50	28.7/ 2.4	1973 86213	
T736	F	5.00	84	L-T	2.990	1.500	CT	1.639	0.73	33.60		1973 86213	
		2.00			2.000	1.000	CT	1.097	0.73	35.40		1973 86213	
		2.00			2.000	1.000	CT	1.088	0.64	34.00	34.3/ 0.9	1973 86213	
T736	F	3.00	85	L-T	2.000	0.999	CT	1.107	0.73	38.60		1973 86213	
T736	F	3.00	R.T.	T-L	2.000	1.000	CT	1.025	0.31	21.10		1973 86213	
		4.00			2.000	1.000	CT	1.090	0.51	27.10		1972 84368	
		4.00			2.000	1.000	CT	1.070	0.50	26.90		1972 84368	
		3.00			2.000	1.000	CT	1.100	0.39	26.10		1972 84368	

TABLE 8.17.2.1 (con't)

CONDITION	ALUMINUM				7175				K(1C)				K(1C) STAY K(1C) MEAN DEV (KSI*SQRT IN)	DATE	REFER
	--PRODUCT--		TEST SPECIMEN ORIENT	YIELD STRENGTH (KSI)	-----SPECIMEN-----		CRACK LENGTH (IN)	2.5* (K(1C)/TVS)**2 (IN)							
	FORM	THICK (IN)			WIDTH (IN)	THICK (IN)			DESIGN						
T736	F	3.00	R.T.	T-L	65.7	2.000	0.998	CT	1.104	0.39	26.10	1973 86213			
		3.00			65.7	2.000	0.998	CT	1.086	0.35	24.70	1973 86213			
		3.00			65.7	2.000	1.000	CT	1.090	0.35	24.70	1972 84368			
		2.50			66.3	2.000	1.000	CT	1.000	0.29	22.70	1972 83058			
		1.00			73.0	1.000	0.500	CT	0.526	0.47	31.50	1973 86213			
		----			75.4	1.000	0.500	CT	0.900	0.48	33.10	26.4/ 3.6	1972 83058		
T736	F	4.00	82	T-L	59.9	1.990	1.000	CT	1.074	0.50	26.90	1973 86213			
		4.00			59.9	1.990	0.998	CT	1.087	0.51	27.10	1973 86213			
		2.75			73.8	2.000	0.999	CT	1.102	0.28	24.60	26.2/ 1.4	1973 86213		
T736	F	5.00	84	T-L	70.0	2.991	1.500	CT	1.594	0.38	27.40	1973 86213			
		5.00			70.0	2.991	1.500	CT	1.586	0.43	29.00	1973 86213			
		3.00			74.2	2.000	1.001	CT	1.072	0.25	23.40	1973 86213			
		3.00			74.2	2.000	0.999	CT	1.070	0.21	21.40	25.3/ 3.5	1973 86213		
T736	F	3.00	85	T-L	73.8	2.000	1.000	CT	1.093	0.32	26.60	1973 86213			
T736	F	3.00	88	T-L	69.3	2.000	1.000	CT	1.097	0.30	23.90	1973 86213			
		3.00			69.4	2.000	1.000	CT	1.099	0.27	22.70	23.3/ 0.8	1973 86213		
T736	F	2.50	- 65	S-T	66.6	2.000	1.000	CT	1.000	0.40	26.70	1972 83058			
		2.50			66.6	2.000	1.000	CT	1.000	0.38	26.00	1972 83058			
		2.50			66.6	2.000	1.000	CT	1.000	0.38	26.10	26.3/ 0.4	1972 83058		
T736	F	2.50	0	S-T	65.9	2.000	1.000	CT	1.000	0.40	26.30	1972 83058			
		2.50			65.9	2.000	1.000	CT	1.000	0.42	27.10	1972 83058			
		2.50			65.9	2.000	1.000	CT	1.000	0.40	26.40	26.6/ 0.4	1972 83058		
T736	F	2.50	R.T.	S-T	64.9	2.000	1.000	CT	1.000	0.69	33.10	1972 83058			
		2.50			64.9	2.000	1.000	CT	1.000	0.67	33.50	1972 83058			
		2.50			64.9	2.000	1.000	CT	1.000	0.50	29.10	1972 83058			
		-----			65.5	1.000	0.500	CT	0.500	0.45	27.70	1972 83058			
		-----			65.5	1.000	0.500	CT	0.500	0.37	25.20	29.7/ 3.6	1972 83058		
T736	F	3.00	85	S-T	75.5	1.500	0.749	CT	0.810	0.24	23.50	1973 86213			
T736	F	2.50	200	S-T	60.5	2.000	1.000	CT	1.000	0.74	33.00	1972 83058			
		2.50			60.5	2.000	1.000	CT	1.000	0.84	35.00	1972 83058			

TABLE 8.17.2.1 (con't)

CONDITION	ALUMINUM		YIELD (KSI)	SPECIMEN			W (IN)	THICK (IN)	DESIGN (IN)	CRACK LENGTH (IN)	2.5* (K(1C)/TYS)**2 (IN)	K(1C) STAN K(1C) MEAN DEV (KSI*SQRT IN)	DATE	REFER
	FORM	THICK (IN)		THICK	ORIENT	TEMP (F)								
1736	F	2.50	60.5	2.000	1.000	CT	1.000	0.81	0.31	0.31	0.31	0.31	1972 83058	
1736	F	4.00	61.4	2.000	1.000	CT	1.040	0.31	0.31	0.31	0.31	0.31	1972 84368	
		4.00	61.4	2.000	1.000	CT	1.010	0.32	0.32	0.32	0.32	0.32	1972 84368	
		2.50	62.6	1.500	0.749	CT	0.781	0.53	0.53	0.53	0.53	0.53	1973 86213	
		2.50	62.6	1.500	0.749	CT	0.797	0.49	0.49	0.49	0.49	0.49	1973 86213	
		2.00	62.6	1.500	0.750	CT	0.800	0.49	0.49	0.49	0.49	0.49	1972 84368	
		3.00	62.6	1.500	0.750	CT	0.780	0.53	0.53	0.53	0.53	0.53	1972 84368	
		1.00	65.2	1.500	0.750	CT	0.830	0.40	0.40	0.40	0.40	0.40	1972 84368	
		-----	65.5	1.000	0.500	CT	0.500	0.46	0.46	0.46	0.46	0.46	1972 83058	
		3.00	65.5	1.000	0.500	CT	0.500	0.39	0.39	0.39	0.39	0.39	1972 83058	
		3.00	65.6	2.000	0.998	CT	1.084	0.31	0.31	0.31	0.31	0.31	1973 86213	
		-----	65.7	1.000	0.500	CT	0.500	0.36	0.36	0.36	0.36	0.36	1972 84368	
		1.00	65.7	1.000	0.500	CT	0.500	0.33	0.33	0.33	0.33	0.33	1972 83242	
		-----	65.7	1.000	0.500	CT	0.481	0.33	0.33	0.33	0.33	0.33	1973 86213	
		1.00	65.7	1.000	0.500	CT	0.500	0.36	0.36	0.36	0.36	0.36	1972 83242	
		-----	65.7	1.000	0.500	CT	0.509	0.43	0.43	0.43	0.43	0.43	1973 86213	
		1.00	65.7	1.000	0.500	CT	0.500	0.36	0.36	0.36	0.36	0.36	1972 83242	
		-----	65.7	1.000	0.500	CT	0.527	0.38	0.38	0.38	0.38	0.38	1973 86213	
		2.00	66.4	1.500	0.500	CT	0.500	0.36	0.36	0.36	0.36	0.36	1972 83242	
		2.00	66.4	1.500	0.500	CT	0.830	0.39	0.39	0.39	0.39	0.39	1972 84368	
		2.00	66.7	1.500	0.750	CT	0.827	0.33	0.33	0.33	0.33	0.33	1973 86213	
		1.00	67.4	1.000	0.500	CT	0.490	0.35	0.35	0.35	0.35	0.35	1972 84368	
		1.00	67.4	1.000	0.500	CT	0.500	0.37	0.37	0.37	0.37	0.37	1972 84368	
		2.00	68.4	1.000	0.500	CT	0.490	0.28	0.28	0.28	0.28	0.28	1972 84368	
1736	F	4.00	61.4	2.000	0.998	CT	1.009	0.32	0.32	0.32	0.32	0.32	1973 86213	
		4.00	61.4	2.000	0.998	CT	1.037	0.31	0.31	0.31	0.31	0.31	1973 86213	
		2.50	65.1	1.500	0.749	CT	0.820	0.41	0.41	0.41	0.41	0.41	1973 86213	
		2.50	65.1	1.500	0.750	CT	0.804	0.54	0.54	0.54	0.54	0.54	1973 86213	
		1.50	65.2	1.500	0.750	CT	0.830	0.40	0.40	0.40	0.40	0.40	1973 86213	
		1.00	66.3	1.000	0.500	CT	0.497	0.38	0.38	0.38	0.38	0.38	1973 86213	
		2.00	66.4	1.500	0.749	CT	0.832	0.39	0.39	0.39	0.39	0.39	1973 86213	
		3.00	67.1	1.000	0.478	CT	0.528	0.39	0.39	0.39	0.39	0.39	1973 86213	
		1.50	67.4	0.990	0.499	CT	0.492	0.35	0.35	0.35	0.35	0.35	1973 86213	
		1.50	67.4	1.000	0.499	CT	0.500	0.37	0.37	0.37	0.37	0.37	1973 86213	
		3.00	67.7	1.000	0.500	CT	0.545	0.36	0.36	0.36	0.36	0.36	1973 86213	
		1.50	68.4	0.990	0.499	CT	0.490	0.28	0.28	0.28	0.28	0.28	1973 86213	
		3.00	69.8	1.490	0.750	CT	0.804	0.28	0.28	0.28	0.28	0.28	1973 86213	

TABLE 8.17.2.1 (con't)

CONDITION	ALUMINUM										K (IC)		DATE	REFER	
	--PRODUCT--		TEST SPECIMEN ORIENT	YIELD (KSI)	-----SPECIMEN-----			CRACK LENGTH (IN)	2.5* (IN)	K (IC)/TVS**2 (KSI*SQRT IN)	K (IC) STAN MEAN DEV				
	FORM	THICK (IN)			THICK (IN)	WIDTH (IN)	THICK (IN)					DESIGN			
T736	F	3.00	82	S-L	69.8	1.500	0.749	CT	0.759	0.21		20.20	24.9/	2.6	1973 86213
T736	F	3.00	84	S-L	62.8	1.490	0.750	CT	0.791	0.62		31.30			1973 86213
		0.75			66.3	1.000	0.501	CT	0.554	0.46		28.30			1973 86213
		0.75			66.3	1.000	0.501	CT	0.536	0.41		26.80	28.8/	2.3	1973 86213
T736	F	3.00	88	S-L	66.2	1.000	0.498	CT	0.539	0.40		26.50			1973 86213
		3.00			66.3	1.000	0.498	CT	0.532	0.38		25.70			1973 86213
		3.00			68.5	1.000	0.500	CT	0.552	0.32		24.50	25.6/	1.0	1973 86213
T736	F	0.50	89	S-L	67.1	1.000	0.501	CT	0.549	0.43		27.90			1973 86213
		0.50			67.1	1.000	0.500	CT	0.531	0.38		26.50	27.1/	1.1	1973 86213
T73652	F	1.25	R.T.	L-T	63.5	2.501	1.251	CT	1.308	0.45		27.00			1977 MA005
		3.10			71.7	2.506	1.250	CT	1.343	0.71		38.30	32.7/	8.0	1981 MA002
T73652	F	3.75	82	L-T	62.9	4.000	1.999	CT	2.162	1.00		39.80			1973 86213
T73652	F	1.25	R.T.	T-L	63.5	2.498	1.243	CT	1.339	0.34		23.50			1977 MA005
T76511	E	3.75	R.T.	L-T	62.1	3.972	2.000	CT	2.105	0.93		38.40			1978 HPC01
		3.75			62.7	4.031	2.000	CT	2.056	0.90		37.70			1978 HPC01
		3.75			62.8	4.023	1.998	CT	2.092	0.90		38.10			1978 HPC01
		3.75			63.4	4.039	2.000	CT	2.100	0.90		38.30			1978 HPC01
		3.75			63.4	3.979	2.000	CT	2.069	0.87		37.80			1978 HPC01
		3.75			63.5	3.977	2.000	CT	2.068	0.90		38.10			1978 HPC01
		3.75			63.7	4.029	2.000	CT	2.095	0.93		39.00			1978 HPC01
		3.75			64.0	3.987	2.000	CT	2.153	0.87		37.90			1978 HPC01
		3.75			64.1	3.990	2.000	CT	2.075	0.84		37.40			1978 HPC01
		3.75			64.4	4.010	2.000	CT	2.085	0.84		37.40			1978 HPC01
		3.75			64.5	3.979	2.000	CT	2.109	0.84		37.90			1978 HPC01
		3.75			64.7	3.970	2.000	CT	2.104	0.87		38.50			1978 HPC01
		1.40			67.5	0.994	0.600	CT	0.507	0.50		30.40			1978 HPC01
		1.40			67.5	1.010	0.600	CT	0.505	0.46		29.20			1978 HPC01
		1.80			67.5	4.008	1.765	CT	2.044	0.50		30.90			1978 HPC01

TABLE 8.17.2.1 (con't)

CONDITION	ALUMINUM				YIELD STRENGTH (KSI)	7175			K(1C)		K(1C) STAN DEV	DATE	REFER
	--PRODUCT--		TEST SPECIMEN ORIENT	-----SPECIMEN-----		CRACK LENGTH (IN)	2.5* (K(1C)/TYS)**2 (IN)	K(1C) MEAN (KSI+80T IN)					
	FORM	THICK (IN)		THICK (IN)					WIDTH (IN)	THICK (IN)			
T76511	E	1.40	R. T.	L-T	67.5	1.004	0.600	CT	0.492	0.44	28.40	1978	MPC01
	3.00	68.3	2.002	0.996	CT	1.001	0.65	35.20	1978	MPC01			
	3.00	68.3	2.002	0.996	CT	1.021	0.55	32.70	1978	MPC01			
	3.00	68.3	1.986	0.996	CT	1.013	0.57	33.30	1978	MPC01			
	3.00	68.3	1.996	0.996	CT	1.018	0.65	35.00	1978	MPC01			
	1.80	68.3	4.014	1.764	CT	2.007	0.44	29.10	1978	MPC01			
	3.50	68.5	1.982	0.999	CT	0.991	0.50	30.90	1978	MPC01			
	3.50	68.5	2.006	0.999	CT	0.983	0.48	30.60	1978	MPC01			
	3.50	68.5	2.002	0.999	CT	1.001	0.52	31.90	1978	MPC01			
	3.50	68.5	1.980	0.999	CT	0.970	0.44	28.80	1978	MPC01			
	3.50	68.5	1.998	0.999	CT	0.979	0.48	30.30	1978	MPC01			
	1.80	68.8	3.000	1.500	CT	-----	0.59	33.50	1981	L0003			
	3.00	69.5	1.985	0.999	CT	1.032	0.52	32.00	1978	MPC01			
	3.00	69.5	2.004	0.999	CT	1.022	0.52	32.00	1978	MPC01			
	3.50	69.5	2.008	0.997	CT	1.024	0.57	34.00	1978	MPC01			
	3.50	69.5	1.983	0.997	CT	1.031	0.62	34.80	1978	MPC01			
	3.00	69.5	2.004	0.996	CT	1.002	0.55	32.80	1978	MPC01			
	3.00	69.5	2.000	0.999	CT	1.020	0.52	32.10	1978	MPC01			
	3.00	69.5	2.004	0.999	CT	1.022	0.50	31.90	1978	MPC01			
	3.00	69.5	1.990	0.993	CT	0.995	0.57	33.50	1978	MPC01			
	3.00	69.5	2.004	0.998	CT	1.002	0.48	30.90	1978	MPC01			
	3.00	69.5	2.008	0.996	CT	1.004	0.59	32.80	1978	MPC01			
	1.40	69.6	1.994	1.001	CT	0.997	0.42	29.10	1978	MPC01			
1.40	69.6	2.008	1.001	CT	1.024	0.38	27.80	1978	MPC01				
1.40	69.6	1.986	1.001	CT	0.993	0.38	27.60	1978	MPC01				
1.40	69.6	1.983	1.001	CT	1.051	0.38	27.70	1978	MPC01				
1.80	69.6	4.022	1.765	CT	1.971	0.44	29.40	1978	MPC01				
1.40	69.6	2.004	1.001	CT	0.982	0.38	27.20	1978	MPC01				
2.80	70.5	1.990	1.000	CT	1.015	0.46	30.80	1978	MPC01				
3.50	71.0	1.990	1.000	CT	0.995	0.48	31.50	1978	MPC01				
3.50	71.0	1.992	0.998	CT	0.996	0.48	31.90	1978	MPC01				
3.50	71.0	1.986	1.001	CT	0.993	0.52	33.00	1978	MPC01				
T76511	E	3.50	R. T.	T-L	62.2	1.992	1.000	CT	1.016	0.36	24.00	1978	MPC01
	3.50	62.2	2.011	0.999	CT	1.066	0.38	24.60	1978	MPC01			
	3.50	62.2	1.988	0.999	CT	1.014	0.36	24.00	1978	MPC01			
	3.50	62.2	2.004	0.999	CT	1.102	0.30	23.50	1978	MPC01			
	3.50	62.2	2.006	0.999	CT	0.983	0.30	22.00	1978	MPC01			

TABLE 8.17.2.1 (con't)

CONDITION	ALUMINUM				YIELD STRENGTH (KSI)	7175			K(1C)			K(1C) MEAN (KSI*SQRT IN)	STAN DEV	DATE	REFER
	--PRODUCT--		TEST SPECIMEN ORIENT	THICK (IN)		-----SPECIMEN-----		CRACK LENGTH (IN)	2.5* (IN)						
	FORM	THICK (IN)				WIDTH (IN)	THICK (IN)			DESIGN (IN)					
T76511	E	3.50	R.T.	T-L	0.999	CT	2.014	0.999	CT	1.007	0.34	23.50		1978	MPC01
		3.50			0.999	CT	2.002	0.999	CT	0.961	0.28	21.80		1978	MPC01
		3.00			1.005	CT	2.006	1.005	CT	1.003	0.28	21.70		1978	MPC01
		3.00			0.999	CT	1.982	0.999	CT	1.011	0.28	21.50		1978	MPC01
		3.00			1.003	CT	2.010	1.003	CT	0.985	0.27	21.20		1978	MPC01
		3.00			1.004	CT	2.018	1.004	CT	0.989	0.27	21.20		1978	MPC01
		1.40			0.999	CT	1.002	0.999	CT	0.501	0.28	22.10		1978	MPC01
		1.40			0.600	CT	0.994	0.600	CT	0.497	0.27	21.40		1978	MPC01
		1.40			0.600	CT	0.996	0.600	CT	0.509	0.28	21.80		1978	MPC01
		1.40			0.599	CT	0.996	0.599	CT	0.488	0.25	21.00		1978	MPC01
		3.00			1.002	CT	2.004	1.002	CT	1.002	0.25	20.80		1978	MPC01
		3.00			1.015	CT	2.004	1.015	CT	1.004	0.27	21.30		1978	MPC01
		3.00			1.004	CT	1.984	1.004	CT	0.972	0.25	21.00		1978	MPC01
		3.00			0.976	CT	1.992	0.976	CT	0.936	0.25	21.00		1978	MPC01
		3.00			0.976	CT	2.015	0.976	CT	0.967	0.27	21.40		1978	MPC01
		3.00			1.988	CT	0.995	1.988	CT	0.994	0.27	21.70		1978	MPC01
		3.00			0.995	CT	2.010	0.995	CT	0.965	0.25	21.20		1978	MPC01
		3.00			0.995	CT	1.996	0.995	CT	0.998	0.27	21.70		1978	MPC01
		3.50			0.995	CT	2.010	0.995	CT	1.025	0.24	20.40		1978	MPC01
		1.80			1.764	CT	3.988	1.764	CT	2.034	0.42	27.20		1978	MPC01
		1.80			1.764	CT	3.996	1.764	CT	2.078	0.42	27.40		1978	MPC01
1.80			1.500	CT	3.000	1.500	CT	-----	0.56	31.70		1981	LG003		
1.40			1.000	CT	2.005	1.000	CT	1.123	0.24	21.40		1978	MPC01		
1.40			1.000	CT	1.989	1.000	CT	1.074	0.24	21.20		1978	MPC01		
1.40			1.001	CT	2.014	1.001	CT	1.027	0.22	20.80		1978	MPC01		
1.40			1.001	CT	2.015	1.001	CT	1.088	0.21	20.40		1978	MPC01		
1.40			1.001	CT	1.985	1.001	CT	1.072	0.22	20.70		1978	MPC01		
3.50			0.998	CT	1.978	0.998	CT	1.009	0.25	22.40		1978	MPC01		
3.50			0.998	CT	1.986	0.998	CT	0.993	0.27	23.00		1978	MPC01		
3.50			0.998	CT	1.983	0.998	CT	1.031	0.34	25.60		1978	MPC01		
1.80			1.764	CT	4.037	1.764	CT	2.059	0.40	27.60	22.6/	2.5	1978	MPC01	
T76511	E	3.00	R.T.	S-T	1.002	CT	1.982	1.002	CT	0.991	0.30	21.50		1978	MPC01
		3.00			1.001	CT	2.000	1.001	CT	0.960	0.28	20.70		1978	MPC01
		3.00			1.002	CT	2.017	1.002	CT	0.968	0.32	21.90		1978	MPC01
		3.00			1.002	CT	2.002	1.002	CT	0.981	0.28	21.00		1978	MPC01
		3.00			1.000	CT	1.998	1.000	CT	0.939	0.27	20.60		1978	MPC01
		3.00			1.002	CT	1.980	1.002	CT	0.970	0.30	21.80		1978	MPC01
3.50			0.999	CT	61.5	1.982	0.999	CT	0.991	0.28	21.40		1978	MPC01	

TABLE 8.7.2.1 (con't)

CONDITION	ALUMINUM										DATE	REFER		
	--PRODUCT--		TEST SPECIMEN ORIENT	YIELD (KSI)	7175		K(1C)		CRACK LENGTH (IN)	2.5* (K(1C)/TV8)**2 (IN)			K(1C) MEAN DEV (KSI*80RT IN)	K(1C) STAN DEV
	FORM	THICK (IN)			THICK (IN)	W	B	A						
T76511	E	3.50	R.T.	B-T	61.5	1.992	0.999	CT	0.976	0.28	21.20	1978	MPC01	
					61.5	1.990	0.999	CT	0.975	0.27	20.60	1978	MPC01	
					3.50	61.5	2.011	1.002	CT	0.945	0.30	21.90	1978	MPC01
					3.50	61.5	2.013	0.999	CT	0.966	0.27	20.70	1978	MPC01
					3.00	61.5	2.008	0.998	CT	1.004	0.27	20.90	1978	MPC01
					3.50	61.5	1.990	0.999	CT	0.975	0.24	19.60	1978	MPC01
					3.00	61.5	1.984	0.997	CT	1.012	0.30	21.70	1978	MPC01
					3.00	61.5	1.982	1.005	CT	0.971	0.28	21.40	1978	MPC01
					3.00	62.0	2.015	1.005	CT	0.927	0.28	21.50	1978	MPC01
					3.00	62.0	2.012	0.998	CT	1.006	0.28	21.30	1978	MPC01
					3.00	62.0	1.996	0.996	CT	0.978	0.30	22.30	1978	MPC01
					3.00	62.0	2.009	1.002	CT	0.924	0.30	21.70	1978	MPC01
					3.50	62.2	1.984	0.998	CT	0.992	0.27	20.90	1978	MPC01
					3.50	62.2	2.008	0.999	CT	0.964	0.28	21.50	1978	MPC01
					3.50	62.2	1.996	0.998	CT	0.998	0.32	23.00	1978	MPC01
					3.50	63.4	2.000	0.999	CT	0.960	0.30	22.60	1978	MPC01
					3.50	63.4	1.980	0.999	CT	0.970	0.28	21.90	1978	MPC01
					1.40	66.6	0.998	0.999	CT	0.479	0.25	21.50	1978	MPC01
					1.40	66.6	1.004	0.600	CT	0.472	0.24	20.90	1978	MPC01
					1.40	66.6	1.011	0.600	CT	0.465	0.22	20.50	1978	MPC01
					1.40	66.6	1.002	0.600	CT	0.451	0.25	21.60	1978	MPC01
T76511	E	1.80	R.T.	B-L	66.1	1.489	0.751	CT	0.804	0.27	22.30	1978	MPC01	
					66.4	1.498	0.750	CT	0.779	0.22	20.00	1978	MPC01	
					66.4	1.498	0.751	CT	0.809	0.22	20.30	1978	MPC01	

TABLE 8.17.2.2

CONDITION	ALUMINUM		7175		K(C)											
	--PRODUCT-- FORM	THICK (IN)	TEST SPEC OR (F)	YIELD STR (KSI)	CRACK LENGTH		GROSS STRESS									
					W	B	INIT (IN)	FINAL (IN)	MAX (KSI)	STAN DEV (KSI)						
BUCKLING OF CRACK EDGES NOT RESTRAINED																
173511	E	1.30	R. T.	L-T	63.4	5.910	0.551	1.880	---	---	34.20	62.80	---	---	---	1977 LG001
173511	E	1.30	R. T.	L-T	66.1	7.980	0.505	2.490	---	---	37.90	79.90	---	---	---	1977 LG001
173511	E	1.30	R. T.	L-T	66.1	7.980	0.749	2.480	---	---	37.30	78.30	---	---	---	1977 LG001
173511	E	1.30	R. T.	L-T	63.2	7.990	0.256	2.230	---	---	41.00	81.20	---	---	---	1977 LG001
		1.30			66.1	7.990	0.251	2.470	---	---	40.70	85.20	---	---	---	1977 LG001
		1.30			66.1	7.990	0.252	2.520	---	---	40.50	85.80	---	---	---	1977 LG001
		1.30			66.1	7.990	0.251	2.520	---	---	40.90	86.80	84.8 / 2.5	---	---	1977 LG001
173511	E	1.30	R. T.	L-T	66.1	7.990	0.502	2.410	---	---	37.90	78.10	---	---	---	1977 LG001
173511	E	1.30	R. T.	L-T	66.8	7.990	0.749	2.540	---	---	33.90	72.30	---	---	---	1977 LG001
173511	E	1.30	R. T.	L-T	63.2	8.000	0.506	2.420	---	---	22.00	37.80	78.20	---	---	1977 LG001
		1.30			66.1	8.000	0.501	2.250	3.300	35.20	37.40	74.00	93.36*	---	---	1977 LG001
		1.30			66.1	8.000	0.501	3.940	4.350	24.80	28.80	84.80*	92.89*	---	---	1977 LG001
		1.30			66.8	8.000	0.500	2.080	---	---	42.70	80.60	---	---	---	1977 LG001
		1.30			66.8	8.000	0.503	2.440	---	35.30	37.80	78.60	77.9 / 2.8	---	---	1977 LG001
173511	E	1.30	R. T.	L-T	66.1	8.010	0.250	2.510	---	---	39.90	84.40	---	---	---	1977 LG001
173511	E	1.30	R. T.	L-T	66.8	8.010	0.497	2.130	---	---	41.70	80.30	---	---	---	1977 LG001
		1.30			66.8	8.010	0.504	2.530	---	---	37.40	79.40	79.9 / 0.6	---	---	1977 LG001
173511	E	1.30	R. T.	T-L	63.6	7.940	0.502	2.460	---	---	23.90	49.90	---	---	---	1977 LG001
173511	E	1.30	R. T.	T-L	63.6	7.980	0.252	2.260	---	15.90	25.80	51.30	---	---	---	1977 LG001
173511	E	1.30	R. T.	T-L	64.0	7.980	0.499	2.680	---	---	22.20	49.10	---	---	---	1977 LG001
173511	E	1.30	R. T.	T-L	64.0	7.990	0.250	2.570	---	---	21.50	46.30	---	---	---	1977 LG001
173511	E	1.30	R. T.	T-L	64.0	7.990	0.499	2.130	---	---	27.60	52.80	---	---	---	1977 LG001

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV

TABLE 8.17.2.2 (con't)

CONDITION	ALUMINUM				7175				K(C)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
	--PRODUCT--		TEST SPEC OR (F)	YIELD (KSI)	---SPECIMEN---				CRACK LENGTH				GROSS STRESS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
	FORM	THICK (IN)			WIDTH (IN)	THICK (IN)	INIT (IN)	FINAL (IN)	ONSET (KSI)	MAX (KSI)	K (APP)		K (C)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
											STAN DEV	MEAN	STAN DEV	MEAN																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
					B	2A(O)	2A(F)	S(O)	S(MAX)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(KSI*SQRT IN)	(

TABLE 8.17.3.1

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.17.3.1 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM 7175
CONDITION: T7354

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. DRY AIR, 6HZ		E= R. T. S. T. W., 1HZ	
DELTA K MIN	A:	4.27	.740		
	B:	3.96		.119	
	C:				
	D:				
	4.00			.124	
	5.00	1.15		.613	
	6.00	2.00		2.37	
	7.00	3.27		6.31	
	8.00	5.08		12.3	
	9.00	7.50		19.4	
	10.00	10.6		26.5	
	13.00	24.8		42.5	
	16.00	46.1		50.9	
	20.00	83.1			
DELTA K MAX	A:	21.32	96.6		
	B:	17.40		53.4	
	C:				
	D:				
ROOT MEAN SQUARE		8.39	41.96		
PERCENT ERROR					

LIFE	0.0-0.5	
PREDICTION	0.5-0.8	
RATIO	0.8-1.25	1
SUMMARY	1.25-2.0	1
(NP/NA)	>2.0	1

CONDITION/HT: T7354
 FORM: 6.00" TH FORGING
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 STRESS RATIO: +0.10
 FREQUENCY:

YIELD STRENGTH: 64.8 KSI
 ULT. STRENGTH: 75.7 KSI
 SPECIMEN THK: 0.498"
 SPECIMEN WIDTH: 2.547- 2.550"
 REFERENCES: GD002

ALUM.
 ALLOY

7175

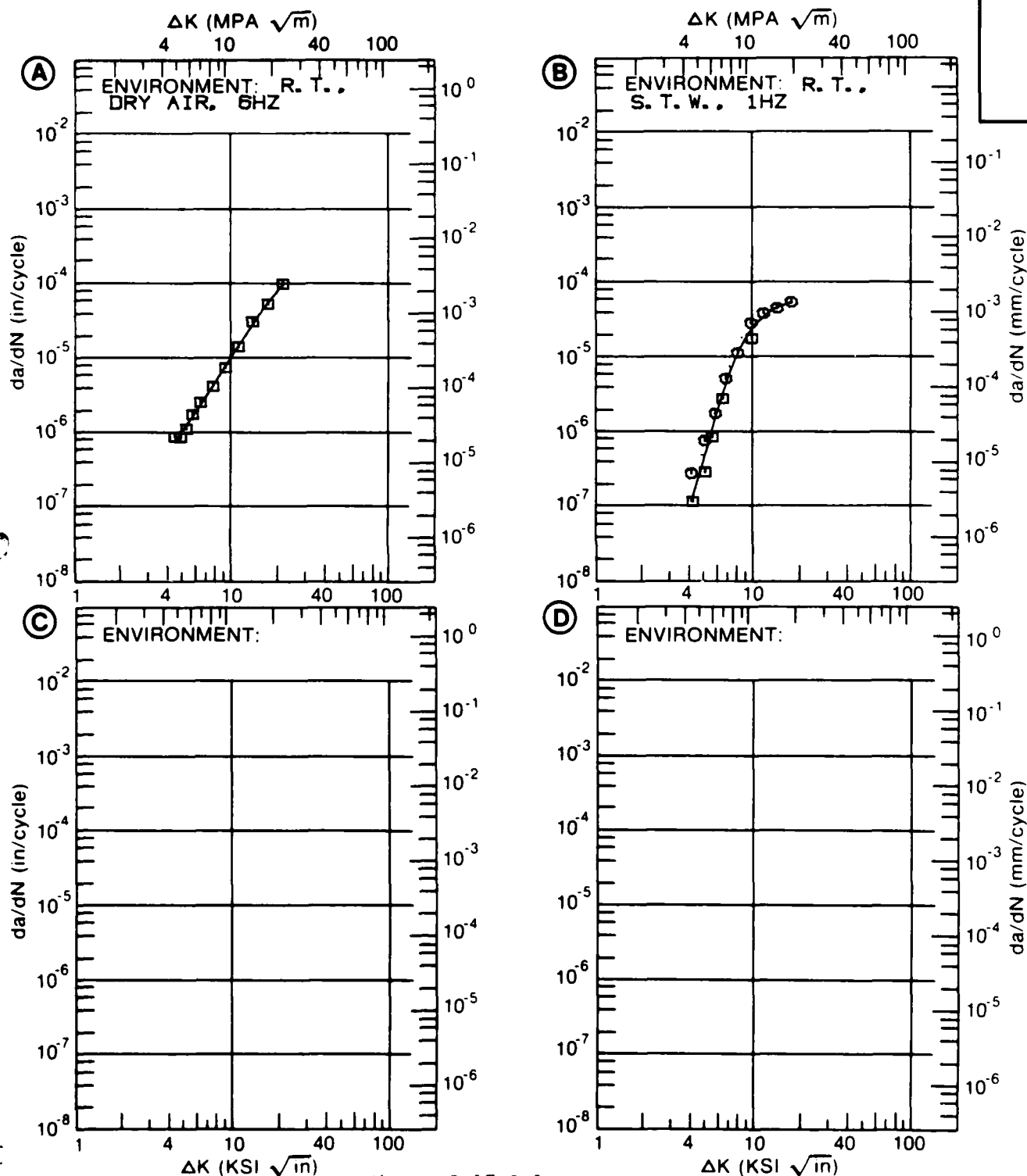


Figure 8.17.3.1

TABLE 8.17.3.2

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.17.3.2 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM 7175
CONDITION: T7354

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. S. T. W.			
DELTA K MIN	A:	3.20	.186		
	B:				
	C:				
	D:				
		3.50	.187		
		4.00	.291		
		5.00	1.21		
		6.00	4.32		
		7.00	9.48		
		8.00	16.2		
DELTA K MAX	A:	18.60	169.		
	B:				
	C:				
	D:				

ROOT MEAN SQUARE 14.05
PERCENT ERRORLIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25
SUMMARY 1.25-2.0 1
(NP/NA) >2.0

CONDITION/HT: T7354
 FORM: 6.00" TH FORGING
 SPECIMEN TYPE: CT
 ORIENTATION: T-L
 STRESS RATIO: +0.10
 FREQUENCY: 1.00 HZ

YIELD STRENGTH: 62.6 KSI
 ULT. STRENGTH: 73.5 KSI
 SPECIMEN THK: 0.499"
 SPECIMEN WIDTH: 2.550"
 REFERENCES: GD002

ALUM.
 ALLOY

7175

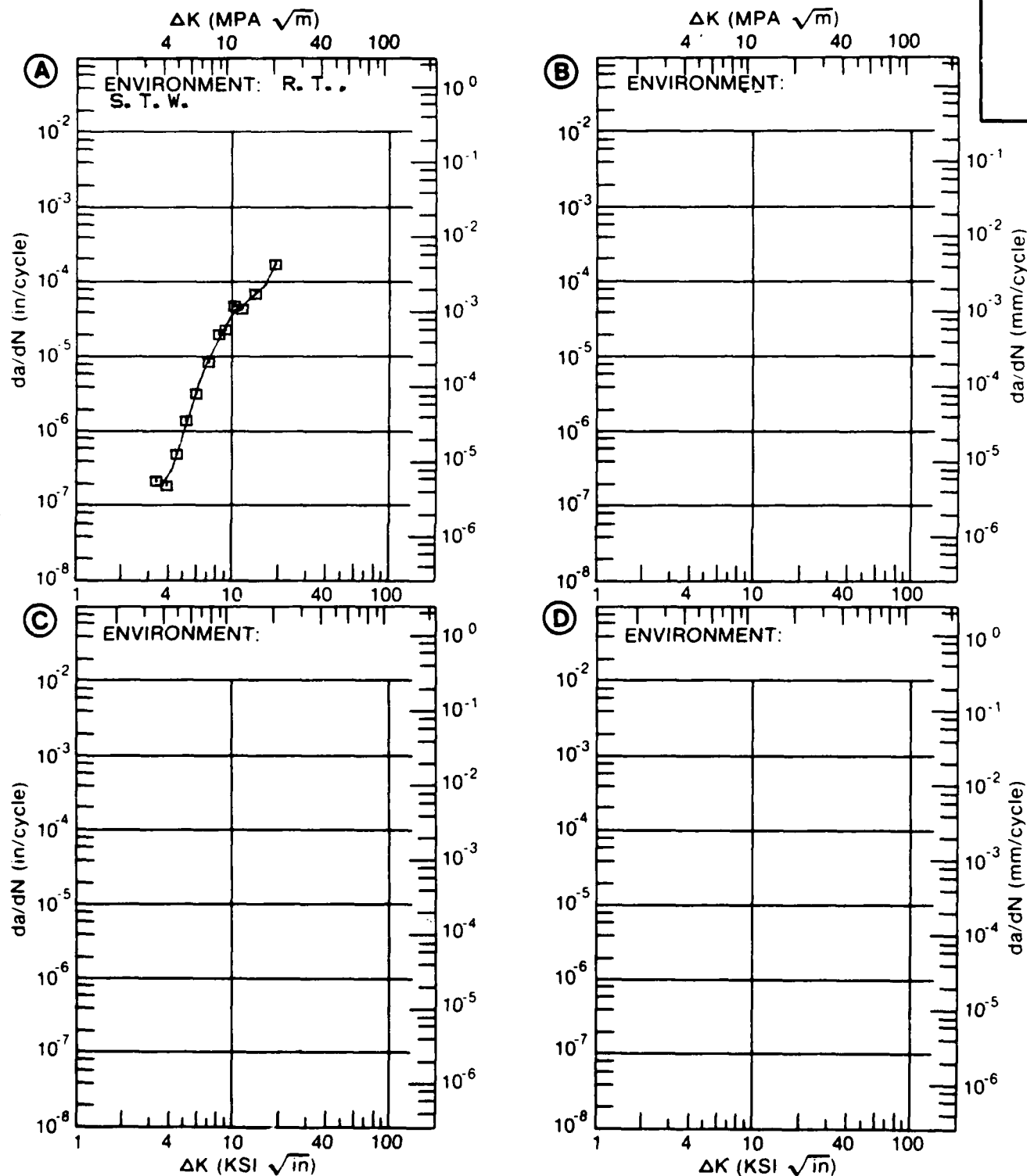


Figure 8.17.3.2

TABLE 8.17.3.3

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.17.3.3 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM 7175
CONDITION: T736

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. LAB AIR	E= R. T. 3.5% NACL		
DELTA K MIN	A:	8.66	5.48		
	B:				
	C:				
	D:				
		9.00	6.50		
		10.00	9.87		
DELTA K MAX		13.00	22.1		
		16.00	35.8		
		20.00	56.8		
	A:	23.70	81.8		
	B:				
	C:				
	D:				
ROOT MEAN SQUARE		25.37	0.00		
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8	1			
RATIO	0.8-1.25	2			
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T736
 FORM: 0.70" TH FORGING
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 STRESS RATIO: +0.02
 FREQUENCY: 10.00 HZ

YIELD STRENGTH: 88.5 KSI
 ULT. STRENGTH: 77.5 KSI
 SPECIMEN THK: 0.700"
 SPECIMEN WIDTH: 1.400"
 REFERENCES: 85980

ALUM.
 ALLOY

7175

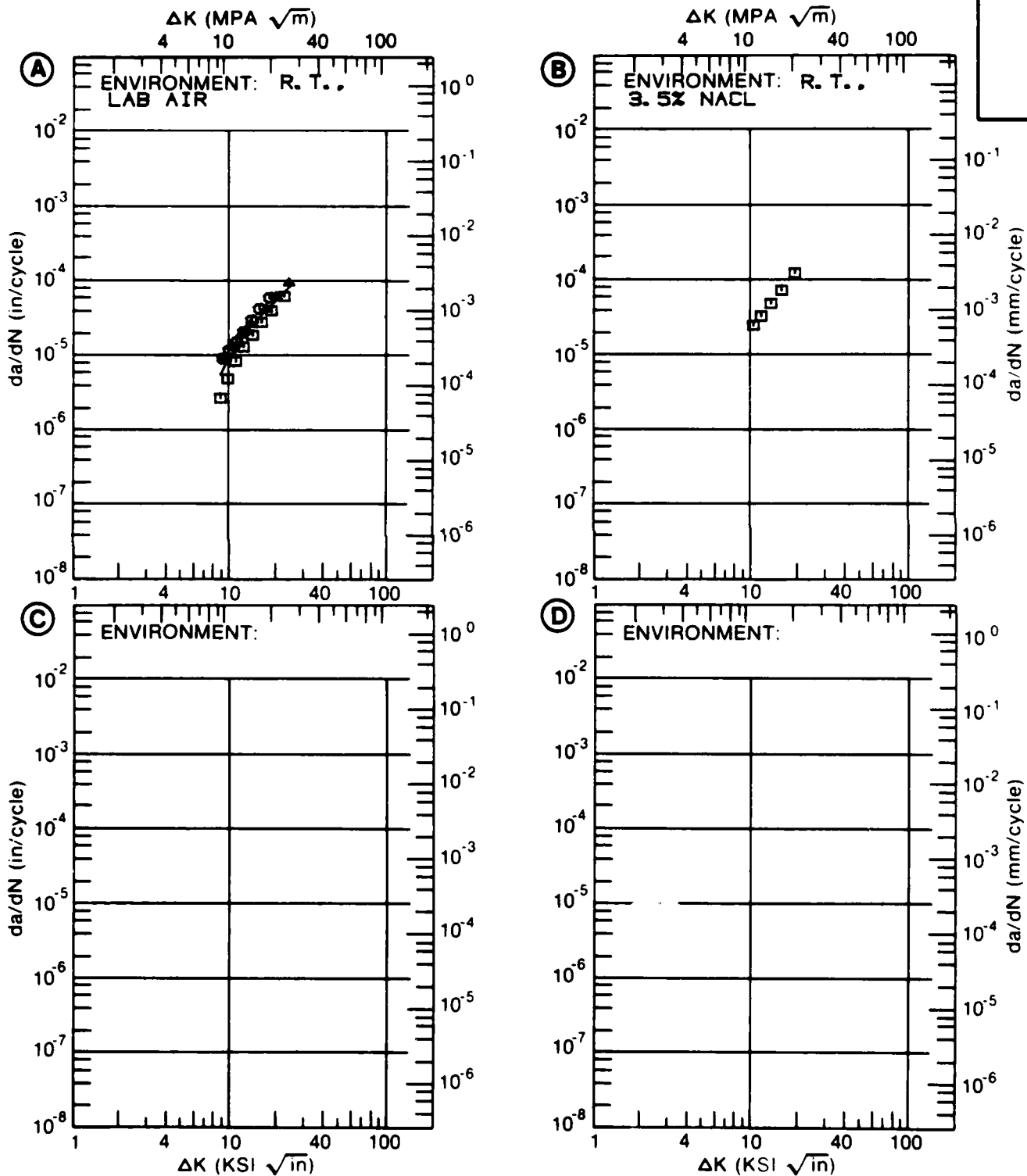


Figure 8.17.3.3

TABLE 8.17.3.4

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.17.3.4 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7175
 CONDITION: T736
 ENVIRONMENT: R T , DRY AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.10	R=+0.30		
DELTA K MIN	A:	4.64	.764		
	B:	2.93	.552		
	C:				
	D:				
	3.00		.614		
	3.50		1.16		
	4.00		1.89		
	5.00	1.11	3.81		
	6.00	2.46	6.23		
	7.00	4.31	9.03		
	8.00	6.58	12.2		
	9.00	9.22	15.7		
	10.00	12.2	19.7		
	13.00	23.6	35.0		
	16.00	40.3			
DELTA K MAX	A:	19.27	69.3		
	B:	15.83	56.0		
	C:				
	D:				
ROOT MEAN SQUARE		3.51	12.99		
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25		1		
SUMMARY	1.25-2.0	1			
(NP/NA)	>2.0				

CONDITION/HT: T736
 FORM: 1.00" TH FORGING
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 FREQUENCY: 8.00 HZ
 ENVIRONMENT: R. T., DRY AIR

YIELD STRENGTH: 89.3 KSI
 ULT. STRENGTH: 78.7 KSI
 SPECIMEN THK: 0.401"
 SPECIMEN WIDTH: 2.566- 2.571"
 REFERENCES: GD001

ALUM.
 ALLOY

7175

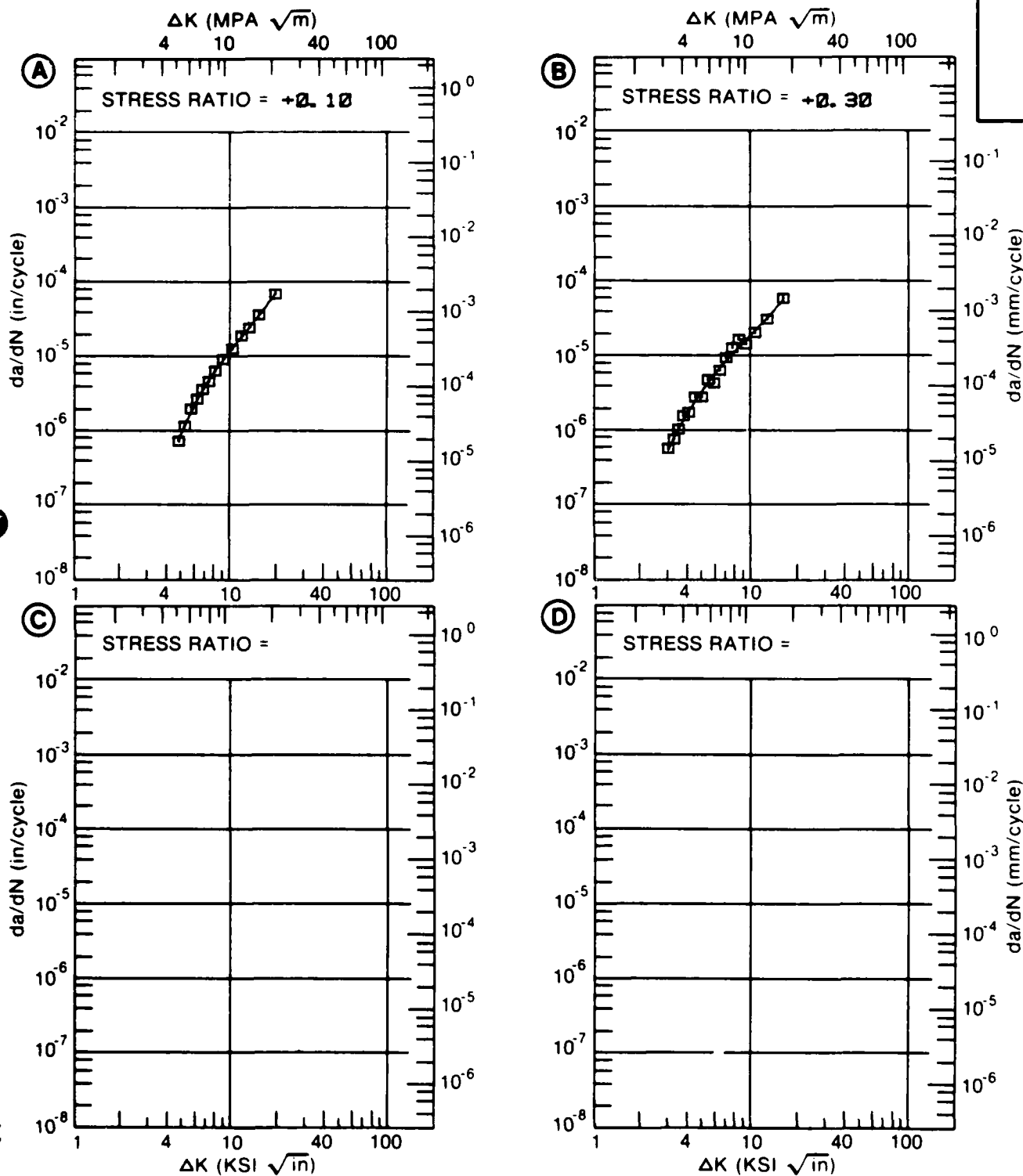


Figure 8.17.3.4

TABLE 8.17.3.5

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.17.3.5 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7175
 CONDITION: T736
 ENVIRONMENT: R.T., H.H.A.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.10	R=+0.30	R=+0.50	
DELTA K MIN	A:	2.99	.44		
	B:	2.70	.30		
	C:	2.66		.23	
	D:				
	3.00	.445	.405	.304	
	3.50	.726	.624	.711	
	4.00	1.08	.917	1.31	
	5.00	2.03	1.78	2.83	
	6.00	3.27	3.12	4.48	
	7.00	4.82	5.06	6.24	
	8.00	6.65	7.73	8.44	
	9.00	8.78	11.3	11.6	
	10.00	11.2	15.8	16.4	
	13.00	20.4	37.0	55.3	
	16.00	32.8	72.6		
	20.00	55.1			
	25.00	94.4			
DELTA K MAX	A:	25.85	103.		
	B:	18.80	122.		
	C:	13.04		55.5	
	D:				
ROOT MEAN SQUARE		42.61	26.27	16.70	
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	3	2	1	
SUMMARY	1.25-2.0	1	2	1	
(NP/NA)	>2.0				

CONDITION/HT: T736
 FORM: 1.00" TH FORGING
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 FREQUENCY: 1.00 HZ
 ENVIRONMENT: R. T., H. H. A.

YIELD STRENGTH: 69.3 KSI
 ULT. STRENGTH: 78.7 KSI
 SPECIMEN THK: 0.398- 0.404"
 SPECIMEN WIDTH: 2.545- 2.570"
 REFERENCES: GD001

ALUM.
 ALLOY

7175

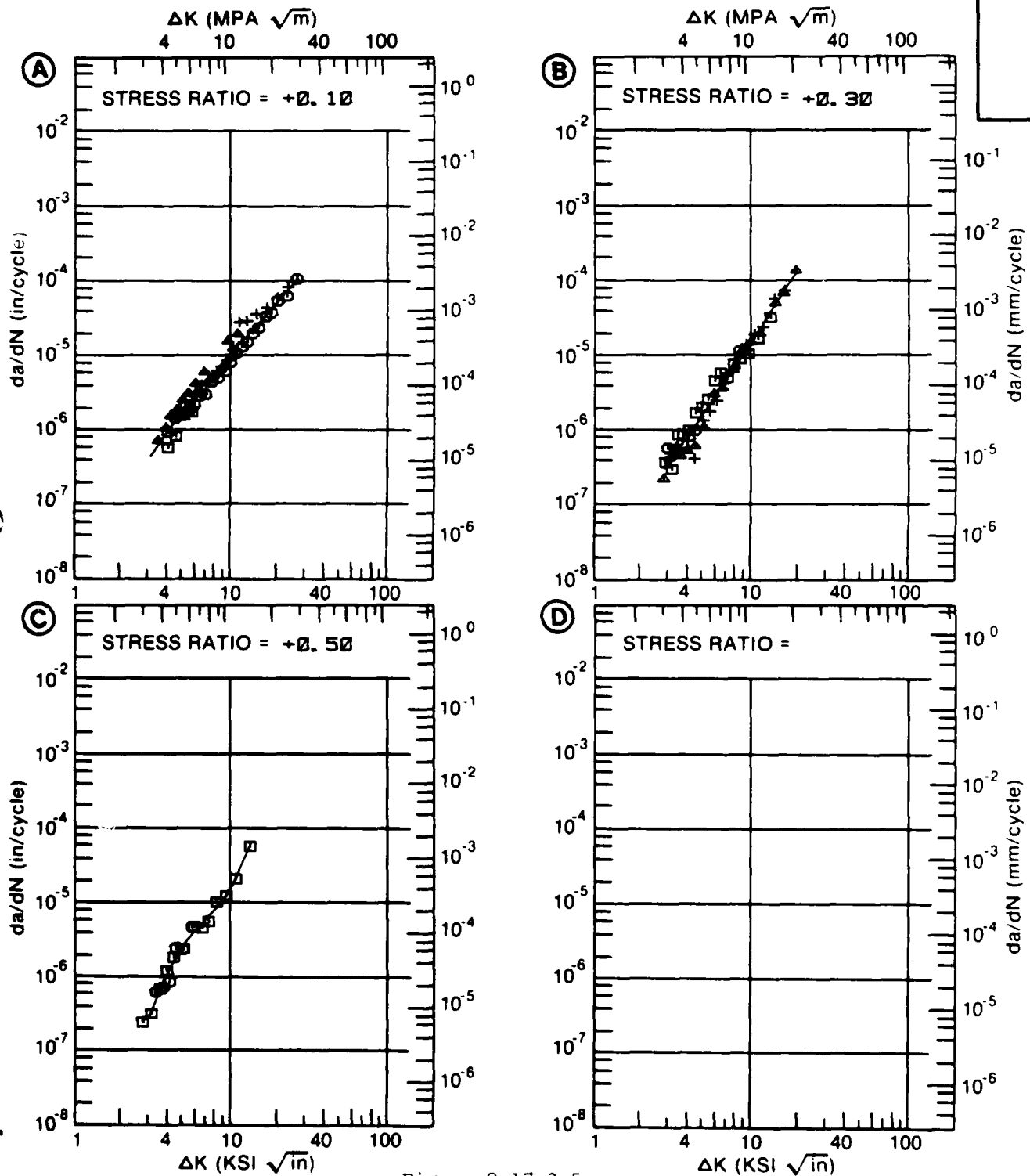


Figure 8.17.3.5

TABLE 8.17.3.6

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.17.3.6 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7175
 CONDITION: T736
 ENVIRONMENT: R. T. , S. T. W.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		R=+0.10	R=+0.50		
DELTA K MIN	A: 4.02	.498			
	B: 2.15		.268		
	C:				
	D:				
	2.50		.328		
	3.00		.592		
	3.50		1.17		
	4.00		2.22		
	5.00	1.46	6.13		
	6.00	3.68	12.7		
DELTA K MAX	7.00	9.09	21.8		
	8.00	24.4	33.0		
	9.00	55.0	45.7		
	10.00		59.3		
	13.00		117.		
	A: 9.90	55.0			
	B: 13.68		144.		
	C:				
	D:				
ROOT MEAN SQUARE		15.80	24.79		
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1	2		
SUMMARY	1.25-2.0	1	2		
(NP/NA)	>2.0				

CONDITION/HT: T736
 FORM: 1.00" TH FORGING
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 FREQUENCY: 1.00 HZ
 ENVIRONMENT: R. T., S. T. W.

YIELD STRENGTH: 69.3 KSI
 ULT. STRENGTH: 78.7 KSI
 SPECIMEN THK: 0.394- 0.403"
 SPECIMEN WIDTH: 2.540- 2.567"
 REFERENCES: GD001

ALUM.
 ALLOY

7175

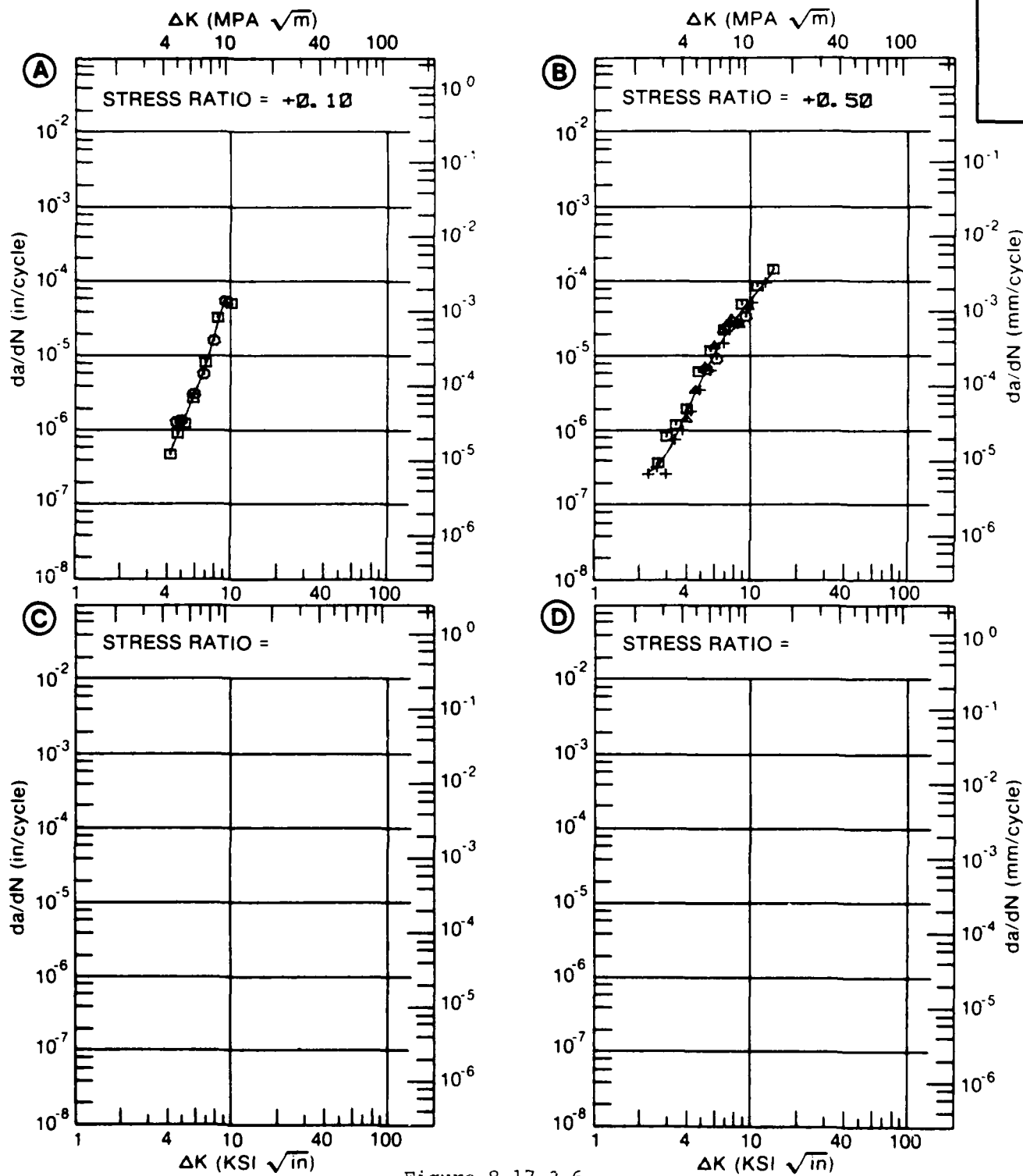


Figure 8.17.3.6

TABLE 8.17.3.7

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.17.3.7 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM 7175
CONDITION: T736

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. DRY AIR	E= R. T. LAB AIR		
DELTA K MIN	A:	12.53	7.69		
	B:				
	C:				
	D:				
		13.00	8.50		
		16.00	16.7		
DELTA K MAX		20.00	38.8		
		25.00	88.2		
		30.00	154.		
		35.00	213.		
		40.00	244.		
	A:	40.38	244.		
ROOT MEAN SQUARE PERCENT ERROR		19.84	0.00		

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T736
 FORM: 2.00- 3.00" TH FORGING
 SPECIMEN TYPE: DCB
 ORIENTATION: L-T
 STRESS RATIO: +0.02
 FREQUENCY: 0.08- 10.00 HZ

YIELD STRENGTH: 69.0- 71.0 KSI
 ULT. STRENGTH: 78.0- 79.0 KSI
 SPECIMEN THK: 0.625- 0.750"
 SPECIMEN WIDTH: 5.500"
 REFERENCES: 84360

ALUM.
 ALLOY

7175

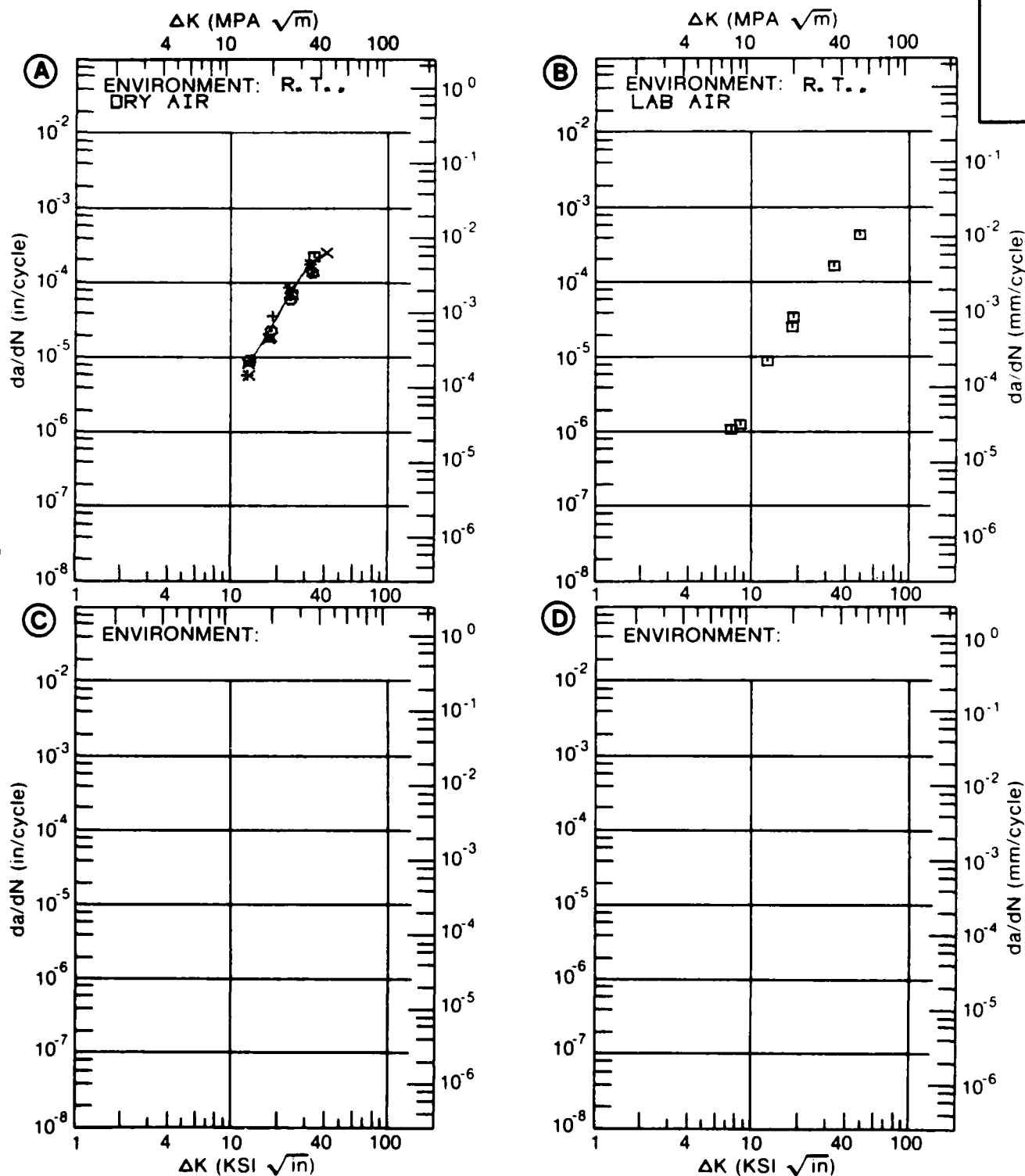


Figure 8.17.3.7

TABLE 8.17.3.8

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.17.3.8 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM
CONDITION: T736

7175

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. DRY AIR	E= R. T. H. H. A.	E= R. T. SALT FOG	
DELTA K	A: 5.95	3.30			
MIN	B: 6.01		5.82		
	C: 6.10			5.64	
	D:				
	6.00	3.42			
	7.00	5.89	9.56	9.54	
	8.00	8.57	13.4	13.7	
	9.00	11.8	17.7	17.7	
	10.00	16.1	22.8	22.4	
	13.00	50.1	54.2	52.5	
DELTA K	A: 13.80	72.5			
MAX	B: 13.54		65.1		
	C: 13.09			54.2	
	D:				
ROOT MEAN SQUARE		7.44	6.38	7.79	
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1	1	1	
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T736
 FORM: 4.00" TH FORGING
 SPECIMEN TYPE: CT
 ORIENTATION: T-L
 STRESS RATIO: +0.33
 FREQUENCY: 18.30 HZ

YIELD STRENGTH: 59.9 KSI
 ULT. STRENGTH: 70.8 KSI
 SPECIMEN THK: 1.501- 1.502"
 SPECIMEN WIDTH: 3.800"
 REFERENCES: 86842

ALUM.
 ALLOY

7175

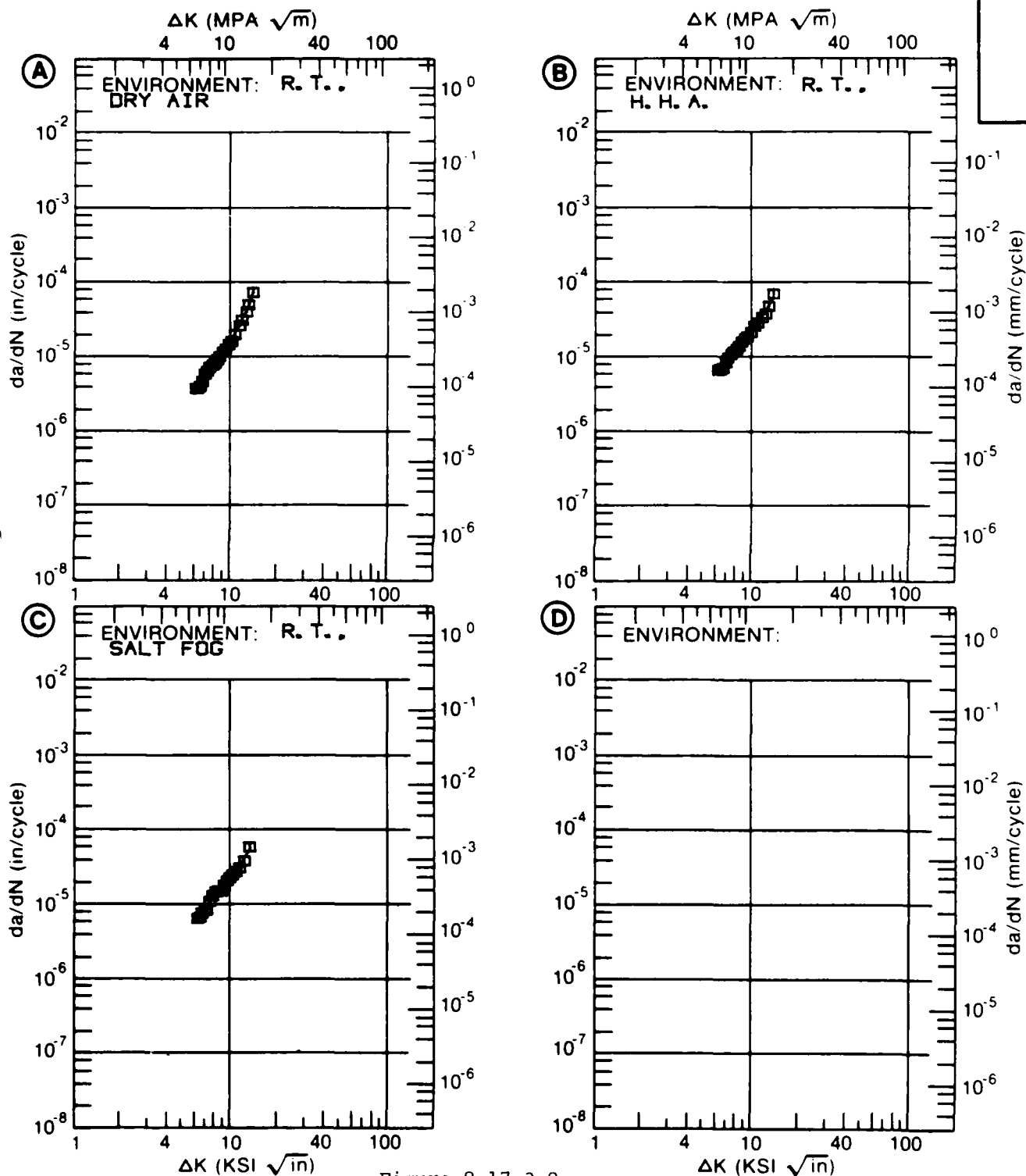


Figure 8.17.3.8

TABLE 8.17.3.9

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.17.3.9 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM
CONDITION: T736

7175

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		E= R. T. DRY AIR	E= R. T. H. H. A.	E= R. T. SALT FOG	
DELTA K	A: 6.32	3.17			
MIN	B: 6.04		3.26		
	C: 6.16			8.32	
	D:				
	7.00	4.96	6.08	12.7	
	8.00	8.23	9.74	19.9	
	9.00	12.1	14.0	29.4	
	10.00	16.6	18.9	40.7	
	13.00	33.5	38.9	76.7	
	16.00	53.7	75.1		
DELTA K	A: 16.26	55.4			
MAX	B: 16.99		93.6		
	C: 14.93			92.1	
	D:				
ROOT MEAN SQUARE		6.92	5.07	3.23	
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1	1	1	
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T736
 FORM: 5.00" TH FORGING
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 STRESS RATIO: +0.33
 FREQUENCY: 5.20 HZ

YIELD STRENGTH: 62.1 KSI
 ULT. STRENGTH: 72.5 KSI
 SPECIMEN THK: 0.744- 0.747"
 SPECIMEN WIDTH: 3.000"
 REFERENCES: 86842

ALUM.
 ALLOY

7175

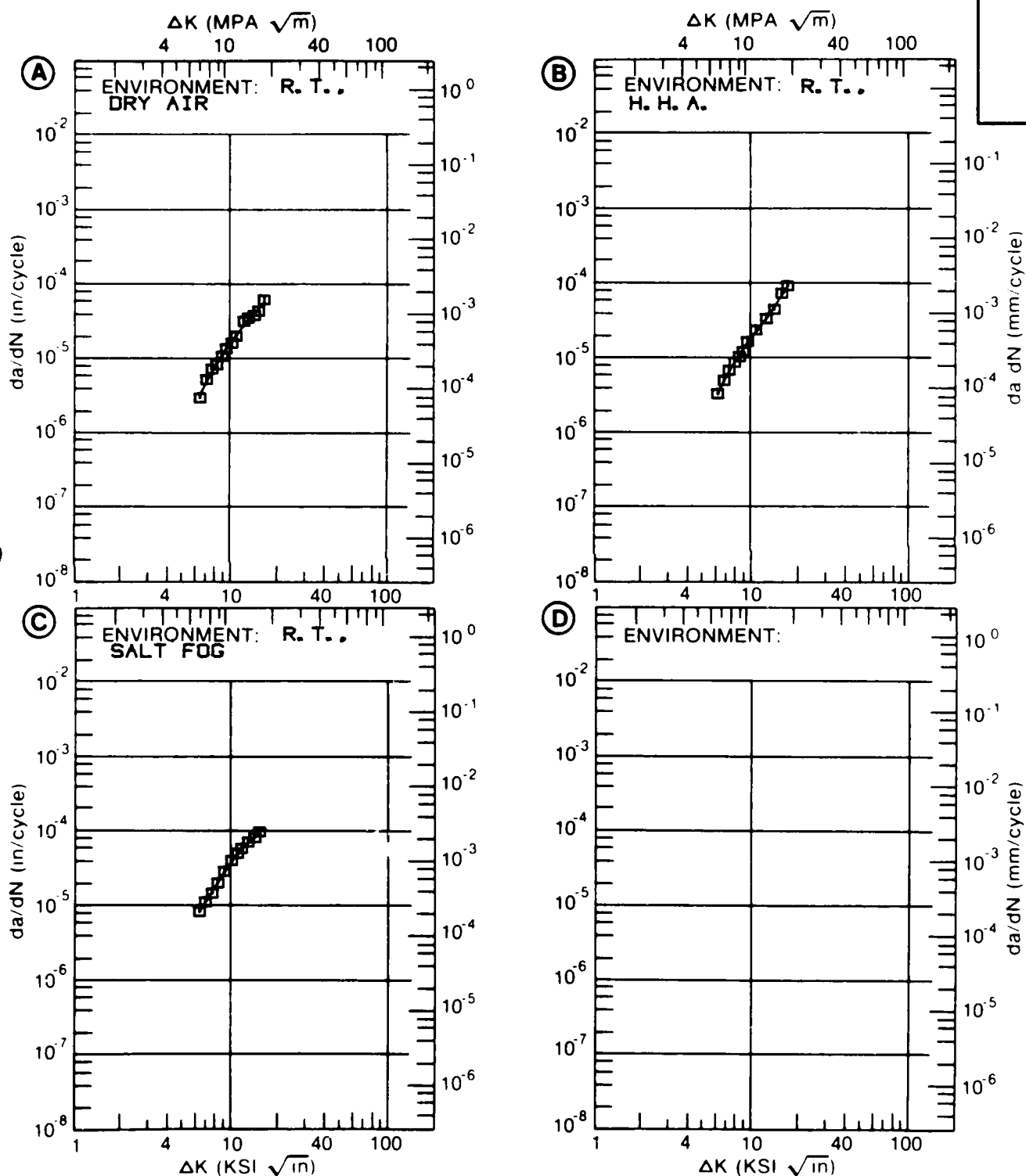


Figure 8.17.3.9

TABLE 8.17.3.10

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.17.3.10 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM
CONDITION: T736

7175

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. DRY AIR	E= R. T. H. H. A.	E= R. T. SALT FOG	
DELTA K MIN	A: 5.85	2.42			
	B: 6.25		7.41		
	C: 5.96			5.82	
	D:				
	6.00	2.72		5.96	
	7.00	4.56	10.2	9.31	
	8.00	6.10	13.9	12.6	
	9.00	7.73	18.2	16.2	
	10.00	10.1	24.0	20.7	
	13.00	34.2	67.7	51.9	
	16.00	121.			
DELTA K MAX	A: 16.26	115.			
	B: 13.84		97.1		
	C: 13.62			65.5	
	D:				
ROOT MEAN SQUARE PERCENT ERROR		8.87	6.93	6.30	
LIFE PREDICTION	0.0-0.5				
RATIO	0.5-0.8				
SUMMARY (NP/NA)	0.8-1.25	1	1	1	
	1.25-2.0				
	>2.0				

CONDITION/HT: T736
 FORM: 5.00" TH FORGING
 SPECIMEN TYPE: CT
 ORIENTATION: T-L
 STRESS RATIO: +0.33
 FREQUENCY: 18.30 HZ

YIELD STRENGTH: 80.1 KSI
 ULT. STRENGTH: 89.5 KSI
 SPECIMEN THK: 1.501- 1.502"
 SPECIMEN WIDTH: 3.800"
 REFERENCES: 86842

ALUM.
 ALLOY

7175

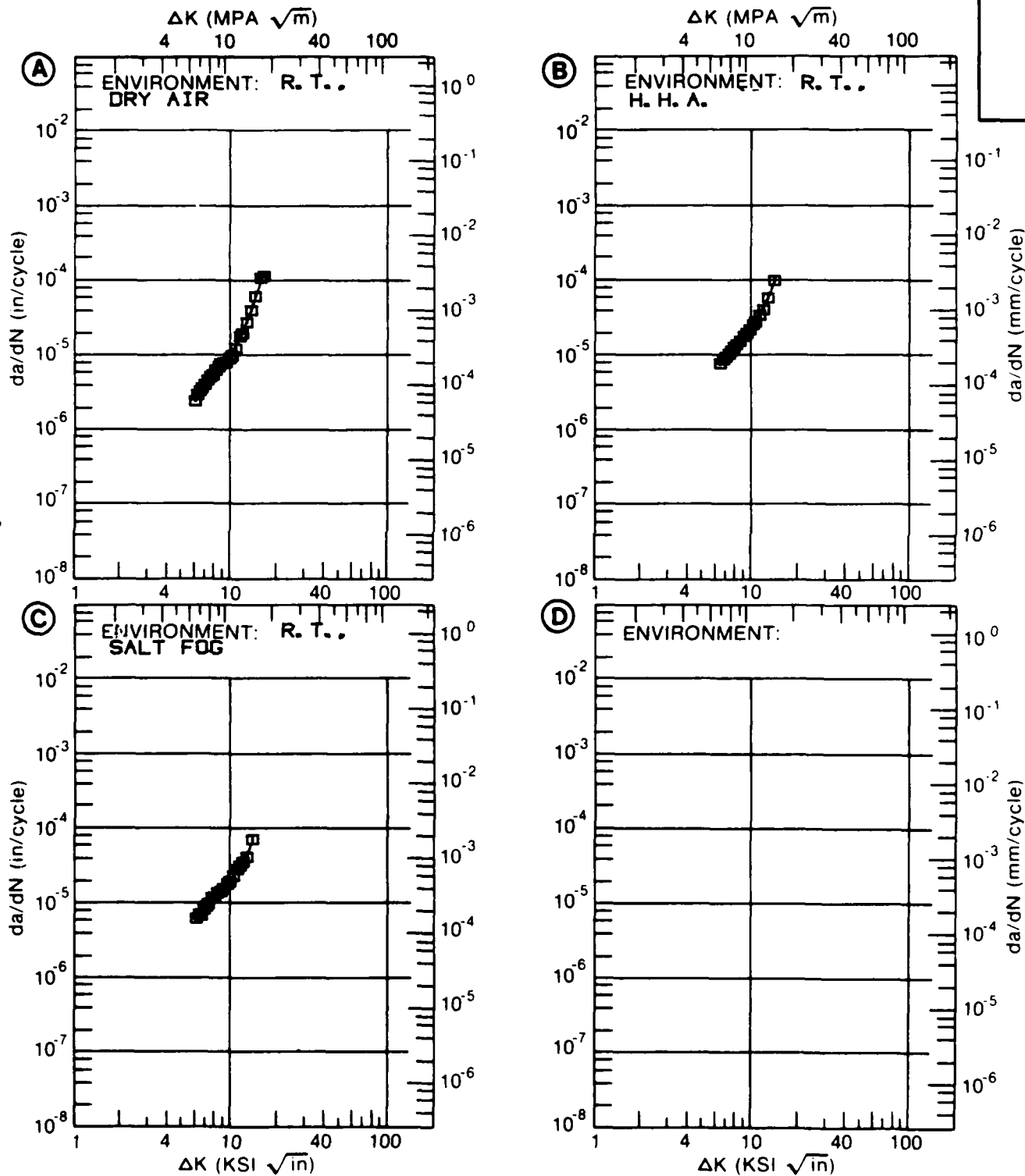


Figure 8.17.3.10

TABLE 8.17.3.11

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.17.3.11 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM 7175
CONDITION: T736

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		E= R. T. DRY AIR	E= R. T. H. H. A.	E= R. T. SALT FOG	
DELTA K MIN	A:	6.02	2.56		
	B:	6.07	3.75		
	C:	5.94		5.81	
	D:				
	6.00			6.14	
	7.00	4.72	5.78	12.3	
	8.00	7.57	8.79	18.8	
	9.00	11.1	12.9	24.9	
	10.00	15.5	18.2	31.0	
	13.00	37.2	44.9	56.0	
	16.00	86.6		119.	
DELTA K MAX	A:	16.71	106.		
	B:	15.81	90.7		
	C:	16.59		143.	
	D:				
ROOT MEAN SQUARE		7.28	11.59	16.69	
PERCENT ERROR					

LIFE	0.0-0.5			
PREDICTION	0.5-0.8			1
RATIO	0.8-1.25	2	2	1
SUMMARY	1.25-2.0			
(NP/NA)	>2.0			

CONDITION/HT: T736
 FORM: 5.00" TH FORGING
 SPECIMEN TYPE: CCP
 ORIENTATION: T-L
 STRESS RATIO: +0.33
 FREQUENCY: 5.20 HZ

YIELD STRENGTH: 80.1 KSI
 ULT. STRENGTH: 89.5 KSI
 SPECIMEN THK: 0.743- 0.751"
 SPECIMEN WIDTH: 3.000"
 REFERENCES: 86842

ALUM.
 ALLOY

7175

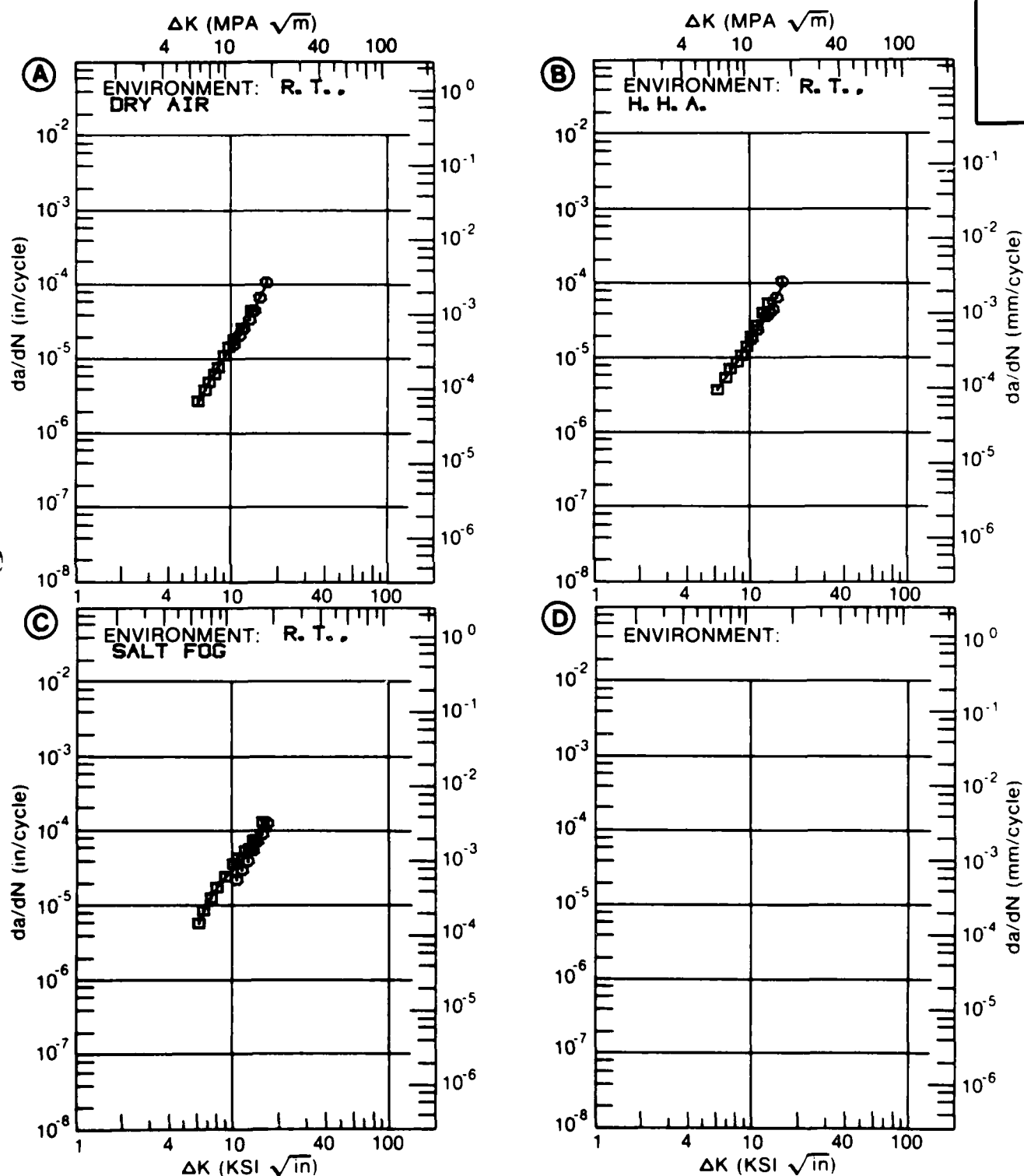


FIGURE 8.17.3.11

TABLE 8.17.3.12

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.17.3.12 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM 7175
CONDITION: T736

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		E= R. T. DRY AIR	E= R. T. H. H. A.		
DELTA K MIN	A: 6.41	1.68			
	B: 6.38		1.51		
	C:				
	D:				
	7.00	2.92	2.58		
	8.00	5.35	5.36		
	9.00	8.21	9.94		
	10.00	12.3	17.0		
	13.00	65.9			
DELTA K MAX	A: 13.35	85.6			
	B: 12.96		60.9		
	C:				
	D:				

ROOT MEAN SQUARE 15.78 7.52
PERCENT ERROR

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25 1 1
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T736
 FORM: 5.00" TH FORGING
 SPECIMEN TYPE: CT
 ORIENTATION: S-T
 STRESS RATIO: +0.33
 FREQUENCY: 18.30 HZ

YIELD STRENGTH: 58.5 KSI
 ULT. STRENGTH: 68.9 KSI
 SPECIMEN THK: 1.500"
 SPECIMEN WIDTH: 3.800"
 REFERENCES: 86842

ALUM.
 ALLOY

7175

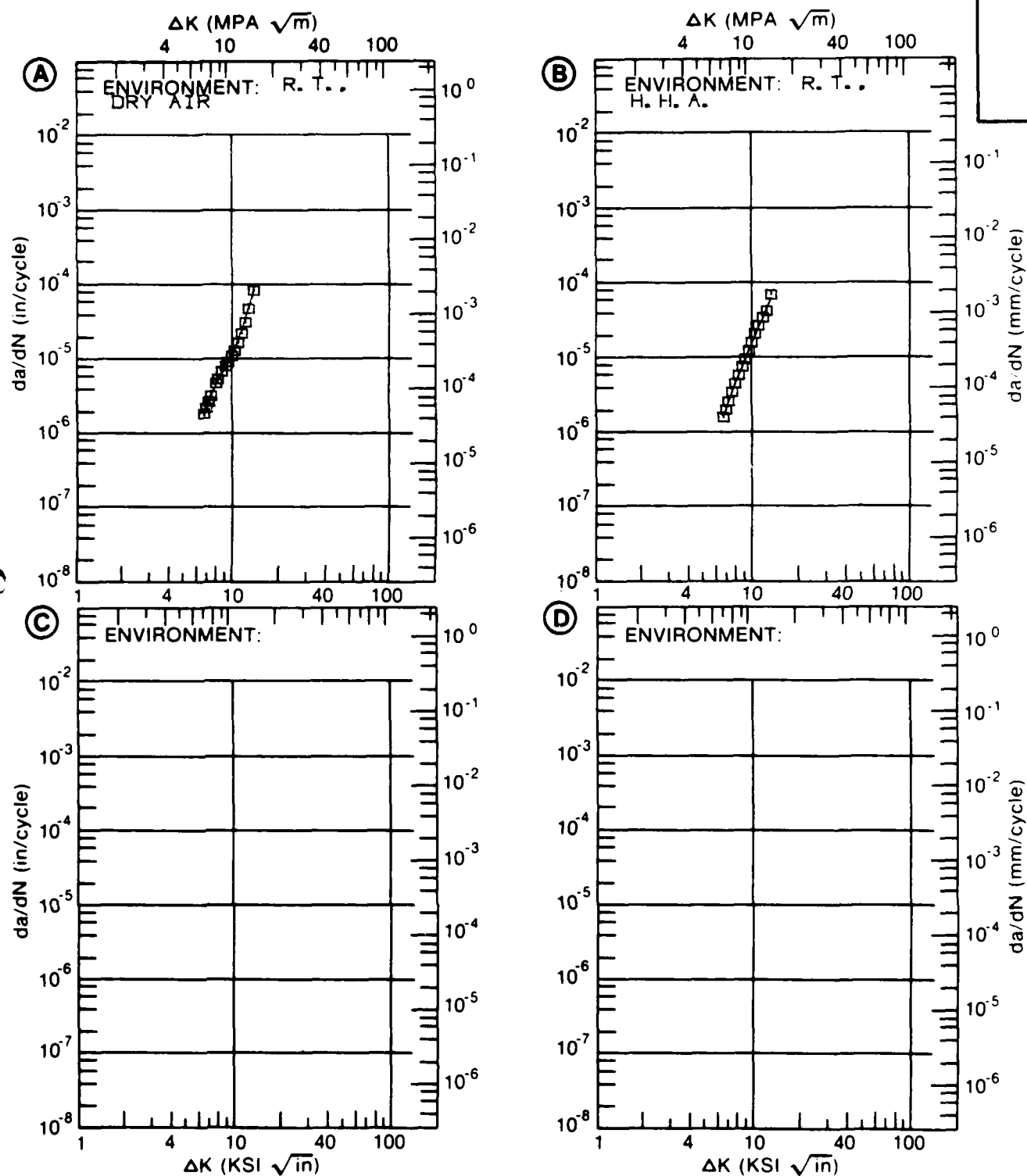


FIGURE 8.17.3.12

TABLE 8.17.3.13

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.17.3.13 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7175
CONDITION: T73652
ENVIRONMENT: R. T. , S. T. W.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A R=+0. 08	B R=+0. 30	C R=+0. 50	D
DELTA K MIN	A:	7. 93	5. 41		
	B:	2. 91	. 174		
	C:	5. 36		9. 41	
	D:				
		3. 00	. 174		
		3. 50	. 276		
		4. 00	. 704		
		5. 00	3. 12		
		6. 00	8. 85	12. 6	
		7. 00	16. 3	17. 8	
		8. 00	21. 9	23. 1	
DELTA K MAX		5. 94	25. 4	28. 3	
		14. 8	27. 9	33. 3	
		22. 4	40. 1		
		45. 4			
		75. 9	44. 6	45. 5	
ROOT MEAN SQUARE		17. 33	15. 97	4. 32	
PERCENT ERROR					
LIFE	0. 0-0. 5				
PREDICTION	0. 5-0. 8				
RATIO	0. 8-1. 25	1	1	1	
SUMMARY	1. 25-2. 0				
(NP/NA)	>2. 0				

CONDITION/HT: T73652
 FORM: FORGING
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 FREQUENCY: 1.00 HZ
 ENVIRONMENT: R. T. . S. T. W.

YIELD STRENGTH: 68.0 KSI
 ULT. STRENGTH: 77.0 KSI
 SPECIMEN THK: 0.990- 1.000"
 SPECIMEN WIDTH: 7.400"
 REFERENCES 88579

ALUM.
 ALLOY

7175

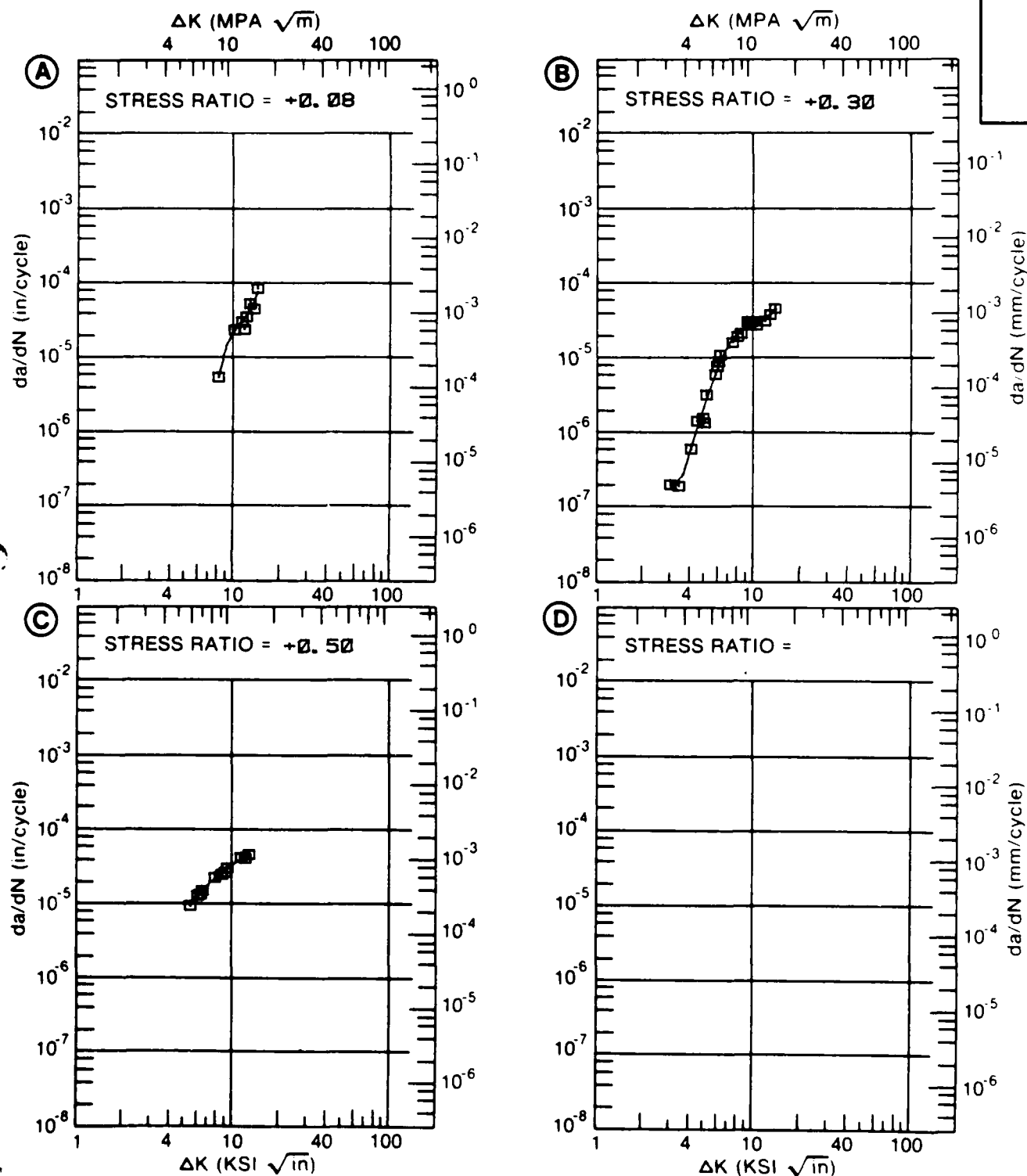


Figure 8.17.3.13

TABLE 8.17.3.14

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.17.3.14 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM 7175
CONDITION: T73652

DELTA K
(KSI*IN**1/2)

DA/DN (10**-6 IN./CYCLE)

A

B

C

D

E= R. T.

LAB AIR

DELTA K A: 1.69 : .0427
MIN B:
C:
D:

2.00 : .0608
2.50 : .104
3.00 : .170
3.50 : .265
4.00 : .398
5.00 : .806
6.00 : 1.46
7.00 : 2.45
8.00 : 3.82
9.00 : 5.66
10.00 : 8.03
13.00 : 18.8

DELTA K A: 13.43 : 20.8
MAX B:
C:
D:

ROOT MEAN SQUARE 14.68
PERCENT ERROR

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25 2
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T73652
 FORM: FORGING
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 STRESS RATIO: +0.02
 FREQUENCY: 1.00- 18.00 HZ

YIELD STRENGTH: 71.7 KSI
 ULT. STRENGTH: 81.5 KSI
 SPECIMEN THK: 0.107- 0.110"
 SPECIMEN WIDTH: 3.947- 3.951"
 REFERENCES: MA002

ALUM.
 ALLOY

7175

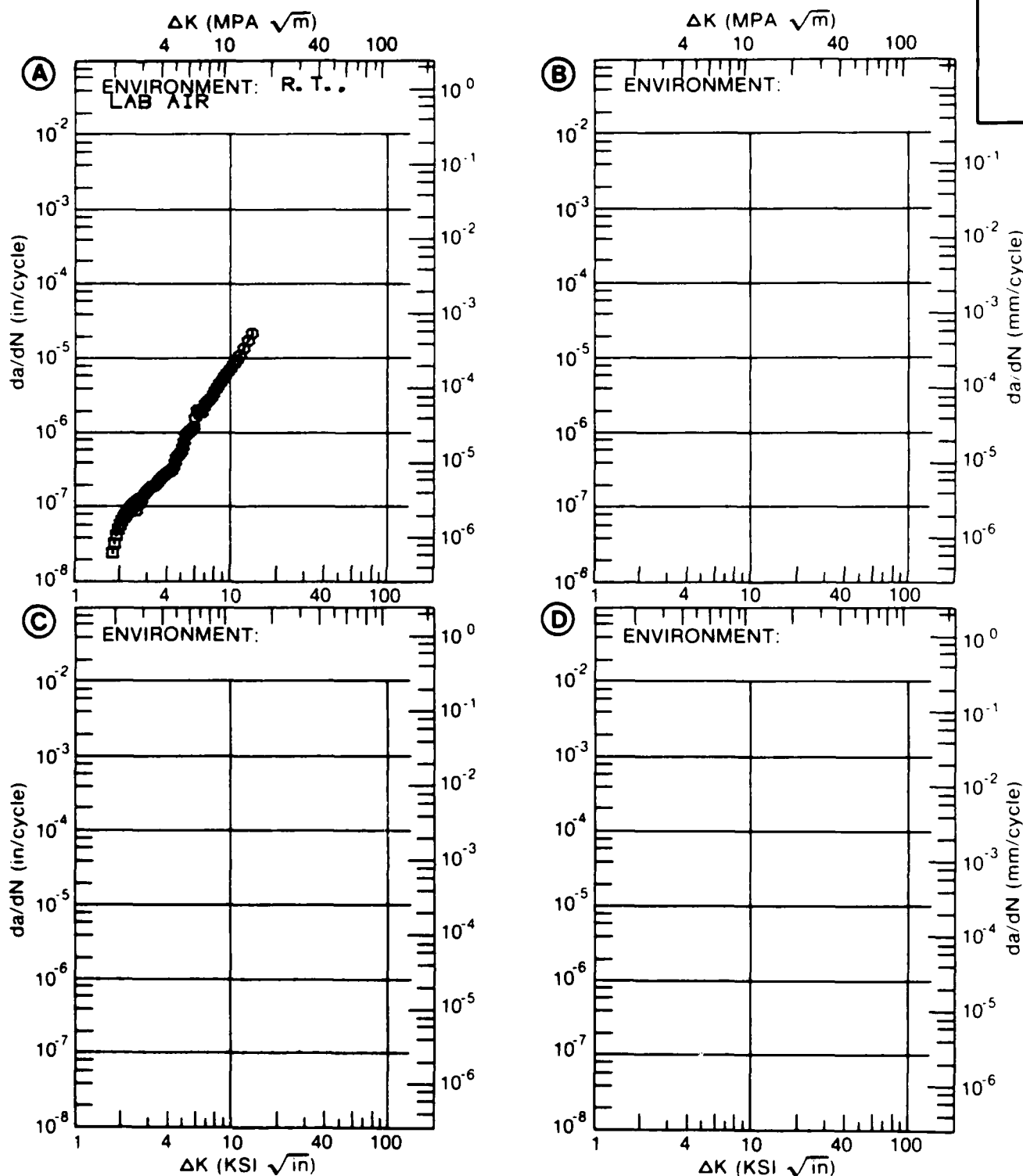


Figure 8.17.3.14

TABLE 8.17.3.15

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.17.3.15 INDICATING EFFECT
OF ENVIRONMENT

MATERIAL: ALUMINUM 7175
CONDITION: T73652

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E=+ 265F			
		L. H. A.			
DELTA K	A: 4.56	.331			
MIN	B:				
	C:				
	D:				
	5.00	.461			
	6.00	1.22			
	7.00	2.69			
	8.00	4.58			
	9.00	6.76			
	10.00	9.26			
	13.00	20.5			
	16.00	38.7			
DELTA K	A: 16.44	41.7			
MAX	B:				
	C:				
	D:				

ROOT MEAN SQUARE 11.30
PERCENT ERROR

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25 1
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T73652
 FORM: FORGING
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 STRESS RATIO: +0.08
 FREQUENCY: 6.00 HZ

YIELD STRENGTH: 68.0 KSI
 ULT. STRENGTH: 77.0 KSI
 SPECIMEN THK: 0.990"
 SPECIMEN WIDTH: 7.400"
 REFERENCES: 88579

ALUM.
 ALLOY

7175

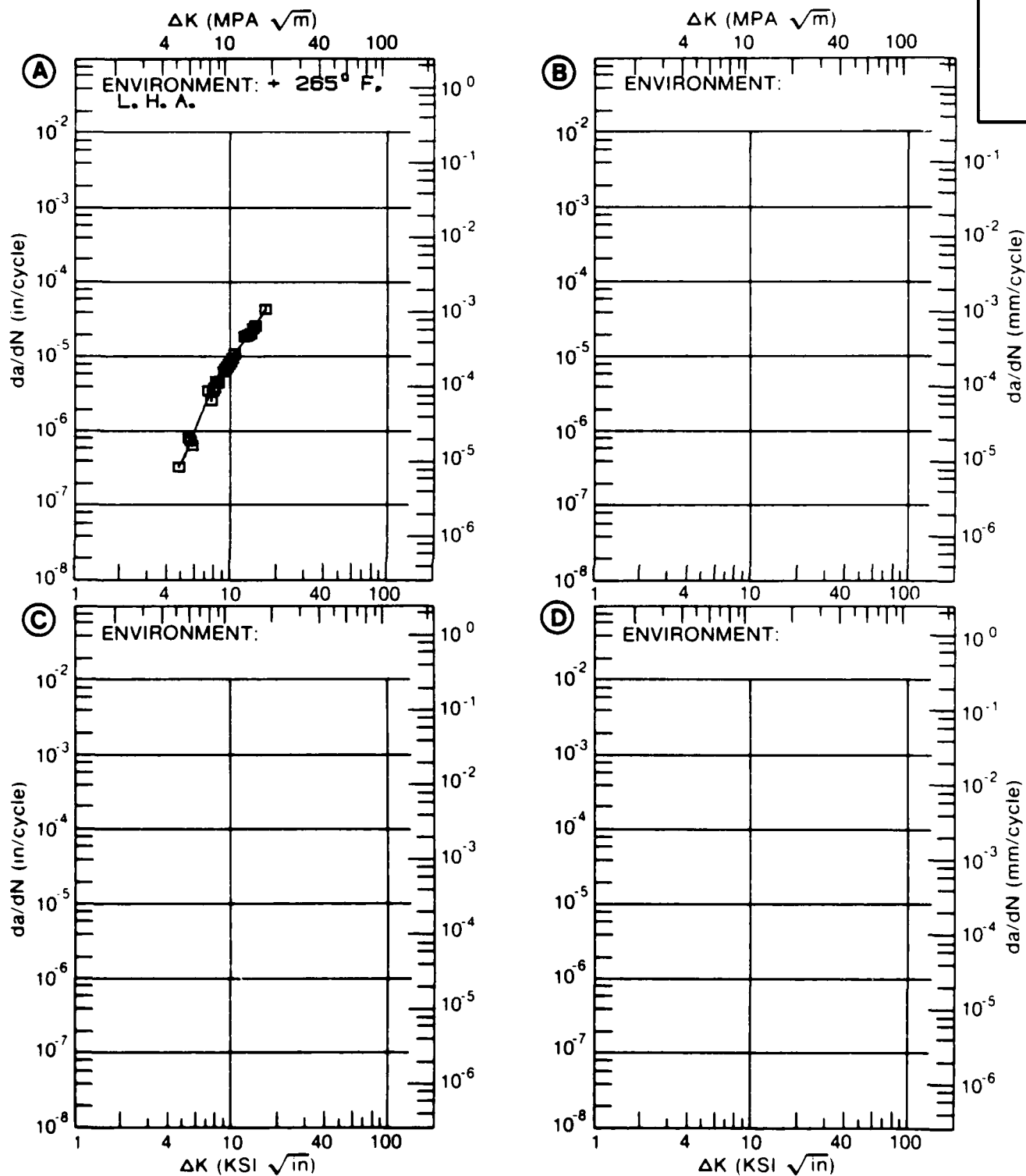


Figure 8.17.3.15

TABLE 8.17.3.16

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.17.3.16 INDICATING EFFECT
OF ENVIRONMENT

MATERIAL: ALUMINUM		7175			
CONDITION: T73652					
DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. L. H. A.	E= R. T. F. C. S.		
DELTA K MIN	A:	4.93	.417		
	B:	2.82	.269		
	C:				
	D:				
	3.00		.329		
	3.50		.507		
	4.00		.714		
	5.00	.432	1.31		
	6.00	.804	2.22		
	7.00	1.64	3.54		
	8.00	3.27	5.36		
	9.00	5.92	7.74		
	10.00	9.52	10.7		
DELTA K MAX	13.00	20.3	21.7		
	16.00	29.0	34.6		
	20.00	53.8			
	A:	20.53	60.0		
	B:	18.66	48.8		
ROOT MEAN SQUARE PERCENT ERROR		7.54	5.19		
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1	1		
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T73652
 FORM: FORGING
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 STRESS RATIO: +0.08
 FREQUENCY: 1.00 HZ

YIELD STRENGTH: 68.0 KSI
 ULT. STRENGTH: 77.0 KSI
 SPECIMEN THK: 0.990- 1.000"
 SPECIMEN WIDTH: 7.400"
 REFERENCES: 88579

ALUM.
 ALLOY

7175

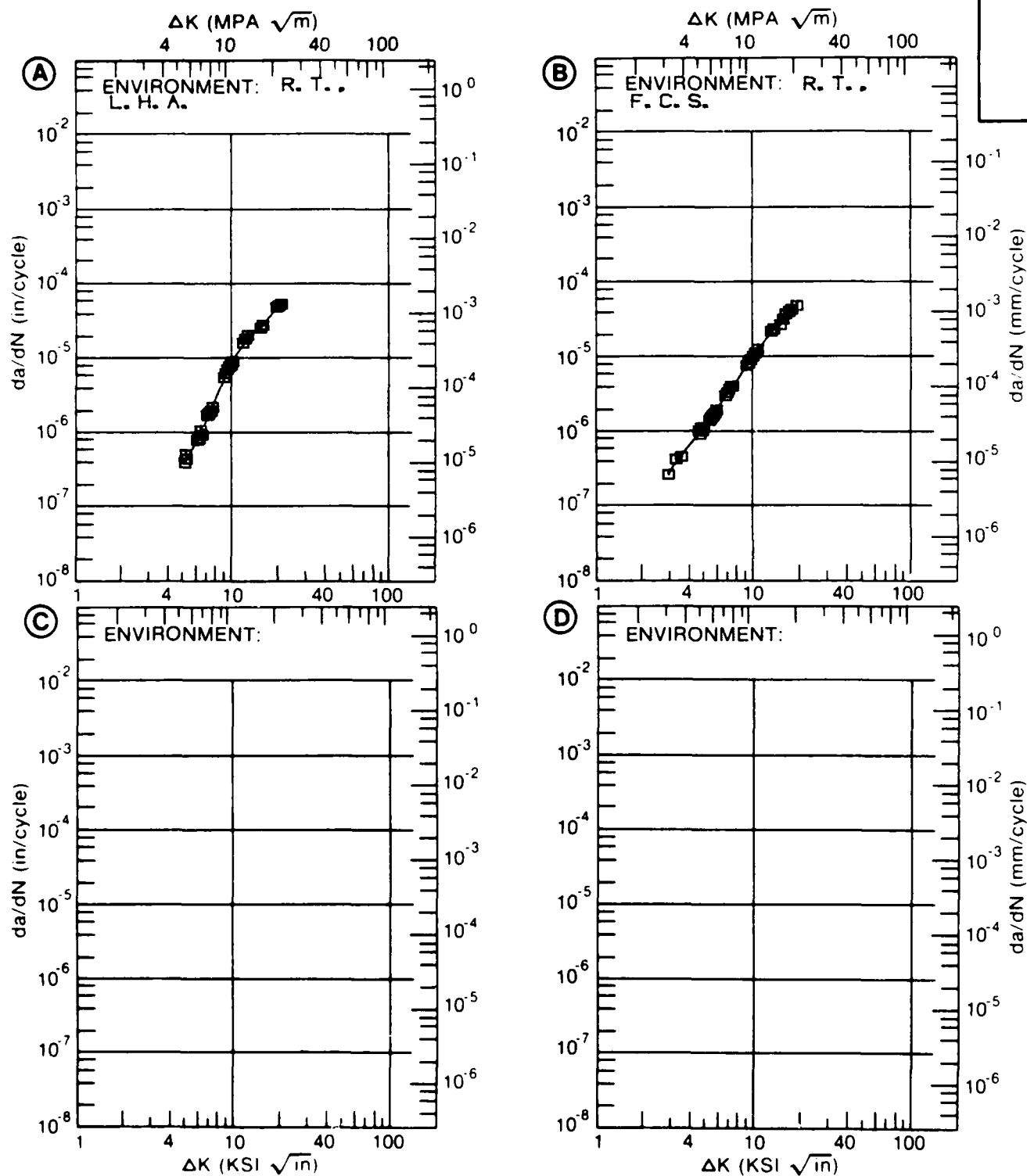


Figure 8.17.3.16

TABLE 8.17.3.17

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.17.3.17 INDICATING EFFECT
OF ENVIRONMENT

MATERIAL: ALUMINUM		7175	
CONDITION: T73652			
DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)	
		A	B
		E= R. T. L. H. A.	E= R. T. S. F. W.
DELTA K MIN	A: 7.94	4.66	
	B:		
	C:		
	D:		
	8.00	4.72	
	9.00	6.64	
DELTA K MAX	10.00	10.1	
	13.00	23.5	
	16.00	37.3	
	A: 17.28	43.9	
	B:		
	C:		
	D:		
ROOT MEAN SQUARE		2.32	0.00
PERCENT ERROR			
LIFE	0.0-0.5		
PREDICTION	0.5-0.8		
RATIO	0.8-1.25	1	
SUMMARY	1.25-2.0		
(NP/NA)	>2.0		

CONDITION/HT: T73652
 FORM: FORGING
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 STRESS RATIO: +0.08
 FREQUENCY: 0.10 HZ

YIELD STRENGTH: 68.0 KSI
 ULT. STRENGTH: 77.0 KSI
 SPECIMEN THK: 1.000"
 SPECIMEN WIDTH: 7.400"
 REFERENCES: 88579

ALUM.
 ALLOY

7175

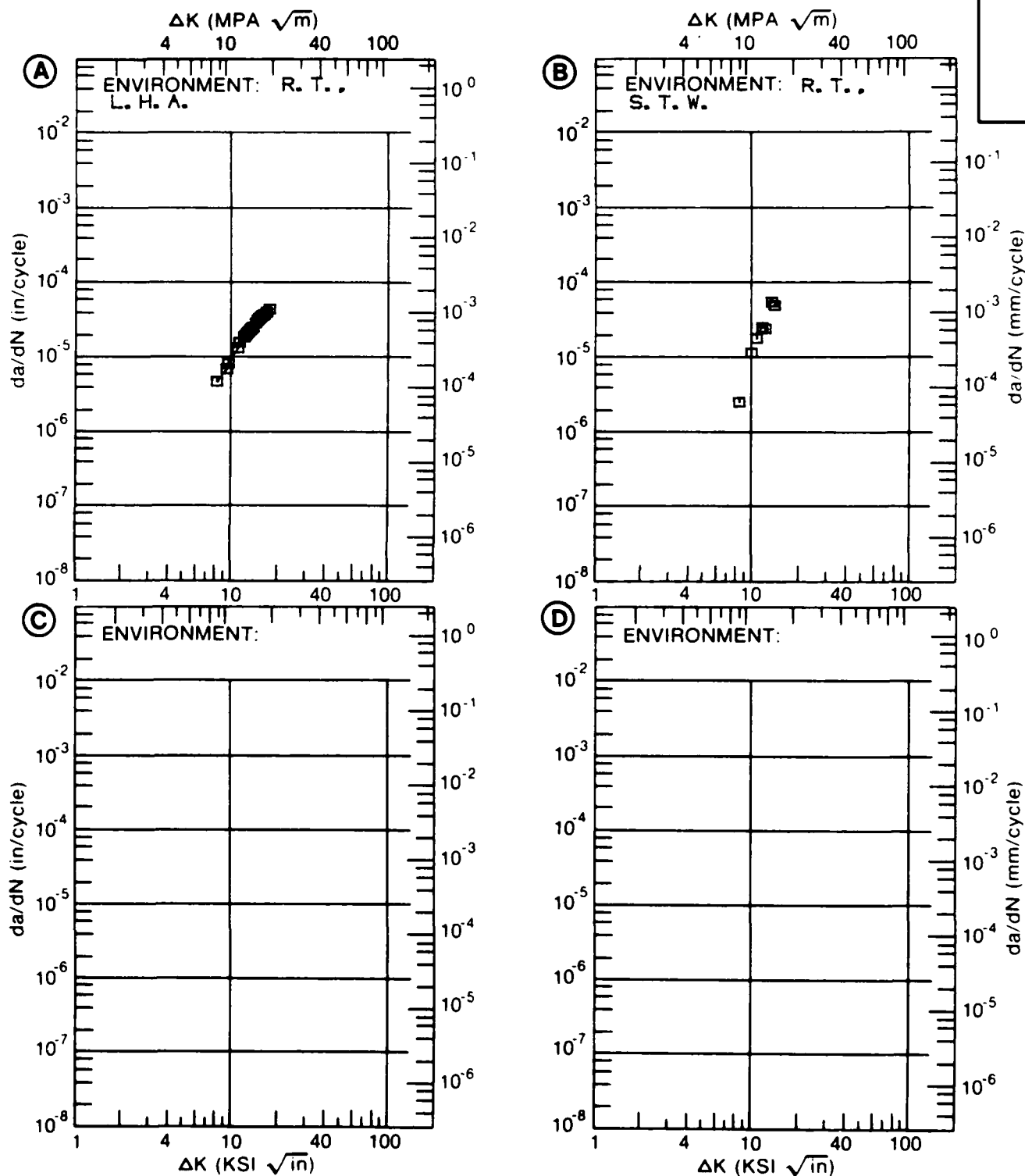


Figure 8.17.3.17

TABLE 8.17.3.18

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.17.3.18 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM 7175
CONDITION: T73652DELTA K
(KSI*IN**1/2)

DA/DN (10**-6 IN./CYCLE)

A

B

C

D

E= R. T.
L. H. A.DELTA K A: 4.45 : .499
MIN B:
C:
D:5.00 : .521
6.00 : 1.01
7.00 : 2.24
8.00 : 4.31
9.00 : 7.06
10.00 : 10.2
13.00 : 19.7
16.00 : 27.6DELTA K A: 18.40 : 32.5
MAX B:
C:
D:ROOT MEAN SQUARE 4.94
PERCENT ERRORLIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25 1
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T73852
 FORM: FORGING
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 STRESS RATIO: +0.30
 FREQUENCY: 6.00 HZ

YIELD STRENGTH: 88.0 KSI
 ULT. STRENGTH: 77.0 KSI
 SPECIMEN THK: 1.000"
 SPECIMEN WIDTH: 7.400"
 REFERENCES: 88579

ALUM.
 ALLOY

7175

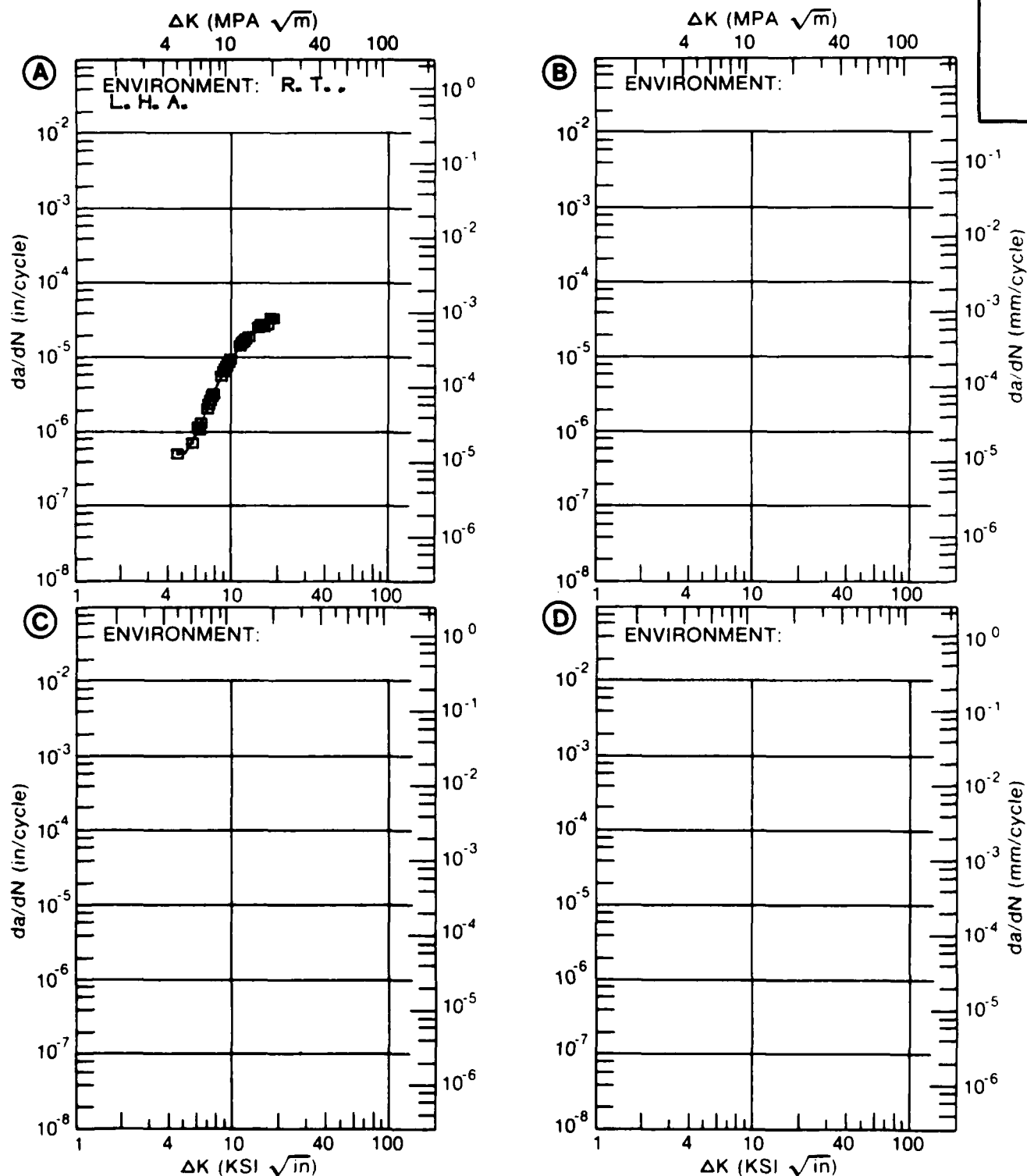


Figure 8.17.3.18

TABLE 8.17.3.19

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.17.3.19 INDICATING EFFECT
OF ENVIRONMENT

MATERIAL: ALUMINUM		7175			
CONDITION: T73652					
DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T.	E= R. T.		
		L. H. A.	L. H. A.		
		SP. THK. = .5"	SP. THK. = .1"		
DELTA K MIN	A:	7.73	1.12		
	B:	6.81	.450		
	C:				
	D:				
		7.00	.502		
		8.00	1.41	.877	
DELTA K MAX	A:	18.99	28.3		
	B:	15.77	39.6		
	C:				
	D:				
		7.00	.502		
		8.00	1.41	.877	
ROOT MEAN SQUARE		8.25	15.36		
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1	1		
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T73652
 FORM: FORGING
 SPECIMEN TYPE: CT
 ORIENTATION: T-L
 STRESS RATIO: +0.08
 FREQUENCY: 6.00 HZ

YIELD STRENGTH: 64.0 KSI
 ULT. STRENGTH: 74.0 KSI
 SPECIMEN THK:
 SPECIMEN WIDTH: 7.400"
 REFERENCES: 88579

ALUM.
 ALLOY

7175

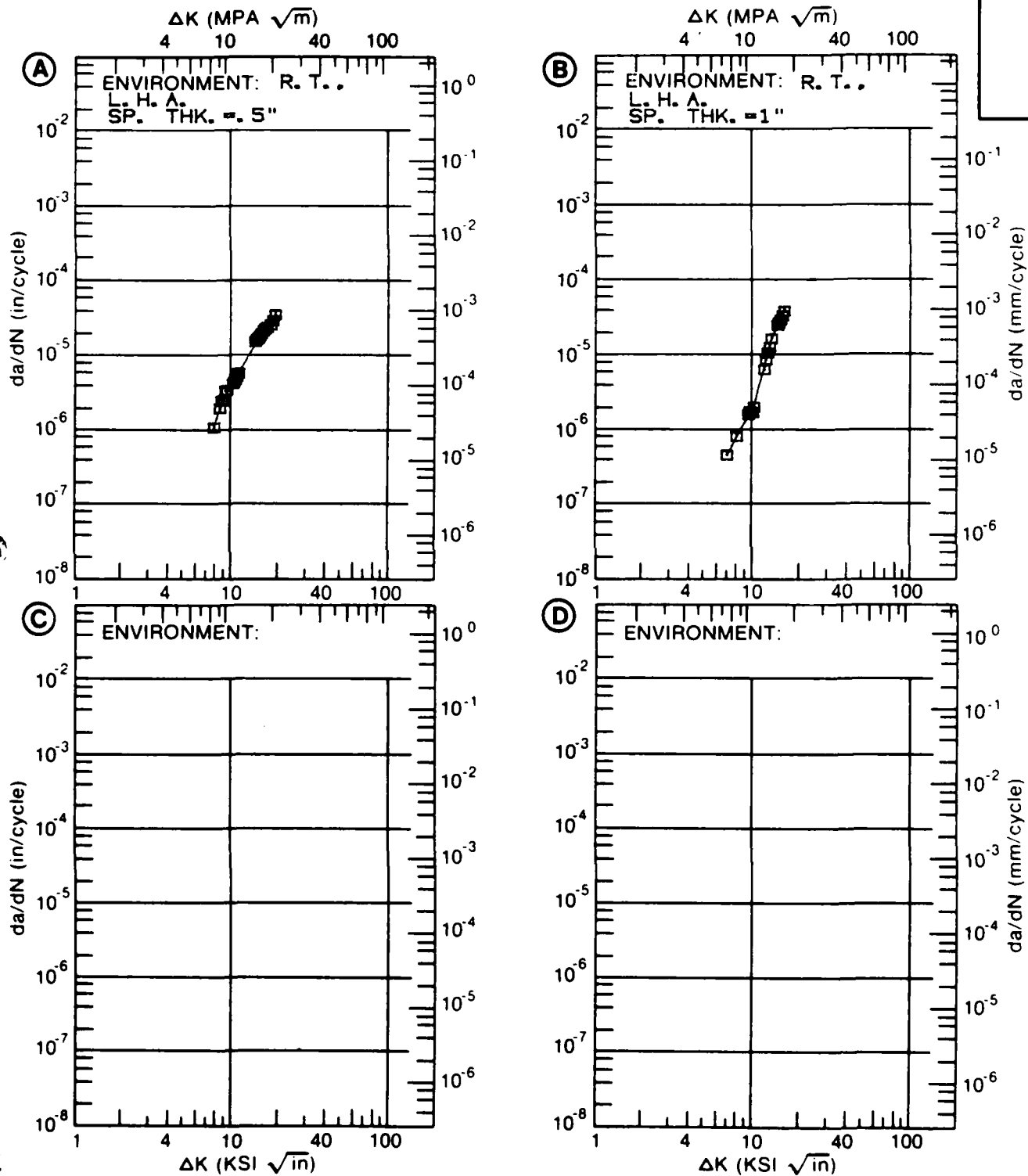


Figure 8.17.3.19

TABLE 8.17.3.20

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.17.3.20 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM
CONDITION: T73652

7175

DELTA K
(KSI*IN**1/2)

DA/DN (10**-6 IN./CYCLE)

A

B

C

D

E= R. T.

E= R. T.

E= R. T.

LAB AIR

JP-4 FUEL

SIM SEA WATER

DELTA K A: 5.21 : .832
MIN B: 4.00 :
C: 5.31 :
D:

.224

1.31

5.00 :

.388

6.00 :

.951

.931

1.46

7.00 :

2.48

1.83

2.61

8.00 :

4.17

3.05

4.95

9.00 :

6.01

4.58

8.16

10.00 :

7.92

6.40

11.8

13.00 :

13.7

13.8

23.6

16.00 :

20.3

24.9

37.6

20.00 :

33.3

49.9

66.5

25.00 :

66.1

113.

148.

30.00 :

144.

289.

DELTA K A: 34.62 : 318.
MAX B: 31.92 :
C: 28.56 :
D:

503.

285.

ROOT MEAN SQUARE
PERCENT ERROR

18.40

12.04

8.50

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T73652
 FORM: 1.25" TH FORGING
 SPECIMEN TYPE: WOL
 ORIENTATION: L-T
 STRESS RATIO: +0.02
 FREQUENCY: 1.00- 20.00 HZ

YIELD STRENGTH: 66.3- 70.3 KSI
 ULT. STRENGTH: 76.8- 79.3 KSI
 SPECIMEN THK: 1.250"
 SPECIMEN WIDTH: 5.000"
 REFERENCES: MA005

ALUM.
 ALLOY

7175

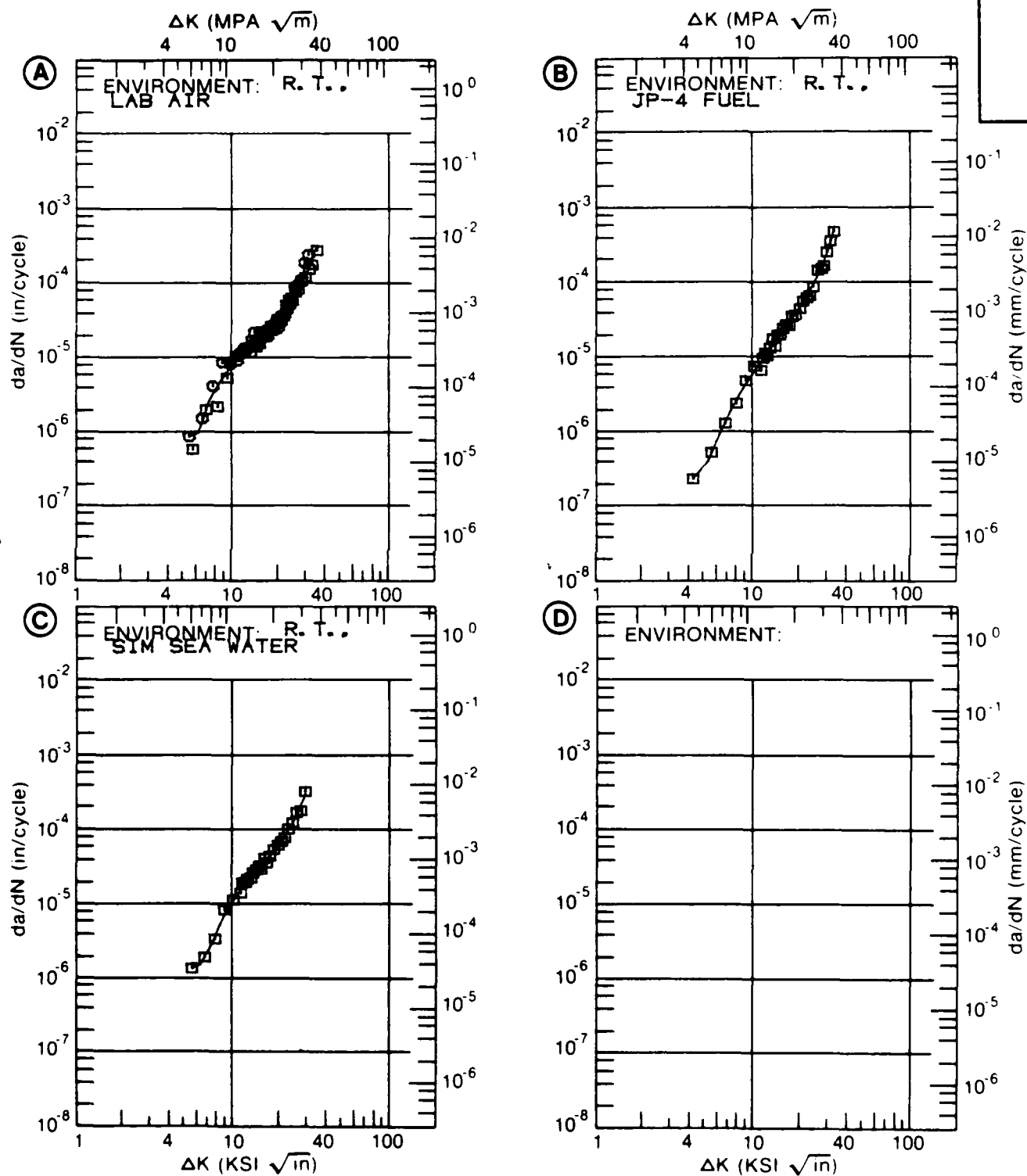


Figure 8.17.3.20

TABLE 8.17.3.21

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.17.3.21 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM		7175			
CONDITION: T73652					
DELTA K (KSI*IN**1/2)		DA/DN (10**--6 IN./CYCLE)			
		A	B	C	D
		E= R. T. LAB AIR	E= R. T. JP-4 FUEL	E= R. T. SIM SEA WATER	
DELTA K	A: 5.14	732			
MIN	B: 4.29		571		
	C: 3.99			517	
	D:				
	4.00			523	
	5.00		647	1.12	
	6.00	861	952	1.61	
	7.00	2.62	1.50	2.52	
	8.00	5.18	2.33	4.21	
	9.00	8.00	3.49	6.66	
	10.00	10.7	5.07	9.59	
	13.00	17.2	13.7	20.5	
	16.00	24.5	32.4	36.0	
	20.00	45.4	87.8	72.0	
	25.00	135	342	178	
	30.00	396		480	
DELTA K	A: 30.29	417			
MAX	B: 25.04		352		
	C: 32.21			764	
	D:				
ROOT MEAN SQUARE		23.67	17.09	21.64	
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25				
SUMMARY	1.25-2.0				
(NP/NA)	2.0				

CONDITION/HT: T73652
 FORM: 1.25" TH FORGING
 SPECIMEN TYPE: WOL
 ORIENTATION: T-L
 STRESS RATIO: +0.02
 FREQUENCY: 0.10- 20.00 HZ

YIELD STRENGTH: 59.0- 66.3 KSI
 ULT. STRENGTH: 70.0- 76.8 KSI
 SPECIMEN THK: 1.250"
 SPECIMEN WIDTH: 5.000"
 REFERENCES: MA005

ALUM.
 ALLOY

7175

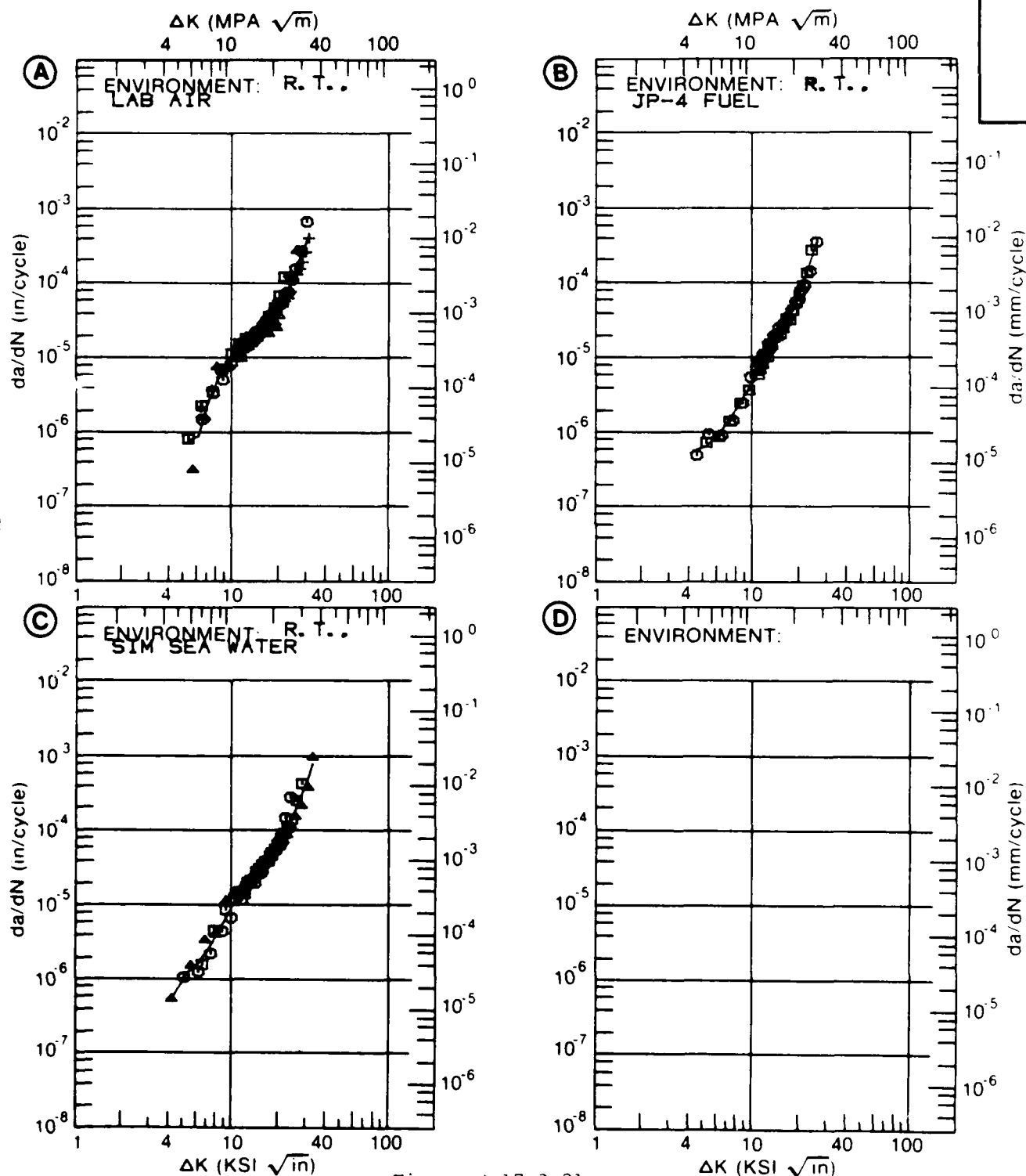


Figure 3.17.3.21

TABLE 8.17.3.22

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.17.3.22 INDICATING EFFECT
OF ENVIRONMENT

MATERIAL: ALUMINUM 7175
CONDITION: T73652

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. L. H. A.			
DELTA K MIN	A:	5.05	.359		
	B:				
	C:				
	D:				
	6.00	.814			
	7.00	1.61			
	8.00	2.81			
	9.00	4.43			
	10.00	6.50			
	13.00	15.0			
	16.00	25.6			
	20.00	40.0			
	25.00	53.7			
	30.00	60.9			
DELTA K MAX	A:	32.75	62.2		
	B:				
	C:				
	D:				

ROOT MEAN SQUARE 26.00
PERCENT ERROR

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25 3
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T73652
 FORM: 6.00" TH FORGING
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 STRESS RATIO: +0.08
 FREQUENCY: 6.00 HZ

YIELD STRENGTH: 68.0- 70.0 KSI
 ULT. STRENGTH: 77.0- 80.0 KSI
 SPECIMEN THK: 0.250- 0.998"
 SPECIMEN WIDTH: 7.400"
 REFERENCES: 8579, 85837

ALUM.
ALLOY

7175

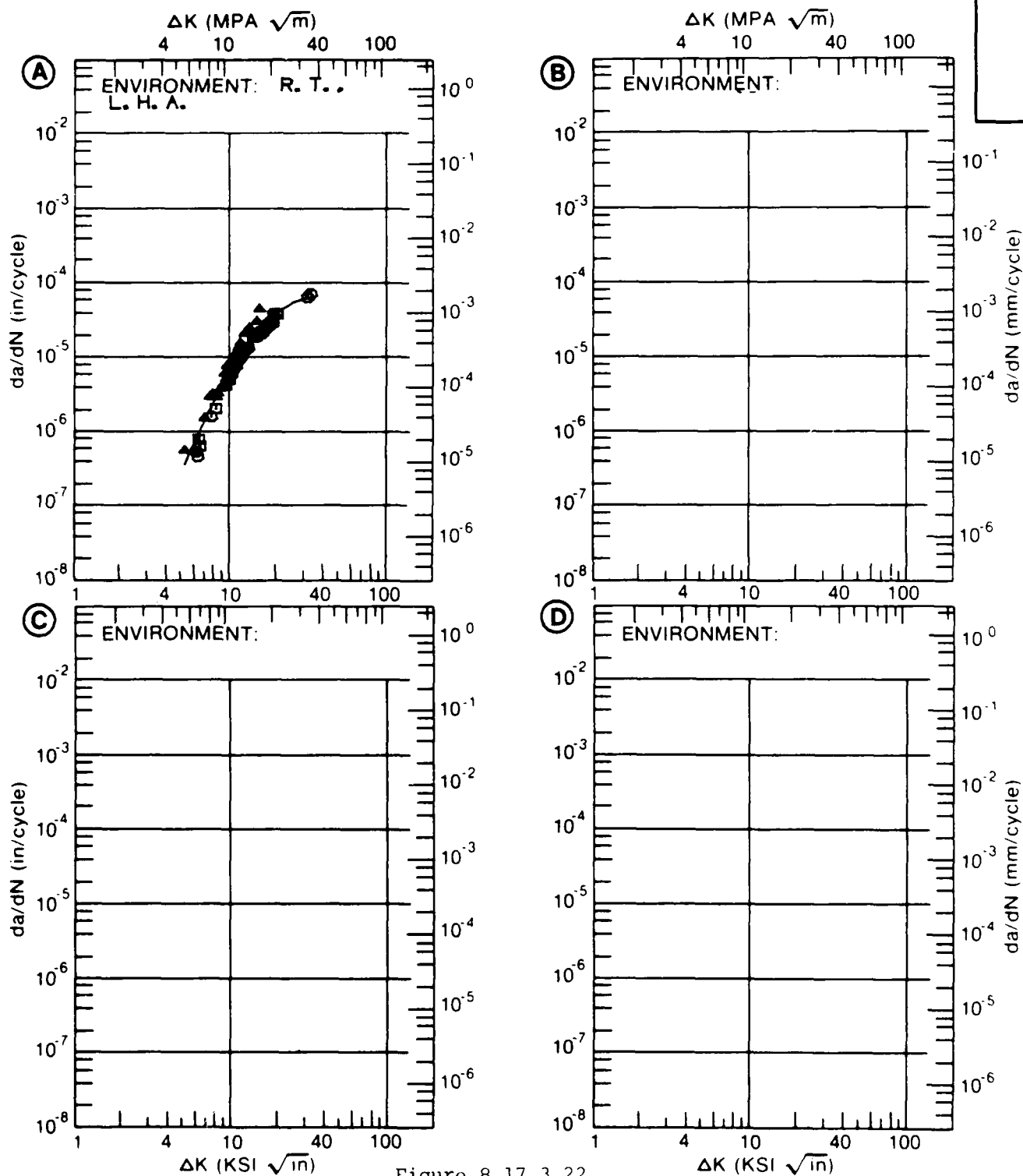


Figure 8.17.3.22

TABLE 8.17.3.23

SUSTAINED CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.17.3.23 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM 7175
CONDITION: T66 2H=0 076"K MAX
(KSI*IN**1/2)

DA/DT (10***6 IN/HOUR)

A

B

C

D

E: F
WET 3X/DAY WITH
3 5% NACLK MAX MIN A: 2.00 574.
B:
C:
D:2.50 610.
3.00 711.
3.50 857.
4.00 1043.
5.00 1524.
6.00 2140.
7.00 2872.
8.00 3693.
9.00 4573.
10.00 5478.
13.00 8047.
16.00 9947.
20.00 11054.K MAX MAX A: 21.50 11075.
B:
C:
D:ROOT MEAN SQUARE 16 48
PERCENT ERROR

CONDITION/HT: T66 2H = 0.376"
 FORM: FORGING
 SPECIMEN TYPE: DCB
 ORIENTATION: S-L
 YIELD STRENGTH:
 ULT. STRENGTH:

SPECIMEN THK: 1.000"
 SPECIMEN WIDTH: 5.000"
 CRACK LENGTH (A_0):
 K_{ISCC} :
 REFERENCES: 78313

ALUM.
 ALLOY

7175

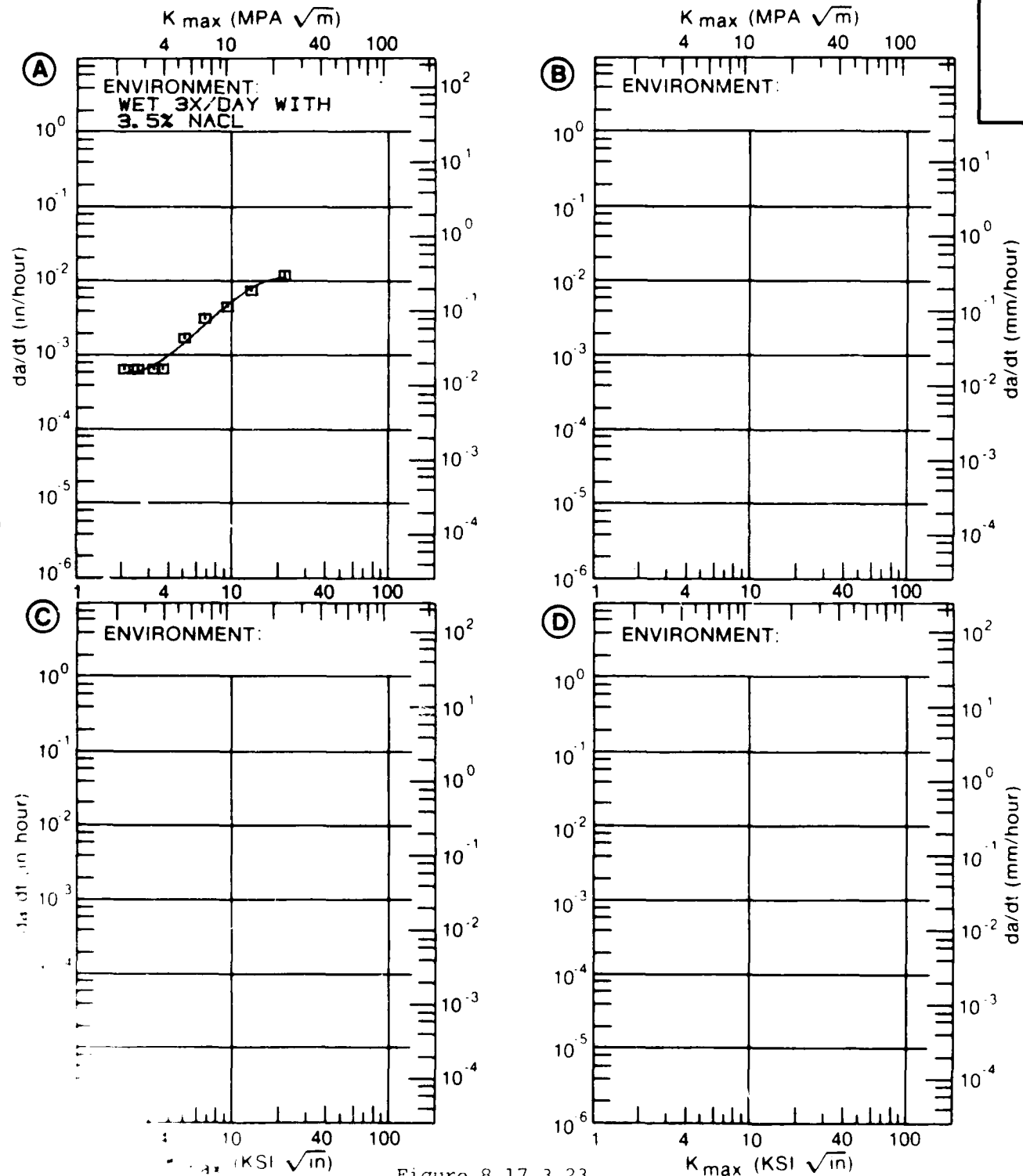


Figure 8.17.3.23

TABLE 8.17.3.24

SUSTAINED CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.17.3.24 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM 7175
CONDITION: T66 2H=0 929"K MAX
(KSI*IN**1/2)

DA/DT (10**-6 IN/HOUR)

A

B

C

D

E= F
WET 3X/DAY WITH
3.5% NaClK MAX A:
MIN B:
C:
D:

200.00

K MAX A:
MAX B:
C:
D:ROOT MEAN SQUARE
PERCENT ERROR

0.00

CONDITION/HT: T66 2H = 0.928"
 FORM: FORGING
 SPECIMEN TYPE: DCB
 ORIENTATION: S-L
 YIELD STRENGTH:
 ULT. STRENGTH:

SPECIMEN THK: 1.000"
 SPECIMEN WIDTH: 5.000"
 CRACK LENGTH (A_0):
 K_{ISCC} :
 REFERENCES: 78313

ALUM.
 ALLOY

7175

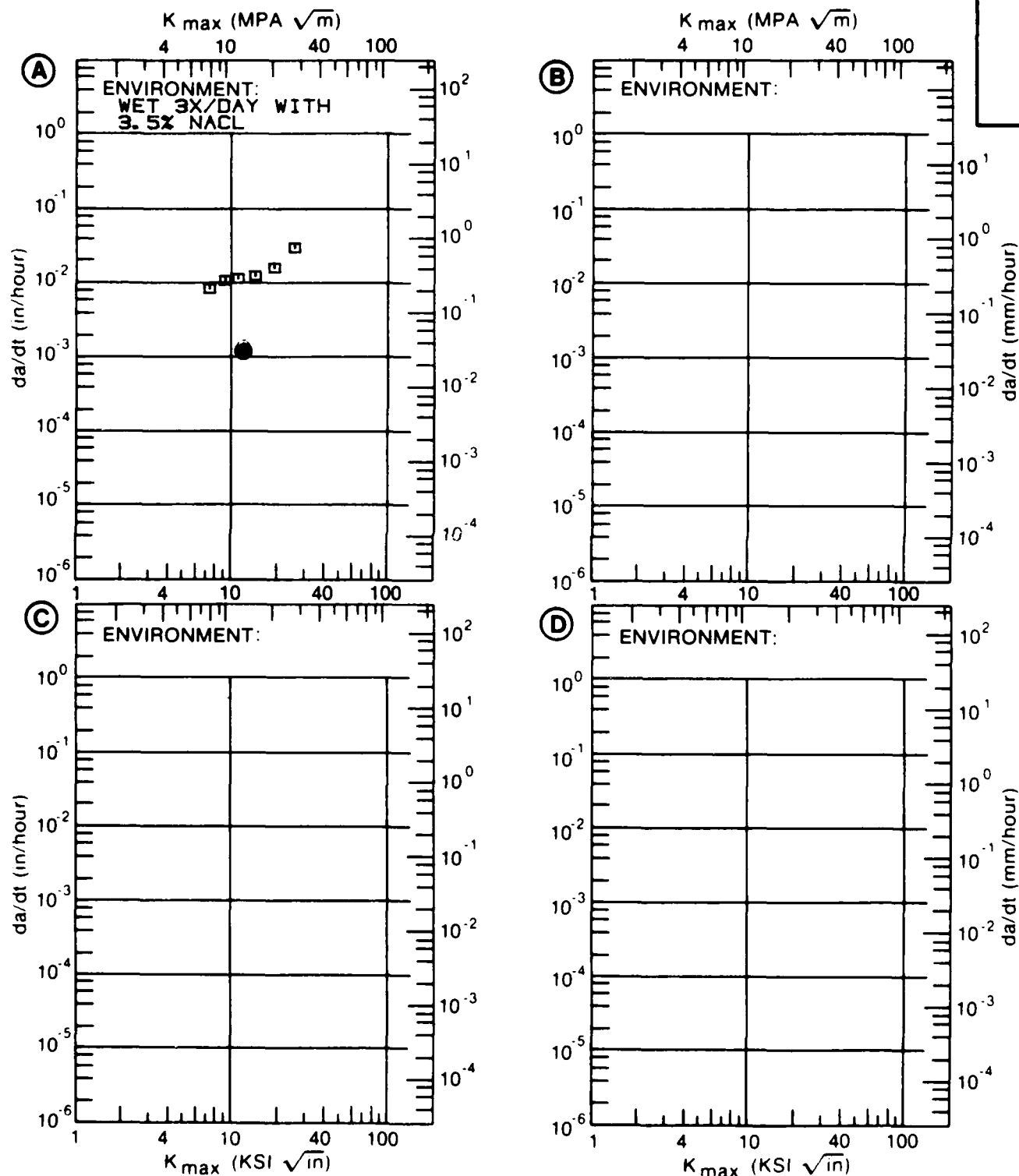


Figure 8.17.3.24

TABLE 8.17.3.25

SUSTAINED CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.17.3.25 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM 7175
CONDITION: T736 2H=0.928"

K MAX
(KSI*IN**1/2)

DA/DT (10**-6 IN/HOUR)

A

B

C

D

E=

A:
K MAX B:
MIN C:
D:

200.00

A:
K MAX B:
MAX C:
D:

ROOT MEAN SQUARE
PERCENT ERROR

0.00

CONDITION/HT: T73 2H = 0.50"
 FORM: FORGING
 SPECIMEN TYPE: DCB
 ORIENTATION:
 YIELD STRENGTH:
 ULT. STRENGTH:

SPECIMEN THK:
 SPECIMEN WIDTH:
 CRACK LENGTH (A_0):
 K_{ISCC} :
 REFERENCES: 84284

ALUM.
 ALLOY

7175

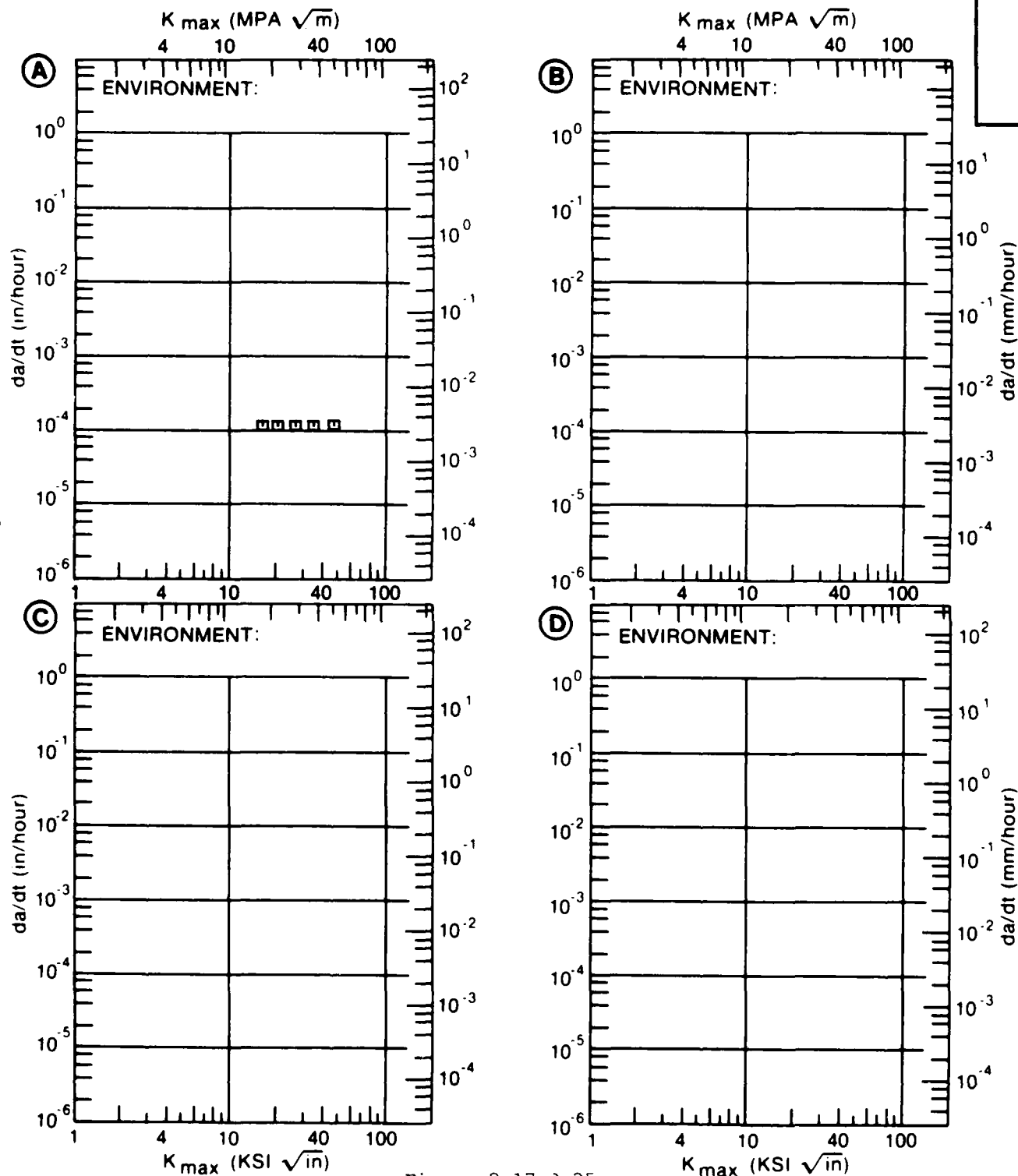


Figure 8.17.3.25

TABLE 8.17.3.26

SUSTAINED CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.17.3.26 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM 7175
CONDITION: T736 2H=0.50"

K MAX (KSI*IN**1/2)		DA/DT (10**-6 IN/HOUR)			
		A	B	C	D
		E=			
K MAX	A:				
MIN	B:				
	C:				
	D:				
200.00					
K MAX	A:				
MAX	B:				
	C:				
	D:				
ROOT MEAN SQUARE		0.00			
PERCENT ERROR					

CONDITION/HT: T736 2H = 0.928"
 FORM: FORGING
 SPECIMEN TYPE: DCB
 ORIENTATION:
 YIELD STRENGTH:
 ULT. STRENGTH:

SPECIMEN THK:
 SPECIMEN WIDTH:
 CRACK LENGTH (A_0):
 K_{ISCC} :
 REFERENCES: 84284

ALUM.
 ALLOY

7175

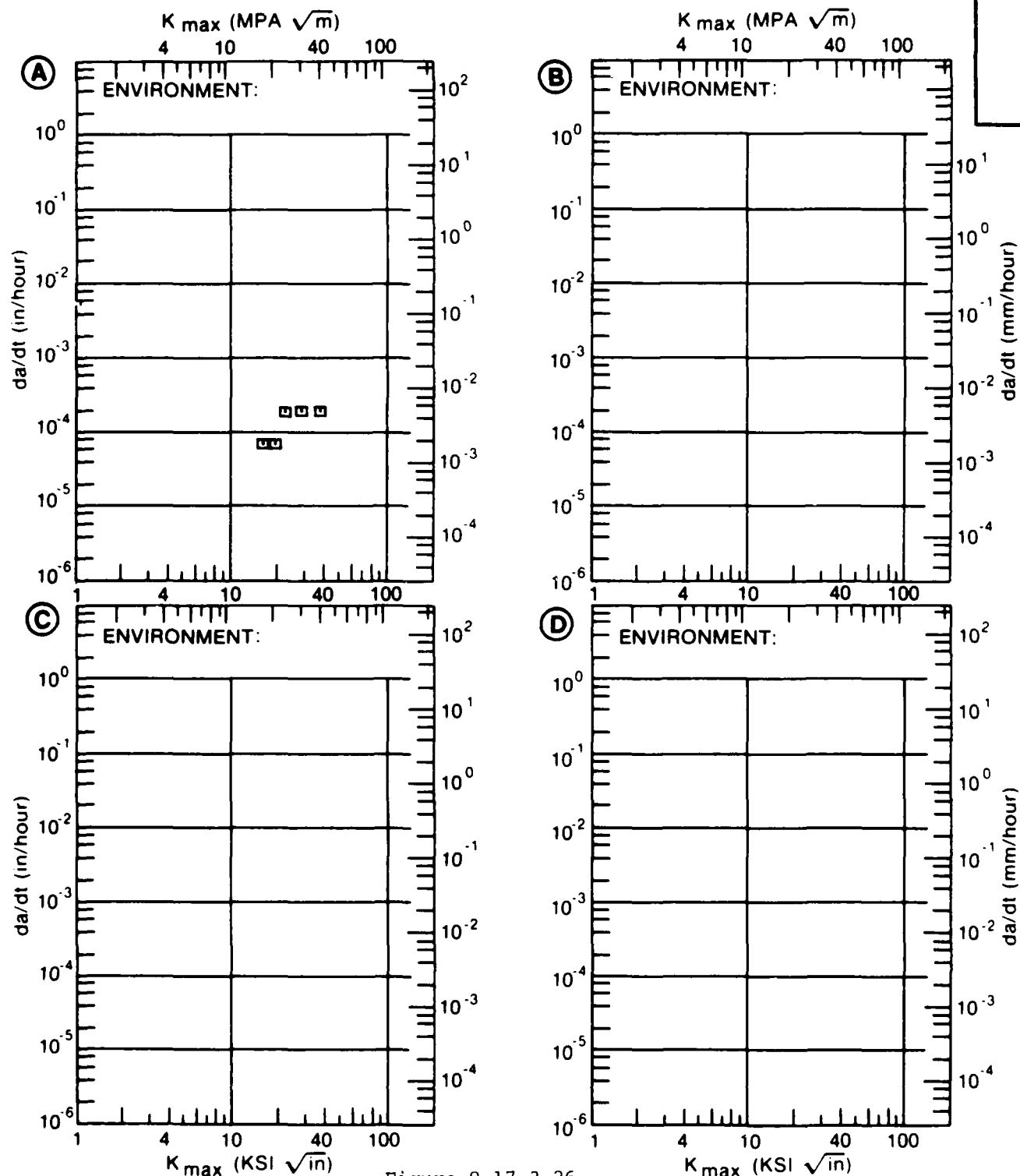


Figure 8.17.3.26

TABLE 8.17.3.27 (con't)

CONDITION	ALUMINUM				7175				K(15CC)				STAN DEV	TEST TIME (MIN)	DATE REFER	
	--PRODUCT--		TEST SPEC		YIELD		ENVIRONMENT		---SPECIMEN---		CRACK					
	FORM	THICK (IN)	TEMP (F)	OR	STR	(KSI)			WIDTH (IN)	THICK (IN)	DESIGN (IN) (*=SG)	LENGTH (IN)				K(15CC)
							W	B	A							
T73652	F	6.00	R. T.	T-L	64.0	S. T. W.	5.500	1.000	DCB	---	40.00	> 18.50		133680	1976	R1006
		6.00			64.0		5.500	1.000	DCB	---	40.00	22.00		133680	1976	R1006
		6.00			64.0		5.500	1.000	DCB	---	40.00	> 18.00		133680	1976	R1006
T73652	F	1.25	R. T.	T-L	63.5	SIM. SEA WATER	3.086	1.247	BHDL	1.702	---	> 17.70		>132480	1977	MA005
		1.25			63.5		3.087	1.248	BHDL	1.412	---	> 17.60		>132480	1977	MA005
T73652	F	1.25	R. T.	9-T	57.5	JP-4 FUEL	3.086	1.248	BHDL	1.411	---	> 18.20		>148320	1977	MA005
		1.25			57.5		3.084	1.252	BHDL	1.354	---	> 17.90		>148320	1977	MA005
T73652	F	1.25	R. T.	9-T	57.5	SIM. SEA WATER	3.084	1.248	BHDL	1.377	---	> 17.00		>132480	1977	MA005
		1.25			57.5		3.086	1.248	BHDL	1.372	---	> 17.60		>132480	1977	MA005

TABLE 8.18.1.1

MEAN PLANE STRAIN FRACTURE TOUGHNESS DATA OF
ALUMINUM ALLOY 7178 AT ROOM TEMPERATURE

CONDITION/HT	MEAN K _{IC} ± STANDARD (KSI) SQR T (IN) ± DEVIATION	(NUMBER OF SPECIMENS)	
PLATE			
	\bar{K}_{IC}	\bar{S}_{LL}	
CONDITION/HT			
T651	25.3 ± 1.9 (5)	21.5 ± 1.8 (10)	15.0 ± 0.3 (3)
T7651	27.8 ± 1.8 (16)	23.1 ± 2.4 (18)	17.3 ± 0.4 (5)
EXTRUSION			
	\bar{K}_{IC}	\bar{S}_{LL}	
CONDITION/HT			
T6510	---	18.5 ± 1.3 (6)	14.5 ± 0.1 (2)
T76510	30.5 ± 0.9 (6)	26.8 ± 1.1 (5)	16.2 ± 0.4 (2)
T76511	25.7 ± 0.3 (2)	-----	-----
FORGED BAR			
	\bar{K}_{IC}	\bar{S}_{LL}	
CONDITION/HT			
T6510	---	19.2 ± 1.2 (5)	-----

TABLE 8.18.1.2

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 717B

TEST CONDITIONS

SPECIMEN
ORIENTATIONENVIRONMENT
LAB AIR
AT R T

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ (HZ)	DELTA K LEVELS (KSI SQRT(IN))	FATIGUE CRACK GROWTH RATES (MICR/IN/CYCLE)				
				2.5	5	10	20	50	100
16	SHEET	0.02	1.00-5.00			12.6	109		
16	SHEET	0.02	10.00-14.00			11.9	89.9		
16	SHEET	0.50	1.00-5.00		6.47	45.9			
16	SHEET	0.50	10.00-14.00			47.3			
1651	SHEET	0.02	0.10-12.00		0.92	15.4	100		
1651	PLATE	0.00	0.10-20.00		0.79	13.1	56.8		
1651	PLATE	0.02	0.10-20.00		0.98	15.4	107		
176	SHEET	0.02			0.60	7.76	58.1	2652	
17651	PLATE	0.33	5.20			13.2			
17651	PLATE	0.33	5.20			12.8			
176510	EXTRUSION	0.33	5.20			12.6			
176510	EXTRUDED BAR	0.33	5.20			13.6			

TABLE 8.18.1.3

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7178

TEST CONDITIONS

SPECIMEN
ORIENTATION L TENVIRONMENT
H H A
A T R T

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ (HZ)	DELTA K LEVELS (KSI SQRT(IN))	2 5	5	10	20	50	100
T6	SHEET	0.00	9.00			0.71	22.8			
T6	SHEET	0.05	9.00			0.63	10.1			
T6	SHEET	0.05	9.00				24.5	142		
T6	SHEET	0.50	9.00		0.20	3.45				
T6	SHEET	0.50	9.00			6.42	52.6			
T6	SHEET	0.50	9.00			10.1	79.8			

TABLE 8.18.1.4

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7178

TEST CONDITIONSSPECIMEN
ORIENTATION L TENVIRONMENT S T W
AT R T

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ (HZ)	DELTA K /ELS (KSI SQRT(IN))	2 5	5	10	20	50	100
T651	PLATE	0.00	20.00			0.82	22.3	134		
T651	PLATE	0.01	6.00				29.2	157		

TABLE 8.18.1.5

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 717B

TEST CONDITIONS

SPECIMEN

ORIENTATION

T-1

ENVIRONMENT

LAB AIR
AT R T

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ (HZ)	DELTA K LEVELS (KSI SQRT(IN))	FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)				
					2	5	10	20	50
17651	PLATE	0.00	20.00		478	11.5	85.2		
17651	PLATE	0.13	5.20			1.3	2		
17651	PLATE	0.33	5.20			1.6	2		

TABLE 8.18.2.1

CONDITION	--PRODUCT--		TEST SPECIMEN ORIENT	YIELD STRENGTH (KSI)	ALUMINUM		7178		K(1C)		CRACK LENGTH (IN)	2.5* (K(1C)/TYS)**2 (IN)	K(1C) MEAN DEV (KSI*SQRT IN)	K(1C) STAN DEV	DATE	REFER
	FORM	THICK (IN)			THICK (IN)	WIDTH (IN)	SPECIMEN THICK (IN)	DESIGN	A	B						
T651	P	1.00	R.T.	L-T	81.0	2.000	1.048	NB	1.060	0.27	26.50				1973	86213
		1.00			81.0	2.000	1.048	NB	1.050	0.24	25.10				1973	86213
		1.00			81.0	2.000	1.048	NB	1.040	0.26	26.00				1973	86213
		1.00			81.0	2.000	1.048	NB	1.030	0.27	26.70				1973	86213
		0.50			82.4	1.000	0.500	NB	0.499	0.18	22.10	25.3/	1.9	1969	77140	
T651	P	1.37	R.T.	T-L	77.8	2.000	0.999	CT	1.065	0.18	20.80				1969	77140
		1.37			77.8	2.000	0.999	CT	1.052	0.18	20.60				1969	77140
		1.37			77.8	1.930	0.999	NB	0.956	0.17	20.50				1969	77140
		1.37			77.8	1.940	0.999	NB	0.944	0.16	19.80				1969	77140
		0.50			78.8	0.990	0.460	NB	0.510	0.14	18.60				1969	77140
		0.50			78.8	1.000	0.500	NB	0.496	0.17	20.80				1969	77140
		1.00			80.8	2.000	1.048	NB	1.060	0.21	23.40				1973	86213
		1.00			80.8	2.000	1.048	NB	1.040	0.20	23.00				1973	86213
		1.00			80.8	2.000	1.048	NB	1.060	0.20	22.90				1973	86213
		1.00			80.8	2.000	1.048	NB	1.050	0.22	24.20	21.5/	1.8	1973	86213	
T651	P	1.37	R.T.	S-L	68.1	1.000	0.500	CT	0.494	0.12	14.80				1973	86213
		1.37			68.1	1.000	0.500	CT	0.508	0.12	15.00				1973	86213
		1.37			68.1	1.000	0.500	CT	0.483	0.13	15.30	15.0/	0.3	1973	86213	
T651	E	0.75	82	T-L	72.0	1.500	0.739	NB	0.725	0.27	23.70				1973	86213
		0.75			72.0	1.500	0.739	NB	0.787	0.29	24.40	24.1/	0.5	1973	86213	
T6510	E	3.50	R.T.	T-L	69.2	0.990	0.500	NB	0.461	0.14	16.50				1969	77140
		3.50			69.2	2.000	1.001	CT	1.041	0.17	18.30				1969	77140
		3.50			69.2	1.990	1.000	CT	1.030	0.16	17.70				1969	77140
		0.68			82.9	1.490	0.626	NB	0.742	0.15	20.40				1969	77140
		0.68			83.4	1.500	0.648	NB	0.701	0.13	19.20				1969	77140
T6510	E	3.50	R.T.	B-L	62.3	2.000	0.998	CT	0.994	0.14	14.50				1969	77140
		3.50			62.3	2.000	1.001	CT	0.997	0.13	14.40	14.5/	0.1	1969	77140	
T7651	P	0.50	R.T.	L-T	71.2	0.998	0.447	NB	0.519	0.42	29.90				1978	MPC01

TABLE 8.18.2.1 (con't)

CONDITION	--PRODUCT--			YIELD (KSI)	ALUMINUM			717B			K(1C)			DATE	REFER
	FORM	THICK (IN)	TEST SPECIMEN TEMP (F)		ORIENT	STRENGTH	WIDTH (IN)	THICK (IN)	DESIGN	CRACK LENGTH (IN)	2.9* (K(1C)/TYS)**2 (IN)	K(1C) MEAN (KSI*SQRT IN)	STAN DEV		
T7651	P	0.50	R.T.	L-T	71.2	0.990	0.446	NB	0.505	0.42	29.50			1978	MPC01
		0.50			71.2	1.000	0.483	NB	0.530	0.40	29.00			1978	MPC01
		0.50			71.2	0.990	0.447	NB	0.507	0.41	28.80			1973	86213
		0.50			71.2	0.990	0.446	NB	0.499	0.41	29.00			1973	86213
		1.00			71.2	2.000	1.001	NB	1.030	0.48	31.20			1973	86213
		0.50			71.2	0.990	0.482	NB	0.525	0.40	28.50			1973	86213
		1.00			71.2	2.000	1.001	NB	1.060	0.44	29.80			1973	86213
		1.37			72.6	2.014	1.001	NB	1.007	0.30	26.00			1978	MPC01
		1.37			72.6	2.011	0.999	CT	1.086	0.30	26.10			1978	MPC01
		1.37			72.6	2.000	1.000	CT	0.997	0.33	26.30			1973	86213
		1.37			72.6	2.000	1.000	CT	1.000	0.32	26.40			1978	MPC01
		1.37			72.6	1.982	1.000	CT	0.991	0.32	26.30			1978	MPC01
		1.37			72.6	2.004	1.001	NB	1.002	0.32	26.70			1978	MPC01
T7651	P	1.00			74.4	2.004	0.970	CT	1.062	0.28	25.40			1978	MPC01
		1.00			74.4	1.998	0.972	CT	1.079	0.30	26.50	27.8/	1.8	1978	MPC01
		2.00	R.T.	T-L	63.8	4.002	2.036	NB	2.201	0.34	23.70			1978	MPC01
		2.00			63.8	4.000	2.036	NB	2.105	0.29	21.80			1973	86213
		0.50			69.2	0.994	0.447	NB	0.467	0.27	23.30			1978	MPC01
		0.50			69.2	1.000	0.485	NB	0.520	0.28	24.10			1978	MPC01
		0.50			69.2	1.002	0.448	NB	0.521	0.28	24.10			1978	MPC01
		0.50			69.2	0.998	0.485	NB	0.529	0.32	23.40			1978	MPC01
		1.00			69.9	2.002	0.974	CT	1.041	0.18	19.10			1978	MPC01
		1.00			69.9	2.002	0.973	CT	1.061	0.18	19.30			1978	MPC01
		1.00			70.5	2.000	1.001	NB	1.080	0.40	28.30			1978	MPC01
		1.00			70.5	2.000	1.001	NB	1.040	0.38	27.70			1978	MPC01
		1.37			71.1	2.000	1.000	CT	1.022	0.26	22.80			1973	86213
T7651	P	1.37			71.1	1.988	0.999	CT	0.994	0.25	23.00			1978	MPC01
		1.37			71.1	2.000	1.001	NB	0.993	0.24	22.10			1973	86213
		1.37			71.1	2.012	1.000	NB	1.046	0.25	23.30			1978	MPC01
		1.37			71.1	2.000	1.001	NB	1.048	0.25	22.40			1973	86213
		1.37			71.1	2.000	1.001	NB	1.000	0.24	22.30			1978	MPC01
		1.37			71.1	2.000	0.999	CT	1.000	0.21	21.20			1978	MPC01
		1.37			71.1	1.990	0.999	CT	1.015	0.24	22.60	23.1/	2.4	1978	MPC01
T7651	P	1.37	R.T.	S-L	66.8	1.000	0.500	CT	0.480	0.19	16.80			1978	MPC01
		1.37			66.8	1.000	0.500	CT	0.494	0.17	17.60			1973	86213
		1.37			66.8	1.010	0.500	CT	0.495	0.15	17.10			1978	MPC01
		1.37			66.8	1.002	0.500	CT	0.501	0.16	17.90			1978	MPC01

TABLE 8.18.2.1 (con't)

CONDITION	ALUMINUM				7178		K(1C)		K(1C) STAN DEV	K(1C) MEAN IN)	DATE	REFER
	---PRODUCT--- FORM	THICK (IN)	TEST SPECIMEN TEMP ORIENT	YIELD (KSI)	WIDTH (IN)	THICK (IN)	DESIGN	CRACK LENGTH (IN)				
T7651	P	1.37	R.T.	8-L	1.000	0.500	CT	0.487	0.17	17.20	17.3/ 0.4	1973 86213
T76510	E	3.50	R.T.	L-B	2.000	1.001	NB	1.029	0.71	32.80		1973 86213
		3.50			2.000	1.002	NB	1.096	0.69	33.10	33.0/ 0.2	1973 86213
T76510	E	3.50	R.T.	L-T	2.000	1.000	NB	1.012	0.60	30.00		1973 86213
		0.68			1.500	0.635	NB	0.702	0.50	30.30		1973 86213
		0.68			1.490	0.636	NB	0.665	0.48	29.90		1973 86213
		0.68			1.490	0.663	NB	0.767	0.52	31.60		1973 86213
		0.68			1.490	0.639	NB	0.673	0.45	29.40		1973 86213
		0.68			1.500	0.620	NB	0.772	0.52	31.70	30.5/ 0.9	1973 86213
T76510	E	0.68	R.T.	T-L	1.490	0.638	NB	0.670	0.41	26.90		1973 86213
		0.68			1.490	0.625	NB	0.703	0.46	28.50		1973 86213
		0.68			1.490	0.638	NB	0.708	0.41	27.10		1973 86213
		0.68			1.490	0.624	NB	0.670	0.38	25.90		1973 86213
		0.68			1.500	0.649	NB	0.780	0.37	25.70	26.8/ 1.1	1973 86213
T76510	E	3.50	R.T.	S-L	2.000	1.000	CT	0.937	0.21	15.90		1973 86213
		3.50			2.000	0.999	CT	0.946	0.23	16.40	16.2/ 0.4	1973 86213
T76510	FB	3.50	R.T.	T-L	1.000	0.500	NB	0.473	0.28	19.30		1973 86213
		3.50			2.000	1.001	CT	0.943	0.23	17.70		1973 86213
		3.50			2.000	1.001	CT	0.931	0.25	18.90		1973 86213
		3.50			1.000	0.500	NB	0.482	0.28	19.60		1973 86213
		3.50			1.000	0.500	NB	0.459	0.29	20.90	19.2/ 1.2	1973 86213
T76511	E	0.40	R.T.	L-T	1.000	0.401	NB	0.467	0.29	25.50		1973 86213
		1.44			3.000	1.400	CT	1.571	0.29	25.90	25.7/ 0.3	1973 86213
T76511	E	1.25	83	L-T	3.000	1.217	NB	1.465	0.45	29.20		1973 86213
		1.25			3.000	1.227	NB	1.457	0.41	27.70	28.5/ 1.1	1973 86213
T76511	E	2.00	86	L-T	4.000	1.962	CT	2.077	0.32	25.90		1973 86213
		2.00			4.000	1.961	CT	2.078	0.34	26.50	26.2/ 0.4	1973 86213



8.18-9

TABLE 8.18.2.2

CONDITION	--PRODUCT-- FORM	THICK (IN)	TEST SPEC TEMP OR (F)	YIELD STR (KSI)	ALUMINUM				7178				K(C)				
					SPECIMEN--				CRACK LENGTH				GROSS STRESS				
					W	THICK (IN)	B	INIT (IN)	FINAL (IN)	ONSET (KSI)	MAX (KSI)	K(APP) (KSI*80RT IN)	STAN DEV	K(C) (KSI*80RT IN)	K(C) STAN DEV	REFER	
BUCKLING OF CRACK EDGES NOT RESTRAINED																	
T6	S	0.06	R. T.	L-T	82.4	2.000	0.064	0.621	0.812	---	37.20	39.03	---	46.87	---	---	1973 86213
					82.4	2.000	0.064	0.621	0.790	---	35.70	37.48	---	44.09	---	---	1973 86213
					82.4	2.000	0.064	0.622	0.825	---	34.90	38.61	---	47.00	---	---	1973 86213
					82.4	2.000	0.064	0.625	0.760	---	31.30	32.99	---	37.60	---	---	1973 86213
					82.4	2.000	0.064	0.625	0.860	---	36.10	38.05	---	47.49	---	---	1973 86213
					82.4	2.000	0.064	0.620	---	---	35.70	37.48	---	---	---	---	1973 86213
					82.4	2.000	0.064	0.625	0.770	---	37.80	39.84	---	45.83	---	---	1973 86213
					82.6	2.000	0.065	0.622	0.750	---	41.20	43.34	---	49.04	---	---	1973 86213
					82.6	2.000	0.064	0.621	0.780	---	42.50	44.61	---	52.01*	---	---	1973 86213
					83.4	2.000	0.064	0.622	0.790	---	40.20	42.29	---	49.65	---	---	1973 86213
					83.4	2.000	0.064	0.625	0.760	---	39.70	41.84	---	47.70	---	---	1973 86213
					83.4	2.000	0.064	0.624	0.770	---	40.40	42.98	---	48.99	---	---	1973 86213
83.4	2.000	0.064	0.624	0.740	---	38.50	40.58	39.9/ 3.1	45.40	46.3/ 3.3	47.8/ 2.2	1973 86213					
T6	S	0.06	R. T.	L-T	81.6	15.810	0.065	6.000	6.320	---	13.20	44.55	---	46.23	---	---	1973 86213
					81.6	15.820	0.064	3.030	3.260	---	21.20	47.33	---	49.27	---	---	1973 86213
					81.6	15.820	0.064	4.000	4.000	---	17.20	44.90	---	44.90	---	---	1973 86213
					81.6	15.820	0.066	3.020	3.310	---	21.50	47.91	---	50.39	---	---	1973 86213
					81.6	15.820	0.064	1.000	1.000	---	38.20	47.99	46.5/ 1.7	47.99	47.8/ 2.2	47.8/ 2.2	1973 86213
					81.6	15.820	0.064	1.000	1.000	---	38.20	47.99	46.5/ 1.7	47.99	47.8/ 2.2	47.8/ 2.2	1973 86213
T6	S	0.12	R. T.	L-T	83.6	2.990	0.123	0.994	1.340	---	27.00	36.24	---	44.87	---	---	1973 86213
					83.6	2.990	0.123	0.998	1.320	---	27.60	37.14	---	45.32	---	---	1973 86213
					75.3	3.000	0.124	1.000	1.320	---	32.50	45.12	---	54.95	---	---	1973 86213
					75.3	3.000	0.124	1.000	1.340	---	35.30	47.54	---	58.60*	---	---	1973 86213
					82.5	3.000	0.128	1.000	1.470	---	28.70	38.65	---	51.46	---	---	1973 86213
					82.5	3.000	0.129	1.000	1.500	---	30.40	40.94	---	55.49	---	---	1973 86213
					83.3	3.000	0.125	1.000	1.400	---	34.10	45.92	---	58.66	---	---	1973 86213
					83.3	3.000	0.125	1.000	1.370	---	33.10	44.58	---	55.94	---	---	1973 86213
					83.5	3.000	0.125	1.000	1.420	---	29.50	39.73	---	51.35	---	---	1973 86213
					83.5	3.000	0.125	1.080	1.400	---	27.60	39.12	---	47.48	---	---	1973 86213
					83.5	3.000	0.125	1.060	1.330	---	27.80	38.91	---	45.88	---	---	1973 86213
					83.6	3.000	0.122	0.999	1.360	---	25.60	34.43	---	43.01	---	---	1973 86213
83.6	3.000	0.123	0.994	1.350	---	27.40	36.76	---	45.76	---	---	1973 86213					
83.6	3.000	0.123	1.090	1.360	---	31.20	44.50	---	52.41	---	---	1973 86213					
83.6	3.000	0.123	1.090	1.390	---	31.00	44.22	40.9/ 4.1	53.01	50.4/ 5.0	50.4/ 5.0	1973 86213					

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV.

TABLE 8.18.2.2 (con't)

CONDITION	--PRODUCT-- FORM	THICK (IN)	TEST SPEC OR (F)	YIELD STR (KSI)	ALUMINUM		7178		K(C)		BUCKLING OF CRACK EDGES NOT RESTRAINED			
					---SPECIMEN---		CRACK LENGTH		GROSS STRESS		K(APP) STAN		K(C) STAN	
					WIDTH (IN)	THICK (IN)	INIT (IN)	FINAL (IN)	ONSET (KBI)	MAX (KBI)	K(APP) MEAN DEV (KSI*80RT IN)	K(C) MEAN DEV (KSI*80RT IN)		
					W	B	2A(O)	2A(F)	S(O)	S(MAX)				
T6	S	0.06	R. T.	T-L	77.8	2.000	0.064	0.625	0.740	---	33.60	35.41	39.62	1973 86213
		0.06			77.8	2.000	0.064	0.622	0.795	---	35.30	37.13	43.75	1973 86213
		0.06			77.8	2.000	0.064	0.621	0.785	---	36.90	38.74	45.32	1973 86213
		0.06			77.8	2.000	0.064	0.623	0.805	---	37.10	39.02	46.41	1973 86213
		0.06			77.8	2.000	0.064	0.625	0.780	---	36.90	38.89	45.16	1973 86213
		0.06			77.8	2.000	0.064	0.625	0.920	---	33.00	34.78	45.80	1973 86213
		0.06			77.8	2.000	0.064	0.619	0.845	---	35.60	37.30	46.17	1973 86213
		0.06			80.4	2.000	0.066	0.626	0.860	---	33.10	34.96	43.55	1973 86213
		0.06			80.4	2.000	0.065	0.628	0.850	---	32.30	34.18	42.12	1973 86213
		0.06			80.4	2.000	0.066	0.627	0.850	---	37.00	39.08	48.24	1973 86213
		0.06			81.0	2.000	0.066	0.627	0.900	---	31.70	33.48	43.22	1973 86213
		0.06			81.0	2.000	0.065	0.627	0.850	---	32.30	34.11	42.12	1973 86213
T6	S	0.06	R. T.	T-L	78.6	15.810	0.065	3.010	3.230	---	19.90	44.26	46.01	1973 86213
		0.06			78.6	15.820	0.065	1.010	1.310	---	33.20	41.92	47.83	1973 86213
		0.06			78.6	15.820	0.065	1.000	1.460	---	32.10	40.33	48.87	1973 86213
		0.06			78.6	15.820	0.065	4.000	4.550	---	16.20	42.29	49.66	1973 86213
		0.06			78.6	15.820	0.065	6.000	6.480	---	12.40	41.84	44.23	46.5/ 1.8 1973 86213
		T6	S	0.12	R. T.	T-L	79.4	2.990	0.123	0.976	1.250	---	21.30	28.63
0.12					75.3	3.000	0.125	1.000	1.000	---	25.90	34.88	34.88	1973 86213
0.12					75.3	3.000	0.125	1.000	1.000	---	25.90	34.88	34.88	1973 86213
0.12					77.4	3.000	0.125	1.060	1.440	---	23.50	32.89	41.40	1973 86213
0.12					77.4	3.000	0.125	1.060	1.270	---	23.50	32.89	37.42	1973 86213
0.12					77.4	3.000	0.125	1.060	1.440	---	24.50	34.29	43.16	1973 86213
0.12					78.0	3.000	0.125	1.000	1.300	---	25.90	34.88	41.98	1973 86213
0.12					78.0	3.000	0.125	1.000	1.230	---	26.20	35.29	40.72	1973 86213
0.12					78.0	3.000	0.128	1.000	1.320	---	25.40	34.21	41.67	1973 86213
0.12					78.0	3.000	0.128	1.000	1.390	---	25.30	34.07	43.26	1973 86213
0.12					79.2	3.000	0.125	1.080	1.380	---	24.20	34.30	41.14	1973 86213
0.12					79.2	3.000	0.125	1.110	1.300	---	23.60	34.09	38.26	1973 86213
T6				79.4	3.000	0.123	0.976	1.200	---	21.20	28.48	33.4/ 2.3 38.8/ 3.8 1973 86213		

TABLE 8.18.2.2 (con't)

ALUMINUM		7178		K(C)															
CONDITION	--PRODUCT-- FORM THICK (IN)	TEST SPEC TEMP (F)	YIELD STR (KSI)	--SPECIMEN--			CRACK LENGTH			GROSS STRESS			K(APP) STAN			K(C) STAN			
				WIDTH (IN)	THICK (IN)	B	INIT (IN)	FINAL (IN)	ONSET (KSI)	MAX (KSI)	K(APP) (KSI*SQRT IN)	MEAN (KSI*SQRT IN)	DEV	STAN	K(C) (KSI*SQRT IN)	MEAN (KSI*SQRT IN)	DEV	DATE	REFER
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T651	P	0.25 0.25	84.3 84.3	4.000 4.000	0.254 0.255	1.330 1.430	1.960 2.290	---	23.40 21.40	34.33 34.86	35.6/ 1.0	48.45 51.46	50.0/ 2.1	1973 86213 1973 86213					
T651	P	0.25 0.25 0.25 0.25 0.25	79.5 79.5 80.4 80.4 80.4	4.000 4.000 4.000 4.000 4.000	0.247 0.247 0.254 0.255 0.254	1.420 1.390 1.330 1.330 1.440	1.680 1.960 1.330 1.330 2.070	---	15.10 15.60 16.80 16.90 15.20	24.48 24.93 26.08 26.24 24.88	25.3/ 0.8	27.60 27.00 26.08 26.24 33.06	28.0/ 2.9	1973 86213 1973 86213 1973 86213 1973 86213 1973 86213					
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T7651	P	1.00 1.00 1.00	71.2 71.2 71.2	20.000 20.000 20.000	1.005 1.005 1.005	7.000 7.000 7.000	8.440 8.570 8.600	---	11.90 11.50 11.80	42.73 41.30 42.37	42.1/ 0.7	49.69 47.72 49.09	48.8/ 1.0	1973 86213 1973 86213 1973 86213					
T7651	P	0.25 0.25	71.0 71.0	4.000 4.000	0.247 0.247	1.410 1.460	1.610 1.730	---	19.80 19.80	31.95 32.71	32.3/ 0.5	35.06 37.01	36.0/ 1.4	1973 86213 1973 86213					
T7651	P	1.00 1.00	70.5 70.5	20.000 20.000	1.005 1.005	7.000 7.000	7.850 8.050	---	8.20 8.40	29.45 30.17	29.8/ 0.4	31.88 33.26	33.1/ 1.2	1973 86213 1973 86213					

TABLE 8.18.3.1

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.18.3.1 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM 717B
CONDITION: T6
ENVIRONMENT: R. T. , H. H. A.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		R=+0.05	R=+0.50		
DELTA K MIN	A: 3.09	.109			
	B: 1.64		.0279		
	C:				
	D:				
	2.00		.126		
	2.50		.209		
	3.00		.345		
	3.50	.129	.589		
	4.00	.198	1.05		
	5.00	.631	3.45		
	6.00	2.40	7.81		
DELTA K MAX	7.00	5.26	10.3		
	8.00	7.61	14.1		
	9.00	9.08			
	10.00	10.1			
	13.00	15.3			
	A: 13.11	15.7			
	B: 8.87		28.7		
	C:				
	D:				
ROOT MEAN SQUARE		22.81	34.25		
PERCENT ERROR					

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T8
 FORM: SHEET
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 FREQUENCY: 9.00 HZ
 ENVIRONMENT: R. T., H. H. A.

YIELD STRENGTH: 82.0 KSI
 ULT. STRENGTH: 89.7 KSI
 SPECIMEN THK: 0.190"
 SPECIMEN WIDTH: 3.750"
 REFERENCES: BW001

ALUM.
 ALLOY

7178

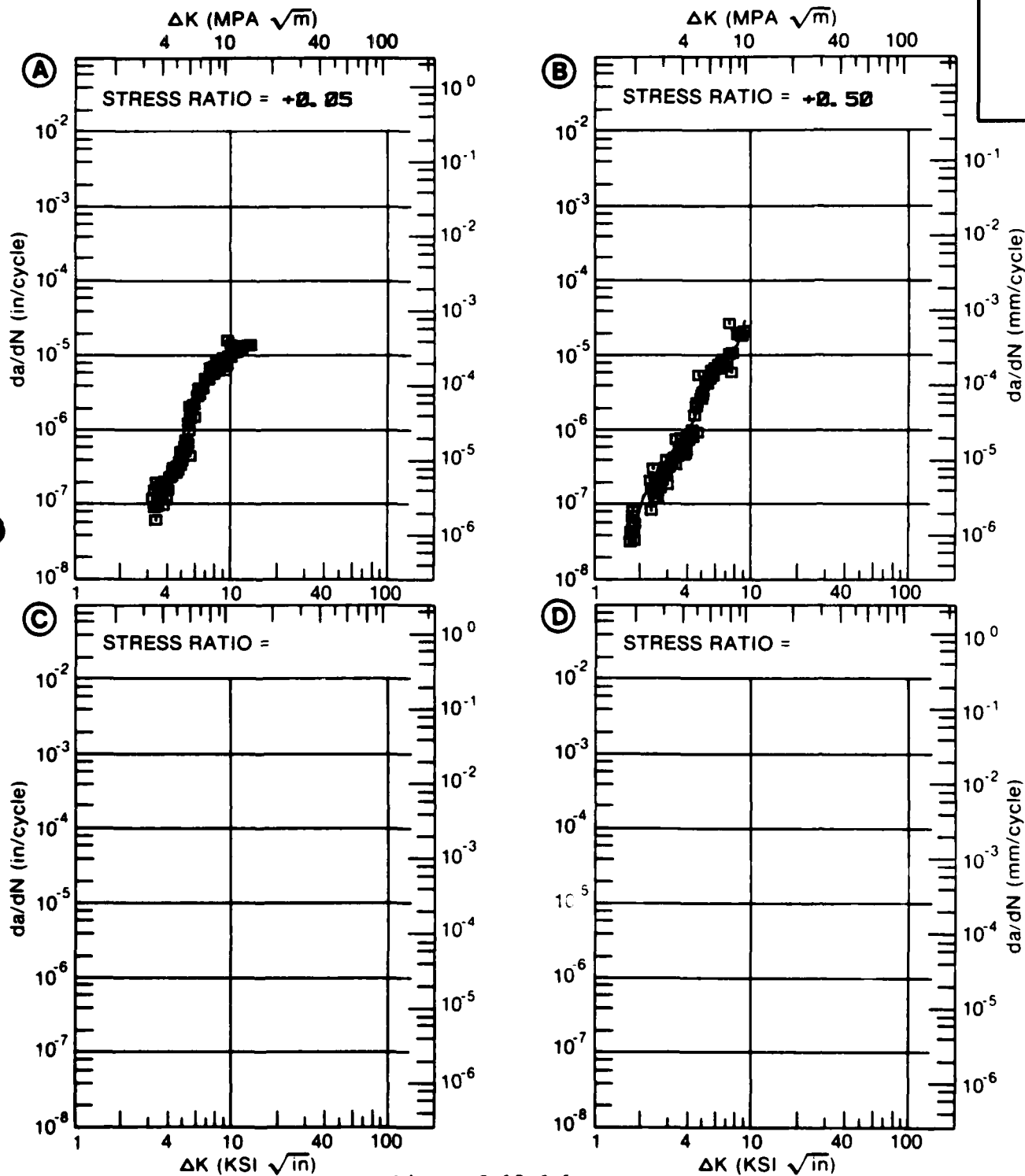


Figure 8.18.3.1

TABLE 8.18.3.2

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.18.3.2 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7178
 CONDITION: T6
 ENVIRONMENT: R. T. , H. H. A.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		R=+0.05	R=+0.50		
DELTA K	A: 7.65	11.5			
MIN	B: 3.65		1.30		
	C:				
	D:				
	4.00		2.26		
	5.00		6.42		
	6.00		12.1		
	7.00		18.8		
	8.00	13.3	27.1		
	9.00	18.7	37.9		
	10.00	24.5	52.6		
	13.00	44.7	184.		
	16.00	71.4	923.		
	20.00	142.			
	25.00	642.			
	30.00	3933.			
DELTA K	A: 33.50	13249.			
MAX	B: 17.91		9786.		
	C:				
	D:				
ROOT MEAN SQUARE		47.97	66.46		
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25				
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T6
 FORM: SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 9.00 HZ
 ENVIRONMENT: R. T., H. H. A.

YIELD STRENGTH: 82.0 KSI
 ULT. STRENGTH: 89.7 KSI
 SPECIMEN THK: 0.190"
 SPECIMEN WIDTH: 6.000"
 REFERENCES: BW001

ALUM.
 ALLOY

7178

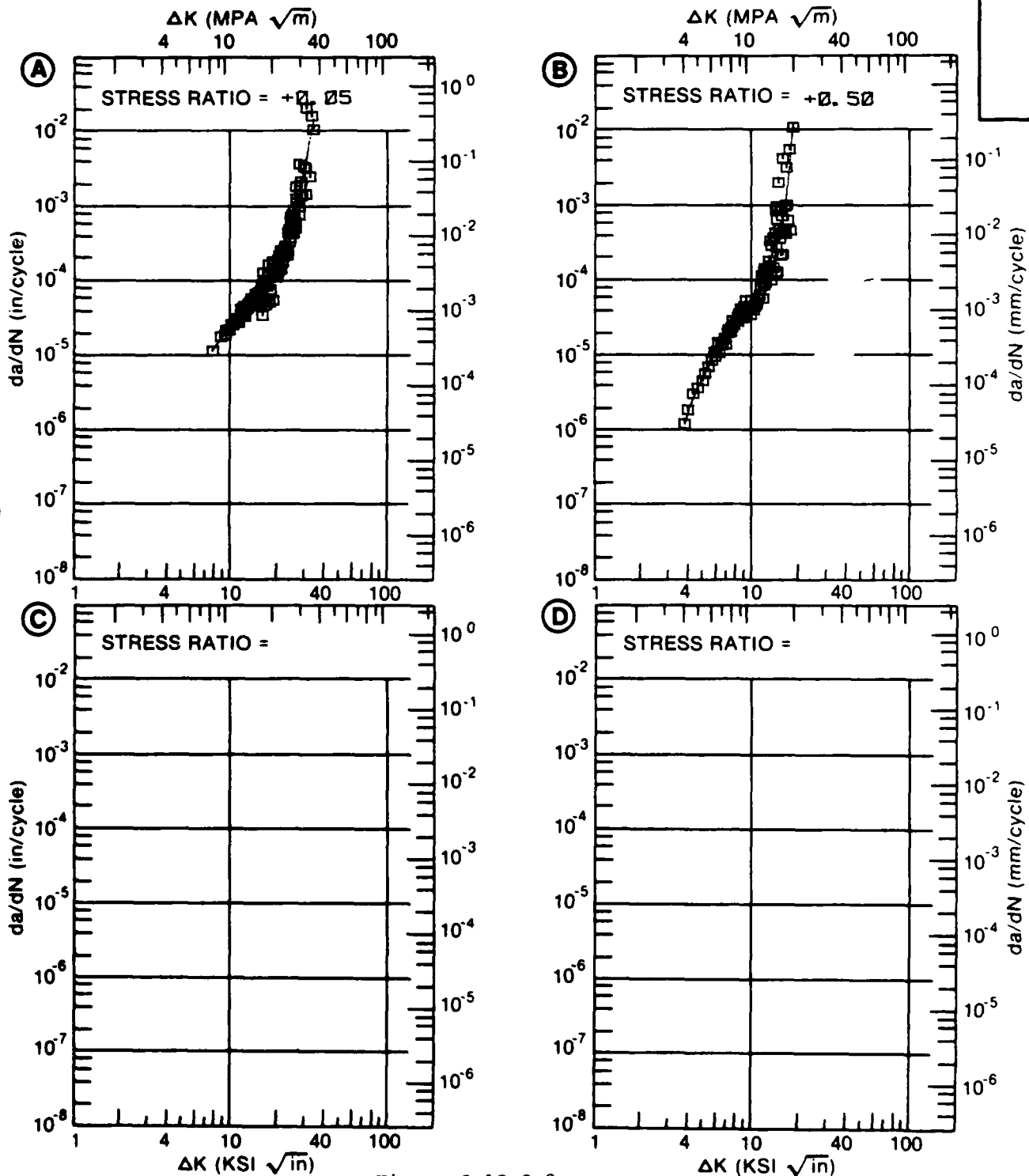


Figure 8.18.3.2

TABLE 8.18.3.3

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.18.3.3 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 717B
 CONDITION: T6
 ENVIRONMENT: R. T. , LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.02	R=+0.50		
DELTA K MIN	A: 6.14	894			
	B: 5.67		5.44		
	C:				
	D:				
	6.00		7.11		
	7.00	2.46	11.8		
	8.00	5.24	17.0		
	9.00	8.53	26.1		
	10.00	11.9	47.3		
	13.00	21.8			
DELTA K MAX	16.00	36.6			
	20.00	89.9			
	A: 20.58	105.			
	B: 10.80		88.0		
	C:				
	D:				

ROOT MEAN SQUARE 16.09 25.87
 PERCENT ERROR

LIFE	0.0-0.5		
PREDICTION	0.5-0.8	1	1
RATIO	0.8-1.25	5	1
SUMMARY	1.25-2.0		1
(NP/NA)	2.0		

CONDITION/HT: T6
 FORM: 0.20" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 10.00- 14.00 HZ
 ENVIRONMENT: R. T., LAB AIR

YIELD STRENGTH: 81.8- 86.0 KSI
 ULT. STRENGTH: 88.2- 90.5 KSI
 SPECIMEN THK: 0.200"
 SPECIMEN WIDTH: 11.500"
 REFERENCES: 86088

ALUM.
 ALLOY

7178

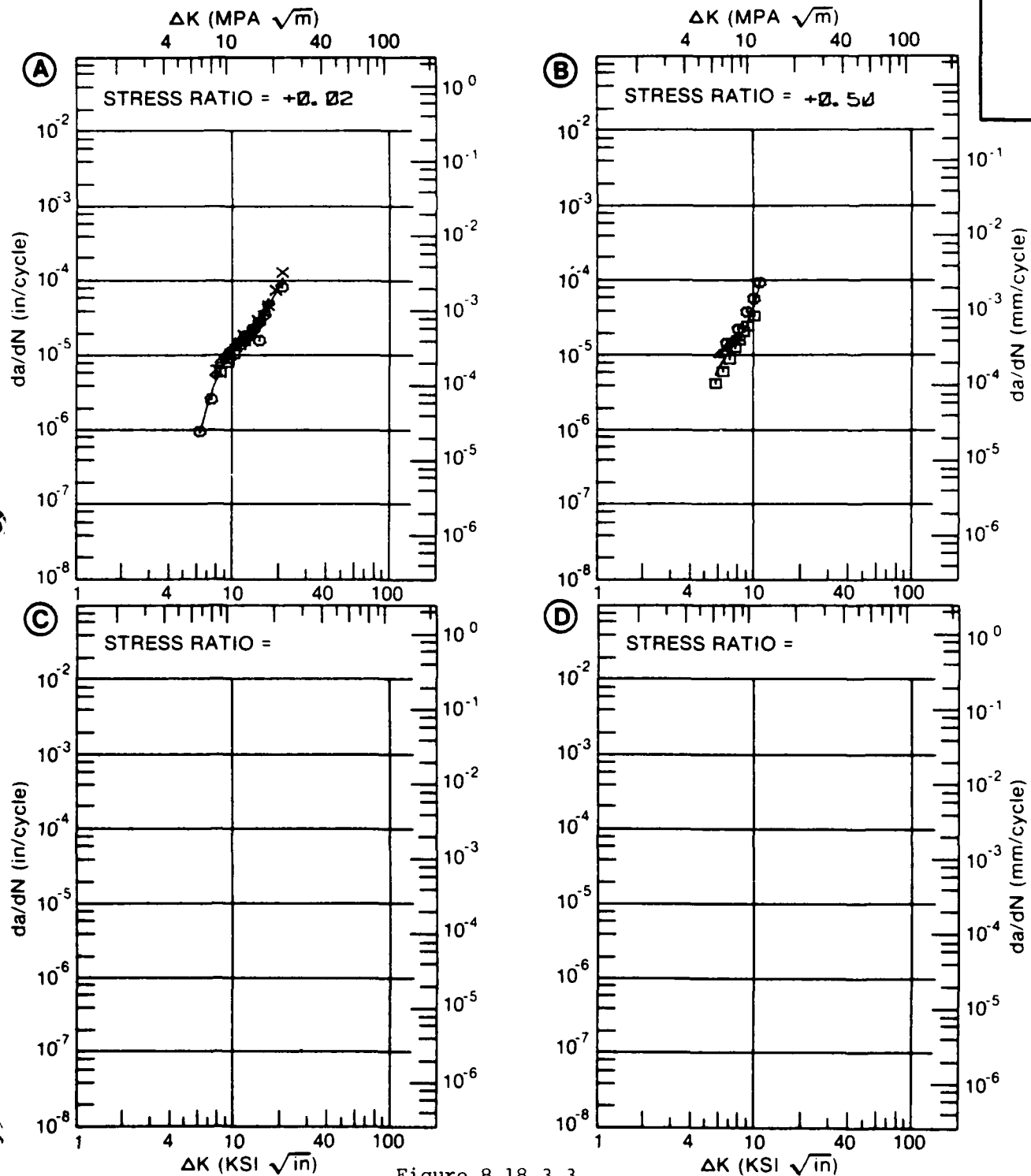


Figure 8.18.3.3

TABLE 8.18.3.4

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.18.3.4 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7178
 CONDITION: T6
 ENVIRONMENT: R.T., LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.02	R=+0.50		
DELTA K MIN	A:	8.28	8.78		
	B:	4.70	6.33		
	C:				
	D:				
	5.00		6.47		
	6.00		8.83		
	7.00		13.5		
	8.00		20.2		
	9.00	10.3	29.9		
	10.00	12.6	45.9		
DELTA K MAX	13.00	22.7	180.		
	16.00	42.8	1110.		
	20.00	109.			
	25.00	393.			
	A:	29.76	1448.		
	B:	16.38	1518.		
	C:				
	D:				
ROOT MEAN SQUARE		34.16	31.55		
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8	2	1		
RATIO	0.8-1.25	3	4		
SUMMARY	1.25-2.0	1	1		
(NP/NA)	>2.0				

CONDITION/HT: T6
 FORM: 0.20" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 1.00- 5.00 HZ
 ENVIRONMENT: R.T., LAB AIR

YIELD STRENGTH: 81.8- 86.0 KSI
 ULT. STRENGTH: 88.2- 90.5 KSI
 SPECIMEN THK: 0.200"
 SPECIMEN WIDTH: 11.500"
 REFERENCES: 86088

ALUM.
 ALLOY

7178

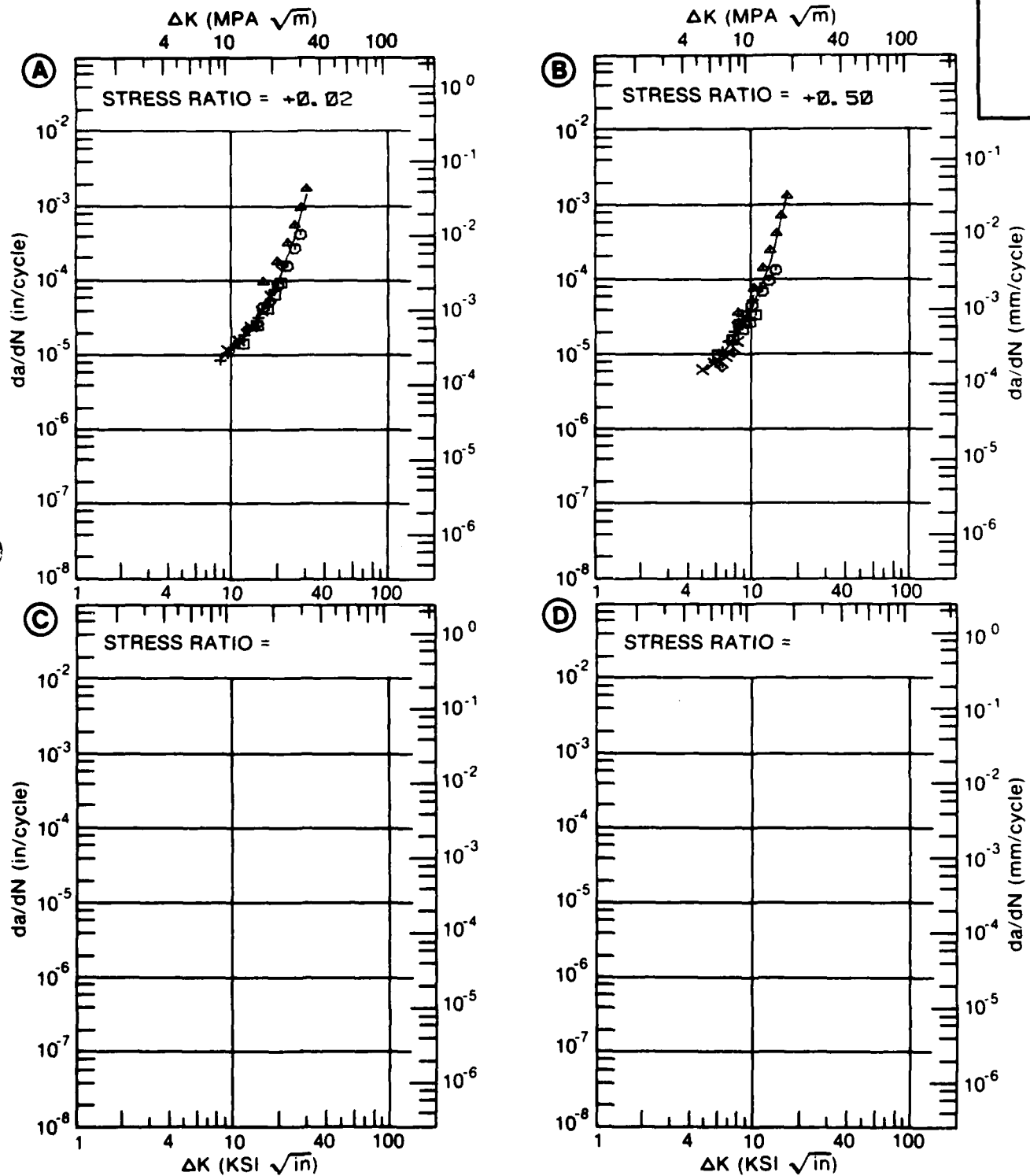


Figure 8.18.3.4

TABLE 8.18.3.5

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.18.3.5 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 717B
 CONDITION: T6
 ENVIRONMENT: R. T. , H. H. A.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		R=+0.00	R=+0.60		
DELTA K MIN	A:	4.76	.520		
	B:	2.81	.230		
	C:				
	D:				
	3.00		.369		
	3.50		1.28		
	4.00		3.28		
	5.00	.715	10.1		
	6.00	3.60	18.8		
	7.00	7.67	28.8		
	8.00	12.4	40.7		
DELTA K MAX	9.00	17.5	56.7		
	10.00	22.8	79.8		
	13.00	41.2	265.		
	16.00	70.7			
	A:	17.25	89.8		
	B:	13.07	273.		
	C:				
	D:				

ROOT MEAN SQUARE 13.50 13.83
 PERCENT ERROR

LIFE 0.0-0.5
 PREDICTION 0.5-0.8
 RATIO 0.8-1.25
 SUMMARY 1.25-2.0
 (NP/NA) >2.0

CONDITION/HT: T6
 FORM: 0.25" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 9.00 HZ
 ENVIRONMENT: R. T., H. H. A.

YIELD STRENGTH:
 ULT. STRENGTH:
 SPECIMEN THK: 0.163"
 SPECIMEN WIDTH: 5.000"
 REFERENCES: BW002

ALUM.
 ALLOY

7178

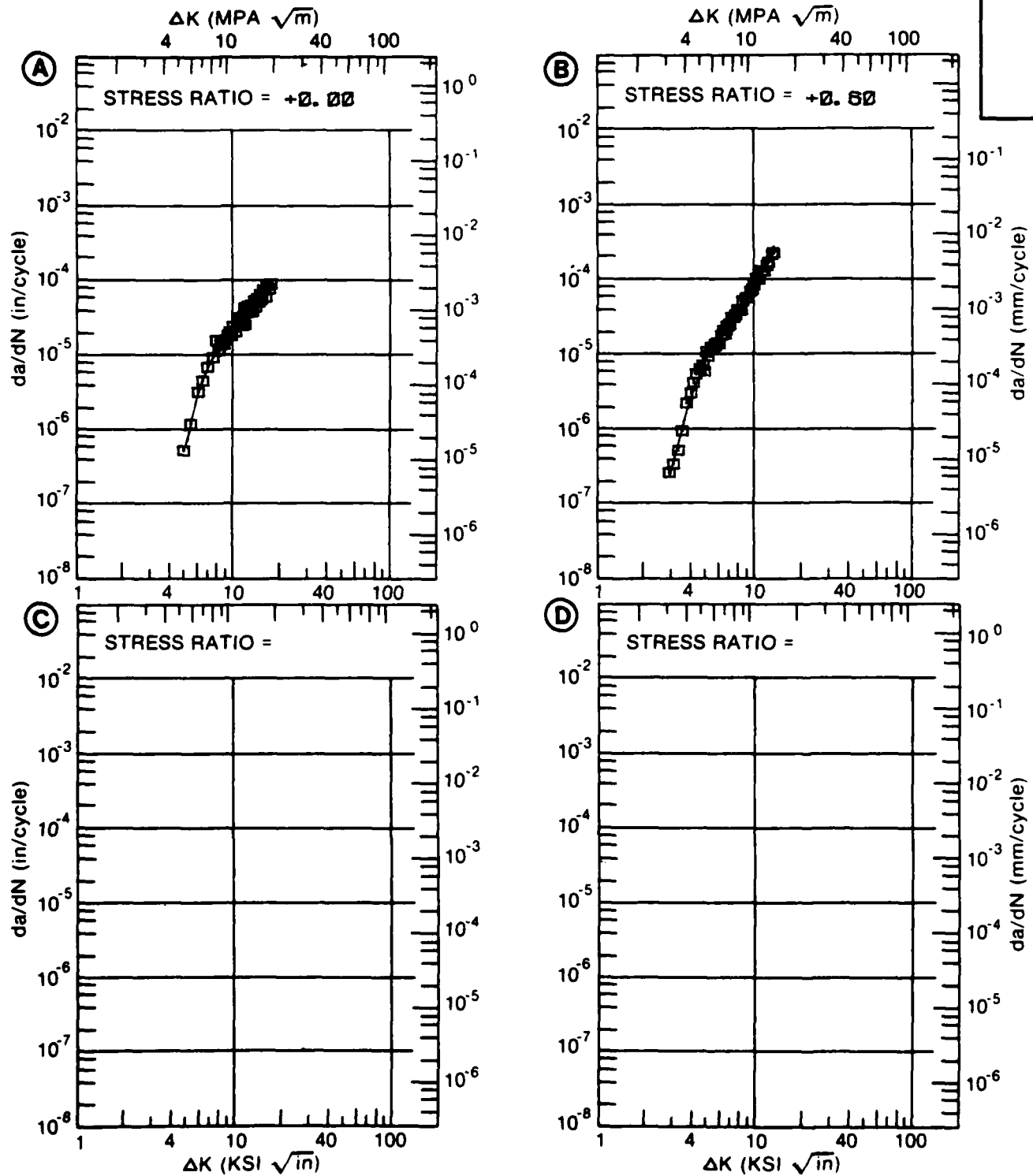


Figure 8.18.3.5

TABLE 8.18.3.6

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.18.3.6 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM 7178
CONDITION: T651
ENVIRONMENT: R.T., LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		R=+0.02			
DELTA K A:	4.20	.240			
DELTA K B:					
MIN C:					
D:					
	5.00	.923			
	6.00	2.66			
	7.00	5.23			
	8.00	8.32			
	9.00	11.7			
	10.00	15.4			
	13.00	29.6			
	16.00	51.4			
	20.00	99.6			
	25.00	214.			
	30.00	454.			
	35.00	1218.			
	40.00	4807.			
DELTA K A:	43.81	5423.			
DELTA K B:					
MAX C:					
D:					
ROOT MEAN SQUARE		22.83			
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25				
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T851
 FORM: 0.13" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 0.10- 12.00 HZ
 ENVIRONMENT: R. T., LAB AIR

YIELD STRENGTH: 82.5 KSI
 ULT. STRENGTH: 98.5 KSI
 SPECIMEN THK: 0.063"
 SPECIMEN WIDTH: 6.000"
 REFERENCES: MA011

ALUM.
 ALLOY

717B

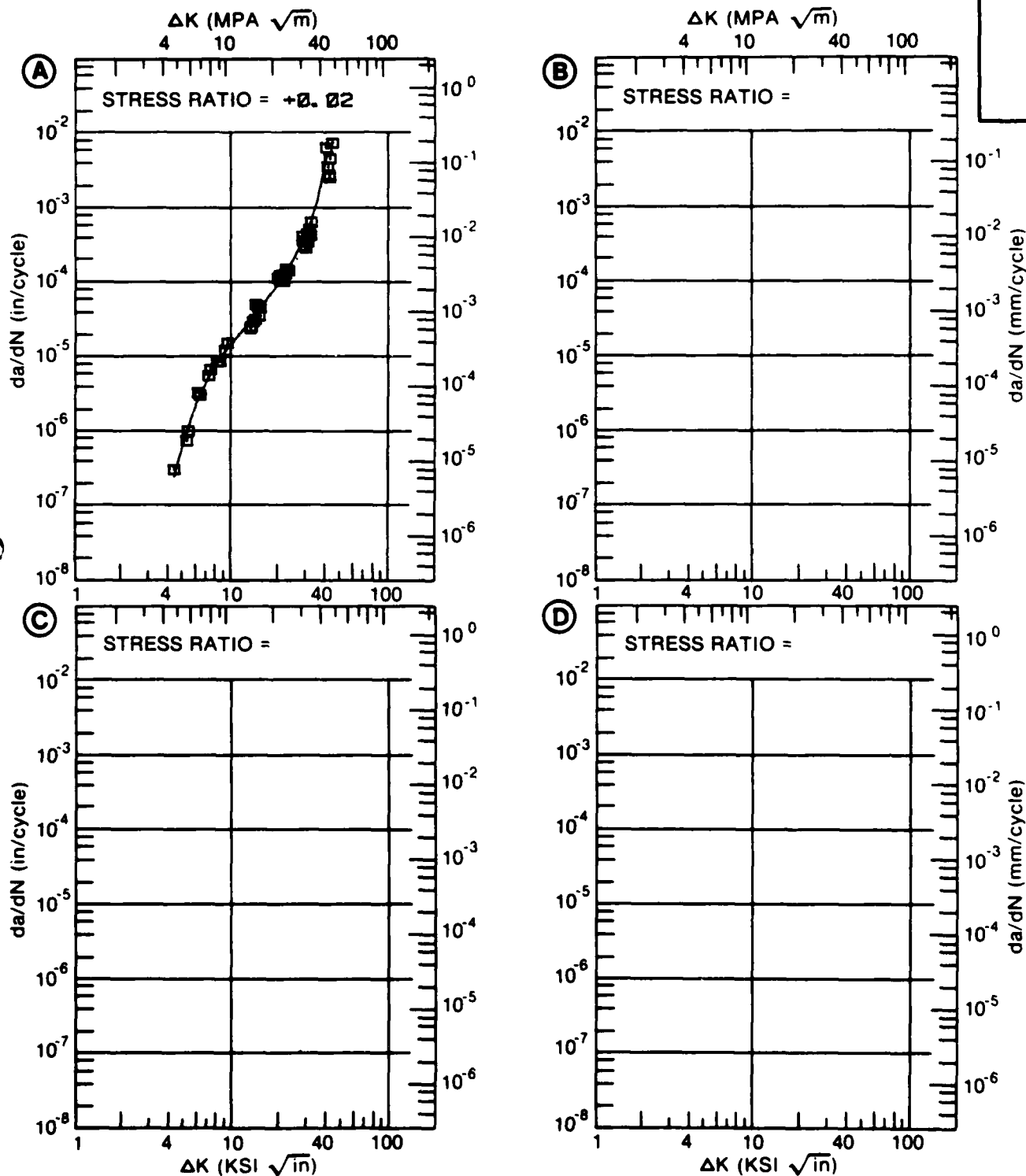


Figure 8.18.3.6

TABLE 8.18.3.7

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.18.3.7 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM 717B
 CONDITION: T651
 ENVIRONMENT: R. T., LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		R=+0.00	R=+0.02		
DELTA K MIN	A:	4.82	.735		
	B:	3.99	.211		
	C:				
	D:				
	4.00		.216		
	5.00	.799	.980		
	6.00	2.19	2.55		
	7.00	4.60	4.90		
	8.00	7.44	7.89		
	9.00	10.3	11.4		
	10.00	13.1	15.4		
	13.00	21.1	30.6		
	16.00	31.3	53.6		
	20.00	56.8	107.		
	25.00	144.	253.		
	30.00	444.	603.		
	35.00		1443.		
	40.00		3382.		
DELTA K MAX	A:	30.28	475.		
	B:	44.41	6207.		
	C:				
	D:				
ROOT MEAN SQUARE		12.99	50.13		
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	2			
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T851
 FORM: 0.25- 0.50" TH PLATE
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 0.10- 20.00 HZ
 ENVIRONMENT: R. T., LAB AIR

YIELD STRENGTH: 72.0- 83.5 KSI
 ULT. STRENGTH: 80.5- 89.7 KSI
 SPECIMEN THK: 0.100- 0.185"
 SPECIMEN WIDTH: 6.000- 8.000"
 REFERENCES: R1002, MA011

ALUM.
 ALLOY

7178

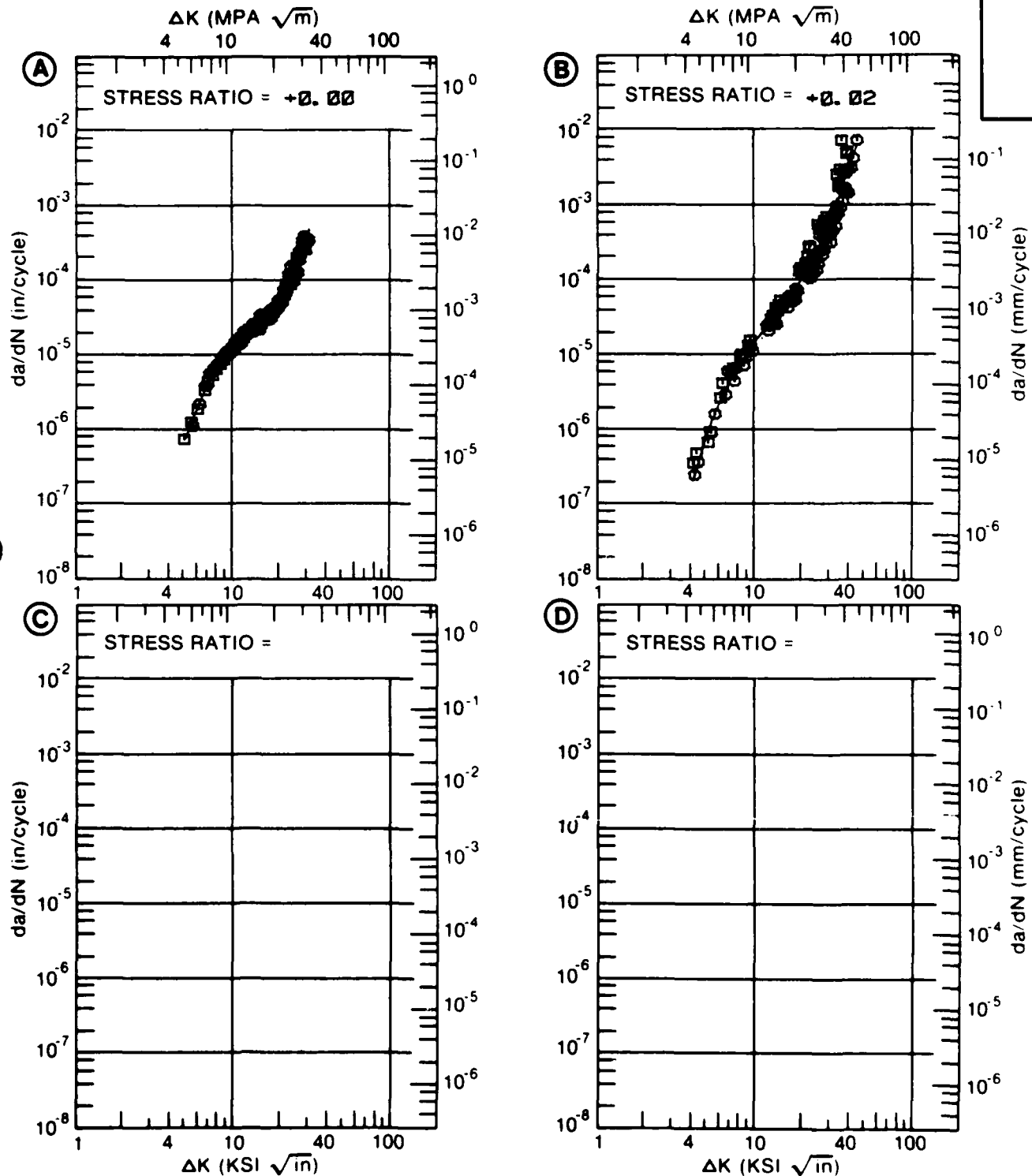


Figure 8.18.3.7

TABLE 8.18.3.8

**FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR**

DATA ASSOCIATED WITH FIGURE 8.18.3.8 INDICATING EFFECT

OF FREQUENCY

MATERIAL: ALUMINUM 717B
CONDITION: T651
ENVIRONMENT: R. T., S. T. W.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		F(HZ)= 6.00 F(HZ)= 20.00			
DELTA K MIN	A:	5.01	2.50		
	B:	4.58	.685		
	C:				
	D:				
	5.00		.829		
	6.00	7.05	2.90		
	7.00	12.1	6.61		
	8.00	17.1	11.2		
	9.00	22.8	16.4		
	10.00	29.2	22.3		
DELTA K MAX	13.00	53.7	43.5		
	16.00	88.0	72.3		
	20.00	157.	134.		
	25.00	341.	281.		
	A:	29.40	778.		
	B:	29.56	345.		
	C:				
	D:				
ROOT MEAN SQUARE		5.55	10.80		
PERCENT ERROR					
LIFE	0.0-0.9				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1	1		
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T651
 FORM: 0.25" TH PLATE
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 STRESS RATIO: +0.01
 ENVIRONMENT: R. T., S. T. W.

YIELD STRENGTH: 81.5 KSI
 ULT. STRENGTH: 89.7 KSI
 SPECIMEN THK: 0.125"
 SPECIMEN WIDTH: 8.000"
 REFERENCES: RI002

ALUM.
 ALLOY

7178

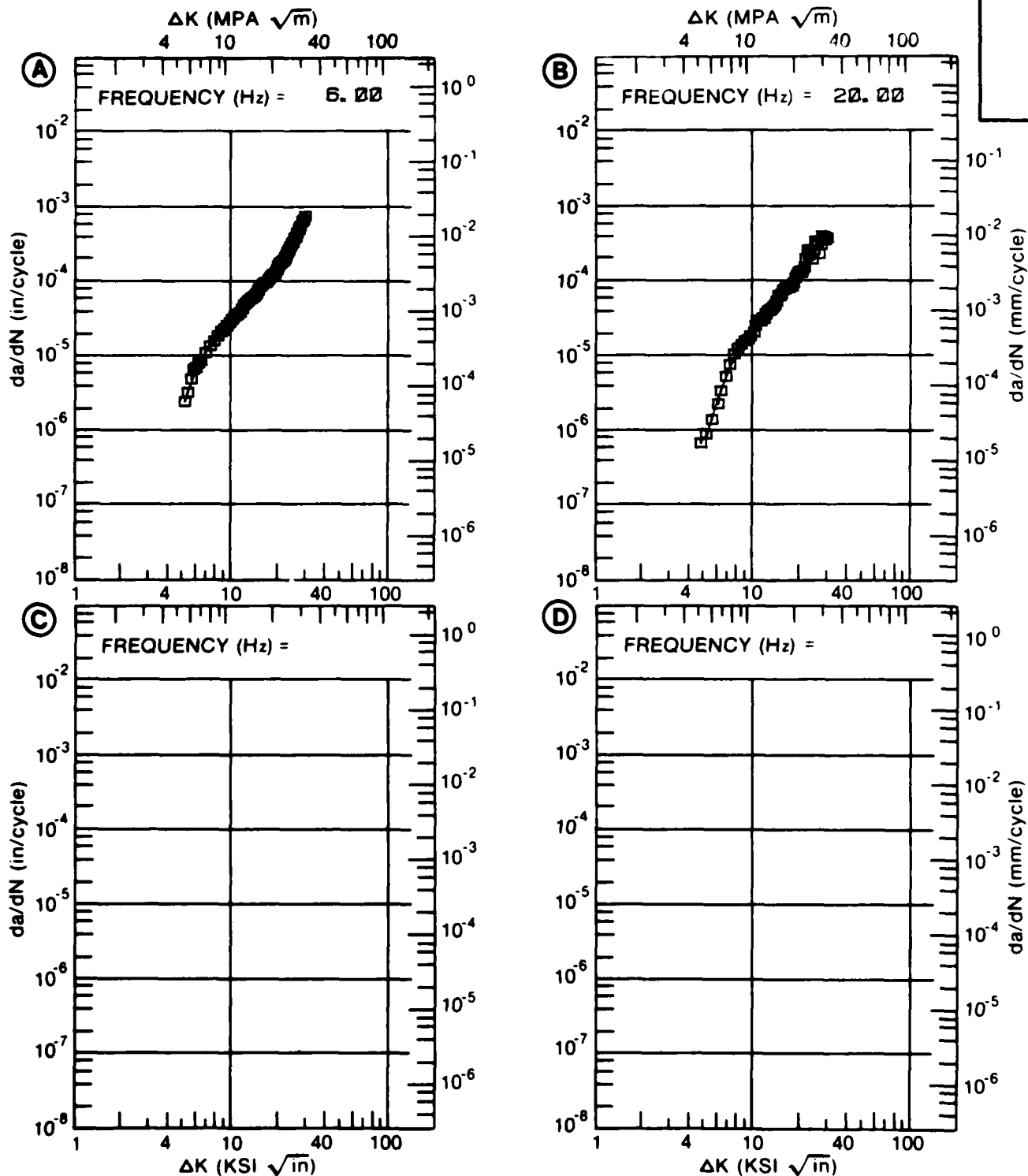


Figure 8.18.3.8

TABLE 8.18.3.9

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.18.3.9 INDICATING EFFECT
OF ENVIRONMENT

MATERIAL: ALUMINUM		717B			
CONDITION: T651					
DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T.		E= R. T.	
		LAB AIR - 20H7		S. T. W. - 6HZ	
DELTA K MIN	A:	4.35	.364		
	B:	5.16		3.42	
	C:				
	D:				
	5.00	.478			
	6.00	1.43	6.32		
	7.00	3.46	10.3		
	8.00	6.06	14.7		
	9.00	8.81	19.3		
	10.00	11.5	24.3		
DELTA K MAX	13.00	20.1	44.5		
	16.00	34.4	82.5		
	20.00	85.2	208.		
	25.00	378.	781.		
	A:	27.90	382.		
	B:	25.29	847.		
	C:				
	D:				
ROOT MEAN SQUARE		20.21	12.78		
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1	1		
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T651
 FORM: 0.25" TH PLATE
 SPECIMEN TYPE: CCP
 ORIENTATION: T-L
 STRESS RATIO: +0.00
 FREQUENCY:

YIELD STRENGTH: 81.5 KSI
 ULT. STRENGTH: 89.7 KSI
 SPECIMEN THK: 0.125"
 SPECIMEN WIDTH: 8.000"
 REFERENCES: RI002

ALUM.
 ALLOY

7178

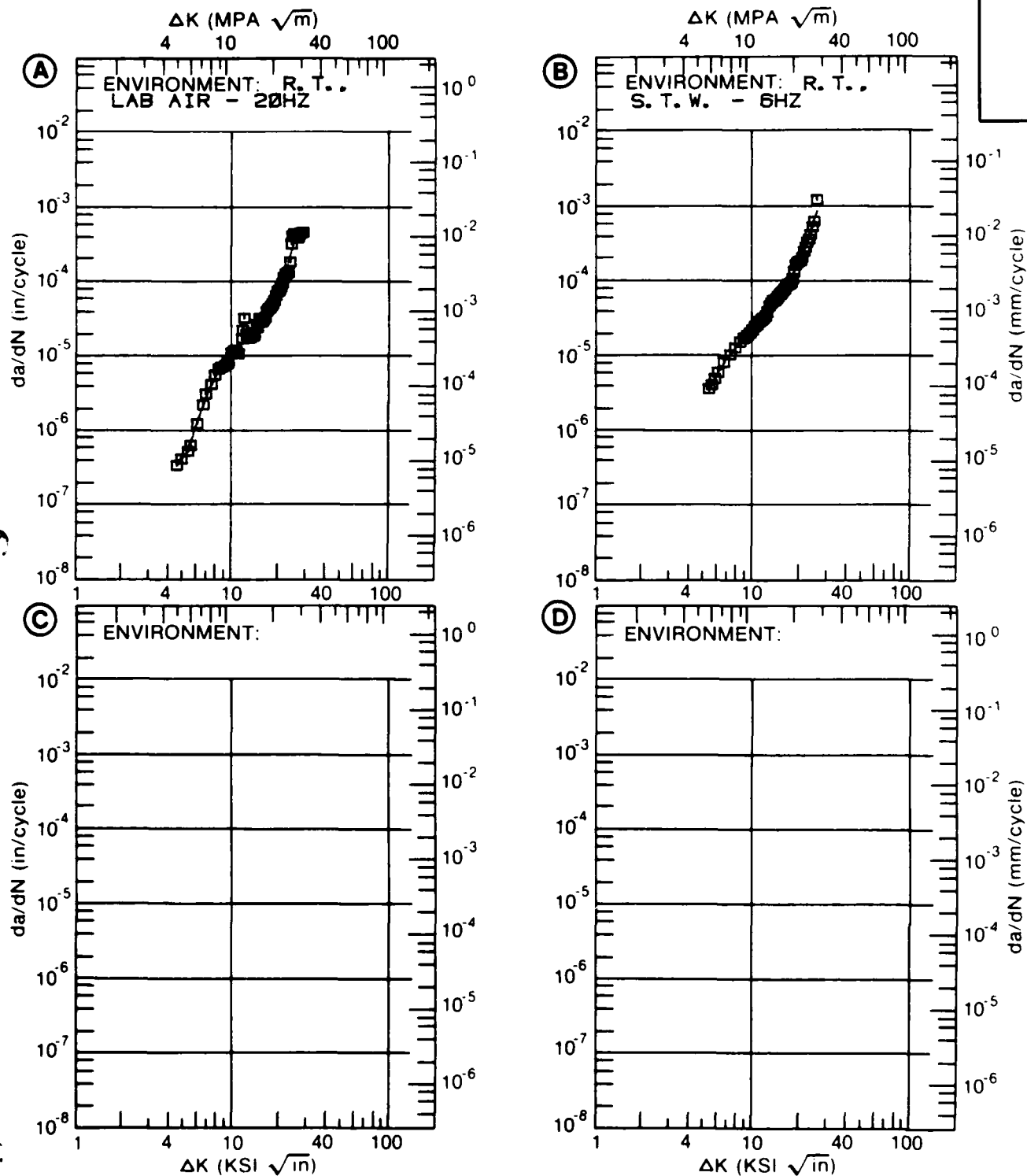


Figure 8.18.3.9

TABLE 8.18.3.10

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.18.3.10 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM
CONDITION: T76

717B

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. LAB AIR		E= R. T. DISTILLED WATER	
DELTA K MIN	A:	4.01	.260		
	B:	4.00		.434	
	C:				
	D:				
	5.00	.605	.752		
	6.00	1.27	1.70		
	7.00	2.35	3.30		
	8.00	3.86	5.51		
	9.00	5.72	8.34		
	10.00	7.76	11.8		
	13.00	15.0	25.7		
	16.00	26.2	45.8		
	20.00	58.1	87.2		
	25.00	153.	180.		
	30.00	330.	362.		
	35.00	613.	706.		
	40.00	1044.	1335.		
	50.00	2653.	4323.		
DELTA K MAX	A:	56.27	4541.		
	B:	50.42	4529.		
	C:				
	D:				

ROOT MEAN SQUARE	34.73	27.87
PERCENT ERROR		

LIFE	0.0-0.5
PREDICTION	0.5-0.8
RATIO	0.8-1.25
SUMMARY	1.25-2.0
(NP/NA)	>2.0

CONDITION/HT: T76
 FORM: 0.10- 0.19" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 STRESS RATIO: +0.02
 FREQUENCY:

YIELD STRENGTH: 70.5- 75.0 KSI
 ULT. STRENGTH: 79.0- 81.5 KSI
 SPECIMEN THK: 0.100- 0.194"
 SPECIMEN WIDTH:
 REFERENCES: MA012

ALUM.
 ALLOY

7178

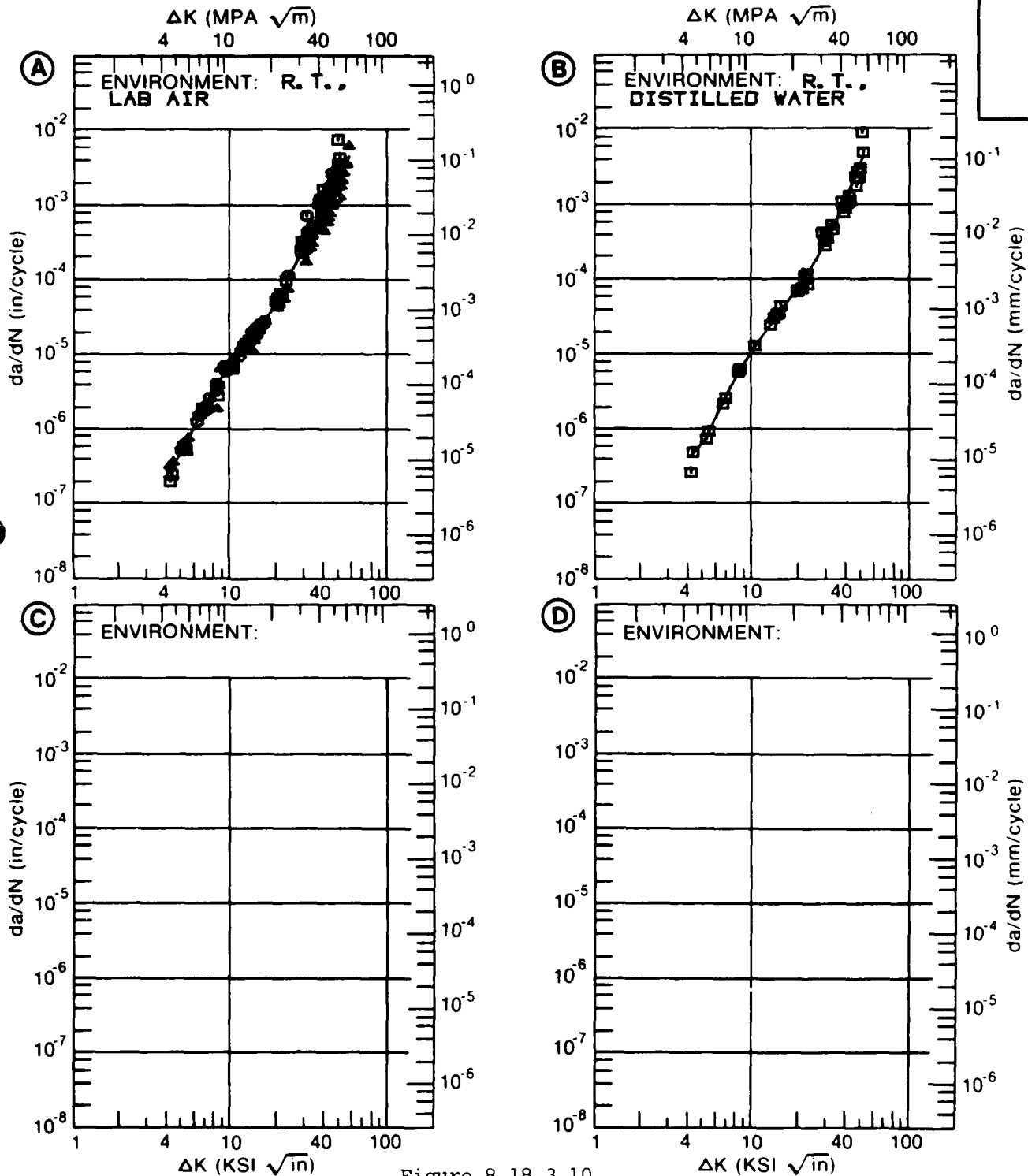


Figure 8.18.3.10

TABLE 8.18.3.11

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.18.3.11 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 717B
 CONDITION: T7651
 ENVIRONMENT: R.T., LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.33			
DELTA K MIN	A:	5.37	1.57		
	B:				
	C:				
	D:				
		6.00	2.60		
		7.00	4.59		
		8.00	6.90		
		9.00	9.57		
		10.00	12.8		
		13.00	29.1		
DELTA K MAX	A:	15.78	67.2		
	B:				
	C:				
	D:				

ROOT MEAN SQUARE 12.31
 PERCENT ERROR

LIFE 0.0-0.5
 PREDICTION 0.5-0.8
 RATIO 0.8-1.25 4
 SUMMARY 1.25-2.0
 (NP/NA) >2.0

CONDITION/HT: T7651
 FORM: 0.44- 0.49" TH PLATE
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 5.20
 ENVIRONMENT: R. T., LAB AIR

YIELD STRENGTH: 69.2- 70.9 KSI
 ULT. STRENGTH: 80.0 KSI
 SPECIMEN THK: 0.444- 0.486"
 SPECIMEN WIDTH: 2.999- 3.000"
 REFERENCES: 86213

ALUM.
 ALLOY

7178

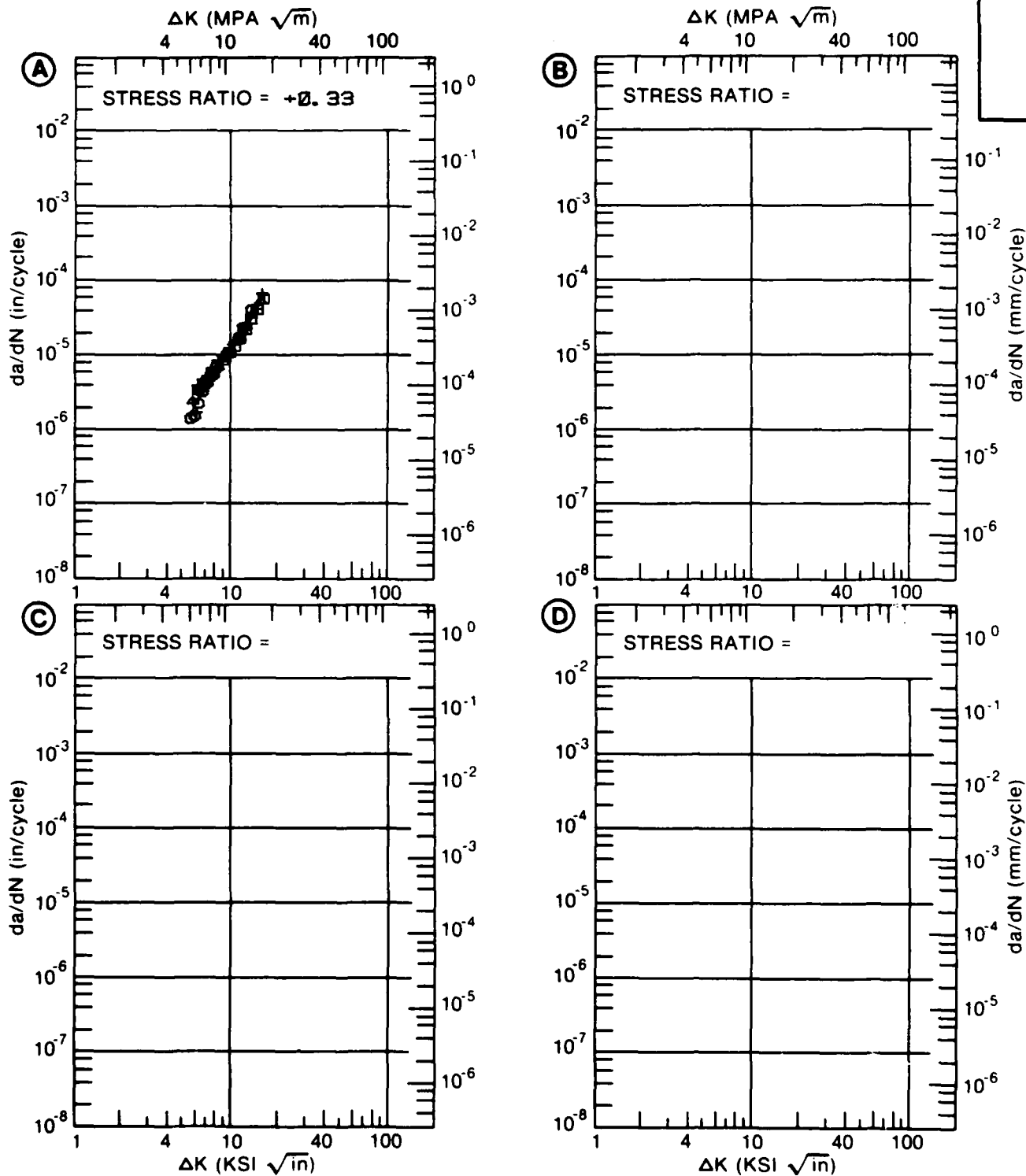


Figure 8.18.3.11

TABLE 8.18.3.12

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.18.3.12 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7178
CONDITION: T7651
ENVIRONMENT: R. T., LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.33			
DELTA K MIN	A: 5.59	1.50			
	B:				
	C:				
	D:				
	6.00	1.94			
	7.00	3.76			
	8.00	6.23			
DELTA K MAX	9.00	9.32			
	10.00	13.2			
	13.00	33.9			
	16.00	83.2			
	A: 16.70	94.3			
	B:				
	C:				
	D:				
ROOT MEAN SQUARE		13.84			
PERCENT ERROR					

LIFE	0.0-0.5	
PREDICTION	0.5-0.8	1
RATIO	0.8-1.25	2
SUMMARY	1.25-2.0	
(NP/NA)	>2.0	

CONDITION/HT: T7851
 FORM: 0.49" TH PLATE
 SPECIMEN TYPE: CCP
 ORIENTATION: T-L
 FREQUENCY: 5.20
 ENVIRONMENT: R. T., LAB AIR

YIELD STRENGTH: 89.2 KSI
 ULT. STRENGTH: 79.1 KSI
 SPECIMEN THK: 0.485"
 SPECIMEN WIDTH: 3.000"
 REFERENCES: 86213

ALUM.
 ALLOY

7178

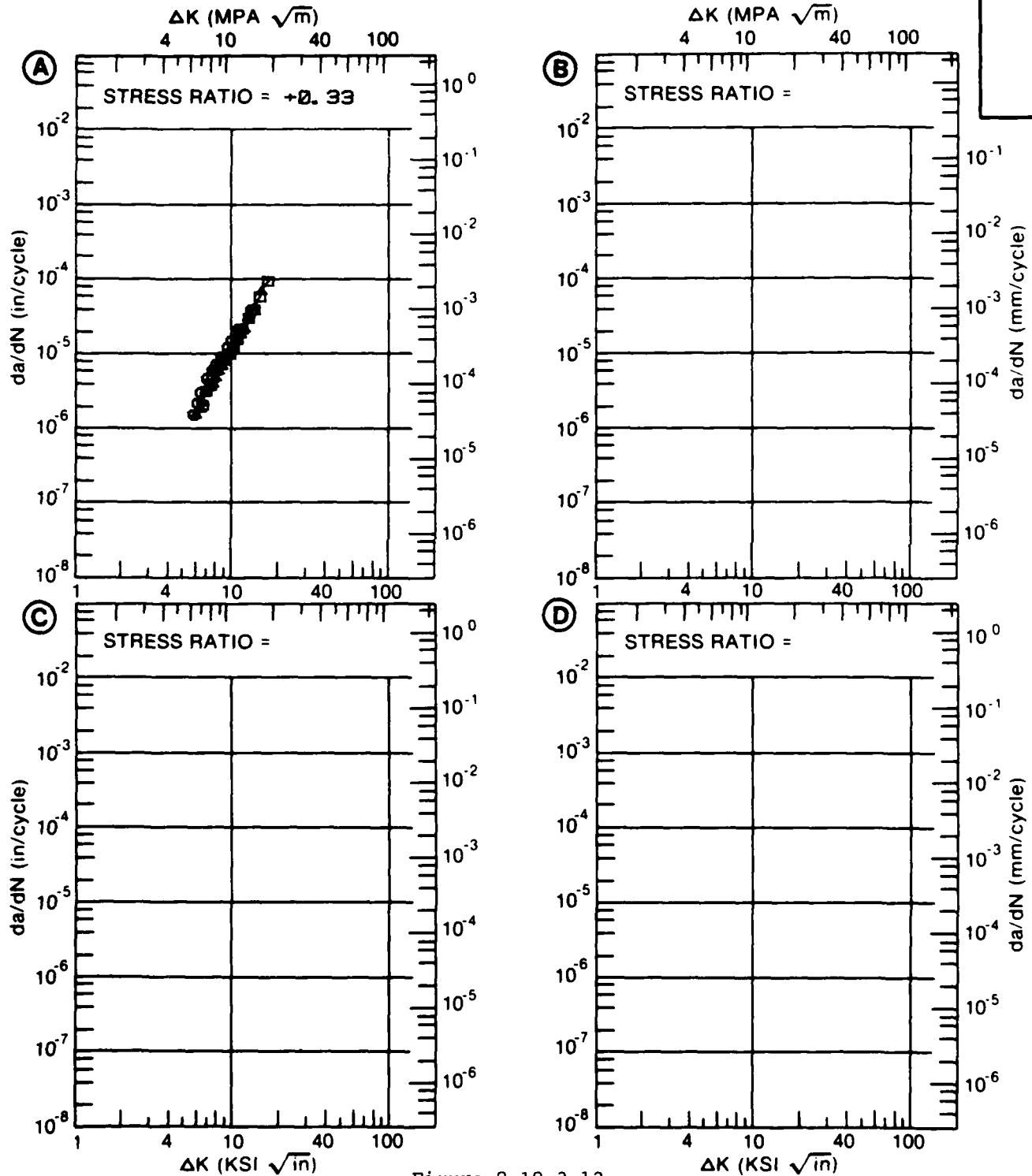


Figure 8.18.3.12

TABLE 8.18.3.13

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.18.3.13 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM 717B
CONDITION: T7651
ENVIRONMENT: R.T., LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.33			
DELTA K MIN	A:	5.52	2.74		
	B:				
	C:				
	D:				
	6.00	3.33			
	7.00	4.86			
	8.00	6.90			
	9.00	9.63			
	10.00	13.2			
	13.00	32.5			
	16.00	75.1			
DELTA K MAX	A:	16.23	79.9		
	B:				
	C:				
	D:				

ROOT MEAN SQUARE 12.03
PERCENT ERROR

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25 3
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T7651
 FORM: 1.38" TH PLATE
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 5.20
 ENVIRONMENT: R.T., LAB AIR

YIELD STRENGTH: 72.6 KSI
 ULT. STRENGTH: 81.3 KSI
 SPECIMEN THK: 0.748"
 SPECIMEN WIDTH: 3.000"
 REFERENCES: 86213

ALUM.
 ALLOY

7178

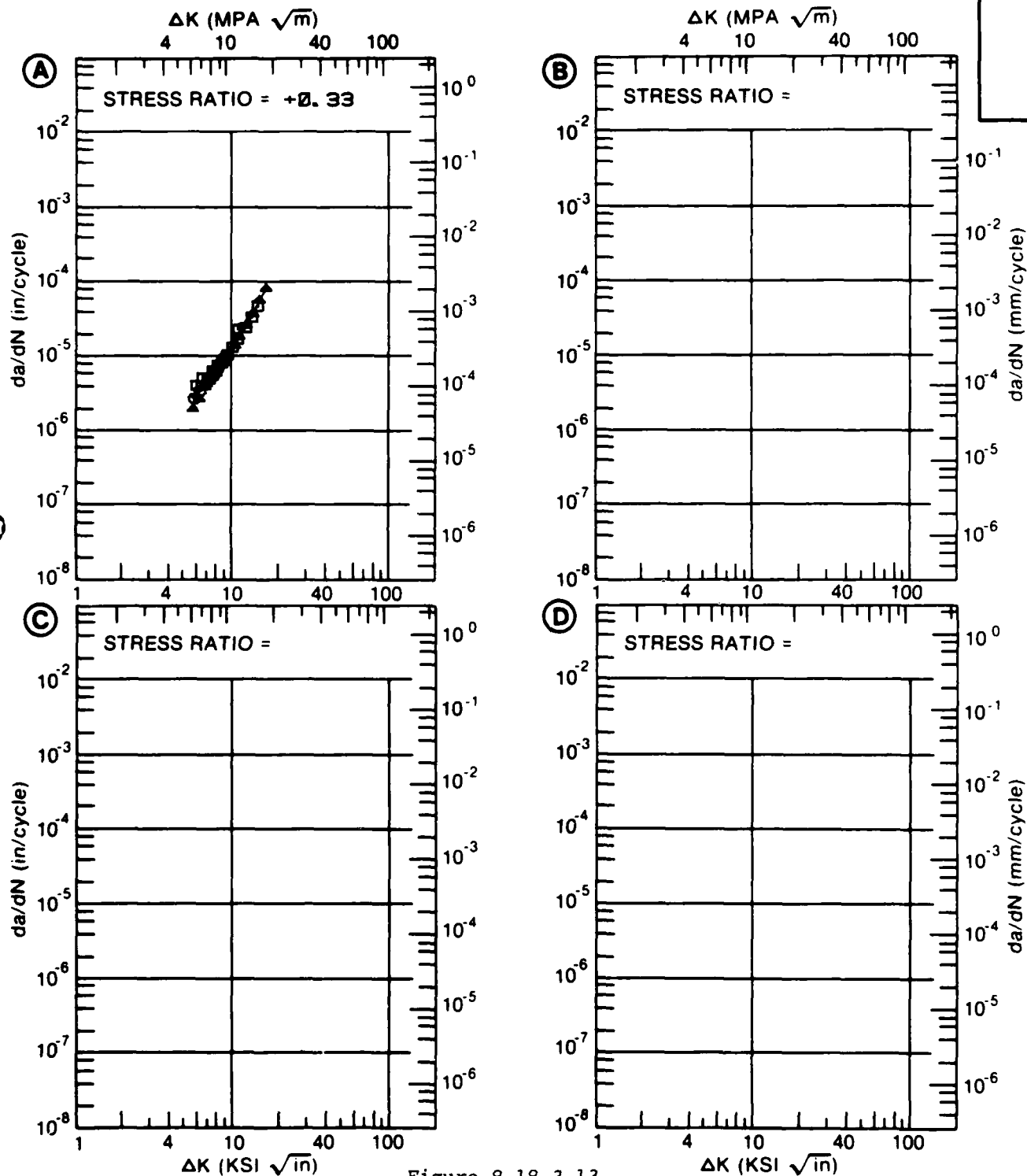


Figure 8.18.3.13

TABLE 8.18.3.14

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.18.3.14 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 717B
 CONDITION: T7651
 ENVIRONMENT: R.T., LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.33			
DELTA K MIN	A:	5.54	2.10		
	B:				
	C:				
	D:				
		6.00	2.95		
		7.00	4.80		
		8.00	7.29		
		9.00	11.0		
		10.00	16.2		
		13.00	43.6		
DELTA K MAX	A:	13.28	47.2		
	B:				
	C:				
	D:				

ROOT MEAN SQUARE 4.49
 PERCENT ERROR

LIFE 0.0-0.5
 PREDICTION 0.5-0.8
 RATIO 0.8-1.25 1
 SUMMARY 1.25-2.0
 (NP/NA) >2.0

CONDITION/HT: T7651
 FORM: 1.38" TH PLATE
 SPECIMEN TYPE: CCP
 ORIENTATION: T-L
 FREQUENCY: 5.20
 ENVIRONMENT: R. T., LAB AIR

YIELD STRENGTH: 71.1 KSI
 ULT. STRENGTH: 80.5 KSI
 SPECIMEN THK: 0.751"
 SPECIMEN WIDTH: 3.000"
 REFERENCES: 86213

ALUM.
 ALLOY

7178

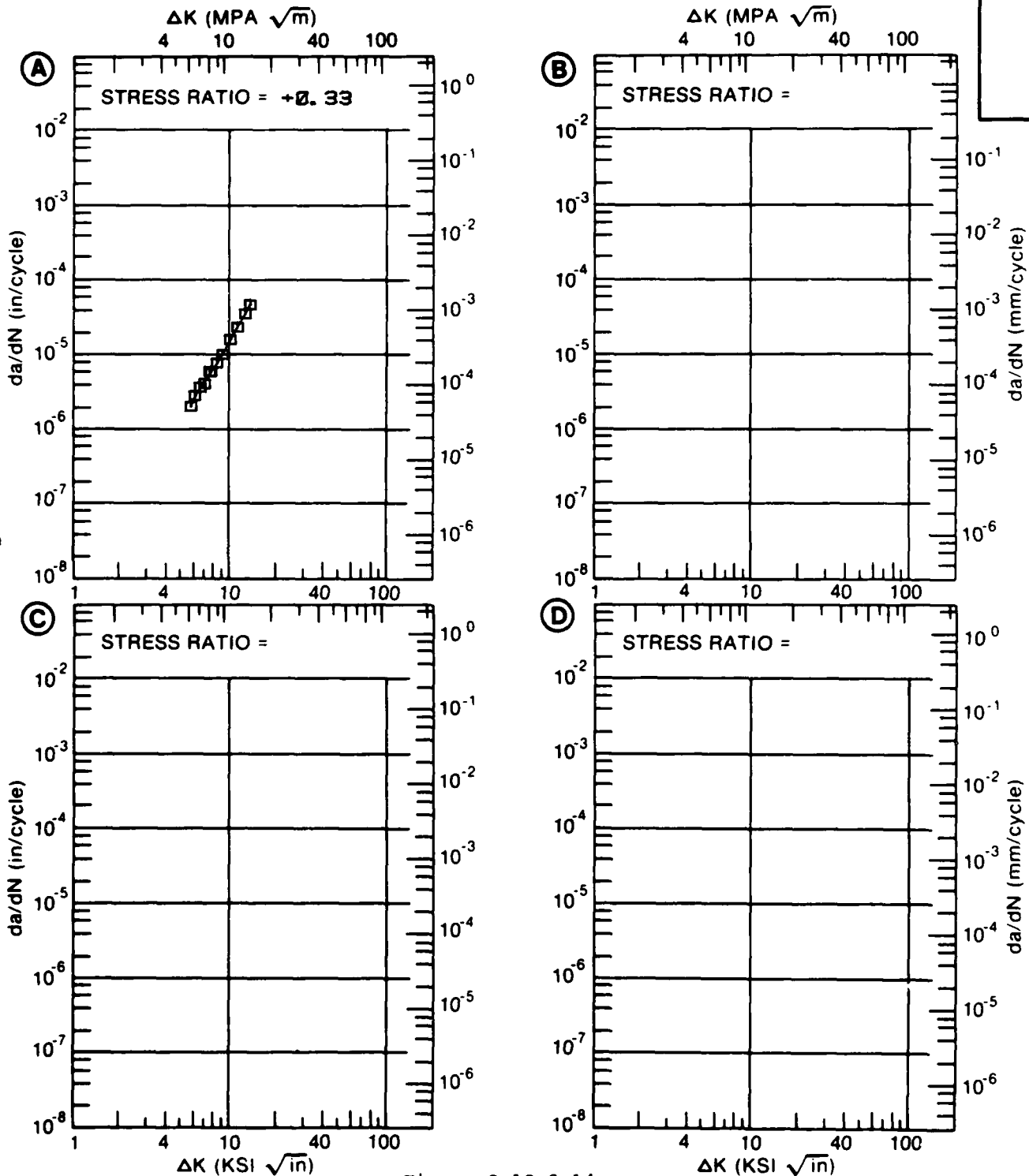


Figure 8.18.3.14

TABLE 8.18.3.15

**FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR**

DATA ASSOCIATED WITH FIGURE 8.18.3.15 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7178
CONDITION: T76510
ENVIRONMENT: R. T., LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.33			
DELTA K MIN	A:	6.03	2.82		
	B:				
	C:				
	D:				
	7.00	4.64			
	8.00	6.85			
DELTA K MAX	9.00	9.44			
	10.00	12.6			
	13.00	27.9			
	16.00	63.8			
	A:	16.32	70.0		
	B:				
	C:				
	D:				

ROOT MEAN SQUARE 6.86
PERCENT ERROR

LIFE	0.0-0.5	
PREDICTION	0.5-0.8	
RATIO	0.8-1.25	5
SUMMARY	1.25-2.0	
(NP/NA)	>2.0	

CONDITION/HT: T7510
 FORM: 0.89" TH EXTRUSION
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 5.20 HZ
 ENVIRONMENT: R. T., LAB AIR

YIELD STRENGTH: 85.3 KSI
 ULT. STRENGTH: 76.0 KSI
 SPECIMEN THK: 0.628- 0.659"
 SPECIMEN WIDTH: 3.000- 3.006"
 REFERENCES: 86213

ALUM.
 ALLOY

7178

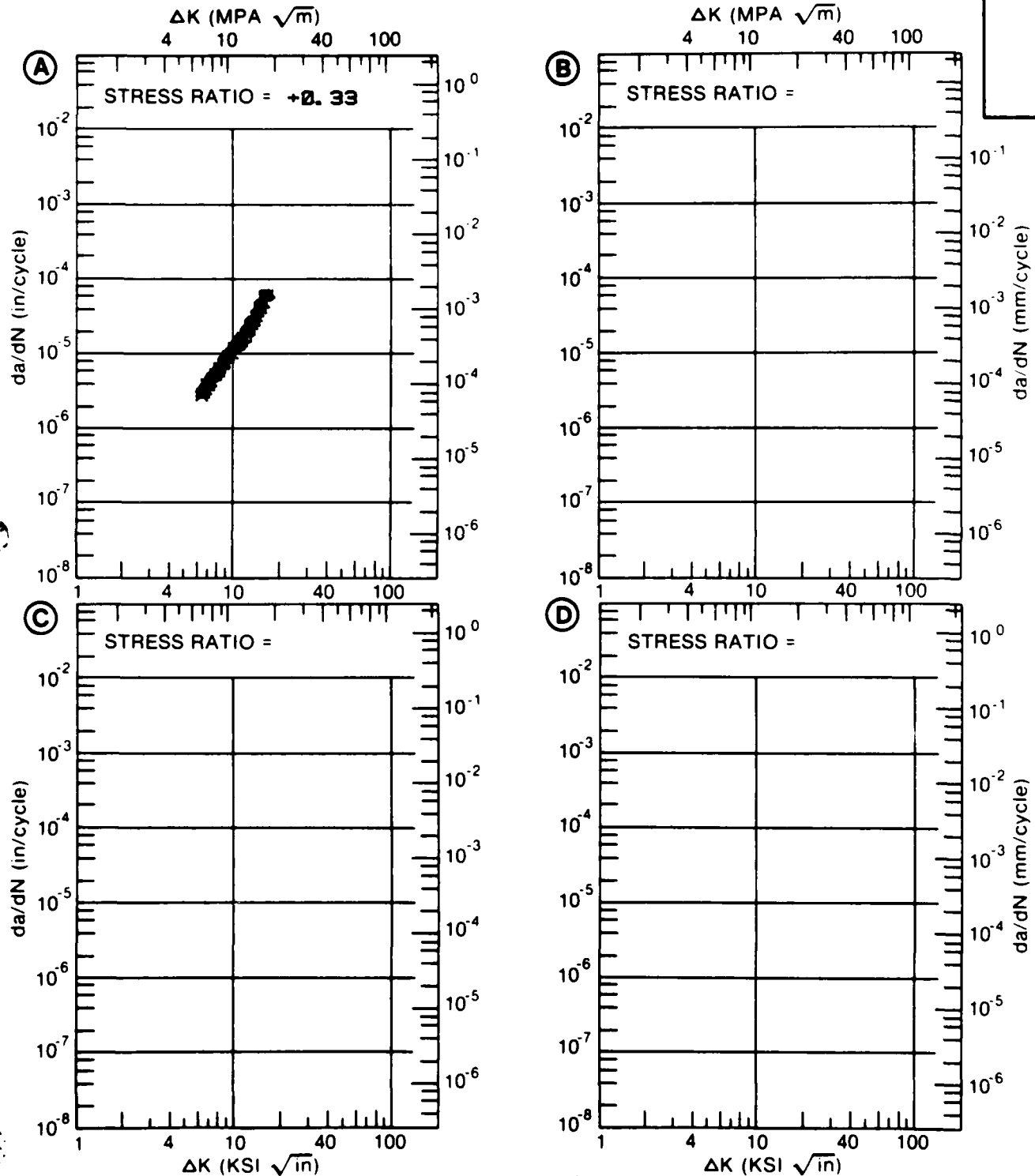


Figure 8.18.3.15

TABLE 8.18.3.16

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.18.3.16 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 717B
CONDITION: T76510
ENVIRONMENT: R T , LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		R=+0.33			
DELTA K MIN	A: 5.65	2.40			
	B:				
	C:				
	D:				
	6.00	2.79			
	7.00	4.29			
	8.00	6.48			
	9.00	9.53			
	10.00	13.6			
	13.00	32.3			
	16.00	60.3			
	A: 18.20	84.3			
	B:				
DELTA K MAX	C:				
	D:				
ROOT MEAN SQUARE		9.55			
PERCENT ERROR					

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25 3
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T76510
 FORM: 3.50" TH EXTRUDED BAR
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 5.20 HZ
 ENVIRONMENT: R.T., LAB AIR

YIELD STRENGTH: 63.4 KSI
 ULT. STRENGTH: 73.6 KSI
 SPECIMEN THK: 0.750- 0.752"
 SPECIMEN WIDTH: 2.998- 3.004"
 REFERENCES: 86213

ALUM.
 ALLOY

7179

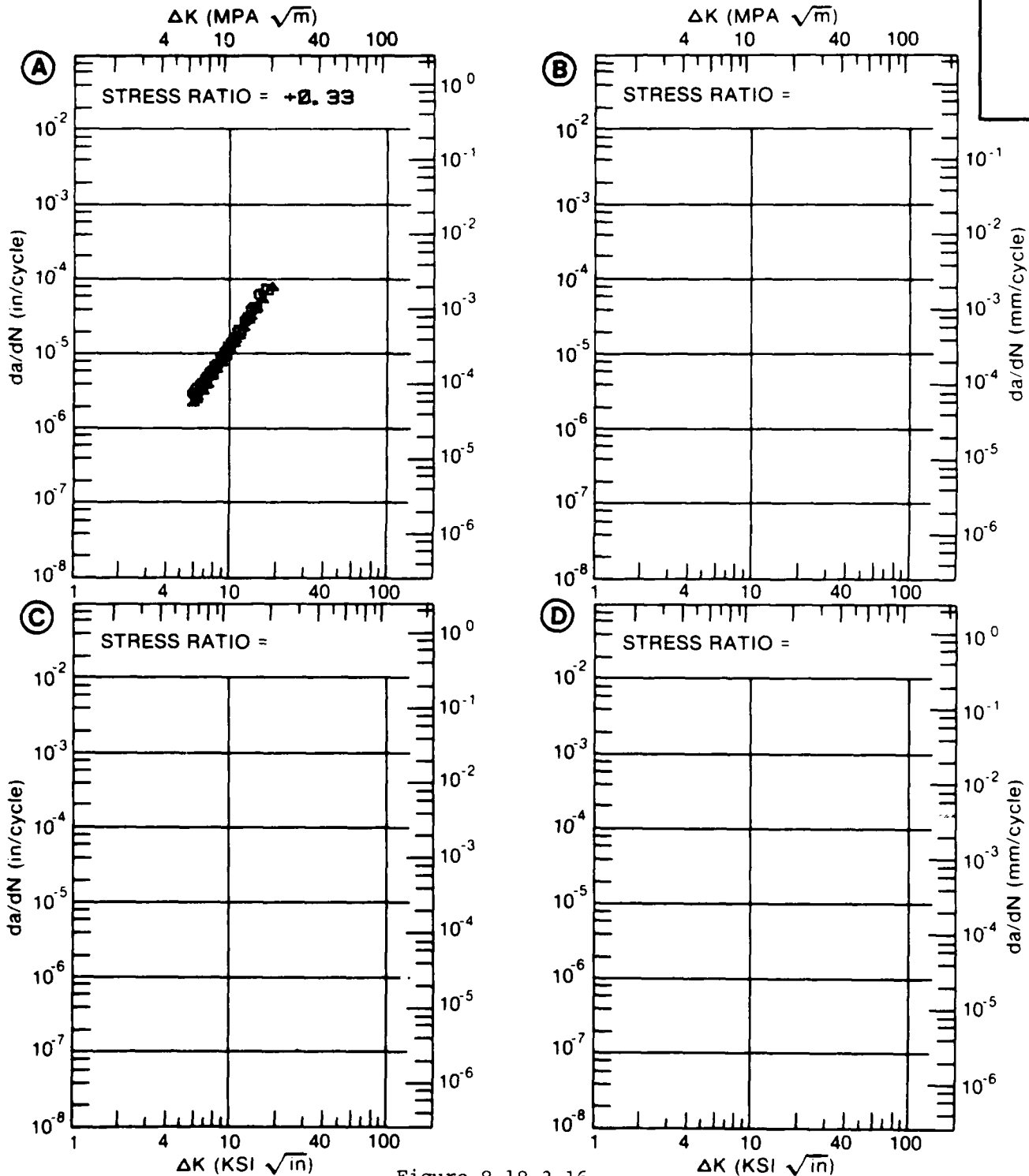


Figure 8.18.3.16

TABLE 8.18.3.17

SUSTAINED CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.18.3.17 INDICATING EFFECT
OF YIELD STRENGTH

MATERIAL: ALUMINUM 7178
CONDITION:
ENVIRONMENT: R T

K MAX
(KSI*IN**1/2)

DA/DT (10**-6 IN/HOUR)

A

B

C

D

CONDITION: T651 CONDITION: T651 CONDITION: T651
& 1HR AT 320F & 8HRS AT 320F & 12HRS AT 320F

A:
K MAX B:
MIN C:
D:

200.00

A:
K MAX B:
MAX C:
D:

ROOT MEAN SQUARE
PERCENT ERROR

0.00

0.00

0.00

CONDITION/HT:
 FORM: 1.0" TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION: T-L
 ENVIRONMENT: R. T.,
 ULT. STRENGTH:

SPECIMEN THK:
 SPECIMEN WIDTH:
 CRACK LENGTH (A_0):
 K_{ISCC} :
 REFERENCES: 85543

ALUM.
 ALLOY

7178

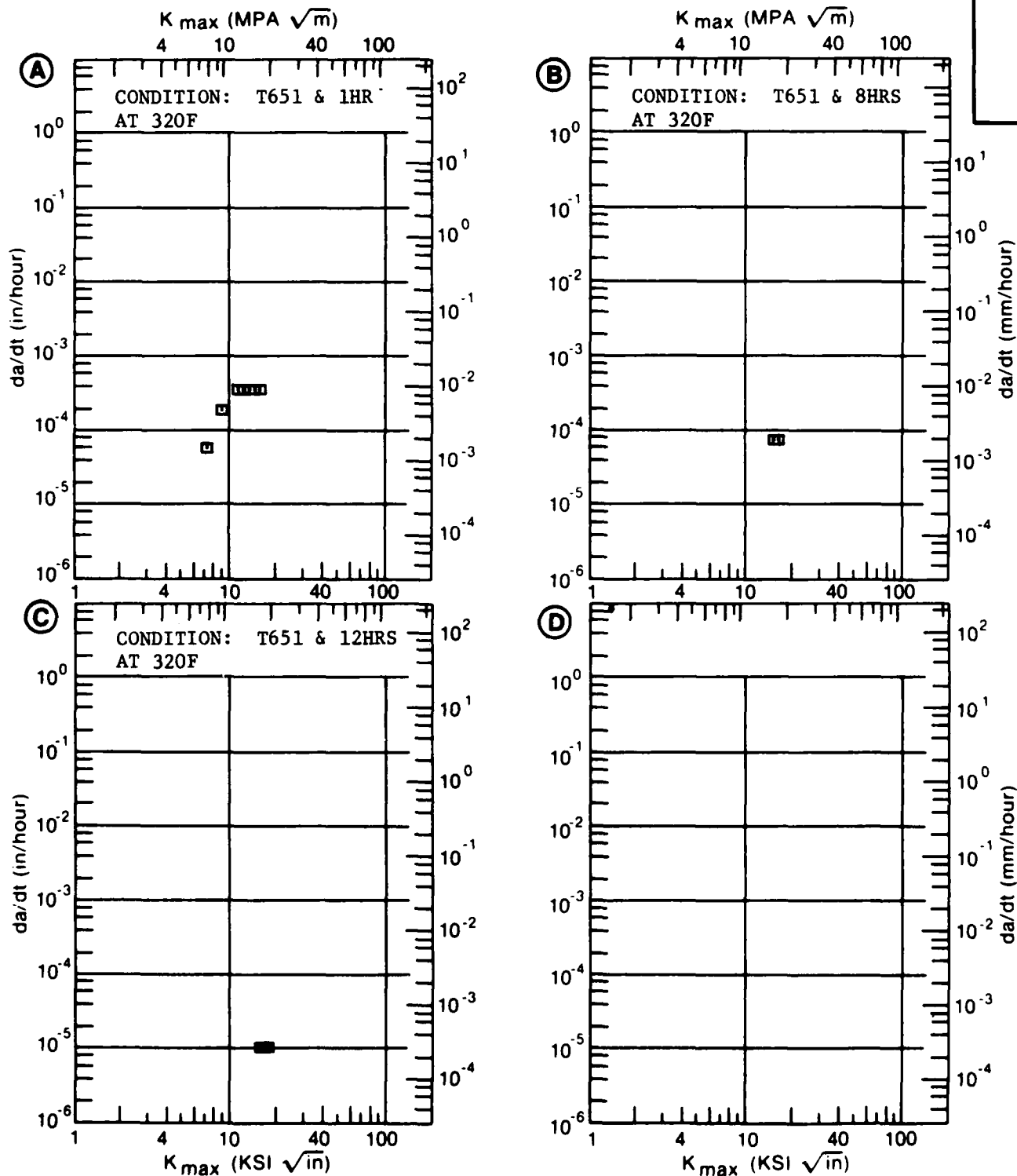


Figure 8.18.3.17

TABLE 8.18.3.18

SUSTAINED CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.18.3.18 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM 7178
CONDITION: T651K MAX
(KSI*IN**1/2)

DA/DT (10**-6 IN/HOUR)

A

B

C

D

E= R. T.
3.5% NaCl

K MAX MIN	A:	5.60	10.3
	B:		
	C:		
	D:		
		6.00	36.7
		7.00	294.
		8.00	883.
		9.00	1523.
		10.00	1925.
		13.00	1927.
K MAX MAX	A:	14.70	1823.
	B:		
	C:		
	D:		

ROOT MEAN SQUARE 30.27
PERCENT ERROR

CONDITION/HT: T851
 FORM: 1.0" TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION: T-L
 YIELD STRENGTH:
 ULT. STRENGTH:

SPECIMEN THK:
 SPECIMEN WIDTH:
 CRACK LENGTH (A_0):
 K_{ISCC} :
 REFERENCES: 85543

ALUM.
 ALLOY

7178

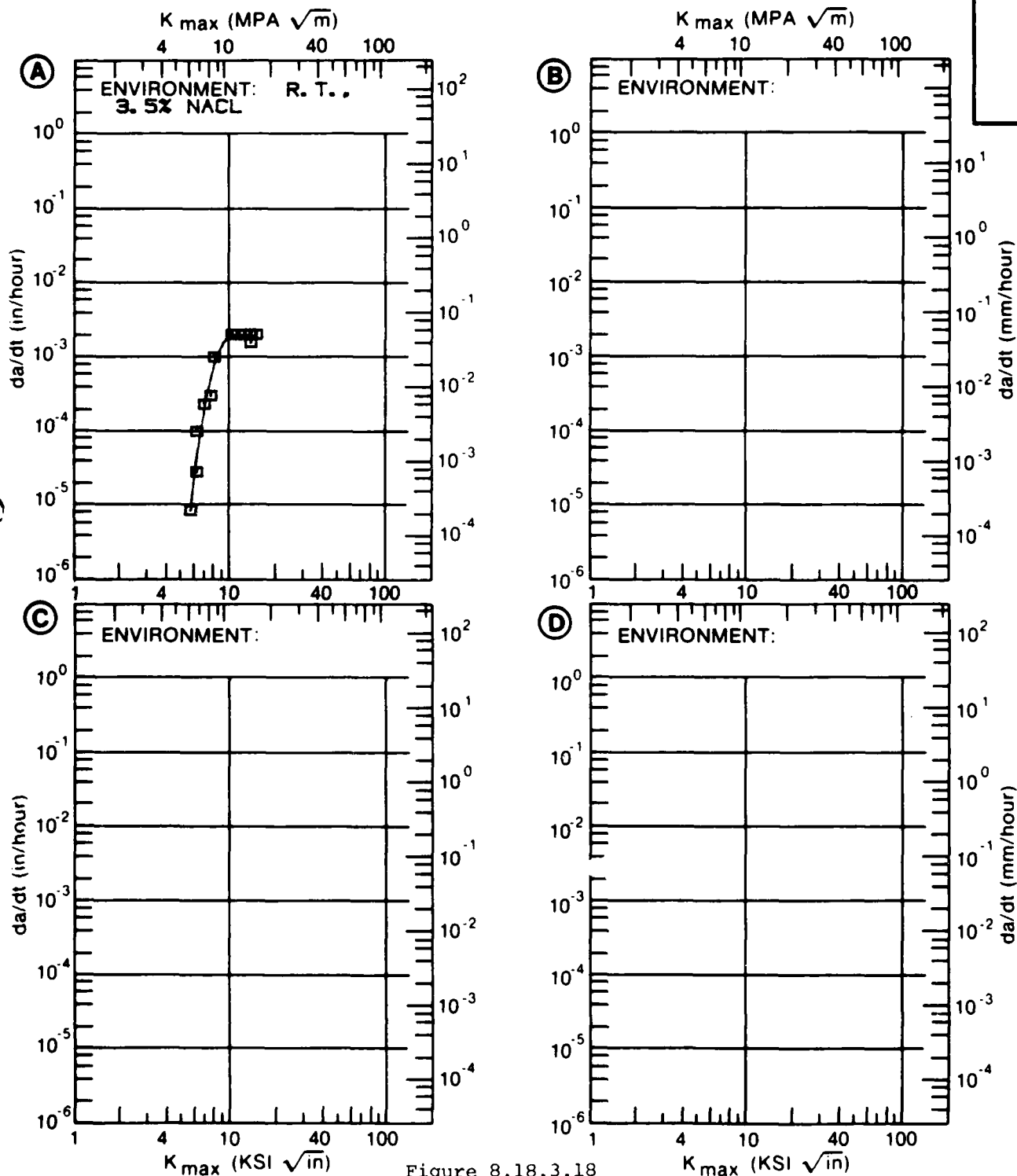


Figure 8.18.3.18

TABLE 8.18.3.19

SUSTAINED CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.18.3.19 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM
CONDITION: T7651

7178

K MAX
(KSI*IN**1/2)

DA/DT (10**~6 IN/HOUR)

A

B

C

D

E= R. T.
3.5% NaClK MAX A:
MIN B:
C:
D:

200.00

K MAX A:
MAX B:
C:
D:ROOT MEAN SQUARE
PERCENT ERROR

0.00

CONDITION/HT: T7651
 FORM: 1.0" TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION: T-L
 YIELD STRENGTH:
 ULT. STRENGTH:

SPECIMEN THK:
 SPECIMEN WIDTH:
 CRACK LENGTH (A_0):
 K_{ISCC} :
 REFERENCES: 85543

ALUM.
 ALLOY

7178

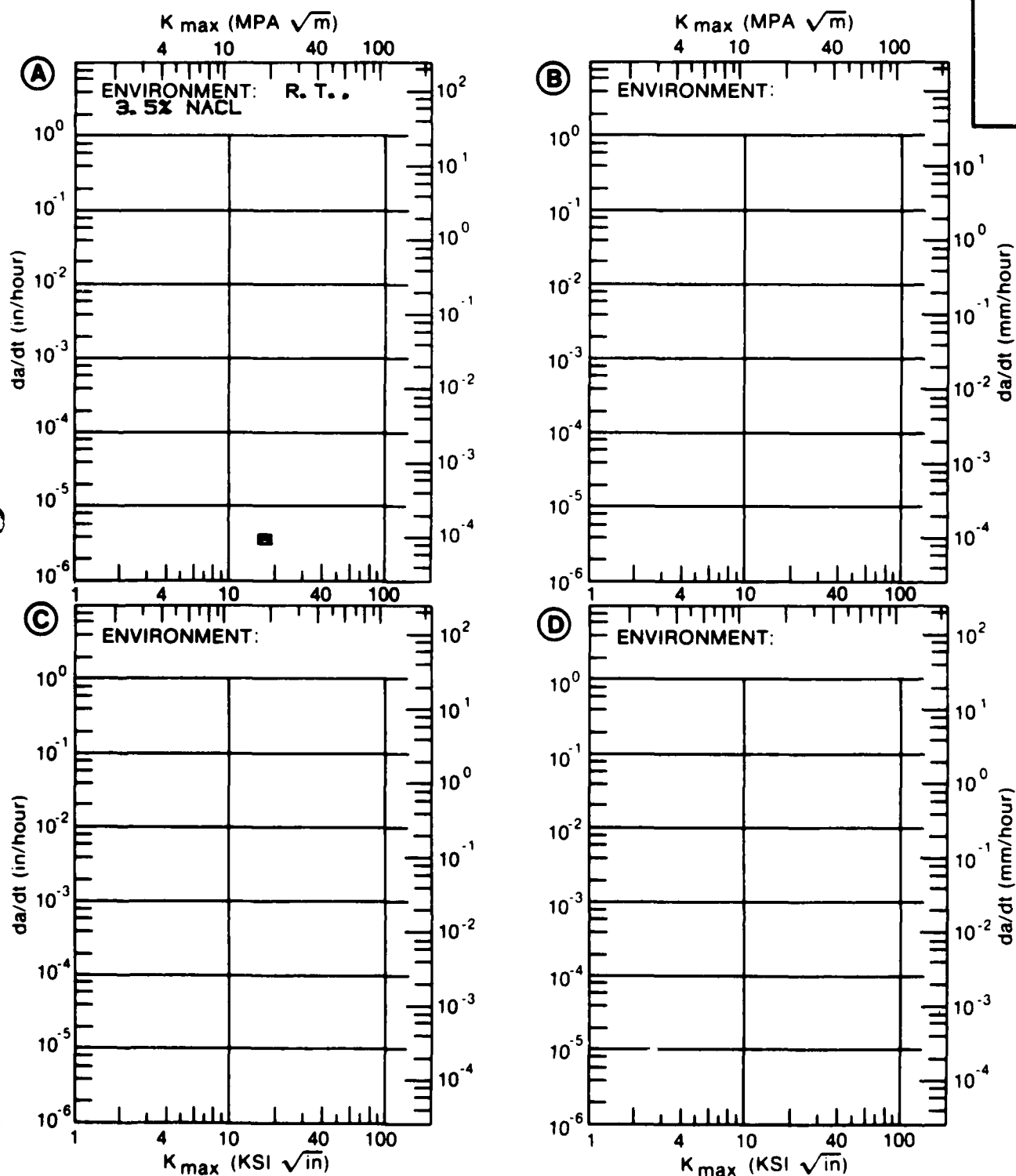


Figure 8.18.3.19

TABLE 8.19.2.1

[illegible]

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV.

TABLE 8.20.1.1

MEAN PLANE STRAIN FRACTURE TOUGHNESS DATA OF
ALUMINUM ALLOY 7475 AT ROOM TEMPERATURE

CONDITION/HT	MEAN K _{IC} ± STANDARD (KSI SQRT(IN)) DEVIATION		(NUMBER OF SPECIMENS)	
	PLATE			
	L-T	I-T	S-L	
T651	40.1 ± 2.4 (19)	34.6 ± 3.5 (120)	32.9 ± 2.5 (8)	
T651 (SP)	35.3 ± 1.9 (8)	34.4 ± 2.1 (11)	27.3 ± 1.6 (10)	
T7351	47.1 ± 4.9 (150)	37.1 ± 4.0 (111)	30.6 ± 2.6 (62)	
T7351 (SP)	-----	37.6 ± 2.5 (17)	-----	
T7651	40.4 ± 2.3 (7)	34.0 ± 2.9 (8)	27.6 ± 0.8 (5)	
T7651 (SP)	42.4 ± 2.9 (3)	35.7 ± 0.4 (3)	27.3 ± 2.1 (6)	

TABLE 8.20.1.2

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7475

TEST CONDITIONS

SPECIMEN
ORIENTATION L-TENVIRONMENT DRY AIR
AT R.T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ (HZ)	DELTA K LEVELS: (KSI SQRT(IN))	2	5	10	20	50	100
T61	SHEET	0.33	13.30				10.4			
T7351	PLATE	0.10	6.00			0.26	2.91	46.5		
T7351	PLATE	0.30	6.00			0.34	7.98	46.0		
T7351	PLATE	0.33	2.00-20.00				4.97			
T7351	PLATE	0.50	6.00			0.54	9.71	79.7		
T761	SHEET	0.33	13.30				9.10	53.1		
T7651	PLATE	-0.20	6.00			0.19	3.63	32.7		
T7651	PLATE	0.10	6.00				3.73	37.7		
T7651	PLATE	0.10	20.00			1.03	5.97			
T7651	PLATE	0.30	6.00			0.62				
T7651	PLATE	0.50	6.00			0.10	1.15	12.1		

TABLE 8.20.1.3

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7475

TEST CONDITIONS

SPECIMEN
ORIENTATION

ENVIRONMENT

AIR
AT - 65 F

CONDITION/MT	PRODUCT FORM	STRESS RATIO	FREQ (HZ)	DELTA K LEVELS: (KSI SQRT(IN))	FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)				
					2	5	10	20	50
17651	SHFL	0 00	3 00-20 00				28.4		
17651	SHFL	0 80	10 00				13.9		

TABLE 8.20.1.4

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7475

TEST CONDITIONS

SPECIMEN
ORIENTATION L-TENVIRONMENT: LAB AIR
AT R.T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ (HZ)	DELTA K LEVELS: (KSI SQRT(IN))		FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)				
				2.5	5	10	20	50	100	
T61	PLATE	0.10	20.00				6.87			
T6151	SHEET	0.10	20.00				5.52	40.7		
T651	PLATE	0.33	25.00			1.19	22.8			
T7351	PLATE	0.02	0 10-20 00			0.21	5.00	37.1	2530	
T7351	PLATE	0.10	20.00				5.55			
T741	SHEET	0.10	20.00				5.41	33.1		
T7651	SHEET	0.00	2 00-30 00			0.25	4.56	42.3		
T7651	SHEET	0.00	6.00-30.00			0.27	4.26	43.3		

TABLE 8.20.1.4 (con't)

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7475

TEST CONDITIONS

SPECIMEN
ORIENTATION L-TENVIRONMENT LAB AIR
AT R.T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ. (HZ)	DELTA K LEVELS (KSI SQRT(IN))	2.5	5	10	20	50	100
17651	SHEET	0.40	2.00-30.00			1.19	13.1	73.4		
17651	SHEET	0.80	2.00-30.00			3.26	20.0			
17651	PLATE	0.00	3.00-30.00				3.93	47.6	508.	
17651	PLATE	0.80	3.00-30.00			4.03				

TABLE 8.20.1.5

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7475

TEST CONDITIONS

SPECIMEN ORIENTATION	L-T	CONDITION/UNIT	PRODUCT FORM	STRESS RATIO	FREQ (HZ)	ENVIRONMENT		H H A. AT R T							
						DELTA K LEVELS (KSI SQRT(IN))	2 5	5	10	20	50	100			
T61			SHEET	0.05	2.00								42.7		
T61			SHEET	0.05	2.00									928	
T61			SHEET	0.05	2.00								58.2		
T61			SHEET	0.33	13.30						29.7				

T651			PLATE	0.33	5.20						34.4	302			
T651			PLATE	0.33	25.00				0.05	1.45	31.2	224			

T7351			PLATE	0.10	1.00						2.78	47.8			
T7351			PLATE	0.10	5.50-33.00				0.25						
T7351			PLATE	0.10	5.50-33.00						9.90	101			
T7351			PLATE	0.25	5.50-33.00				0.06						
T7351			PLATE	0.25	5.50-33.00						11.8				
T7351			PLATE	0.33	25.00				0.06	0.99	11.6	90.8			
T7351			PLATE	0.50	5.50-33.00				0.10						
T7351			PLATE	0.50	5.50-33.00						20.6				

T761			SHEET	0.33	13.30								19.0		

TABLE 8.20.1.6

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7475

TEST CONDITIONS

SPECIMEN

ORIENTATION L-T

ENVIRONMENT 3.5% NaCl
AT R T

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ (HZ)	DELTA K LEVELS (KSI SQRT(IN))				FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)			
				2	5	5	10	20	50	100	
T61	SHEET	0.05	2.00								159
T7351	PLATE	0.10	20.00								13.6

TABLE 8.20.1.7
FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR
ALUMINUM 7475

TEST CONDITIONS

SPECIMEN
ORIENTATION 1-1ENVIRONMENT S.T.M.
AT R.T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ (HZ)	DELTA K LEVELS (KSI SQRT(IN))	2.5	5	10	20	50	100
T7351	PLATE	-0.20	1.00				2.92			
T7351	PLATE	0.10	1.00			0.62	13.4			
T7351	PLATE	0.10	1.00			0.74	14.4			
T7351	PLATE	0.10	1.00						2093	
T7351	PLATE	0.10	6.00				8.17			
T7351	PLATE	0.30	1.00			0.71	29.1			
T7351	PLATE	0.30	1.00					50.7	170	
T7351	PLATE	0.33	2.00-20.00					22.3		
T7351	PLATE	0.50	1.00			4.18	46.8			
T7351	PLATE	0.50	1.00			1.48	63.0	333		
T7651	SHEET	0.00	1.00-5.00						32.1	
T7651	PLATE	-0.20	1.00			0.34	24.6			
T7651	PLATE	0.10	0.10					16.2	199	
T7651	PLATE	0.10	1.00			0.26	25.9	115		
T7651	PLATE	0.30	1.00			0.76	30.6	162		
T7651	PLATE	0.50	1.00			4.04	44.8			

TABLE 8.20.1.1.8

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7475

TEST CONDITIONS

SPECIMEN
ORIENTATION L-TENVIRONMENT: SALT FOG
AT R. T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ. (HZ)	DELTA K LEVELS: (KSI SQRT(IN))		FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)			
				2.5	5	10	20	50	100
T61	SHEET	0.33	13.30			44.5			
T761	SHEET	0.33	13.30			35.5	190		

TABLE 8.20.1.9

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7475

TEST CONDITIONS

SPECIMEN
ORIENTATION T-LENVIRONMENT: DRY AIR
AT R T

CONDITION/ID	PRODUCT FORM	STRESS RATIO	FREQ (Hz)	DELTA K LEVELS (KSI SQRT(IN))		FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)			
				2	5	10	20	50	100
T61	SHEET	0.33	13.30			8.58			
T61	SHEET	0.33	13.30			11.5	92.2		
T621	PLATE	0.10	1.00			0.90	8.68		
T7351	PLATE	0.10	6.00			0.36	3.64	56.8	
T7351	PLATE	0.30	6.00			0.39	7.54	65.5	
T7351	PLATE	0.50	6.00			0.74			
T741	SHEET	0.33	13.30			10.3	73.7		
T741	SHEET	0.33	13.30			8.36			

TABLE 8.20.1.1.10
FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR
ALUMINUM 7475

TEST CONDITIONS:

SPECIMEN ORIENTATION: T-L

ENVIRONMENT: LAB AIR
AT R. T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ. (HZ)	DELTA K LEVELS: (KSI SQRT(IN))	FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)				
					2.5	5	10	20	50 100
T6151	SHEET	0.10	20.00				6.22	54.5	
T76	SHEET	0.33	13.30				9.90		
T761	SHEET	0.10	20.00				4.36	43.8	

TABLE 8.20.1.11

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7475

TEST CONDITIONS

SPECIMEN
ORIENTATION T-1ENVIRONMENT
H.H.A.
AT R.T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ (HZ)	DELTA K LEVELS (KSI SQRT(IN))	FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)				
				2	5	10	20	50	100
T61	SHEET	0.33	13.30			21.3			
T61	SHEET	0.33	13.30			26.6	177		
T7351	PLATE	0.10	1.00			3.57	49.4		
T7351	PLATE	0.10	0.10			4.65	51.0		
T7351	PLATE	0.33	2.00-20.00			13.1			
T761	SHEET	0.33	13.30			19.5	118		
T761	SHEET	0.25	2.00			10.8	58.1		
T761	SHEET	0.33	13.30			19.1			

TABLE 8.20.1.12
FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR
ALUMINUM 7475

TEST CONDITIONS

SPECIMEN
ORIENTATION: T-L

ENVIRONMENT: 3.5% NaCl
AT R.T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ (HZ)	DELTA K LEVELS (KSI SQRT(IN))	2.5	5	10	20	50	100
T61	SHEET	0.05	2.00							188
T761	SHEET	0.05	2.00							198
T761	SHEET	0.05	2.00							139

TABLE 8.20.1.13

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7479

TEST CONDITIONS

SPECIMEN
ORIENTATION: T-LENVIRONMENT: S.T.M.
AT R.T.

CONDITION/MT	PRODUCT FORM	STRESS RATIO	FREQ. (HZ)	DELTA K LEVELS: (KSI SQRT(IN))	2.5	5	10	20	50	100
T7351	PLATE	0.10	1.00				8.01	118		
T7351	PLATE	0.30	1.00			0.29	35.6	197		
T7351	PLATE	0.33	2.00				30.0			
T7351	PLATE	0.33	20.00			2.35	23.5			
T7351	PLATE	0.33	30.00			2.32				
T7351	PLATE	0.90	1.00			1.39	43.5	401		

TABLE 8.20.1.14

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7475

TEST CONDITIONS

SPECIMEN
ORIENTATION T-LENVIRONMENT
SALT FOG
AT R T

CONDITION/MT	PRODUCT FORM	STRESS RATIO	FREQ (HZ)	DELTA K LEVELS (KSI SQRT(IN))	FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)				
					2.5	5	10	20	50 100
T61	SHEET	0.33	13.30				30.6		
T61	SHEET	0.33	13.30				40.5	198	
T761	SHEET	0.33	13.30				39.3	191	
T761	SHEET	0.33	13.30				33.1		

TABLE 8.20.1.15
FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR
ALUMINUM 7475

TEST CONDITIONS:

SPECIMEN
ORIENTATION: 8-L

ENVIRONMENT: DRY AIR
AT R. T.

CONDITION/MT	PRODUCT FORM	STRESS RATIO	FREQ. (HZ)	DELTA K LEVELS: (KSI SQRT(IN))	2.5	5	10	20	50	100
17391	PLATE	0.10	6.00			0.78	7.49	145		
17391	PLATE	0.33	2.00-20.00				5.71			
17391	PLATE	0.50	6.00			1.44	25.8			

TABLE 8.20.1.16
FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR
ALUMINUM 7475

TEST CONDITIONS:

SPECIMEN
ORIENTATION: 9-LENVIRONMENT: S.T.M.
AT R.T.

CONDITION/MT	PRODUCT FORM	STRESS RATIO	FREQ. (HZ)	DELTA K LEVELS: (KSI SQRT(IN))	FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)					
					2.5	5	10	20	50	100
T7351	PLATE	0.10	1.00			2.02	32.1			
T7351	PLATE	0.30	1.00			4.37	54.6			
T7351	PLATE	0.33	20.00				23.1			
T7351	PLATE	0.50	1.00			5.02	40.9			

TABLE 8.20.2.1

CONDITION	ALUMINUM				7475		K(1C)		K(1C) STAN DEV	DATE	REFER
	--PRODUCT--		TEST SPECIMEN ORIENT	YIELD STRENGTH (KSI)	-----SPECIMEN-----		CRACK LENGTH (IN)	2.5* (K(1C)/TYS)**2 (IN)			
	FORM	THICK (IN)			WIDTH (IN)	THICK (IN)					
T6	P	1.62	83	S-L	69.6	1.000	0.499	CT	0.529	0.46	1973 86213
		1.62			69.6	1.000	0.499	CT	0.552	0.47	1973 86213
T651	P	0.95	R. T.	L-T	72.3	2.004	0.958	CT	1.042	0.75	1978 MPC01
		0.92			72.3	2.979	0.960	CT	1.549	0.81	1978 MPC01
		0.92			74.3	3.017	0.931	CT	1.569	0.87	1978 MPC01
		0.95			74.3	1.985	0.931	CT	1.032	0.72	1978 MPC01
		0.95			74.5	2.009	0.950	CT	1.065	0.70	1978 MPC01
		0.92			74.5	3.014	0.952	CT	1.537	0.78	1978 MPC01
		0.95			74.8	1.996	0.934	CT	1.058	0.72	1978 MPC01
		0.92			74.8	3.021	0.935	CT	1.571	0.81	1978 MPC01
		0.92			74.8	2.011	0.918	CT	1.086	0.78	1978 MPC01
		0.95			75.1	1.996	0.931	CT	1.038	0.78	1978 MPC01
		0.87			76.6	2.975	0.860	CT	1.547	0.67	1978 MPC01
		0.92			76.6	1.985	0.903	CT	1.072	0.72	1978 MPC01
		0.87			76.6	2.017	0.859	CT	1.049	0.65	1978 MPC01
		0.92			76.9	2.992	0.931	CT	1.496	0.52	1978 MPC01
		0.95			76.9	2.012	0.949	CT	1.046	0.53	1978 MPC01
		0.92			77.5	2.992	0.910	CT	1.526	0.60	1978 MPC01
		0.92			77.5	1.996	0.904	CT	1.098	0.55	1978 MPC01
		0.92			78.0	3.004	0.932	CT	1.532	0.57	1978 MPC01
		0.92			78.0	2.000	0.932	CT	1.040	0.60	1978 MPC01

TABLE 8.20.2.1 (con't)

CONDITION	--PRODUCT--		TEST SPECIMEN ORIENT	YIELD (KSI)	ALUMINUM		7475		K(IIC)		K(IIC) STAN DEV	DATE	REFER
	FORM	THICK (IN)			WIDTH (IN)	THICK (IN)	DESIGN	CRACK LENGTH (IN)	2.5* (K(IIC)/TYS)**2 (IN)				
										A			
1631	P	0.87	R.T.	T-L	73.1	1.989	0.888	CT	1.034	0.50	33.20	1978	MPC01
		0.95			73.2	2.010	0.954	CT	1.005	0.62	36.60	1978	MPC01
		0.62			73.2	3.000	0.645	CT	1.539	0.49	32.30	1973	86213
		0.62			73.2	3.000	0.646	CT	1.476	0.41	29.80	1973	86213
		0.95			73.2	2.004	0.952	CT	1.062	0.65	37.50	1978	MPC01
		0.95			73.2	1.992	0.955	CT	1.036	0.57	35.40	1978	MPC01
		0.92			73.3	2.006	0.932	CT	1.043	0.52	34.20	1978	MPC01
		0.92			73.4	2.014	0.929	CT	1.007	0.60	36.10	1978	MPC01
		1.00			73.4	2.013	0.978	CT	1.067	0.42	30.20	1978	MPC01
		1.00			73.4	1.983	0.993	CT	1.071	0.48	32.70	1978	MPC01
		0.87			73.6	3.018	0.881	CT	1.509	0.48	32.70	1978	MPC01
		0.87			73.6	1.998	0.878	CT	1.039	0.60	32.00	1978	MPC01
		0.87			73.7	1.984	0.865	CT	0.972	0.81	42.30	1978	MPC01
		0.87			73.7	1.994	0.872	CT	0.937	0.87	43.60	1978	MPC01
		0.87			73.9	2.992	0.873	CT	1.956	0.40	29.60	1978	MPC01
		0.87			73.9	2.013	0.886	CT	1.087	0.44	31.70	1978	MPC01
		0.87			73.9	1.980	0.873	CT	1.010	0.38	29.50	1978	MPC01
		0.92			73.9	1.991	0.922	CT	1.030	0.52	34.10	1978	MPC01
		0.92			74.0	1.990	0.911	CT	1.035	0.57	36.10	1978	MPC01
		0.92			74.0	1.996	0.927	CT	1.038	0.50	33.70	1978	MPC01
		0.95			74.1	2.012	0.956	CT	1.046	0.72	40.40	1978	MPC01
		0.92			74.2	1.989	0.918	CT	1.034	0.55	35.30	1978	MPC01
		0.87			74.3	1.998	0.872	CT	1.019	0.38	29.30	1978	MPC01
		0.87			74.3	2.998	0.879	CT	1.499	0.42	31.10	1978	MPC01
		0.87			74.3	2.015	0.877	CT	1.088	0.55	35.00	1978	MPC01
		0.92			74.3	2.004	0.920	CT	1.042	0.48	32.90	1978	MPC01
		0.92			74.3	3.026	0.919	CT	1.543	0.62	37.20	1978	MPC01
		0.92			74.3	1.988	0.903	CT	0.994	0.57	36.00	1978	MPC01
		0.92			74.4	2.002	0.920	CT	1.001	0.46	32.50	1978	MPC01
		1.00			74.5	2.000	1.011	CT	1.020	0.36	28.50	1978	MPC01
		1.00			74.5	1.983	1.011	CT	1.051	0.36	28.90	1978	MPC01
	0.87			74.5	1.993	0.860	CT	1.056	0.44	31.70	1978	MPC01	
	1.00			74.5	1.979	1.011	CT	1.049	0.36	28.80	1978	MPC01	
	0.75			74.6	4.955	0.751	CT	2.527	0.72	40.30	1978	MPC01	
	0.87			74.6	2.013	0.866	CT	0.966	0.78	41.90	1978	MPC01	
	0.92			74.8	3.024	0.908	CT	1.542	0.57	36.30	1978	MPC01	
	0.92			74.8	2.004	0.908	CT	1.042	0.60	36.70	1978	MPC01	
	0.92			74.9	1.996	0.919	CT	1.038	0.48	33.50	1978	MPC01	
	0.92			75.0	1.981	0.907	CT	1.030	0.38	29.80	1978	MPC01	

TABLE 8.20.2.1 (con't)

CONDITION	--PRODUCT--			TEST SPECIMEN ORIENT	YIELD STRENGTH (KSI)	ALUMINUM			7475			K(IIC)			DATE	REFER	
	FORM	THICK (IN)	THICK (IN)			WIDTH (IN)	THICK (IN)	DESIGN (IN)	CRACK LENGTH (IN)	2.5* (K(IIC)/TYS)*2 (IN)	K(IIC) MEAN (KSI*SQRT IN)	STAN DEV					
T651	P	1.00	R. I.	T-L	75.0	2.000	0.944	CT	1.026	0.48	33.00			1973	86213		
		0.75			75.1	4.967	0.759	CT	2.533	0.70	40.30			1978	MP001		
		1.00			75.4	1.985	1.010	CT	1.052	0.40	30.30			1978	MP001		
		1.00			75.4	2.000	1.010	CT	1.060	0.42	31.00			1978	MP001		
		1.00			75.4	2.012	1.010	CT	1.046	0.38	30.00			1978	MP001		
		0.92			75.4	1.983	0.925	CT	1.031	0.46	32.10			1978	MP001		
		0.92			75.4	1.988	0.904	CT	1.014	0.44	32.40			1978	MP001		
		0.75			75.4	4.943	0.749	CT	2.521	0.67	39.50			1978	MP001		
		0.92			75.5	1.984	0.917	CT	1.012	0.50	34.10			1978	MP001		
		0.92			75.5	3.006	0.918	CT	1.533	0.62	37.80			1978	MP001		
		0.75			75.6	5.046	0.748	CT	2.523	0.65	39.20			1978	MP001		
		1.00			75.7	1.993	1.002	CT	1.056	0.44	31.80			1978	MP001		
		1.00			75.7	2.019	1.002	CT	1.070	0.40	30.80			1978	MP001		
		0.87			75.7	1.983	0.867	CT	1.031	0.42	31.60			1978	MP001		
		1.00			75.7	1.987	1.003	CT	1.053	0.40	30.30			1978	MP001		
		0.87			75.9	1.996	0.873	CT	1.018	0.52	35.20			1978	MP001		
		0.87			76.0	1.979	0.881	CT	1.029	0.50	34.20			1978	MP001		
		0.87			76.1	2.014	0.870	CT	1.047	0.57	36.80			1978	MP001		
		1.00			76.1	1.998	0.982	CT	1.079	0.44	32.40			1978	MP001		
		1.00			76.5	2.018	1.006	CT	1.029	0.40	30.70			1978	MP001		
		1.00			76.5	1.985	1.006	CT	1.052	0.42	31.80			1978	MP001		
		1.00			76.5	1.996	1.004	CT	1.038	0.38	30.50			1978	MP001		
		0.75			76.6	4.969	0.741	CT	2.534	0.67	40.50			1978	MP001		
		0.87			76.7	1.989	0.876	CT	1.034	0.48	34.50			1978	MP001		
		0.92			76.8	1.994	0.950	CT	1.017	0.34	28.70			1978	MP001		
		0.92			76.9	2.011	0.905	CT	1.086	0.40	31.10			1978	MP001		
		0.92			77.1	1.988	0.932	CT	0.994	0.38	30.30			1978	MP001		
		1.00			77.3	1.996	1.005	CT	1.038	0.30	27.20	34.6/ 3.5		1978	MP001		
		T651	P	1.62	83	T-L	73.0	1.490	0.750	CT	0.747	0.49	32.40			1973	86213
				1.62			73.0	1.490	0.739	CT	0.737	0.53	33.70			1973	86213
				1.62			74.6	1.490	0.750	CT	0.755	0.41	30.30			1973	86213
															1.9	31.5/	1973
T651	P	2.62	R. I.	S-L	61.7	2.000	1.001	CT	0.976	0.73	33.30			1973	86213		
		2.62			61.8	2.000	1.001	CT	0.981	0.66	31.80			1973	86213		
		2.62			62.2	2.000	1.001	CT	0.990	0.63	31.30			1973	86213		
		2.62			62.2	2.000	1.001	CT	0.989	0.52	28.40			1973	86213		

TABLE 8.20.2.1 (con't)

CONDITION	ALUMINUM				7475		K(IIC)		K(IIC) STAN DEV	DATE	REFER		
	---PRODUCT--		YIELD STRENGTH (KSI)	-----SPECIMEN-----		CRACK LENGTH (IN)	2.5* (K(IIC)/TYS)**2 (IN)						
	FORM	THICK (IN)		THICK (IN)	DESIGN (IN)			W				D	A
T651	P	2.62	R.T.	8-L	62.6	2.000	1.000	CT	1.010	0.85	36.50	1973	86213
		2.62			62.7	2.000	1.001	CT	1.011	0.78	35.10	1973	86213
		2.62			63.8	2.000	1.001	CT	1.002	0.64	32.30	1973	86213
T651	P	1.62	83	8-L	68.1	1.000	0.499	CT	0.499	0.32	24.50	1973	86213
T651 (SP)	P	1.30	R.T.	L-T	75.0	3.000	1.281	CT	1.603	0.63	37.70	1973	86213
		1.30			75.0	3.000	1.282	CT	1.595	0.60	36.60	1973	86213
		1.30			77.4	3.000	1.305	CT	1.614	0.52	35.40	1973	86213
		1.30			77.4	3.000	1.304	CT	1.600	0.50	34.50	1973	86213
		1.30			78.5	3.000	1.293	CT	1.611	0.57	37.40	1973	86213
		1.30			79.0	3.000	1.314	CT	1.608	0.50	35.20	1973	86213
		1.30			81.3	3.000	1.277	CT	1.610	0.41	32.60	1973	86213
		1.30			81.3	3.000	1.278	CT	1.607	0.41	32.90	1973	86213
T651 (SP)	P	2.00	R.T.	T-L	70.5	3.990	2.032	CT	2.110	0.62	35.10	1973	86213
		2.00			70.5	4.000	2.030	CT	2.120	0.58	33.90	1973	86213
		1.30			72.3	3.000	1.283	CT	1.584	0.65	36.90	1973	86213
		1.30			72.3	3.000	1.281	CT	1.577	0.65	36.80	1973	86213
		1.75			73.1	4.000	1.784	CT	2.182	0.41	29.60	1973	86213
		1.30			74.9	3.000	1.305	CT	1.617	0.54	34.70	1973	86213
		1.30			74.9	3.000	1.305	CT	1.584	0.51	33.70	1973	86213
		1.30			75.5	3.000	1.336	CT	1.601	0.50	33.80	1973	86213
		1.30			76.7	3.000	1.313	CT	1.599	0.51	34.70	1973	86213
		1.30			77.3	3.000	1.290	CT	1.600	0.55	36.40	1973	86213
		1.30			78.1	3.000	1.276	CT	1.613	0.45	33.20	1973	86213
T651 (SP)	P	1.30	82	T-L	75.5	5.000	1.343	CT	2.658	0.62	37.70	1973	86213
		1.30			75.5	5.000	1.343	CT	2.704	0.67	39.20	1973	86213
T651 (SP)	P	1.30	R.T.	8-L	66.8	1.000	0.498	CT	0.496	0.48	29.20	1973	86213
		1.30			67.2	1.000	0.499	CT	0.501	0.47	29.30	1973	86213
		1.30			67.8	1.000	0.498	CT	0.489	0.41	27.30	1973	86213
		1.30			67.8	1.000	0.498	CT	0.512	0.37	26.00	1973	86213
		1.30			68.0	1.000	0.498	CT	0.502	0.40	27.20	1973	86213
		1.30			68.0	1.000	0.498	CT	0.506	0.48	29.80	1973	86213
		1.30			68.4	1.000	0.498	CT	0.504	0.35	25.60	1973	86213

TABLE 8.20.2.1 (con't)

CONDITION	ALUMINUM			YIELD (KSI)	SPECIMEN			CRACK LENGTH (IN)	2.5* (K(1C)/TVS)**2 (IN)	K(1C) STAN (K(1C) MEAN DEV (KSI*SQRT IN))	DATE	REFER	
	--PRODUCT-- FORM	THICK (IN)	TEST TEMP (F)		ORIENT	WIDTH (IN)	THICK (IN)						DESIGN
					M	B	A						
T651 (SP)	P	1.30	R.T.	68.4	1.000	0.499	CT	0.500	0.34	25.30	1973	86213	
		1.30		70.8	1.000	0.499	CT	0.506	0.37	27.10	1973	86213	
		1.30		70.8	1.000	0.498	CT	0.513	0.36	26.70	27.3/ 1.6	1973 86213	
T651 (SP)	P	2.00	82	62.6	1.490	0.748	CT	0.768	0.70	33.20	1973	86213	
		1.75		66.3	1.000	0.500	CT	0.478	0.23	19.90	1973	86213	
		1.75		66.3	1.000	0.499	CT	0.496	0.27	21.80	25.0/ 7.2	1973 86213	
T73	P	1.62	83	70.0	1.490	0.749	CT	0.783	0.66	36.00	1973	86213	
		1.62		70.4	1.490	0.750	CT	0.798	0.71	37.60	1973	86213	
		1.62		70.4	1.490	0.750	CT	0.774	0.68	36.60	36.7/ 0.8	1973 86213	
T73	P	1.62	83	68.9	1.000	0.500	CT	0.510	0.48	30.10	1973	86213	
		1.62		68.9	1.000	0.501	CT	0.490	0.45	29.20	1973	86213	
		1.62		69.1	1.000	0.499	CT	0.481	0.44	29.00	29.4/ 0.6	1973 86213	
T7351	"	4.00	R.T.	55.2	3.003	1.498	CT	1.525	1.27	39.40	1977	RA006	
		3.50		55.3	4.967	2.500	CT	2.583	1.76	47.00	1978	MPCO1	
		3.50		55.8	5.014	2.500	CT	2.607	1.89	48.90	1978	MPCO1	
		3.54		56.5	3.000	1.500	CT	1.454	1.42	42.70	1977	RA004	
		3.50		56.7	4.985	2.500	CT	2.592	2.07	51.70	1978	MPCO1	
		3.00		56.7	5.035	2.501	CT	2.568	2.25	54.20	1978	MPCO1	
		3.00		56.7	5.978	2.983	CT	3.049	2.50	56.70	1978	MPCO1	
		3.50		56.7	5.049	2.500	CT	2.575	2.20	53.50	1978	MPCO1	
		3.00		56.7	5.982	3.000	CT	3.051	2.50	57.00	1978	MPCO1	
		3.00		56.7	4.969	2.503	CT	2.584	2.30	54.80	1978	MPCO1	
		3.50		57.0	5.049	2.500	CT	2.575	2.02	51.70	1978	MPCO1	
		3.50		57.1	5.035	2.499	CT	2.568	1.89	50.00	1978	MPCO1	
		3.00		57.2	5.003	2.503	CT	2.677	1.74	47.80	1978	RA003	
		3.50		57.3	5.039	2.500	CT	2.620	1.98	51.20	1978	MPCO1	
		3.50		57.3	5.024	2.500	CT	2.562	1.72	47.60	1978	MPCO1	
		3.00		57.4	4.999	2.499	CT	2.663	1.72	47.70	1978	RA003	
		2.80		57.5	4.982	2.500	CT	2.541	1.72	47.90	1978	MPCO1	
		3.62		57.6	3.005	1.487	CT	1.485	1.36	42.59	1977	RA006	
		3.00		57.8	5.000	2.501	CT	2.597	1.28	41.50	1978	RA003	

TABLE 8.20.2.1 (con't)

CONDITION	ALUMINUM				7475				K(1C)				K(1C) STAN DEV	DATE	REFER
	--PRODUCT-- FORM		YIELD STRENGTH (KSI)	TEST SPECIMEN ORIENT	-----SPECIMEN----- WIDTH THICK DESIGN (IN) (IN) (IN)		CRACK LENGTH (IN)	2.5* K(1C)/TYS)**2 (IN)	K(1C) MEAN (KSI*SQRT IN)						
	THICK (IN)	THIN (IN)			M	B				A					
T7351	P	L-T	R.T.		57.9	5.986	2.759	CT	2.993	1.80	49.60	1978	MPC01		
					57.9	5.026	2.500	CT	2.563	1.80	49.50	1978	MPC01		
					57.9	5.982	2.757	CT	2.991	1.84	50.20	1978	MPC01		
					58.1	4.996	2.500	CT	2.548	2.11	53.90	1978	MPC01		
					58.1	4.997	2.493	CT	2.582	1.41	43.70	1978	RA003		
					58.1	4.995	2.498	CT	2.577	1.11	38.80	1980	RA005		
					58.2	5.004	2.500	CT	2.602	1.48	45.10	1978	MPC01		
					58.3	5.996	3.001	CT	3.178	2.35	57.00	1978	MPC01		
					58.3	5.037	2.500	CT	2.619	1.80	50.10	1978	MPC01		
					58.3	4.996	2.499	CT	2.635	1.54	45.80	1978	RA003		
					58.3	4.997	2.499	CT	2.649	1.21	40.70	1978	RA003		
					58.3	4.966	2.500	CT	2.632	1.89	50.80	1978	MPC01		
					58.5	4.964	2.500	CT	2.631	1.76	49.30	1978	MPC01		
					58.6	5.000	2.500	CT	2.600	1.44	44.60	1978	MPC01		
					58.7	5.046	2.275	CT	2.523	1.93	51.70	1978	MPC01		
					58.8	6.015	3.002	CT	3.128	1.76	49.70	1978	MPC01		
					58.8	5.962	2.994	CT	3.160	1.76	49.50	1978	MPC01		
					58.8	5.975	3.000	CT	3.107	1.72	49.20	1978	MPC01		
					58.9	5.008	2.276	CT	2.554	1.89	51.60	1978	MPC01		
					59.1	4.996	2.494	CT	2.649	1.67	48.40	1978	RA003		
					59.1	4.999	2.496	CT	2.664	1.38	44.00	1978	RA003		
					59.1	6.017	3.000	CT	3.129	1.84	51.20	1978	MPC01		
					59.1	5.951	3.000	CT	3.154	1.80	50.70	1978	MPC01		
					59.2	6.036	2.252	CT	3.018	1.72	49.20	1978	MPC01		
					59.2	6.042	2.253	CT	3.021	1.68	48.80	1978	MPC01		
					59.3	6.023	3.002	CT	3.192	2.40	58.20	1978	MPC01		
					59.3	3.003	1.499	CT	1.500	0.91	35.80	1977	RA006		
					59.3	5.029	2.500	CT	2.615	2.02	53.60	1978	MPC01		
					59.5	5.002	2.502	CT	2.570	1.75	49.80	1978	GD006		
					59.5	5.977	2.385	CT	3.048	1.19	41.40	1978	MPC01		
					59.5	4.998	2.505	CT	2.572	1.68	48.90	1978	GD006		
					59.6	5.044	2.258	CT	2.922	1.60	47.80	1978	MPC01		
					59.6	5.006	2.275	CT	2.553	1.89	52.30	1978	MPC01		
					59.7	5.040	2.502	CT	2.621	1.44	45.80	1978	MPC01		
					59.7	5.020	2.270	CT	2.560	1.84	51.50	1978	MPC01		
					59.9	6.000	3.001	CT	3.240	1.76	50.90	1978	MPC01		
					60.0	4.977	2.502	CT	2.638	1.56	47.80	1978	MPC01		
					60.0	4.959	2.500	CT	2.628	1.52	46.90	1978	MPC01		
					60.0	4.994	2.501	CT	2.647	1.60	48.40	1978	MPC01		

TABLE 8.20.2.1 (con't)

CONDITION	ALUMINUM		YIELD STRENGTH (KSI)	SPECIMEN		W	B	CRACK LENGTH (IN)	2.5* (K(1C)/TYS)**2 (IN)	K(1C) MEAN DEV (KSI*SQRT IN)	K(1C) STAN DEV (KSI*SQRT IN)	DATE	REFER
	PRODUCT-- FORM	THICK (IN)		TEST TEMP (F)	SPECIMEN ORIENT	MIDTH (IN)	THICK (IN)	DESIGN					
17351	P	3.50	61.9	R.T.	L-T	4.992	2.499	CT	2.996	1.52	48.30	1978	MPC01
		3.00	61.9			4.987	2.502	CT	2.643	1.19	42.90	1978	MPC01
		2.25	61.9			5.996	2.263	CT	2.998	1.52	48.30	1978	MPC01
		2.25	61.9			6.008	2.261	CT	3.004	1.52	48.70	1978	MPC01
		3.00	62.0			4.996	2.497	CT	2.639	1.15	42.20	1978	RA003
		1.25	62.0			3.996	1.999	CT	1.990	1.21	43.30	1977	MA005
		1.25	62.0			3.996	1.994	CT	2.021	1.26	44.09	1977	MA005
		2.50	62.2			3.003	1.497	CT	1.557	0.64	39.50	1977	RA006
		1.75	62.4			5.040	1.750	CT	2.520	1.60	50.20	1978	MPC01
		2.40	62.4			5.986	2.364	CT	3.053	1.44	47.60	1978	MPC01
		3.00	62.4			5.322	2.500	CT	2.661	1.19	43.10	1978	MPC01
		3.00	62.4			5.041	2.500	CT	2.571	1.05	41.10	1978	MPC01
		3.00	62.4			4.999	2.493	CT	2.597	0.94	38.40	1978	RA003
		1.75	62.6			5.028	1.748	CT	2.514	1.68	51.90	1978	MPC01
		2.70	62.6			5.017	2.500	CT	2.609	2.25	60.00	1978	MPC01
		1.75	62.6			5.030	1.774	CT	2.515	1.33	45.90	1978	MPC01
		1.77	62.8			2.999	1.499	CT	1.587	1.01	39.90	1977	RA004
		1.75	62.8			4.955	1.760	CT	2.527	1.52	49.50	1978	MPC01
		1.77	62.8			2.999	1.499	CT	1.618	1.00	39.80	1977	RA004
		3.00	63.0			4.997	2.498	CT	2.650	1.26	44.80	1980	RA005
		3.00	63.0			5.025	2.501	CT	2.663	1.22	44.50	1978	MPC01
		2.40	63.3			5.028	2.380	CT	2.514	1.08	42.40	1978	MPC01
		3.00	63.4			4.960	2.502	CT	2.579	1.08	42.20	1978	MPC01
		1.75	63.4			4.985	1.751	CT	2.592	1.44	48.40	1978	MPC01
		2.00	63.4			4.994	2.075	CT	2.547	1.98	56.80	1978	MPC01
		2.75	63.4			5.949	2.726	CT	3.034	1.36	47.20	1978	MPC01
		2.40	63.4			6.049	2.387	CT	3.085	1.12	42.70	1978	MPC01
		2.40	63.5			4.994	2.383	CT	2.497	1.02	41.10	1978	MPC01
		1.75	63.5			5.004	1.741	CT	2.552	1.52	50.10	1978	MPC01
		2.50	63.6			3.002	1.503	CT	1.634	1.10	42.30	1977	RA006
		2.40	63.7			5.980	2.364	CT	3.050	1.22	44.60	1978	MPC01
		2.75	63.7			5.998	2.726	CT	3.059	1.60	51.00	1978	MPC01
		2.40	63.7			4.965	2.353	CT	2.532	1.22	45.00	1978	MPC01
		1.75	63.7			5.006	1.793	CT	2.553	1.68	52.70	1978	MPC01
		3.00	63.7			4.995	2.484	CT	2.615	0.89	38.09	1978	RA003
		2.40	64.0			4.994	2.365	CT	2.547	1.12	42.90	1978	MPC01
		2.40	64.2			4.978	2.378	CT	2.489	0.93	39.50	1978	MPC01
		1.25	64.5			3.001	1.271	CT	1.549	0.89	38.50	1977	RA006
		2.40	64.7			5.042	2.364	CT	2.521	0.99	40.90	1978	MPC01

TABLE 8.20.2.1 (con't)

CONDITION	ALUMINUM			7475		K(1C)		K(1C) STAN DEV	DATE	REFER				
	---PRODUCT--- FORM	THICK (IN)	YIELD STRENGTH (KSI)	TEST SPECIMEN ORIENT	THICK (IN)	WIDTH (IN)	DESIGN				CRACK LENGTH (IN)	2.5* (K(1C)/TYS)**2 (IN)	K(1C) MEAN (KSI*SQRT IN)	
T7351	P	1.75	64.7	L-T		4.984	1.795	CT	2.542	1.26	46.40		1978	MPC01
		1.75	64.7			4.982	1.755	CT	2.541	1.44	49.20		1978	MPC01
		2.40	64.7			6.049	2.364	CT	3.085	1.08	42.90		1978	MPC01
		1.75	64.8			4.980	1.746	CT	2.540	1.15	44.50		1978	MPC01
		2.25	64.8			2.997	1.499	CT	1.609	1.04	41.80		1977	RA004
		1.75	65.1			4.977	1.753	CT	2.538	1.19	45.40		1978	MPC01
		1.75	65.2			4.965	1.753	CT	2.532	1.44	50.20		1978	MPC01
		1.75	65.2			4.967	1.758	CT	2.533	1.33	47.80		1978	MPC01
		1.75	65.3			4.975	1.755	CT	2.537	1.36	48.70		1978	MPC01
		1.75	65.6			4.965	1.755	CT	2.532	1.22	46.00		1978	MPC01
		2.40	65.7			5.004	2.378	CT	2.552	1.08	43.80		1978	MPC01
		1.75	66.0			5.029	1.761	CT	2.569	1.22	46.20		1978	MPC01
		1.75	66.0			5.000	1.742	CT	2.550	1.15	45.40		1978	MPC01
		1.75	67.0			4.992	1.750	CT	2.546	1.05	43.80	47.1/	1978	MPC01
T7351	P	4.00	54.6	T-L		3.005	1.497	CT	1.574	0.82	31.40		1977	RA006
	3.50		55.2			5.014	2.500	CT	2.607	1.22	39.10		1978	MPC01
	3.50		55.8			4.973	2.498	CT	2.586	1.84	48.30		1978	MPC01
	3.50		55.8			5.041	2.500	CT	2.571	1.33	41.00		1978	MPC01
	3.50		55.8			4.971	2.500	CT	2.585	1.29	40.20		1978	MPC01
	3.50		55.9			5.019	2.499	CT	2.610	1.19	38.80		1978	MPC01
	3.50		56.0			5.039	2.500	CT	2.620	1.08	37.10		1978	MPC01
	3.50		56.0			4.985	2.500	CT	2.592	1.02	35.90		1978	MPC01
	3.00		56.0			5.000	2.499	CT	2.637	0.83	32.40		1978	RA003
	3.50		56.3			4.970	2.500	CT	2.634	1.12	37.80		1978	MPC01
	3.50		56.5			5.012	2.500	CT	2.556	1.12	38.20		1978	MPC01
	3.50		56.5			5.000	2.500	CT	2.600	1.12	38.20		1978	MPC01
	3.00		56.5			4.998	2.494	CT	2.640	0.87	33.50		1978	RA003
	3.50		56.6			5.033	2.500	CT	2.617	1.29	41.00		1978	MPC01
	3.00		56.9			4.997	2.497	CT	2.698	0.80	32.20		1978	RA003
	3.50		57.0			4.964	2.500	CT	2.631	0.93	35.20		1978	MPC01
	3.50		57.0			5.987	3.000	CT	3.173	1.02	36.80		1978	MPC01
	3.50		57.0			5.979	3.000	CT	3.169	0.99	36.20		1978	MPC01
	3.50		57.0			6.047	2.998	CT	3.205	1.05	37.40		1978	MPC01
	3.50		57.0			6.021	3.001	CT	3.191	1.08	37.70		1978	MPC01
	3.25		57.1			2.003	1.002	CT	1.017	0.63	28.79		1977	RA006
3.50		57.1			4.989	2.500	CT	2.594	1.44	43.50		1978	MPC01	
3.00		57.1			4.996	2.500	CT	2.656	0.94	35.09		1978	MPC01	
3.00		57.2			4.998	2.498	CT	2.653	0.79	32.20		1978	RA003	

TABLE 8.20.2.1 (con't)

CONDITION	ALUMINUM		7475				K(1C)		K(1C) STAN DEV	K(1C) MEAN DEV (KSI*SQRT IN)	DATE	REFER	
	YIELD STRENGTH (KSI)		SPECIMEN		CRACK LENGTH (IN)	2.5* (K(1C)/TYS)**2 (IN)							
	FORM	THICK (IN)	THICK (IN)	THICK (IN)			DESIGN	A					
777351	P	3.00	R. T.	T-L	57.2	4.996	2.494	CT	2.623	1.03	37.20	1978	RA003
		3.30			57.4	5.006	2.500	CT	2.603	1.48	44.60	1978	MP001
		3.00			57.5	4.999	2.495	CT	2.592	0.81	32.80	1978	RA003
		2.75			57.6	6.049	2.755	CT	3.085	1.02	37.40	1978	MP001
		3.54			57.6	2.994	1.499	CT	1.488	1.01	36.70	1977	RA004
		2.75			57.6	5.032	2.500	CT	2.627	1.03	37.50	1978	MP001
		2.75			57.6	5.049	1.750	CT	2.575	1.02	37.40	1978	MP001
		2.75			57.6	5.036	1.250	CT	2.518	1.02	37.00	1978	MP001
		2.75			57.6	6.039	2.756	CT	3.080	1.03	37.50	1978	MP001
		3.50			57.9	4.987	2.500	CT	2.593	1.33	42.50	1978	MP001
		2.25			58.0	2.998	1.499	CT	1.559	1.14	39.20	1977	RA004
		3.50			58.3	5.017	2.497	CT	2.609	0.96	36.70	1977	MP001
		3.62			58.3	3.002	1.498	CT	1.528	0.76	32.20	1977	RA006
		2.75			58.7	4.985	2.500	CT	2.642	0.90	35.50	1978	MP001
		2.75			58.7	6.037	2.744	CT	3.089	0.87	35.00	1978	MP001
		2.75			58.7	4.971	1.249	CT	2.535	0.93	35.90	1978	MP001
		2.75			58.7	6.042	2.725	CT	3.142	0.87	35.00	1978	MP001
		3.50			58.7	4.981	2.499	CT	2.590	0.93	36.20	1978	MP001
		3.50			58.9	4.966	2.500	CT	2.632	1.80	50.10	1978	MP001
		2.25			59.0	6.035	2.257	CT	3.078	0.93	36.50	1978	MP001
		2.25			59.0	5.969	2.249	CT	3.104	0.96	36.60	1978	MP001
		3.75			59.1	5.031	2.501	CT	2.566	0.87	35.20	1978	MP001
		3.50			59.1	5.005	2.498	CT	2.608	1.44	45.00	1978	MP001
		3.00			59.2	4.999	2.496	CT	2.591	0.80	33.59	1978	RA003
		3.00			59.5	4.983	2.502	CT	2.641	1.03	38.80	1978	MP001
	3.50			59.6	4.977	2.498	CT	2.638	0.90	36.50	1978	MP001	
	3.00			59.6	4.972	2.500	CT	2.635	1.12	40.20	1978	MP001	
	3.00			59.7	4.970	2.501	CT	2.534	1.15	40.80	1978	MP001	
	3.25			59.7	3.003	1.499	CT	1.592	0.64	30.40	1977	RA006	
	2.25			59.9	2.998	1.499	CT	1.560	1.03	38.59	1977	RA004	
	3.00			59.9	5.015	2.498	CT	2.658	0.99	38.20	1978	MP001	
	3.00			60.1	5.026	2.501	CT	2.664	1.03	39.30	1978	MP001	
	3.00			60.1	5.038	2.502	CT	2.670	1.15	41.00	1978	MP001	
	3.00			60.1	5.001	2.495	CT	2.552	0.78	33.59	1978	RA003	
	3.50			60.2	5.027	2.500	CT	2.614	1.48	49.50	1978	MP001	
	3.25			60.4	4.977	2.500	CT	2.588	0.81	34.90	1978	MP001	
	1.75			60.4	4.982	1.747	CT	2.541	1.02	39.00	1978	MP001	
	2.25			60.4	2.997	1.499	CT	1.648	1.04	39.00	1977	RA004	

TABLE 8.20.2.1 (con't)

CONDITION	--PRODUCT--			TEST SPECIMEN ORIENT	YIELD STRENGTH (KSI)	ALUMINUM			7475			K(IIC)			K(IIC) STAN DEV	DATE	REFER	
	FORM	THICK (IN)	THICK (IN)			WIDTH (IN)	THICK (IN)	DESIGN	CRACK LENGTH (IN)	2.5* (K(IIC)/TYS)**2 (IN)	K(IIC) MEAN (KSI±SORT IN)							
T7351	P	2.00	R.T.	T-L	63.2	3.004	1.498	CT	1.586	0.63	32.30	1977	RA006					
		2.40			63.2	6.043	2.365	CT	3.082	0.81	36.60	1978	WPC01					
		1.25			63.6	3.002	1.370	CT	1.506	0.61	31.60	1977	RA006					
		2.00			63.6	5.041	1.996	CT	2.571	0.70	33.90	1978	WPC01					
		3.00			64.5	4.998	2.489	CT	2.611	0.68	33.80	1978	RA003					
		1.75			65.2	5.018	1.738	CT	2.559	0.81	37.60	1978	WPC01					
		1.77			66.0	2.997	1.498	CT	1.509	0.98	31.79	1977	RA004					
		1.77			66.0	2.997	1.497	CT	1.556	0.60	32.59	1977	RA004					
		1.75			66.3	5.041	1.760	CT	2.571	0.75	37.00	37.1/ 4.0	1978	WPC01				
T7351	P	1.62	83	T-L	65.2	1.490	0.750	CT	0.728	0.64	33.00	1973	86213					
		1.62			65.8	1.490	0.750	CT	0.730	0.61	32.40	1973	86213					
T7351	P	1.25	R.T.	S-L	---	1.003	0.501	CT	0.526	---	28.10	1977	RA006					
		3.00			53.3	2.003	0.999	CT	1.067	0.79	30.10	1978	RA003					
		3.50			53.9	2.010	1.000	CT	1.005	0.93	33.40	1978	WPC01					
		3.50			53.9	2.000	1.000	CT	1.020	0.96	33.70	1978	WPC01					
		3.50			54.2	2.480	1.250	CT	1.269	0.87	32.20	1978	WPC01					
		3.50			54.2	2.528	1.231	CT	1.264	0.84	31.70	1978	WPC01					
		3.00			54.3	2.003	0.999	CT	1.050	0.87	32.20	1978	RA003					
		3.00			54.3	2.010	0.999	CT	1.009	0.96	33.70	1978	WPC01					
		2.75			54.3	1.994	1.001	CT	1.017	0.81	31.30	1978	WPC01					
		2.75			54.3	2.014	1.000	CT	1.007	0.87	32.10	1978	WPC01					
		3.50			54.4	2.310	1.249	CT	1.255	0.87	32.50	1978	WPC01					
		3.50			54.4	2.316	1.250	CT	1.258	0.93	33.50	1978	WPC01					
		3.50			54.4	2.014	1.000	CT	1.007	0.87	32.40	1978	WPC01					
		3.00			54.5	1.986	1.001	CT	1.013	0.90	32.90	1978	WPC01					
		3.00			54.6	2.003	1.000	CT	1.046	0.69	28.79	1978	RA003					
		3.00			54.7	1.999	1.000	CT	0.967	0.79	30.79	1978	RA003					
		4.00			54.9	3.002	1.498	CT	1.566	0.71	29.40	1977	RA006					
3.00			55.0	2.008	0.999	CT	1.004	0.90	33.50	1978	WPC01							
2.75			55.3	2.018	1.000	CT	1.009	0.99	35.00	1978	WPC01							
2.75			55.3	1.992	1.000	CT	1.016	0.99	34.90	1978	WPC01							
2.50			55.7	1.999	1.002	CT	1.024	0.67	28.90	1977	RA006							
3.62			55.8	2.002	0.999	CT	0.984	0.67	29.10	1977	RA006							
3.00			55.8	1.990	1.001	CT	1.015	0.81	31.90	1978	WPC01							
3.25			56.0	1.998	1.002	CT	0.947	0.53	25.90	1977	RA006							

TABLE 8.20.2.1 (con't)

CONDITION	ALUMINUM		7475		K(1C)		CRACK LENGTH (IN)	2.5* K(1C)/TVS**2 (IN)	K(1C) MEAN (KSI*SQRT IN)	STAN DEV	DATE	REFER	
	--PRODUCT-- FORM	THICK (IN)	TEST SPECIMEN ORIENT (F)	YIELD STRENGTH (KSI)	WIDTH (IN)	THICK (IN)							DESIGN
T7351	P	3.00	R. T.	S-L	56.0	2.006	1.001	CT	1.003	0.78	31.80	1978	MPC01
		3.50			56.2	2.000	1.000	CT	1.020	0.81	32.50	1978	MPC01
		3.50			56.2	1.992	1.000	CT	1.015	0.84	32.70	1978	MPC01
		3.00			56.4	2.000	1.000	CT	1.000	0.87	33.70	1978	MPC01
		3.00			56.6	2.010	0.999	CT	1.005	0.84	32.90	1978	MPC01
		3.00			56.7	1.999	1.006	CT	1.001	0.53	26.20	1978	RA003
		3.00			56.8	1.998	0.999	CT	1.009	0.59	27.70	1978	RA003
		3.54			56.9	2.000	0.999	CT	0.963	0.71	30.40	1977	RA004
		3.54			56.9	2.000	0.998	CT	0.982	0.69	30.00	1977	RA004
		3.00			57.0	1.996	0.998	CT	1.025	0.63	28.79	1978	RA003
		3.00			57.2	2.000	0.998	CT	0.965	0.59	28.00	1978	RA003
		3.00			57.2	1.996	1.001	CT	0.998	0.75	32.00	1978	MPC01
		3.00			57.2	2.006	1.001	CT	1.003	0.78	32.60	1978	MPC01
		3.00			57.3	2.000	0.998	CT	0.988	0.61	28.40	1980	RA005
		3.00			57.3	1.001	1.001	CT	1.074	0.67	29.70	1978	RA003
		3.00			57.4	2.002	1.000	CT	1.039	0.99	36.30	1978	GD006
		3.50			57.4	2.010	1.000	CT	1.005	0.79	31.80	1978	MPC01
		3.00			57.4	1.999	0.999	CT	1.053	0.87	34.00	1978	GD006
		3.00			57.4	2.004	1.000	CT	1.049	0.69	30.20	1978	GD006
		3.00			57.4	1.997	1.000	CT	1.046	0.76	31.79	1978	GD006
		3.00			57.4	2.001	1.000	CT	1.033	0.87	33.90	1978	GD006
		3.00			57.6	1.990	1.000	CT	0.995	0.70	31.00	1978	MPC01
		3.00			57.6	2.000	1.008	CT	1.043	0.50	25.79	1978	RA003
		3.00			57.7	1.999	0.999	CT	0.967	0.67	30.00	1978	RA003
		3.00			57.9	1.999	1.005	CT	1.032	0.55	27.29	1978	RA003
		3.00			58.0	1.992	1.000	CT	1.016	0.57	28.00	1978	MPC01
		1.77			58.1	1.498	0.747	CT	0.771	0.48	25.50	1977	RA004
1.77			58.1	1.498	0.746	CT	0.766	0.47	25.20	1977	RA004		
3.00			58.1	2.000	1.000	CT	1.056	0.67	30.29	1978	RA003		
3.00			58.6	1.999	0.999	CT	0.975	0.58	28.29	1978	RA003		
3.00			59.4	2.000	1.007	CT	1.027	0.61	29.50	1978	RA003		
3.00			59.7	2.001	1.000	CT	1.075	0.59	29.10	1978	RA003		
3.00			59.9	2.000	0.998	CT	0.985	0.54	28.00	1980	RA005		
3.00			60.0	2.001	1.001	CT	1.055	0.47	26.20	1978	RA003		
2.50			60.7	1.999	1.001	CT	1.013	0.61	30.00	1977	RA006		
3.00			60.8	2.001	1.000	CT	1.053	0.58	29.29	1978	RA003		
2.00			63.2	1.503	0.750	CT	0.790	0.51	28.70	30.6/	2.6	1977	RA006
T7351	P	1.62	83	S-L	60.6	1.000	0.500	CT	0.484	0.43	25.00	1973	86213

TABLE 8.20.2.1 (con't)

CONDITION	ALUMINUM				7475		K(1C)		CRACK LENGTH (IN) A	2.5* K(1C)/TVB**2 (IN)	K(1C) MEAN DEV (KSI*SQRT IN)	K(1C) STAN DEV	DATE	REFER
	--PRODUCT-- FORM	THICK (IN)	TEST SPECIMEN ORIENT	YIELD STRENGTH (KSI)	WIDTH (IN) W	THICK (IN) B	DESIGN	DESIGN						
17351	P	1.62	83	8-L	1.000	0.499	CT	0.487	0.45	25.70	25.4/	0.5	1973	86213
17351 (SP)	P	1.75	R.T.	L-T	4.000	1.798	CT	2.195	1.63	48.30			1973	86213
17351 (SP)	P	3.25	R.T.	T-L	4.000	2.002	CT	2.177	1.40	40.50			1973	86213
		3.25			4.000	2.001	CT	2.156	1.34	39.70			1973	86213
		3.25			3.990	2.001	CT	2.152	1.12	37.60			1973	86213
		3.25			6.000	1.999	CT	3.161	1.16	38.20			1973	86213
		3.25			4.000	2.000	CT	2.187	1.08	37.00			1973	86213
		3.25			4.000	2.000	CT	2.197	1.12	37.90			1973	86213
		3.25			6.000	2.000	CT	3.216	1.08	37.20			1973	86213
		2.50			2.500	1.232	CT	1.329	1.06	37.40			1973	86213
		2.50			2.500	1.251	CT	1.296	1.10	38.10			1973	86213
		2.50			2.500	1.249	CT	1.312	1.24	40.90			1973	86213
		2.50			2.500	1.251	CT	1.294	1.09	38.10			1973	86213
		3.00			6.010	2.000	CT	3.176	0.97	36.50			1973	86213
		3.00			6.000	2.003	CT	3.221	1.16	41.10			1973	86213
		2.50			1.490	0.752	CT	0.736	0.71	32.10			1973	86213
		2.50			1.490	0.748	CT	0.756	0.67	31.80			1973	86213
		1.75			4.000	1.796	CT	2.160	0.96	37.70			1973	86213
		1.75			4.000	1.796	CT	2.188	0.94	37.30	37.6/	2.5	1973	86213
17351 (SP)	P	3.25	82	8-L	2.000	1.002	CT	1.004	0.93	33.40			1973	86213
		3.25			1.990	1.002	CT	0.982	0.86	32.00			1973	86213
		3.25			1.990	1.001	CT	1.011	0.77	30.60			1973	86213
		3.25			1.990	1.002	CT	1.006	0.88	32.60			1973	86213
		3.00			1.990	1.002	CT	0.976	0.72	30.00			1973	86213
		3.00			1.990	1.001	CT	0.985	0.74	30.30			1973	86213
		3.00			1.990	1.003	CT	0.992	0.94	35.00			1973	86213
		3.00			1.990	1.003	CT	0.979	0.76	31.50	31.9/	1.7	1973	86213
1736	F	2.00	82	8-T	2.000	0.999	CT	1.053	0.72	37.10			1973	86213

TABLE 8.20.2.1 (con't)

CONDITION	ALUMINUM										7475		K(1C)		DATE	REFER
	---PRODUCT--		TEST SPECIMEN ORIENT	YIELD STRENGTH (KSI)	-----SPECIMEN-----		DESIGN	CRACK LENGTH (IN)	2.5* (K(1C))/Y(S)**2 (IN)	K(1C) MEAN (KSI#SORT IN)	STAN DEV					
	FORM	THICK (IN)			WIDTH (IN)	THICK (IN)										
T7651	P	2.00	R. T.	L-T	60.8	2.998	1.500	CT	1.581	1.25	43.00			1977	RA007	
		2.00			61.7	3.001	1.498	CT	1.612	1.19	42.70			1977	RA007	
		2.00			62.0	3.000	1.497	CT	1.547	1.06	40.40			1977	RA007	
		2.00			67.6	3.000	1.498	CT	1.609	0.89	40.40			1977	RA001	
		2.00			68.7	3.000	1.498	CT	1.575	0.68	35.90			1977	RA007	
		1.00			71.0	2.490	0.930	CT	1.268	0.80	40.10			1973	86574	
		1.00			71.0	2.490	0.930	CT	1.297	0.80	40.30	40.4/	2.3	1973	86574	
T7651	P	2.00	R. T.	T-L	62.3	2.998	1.500	CT	1.512	0.78	34.90			1977	RA007	
		2.00			63.7	3.001	1.498	CT	1.576	0.71	34.00			1977	RA007	
		2.00			64.7	3.000	1.497	CT	1.564	0.69	34.09			1977	RA007	
		2.00			67.7	3.000	1.497	CT	1.582	0.63	34.09			1977	RA007	
		0.87			69.9	3.000	0.892	CT	1.523	0.50	31.00			1973	86213	
		2.00			69.8	3.000	1.498	CT	1.612	0.43	29.10			1977	RA007	
		1.00			70.2	2.000	0.965	CT	1.048	0.72	37.70			1973	86213	
T7651		1.00			70.2	2.000	0.965	CT	0.991	0.71	37.40	34.0/	2.9	1973	86213	
	P	2.00	R. T.	S-L	60.5	1.499	0.749	CT	0.770	0.50	27.29			1977	RA007	
		2.00			60.9	1.498	0.750	CT	0.775	0.51	27.60			1977	RA007	
		2.00			61.1	1.499	0.750	CT	0.766	0.48	27.00			1977	RA007	
		2.00			65.7	1.499	0.752	CT	0.802	0.42	27.00			1977	RA007	
		2.00			66.1	1.500	0.749	CT	0.798	0.47	28.90	27.6/	0.8	1977	RA007	
T7651 (SP)	P	1.75	R. T.	L-T	64.2	4.000	1.789	CT	2.208	1.27	45.80			1973	86213	
		2.00			66.0	4.000	2.017	CT	2.096	0.96	40.90			1973	86213	
		2.00			66.0	3.990	2.016	CT	2.109	0.95	40.60	42.4/	2.9	1973	86213	
T7651 (SP)	P	2.00	R. T.	T-L	66.4	3.000	0.998	CT	1.499	0.70	35.20			1973	86213	
		2.00			66.7	4.000	2.018	CT	2.093	0.72	35.80			1973	86213	
		2.00			66.7	4.000	2.017	CT	2.109	0.73	36.00	35.7/	0.4	1973	86213	
T7651 (SP)	P	2.00	R. T.	S-T	60.2	1.500	0.748	CT	0.793	0.63	30.30			1973	86213	
		2.00			61.0	1.500	0.748	CT	0.776	0.56	28.90			1973	86213	
		2.00			62.3	1.490	0.748	CT	0.745	0.50	27.80			1973	86213	
		2.00			62.4	1.490	0.748	CT	0.759	0.49	27.70			1973	86213	
		2.00			63.4	1.500	0.748	CT	0.787	0.54	29.40	28.8/	1.1	1973	86213	

CONDITION	ALUMINUM			7475			K(IIC)			DATE	REFER		
	--PRODUCT-- FORM	TEST THICK (IN)	SPECIMEN ORIENT	YIELD STRENGTH (KSI)	-----SPECIMEN-----		CRACK LENGTH (IN)	2.5* (K(IIC)/TYS)**2 (IN)	K(IIC) MEAN (KSI*SQRT IN)			STAN DEV	
					WIDTH (IN)	THICK (IN)							DESIGN
17651 (SP)	P	2.00	R. T.	60.2	1.500	0.747	CT	0.779	0.60	29.60	1973	86213	
		2.00		61.0	1.500	0.746	CT	0.765	0.48	26.60	1973	86213	
		2.00		61.5	1.500	0.747	CT	0.746	0.41	24.90	1973	86213	
		2.00		62.3	1.500	0.747	CT	0.744	0.54	28.90	1973	86213	
		2.00		62.4	1.500	0.747	CT	0.759	0.40	25.10	1973	86213	
		2.00		63.4	1.500	0.747	CT	0.756	0.52	28.80	27.3/	2.1	1973
17651 (SP)	P	1.75	82	61.6	1.000	0.500	CT	0.492	0.37	23.70	1973	86213	
		2.00		63.8	1.490	0.749	CT	0.752	0.54	29.60	1973	86213	
		2.00		63.8	1.490	0.749	CT	0.756	0.51	28.90	27.4/	3.2	1973

TABLE 8.20.2.2

CONDITION	ALUMINUM		7475		K(C)		CRACK LENGTH CROSS STRESS				K(APP)		K(C)		K(C)		STAN	
	---PRODUCT---		SPECIMEN---		W		THICK		INIT		FINAL		ONSET		MAX		K(APP)	
	FORM THICK TEMP OR		WIDTH		(IN)		(IN)		(IN)		(IN)		(KSI)		(KSI)		(KSI*80RT IN)	
	(IN)	(F)	(IN)	(F)	(IN)	(F)	(IN)	(F)	(IN)	(F)	(IN)	(F)	(KSI)	(F)	(KSI)	(F)	(KSI*80RT IN)	(KSI*80RT IN)
T61	S	0.04	R.T.	L-T	77.1	16.000	0.039	4.000	4.340	---	29.20	76.15	77.5	1.8	81.95	80.9	1.4	1973 86842
		0.04			76.2	16.000	0.040	4.000	4.280	---	30.20	78.76						1973 86842
T61	S	0.06	R.T.	L-T	74.1	16.000	0.063	4.000	4.320	---	32.60	85.02			88.75			1972 84368
		0.06			74.1	16.000	0.063	4.000	4.600	---	23.60	77.46			85.10			1972 84368
		0.06			74.1	16.000	0.063	3.000	3.460	---	39.80	88.32			95.56			1972 84368
		0.06			74.1	16.000	0.063	1.000	1.320	---	61.90	77.77*			96.18*			1972 84368
		0.06			74.1	16.000	0.063	3.000	3.400	---	28.40	84.75			89.05			1972 84368
		0.06			74.1	16.000	0.063	2.000	2.320	---	49.00	87.70			94.77			1972 84368
		0.06			75.7	16.000	0.062	4.000	4.280	---	30.30	79.54	84.1	3.9	82.76	89.4	5.1	1972 84368
T61	S	0.09	R.T.	L-T	76.0	3.000	0.090	1.280	2.237	---	41.30	66.15*			124.03*			1973 86213
		0.09			76.0	3.000	0.090	1.027	2.111	---	48.00	65.74*			130.37*			1973 86213
T61	S	0.09	R.T.	L-T	76.4	15.880	0.090	4.000	4.850	---	38.20	99.68			111.75			1973 86213
		0.09			76.4	15.880	0.090	3.980	4.700	---	38.70	100.69	100	2/ 0.7	111.22	111.6	0.5	1973 86213
T61	S	0.09	R.T.	L-T	75.8	15.880	0.100	4.000	4.300	---	32.90	85.85			89.59			1973 86213
		0.09			75.8	15.880	0.100	4.000	4.400	---	30.70	80.11	83	0/ 4.1	84.76	87.2	3.4	1973 86213
T61	S	0.09	R.T.	L-T	73.7	16.000	0.089	4.000	4.620	23.90	38.30	99.88			108.82			1973 86842
		0.09			74.2	16.000	0.091	4.000	5.220	---	38.00	99.10	99	5/ 0.6	116.56	112.7	5.5	1973 86842
T61	S	0.12	R.T.	L-T	78.4	3.000	0.127	1.117	2.146	---	43.10	62.48*			120.34*			1973 86213
		0.12			78.4	3.000	0.127	1.177	2.252	---	41.30	62.13*			125.72*			1973 86213
T61	S	0.12	R.T.	L-T	74.5	16.000	0.110	4.000	4.780	18.20	38.60	100.66			112.00			1973 86842
		0.12			76.8	16.000	0.125	4.000	4.900	20.00	36.20	94.40	97	5/ 4.4	106.67	109.3	3.8	1973 86842
T61	S	0.18	R.T.	L-T	75.0	16.000	0.182	4.000	5.400	---	36.70	95.71			115.08			1973 86842
		0.18			75.6	16.000	0.186	4.000	5.000	---	32.90	85.80	90	8/ 7.0	98.18	106.6	12.0	1973 86842
T61	S	0.18	82	L-T	77.3	3.000	0.178	1.190	2.202	---	43.40	65.84*			126.71*			1973 86213
		0.18			77.3	3.000	0.178	1.110	2.111	---	45.70	66.01*			124.12*			1973 86213

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV.

*NOTE-- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV.

TABLE 8.20.2.2 (con't)

CONDITION	ALUMINUM		7475		K(C)		CRACK LENGTH GROSS STRESS										K(C)					
	--PRODUCT-- FORM	THICK (IN)	TEST (F)	SPEC (KSI)	YIELD		--SPECIMEN--		CRACK		LENGTH		GROSS		STRESS		K(IAPP) (KSI*SQRT IN)	STAN DEV	K(I C) (KSI*SQRT IN)	K(I C) STAN DEV	REFER	
					STR (KSI)	(IN)	W	THICK (IN)	INIT (IN)	FINAL (IN)	ONSET (KSI)	MAX (KSI)	S(O)	S(MAX)								
T61	S	0 06	R T	T-L	72.6	16.000	0.063	6.000	6.800	---	22.20	74.74	---	81.87	---	---	1972	84368	4.8	85.8/	1972	84368
T61	S	0 09	R T	T-L	72.5	3.000	0.090	1.113	2.116	---	44.60	64.50*	---	121.68*	---	---	1973	86213			1973	86213
T61	S	0 09	R T	T-L	73.1	15.880	0.091	3.980	4.320	---	35.10	91.32	---	95.84	---	---	1973	86213			1973	86213
		0 09			73.1	15.880	0.091	3.980	4.750	---	33.00	85.86	---	95.46	---	---	1973	86213			1973	86213
		0 09			74.1	15.880	0.101	4.000	4.350	---	31.80	82.98	---	87.19	---	---	1973	86213			1973	86213
		0 09			74.1	15.880	0.100	4.000	4.300	---	29.30	76.46	---	79.79	---	---	1973	86213			1973	86213
		0 09			71.9	16.000	0.090	4.000	5.120	---	36.80	95.97	---	111.48	---	---	1973	86842			1973	86842
		0 09			72.1	16.000	0.091	4.000	4.880	---	34.30	89.45	---	100.81	99.1/10.9	---	1973	86842			1973	86842
T61	S	0 12	R T	T-L	73.6	3.000	0.127	1.137	2.122	---	40.10	58.86*	---	109.91*	---	---	1973	86213			1973	86213
T61	S	0 12	R T	T-L	72.6	16.000	0.110	4.000	5.360	19.30	35.60	92.84	---	111.09	---	---	1973	86842			1973	86842
T61	S	0 18	R T	T-L	74.2	3.000	0.181	1.223	2.164	---	42.10	65.12*	---	119.22*	---	---	1973	86213			1973	86213
T61	S	0 18	R T	T-L	74.2	3.000	0.182	1.150	2.234	---	43.70	64.70*	---	131.02*	---	---	1973	86213			1973	86213
T61	S	0 18	R T	T-L	72.3	16.000	0.181	4.000	5.000	---	30.90	80.58	---	92.21	---	---	1973	86842			1973	86842
T61	S	0 18	R T	T-L	72.6	16.000	0.186	4.000	4.870	---	27.70	72.24	76.4/ 5.9	81.31	86.8/ 7.7	---	1973	86842			1973	86842
T61	S	0 06	A	T-L	71.6	16.000	0.064	3.000	3.480	25.40	36.50	81.00	---	87.92	---	---	1973	86213			1973	86213
T61	S	0 06			71.6	16.000	0.063	1.000	1.530	44.20	58.60	73.62*	---	91.36*	---	---	1973	86213			1973	86213
T61	S	0 09	85	T-L	74.5	3.000	0.089	1.165	2.029	---	40.40	60.33*	---	103.30*	---	---	1973	86213			1973	86213
		0 09			74.5	3.000	0.089	1.150	2.020	---	43.10	63.81*	---	109.37*	---	---	1973	86213			1973	86213
		0 09			73.1	3.000	0.091	1.145	1.880	---	44.30	65.34*	---	102.34*	---	---	1973	86213			1973	86213
		0 09			73.1	3.000	0.091	1.160	1.932	---	44.00	65.54*	---	105.24*	---	---	1973	86213			1973	86213
T61	S	0 09	85	T-L	74.1	3.000	0.101	1.180	1.956	---	40.40	60.92*	---	98.22*	---	---	1973	86213			1973	86213
		0 09			74.1	3.000	0.101	1.220	2.064	---	40.30	62.26*	---	105.76*	---	---	1973	86213			1973	86213

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV.

TABLE 8.20.2.2 (con't)

		ALUMINUM		7475		K(C)								
		K(C)		K(C)		K(C)								
CONDITION	--PRODUCT-- FORM THICK TEMP OR (IN) (F)	YIELD STR (KSI)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K(AFP) STAN		K(C) STAN			
			W (IN)	THICK (IN)	INIT (IN)	FINAL (IN)	ONSET (KSI)	MAX (KSI)	K(AFP) (KSI)	MEAN (KSI)	DEV (KSI)	K(C) (KSI)	STAN (KSI)	
														BUCKLING OF CRACK EDGES NOT RESTRAINED
T61	S	0 12	86	T-L	71.8	3.000	0.115	1.157	1.967	---	40.10	59.59*	98.16*	1973 86213
		0 12			71.8	3.000	0.115	1.133	1.919	---	41.40	60.62*	98.09*	1973 86213
T61	S	0 18	86	T-L	73.5	3.000	0.186	1.162	2.018	---	38.30	57.12*	97.23*	1973 86213
		0 18			73.5	3.000	0.186	1.168	2.117	---	38.10	57.03*	103.95*	1973 86213
T61	S	0 06	88	T-L	71.6	16.000	0.062	4.000	4.510	17.60	31.20	81.36	87.36	1973 86213
		0 06			71.6	16.000	0.063	6.000	6.430	10.10	21.90	73.73	77.46	1973 86213
		0 06			71.6	16.000	0.062	4.000	4.440	15.50	32.50	84.75	79.9/ 5.6	1973 86213
T61	P	0 25	R T	T-L	75.2	3.000	0.250	1.130	1.592	---	27.90	40.80	53.81	1973 86213
		0 25			75.2	3.000	0.250	1.140	1.863	---	27.90	41.05	63.69*	1973 86213
T61	P	0 25	82	T-L	72.4	3.000	0.243	1.220	2.113	---	37.10	57.32*	100.91*	1973 86213
		0 25			72.4	3.000	0.243	1.243	2.152	---	37.50	58.71*	105.20*	1973 86213
BUCKLING OF CRACK EDGES NOT RESTRAINED														
T7351	P	3 00	R T	L-8	59.5	2.009	0.303	0.744	---	---	44.57	52.80*	87.20*	1979 00011
		3 00			59.5	2.009	0.303	0.750	---	---	43.20	51.40*	85.10*	1979 00011
		3 00			59.5	2.009	0.303	0.750	---	---	39.10	46.50*	80.10*	1979 00011
T7351	P	0 50	-	80	L-T	64.9	16.000	0.266	4.000	---	36.89	96.20	160.30	1978 00005
T7351	P	0 50	-	80	L-T	64.9	16.000	0.364	4.000	---	36.37	94.80	150.50	1978 00005
T7351	P	0 50	-	80	L-T	64.9	16.000	0.308	4.010	---	37.21	97.30	129.30	1978 00005
T7351	P	0 50	R T	L-T	64.9	6.000	0.255	2.822	---	---	33.85	82.90*	120.70*	1978 00005
		0 50			64.9	6.004	0.256	2.004	---	---	41.77	79.70*	116.40*	1978 00005
T7351	P	0 50	R T	L-T	64.9	6.013	0.350	1.980	---	---	42.55	80.50*	116.60*	1978 00005

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV.

TABLE 8.20.2.2 (con't)

CONDITION	ALUMINUM		7475		K(C)															
	--PRODUCT-- FORM	THICK (IN)	TEST TEMP (F)	SPEC DR	YIELD STR (KSI)	---SPECIMEN---		CRACK LENGTH CROSS STRESS				K(APP) STAN				K(C) STAN				
						WIDTH (IN)	THICK (IN)	INIT (IN)	FINAL (IN)	ONSET (KSI)	MAX (KSI)	K(APP) (KSI*SQRT IN)	MEAN (KSI*SQRT IN)	DEV (KSI)	STAN (KSI*SQRT IN)	K(C) (KSI*SQRT IN)	MEAN (KSI*SQRT IN)	DEV (KSI)	STAN (KSI*SQRT IN)	
																				W
BUCKLING OF CRACK EDGES NOT RESTRAINED																				
T7351	P	0.50	R.T.	L-T	64.9	6.070	0.514	2.032	---	---	38.34	73.70*	---	---	106.20*	---	---	---	---	1978 GD005
T7351	P	0.50	R.T.	L-T	64.9	6.080	0.507	2.008	---	---	41.59	79.30*	---	---	117.30*	---	---	---	---	1978 GD005
T7351	P	0.50	R.T.	L-T	64.9	15.970	0.511	4.000	---	---	45.00	117.40*	---	---	178.30*	---	---	---	---	1978 GD005
		0.50			64.9	15.990	0.514	4.010	---	---	45.93	120.00*	---	---	193.90*	---	---	---	---	1978 GD005
T7351	P	0.50	R.T.	L-T	64.9	16.000	0.253	4.020	---	---	44.47	116.30*	---	---	166.30*	---	---	---	---	1978 GD005
		0.50			64.9	16.000	0.256	4.030	---	---	44.68	117.00*	---	---	177.70*	---	---	---	---	1978 GD005
T7351	P	0.50	R.T.	L-T	64.9	16.000	0.355	4.020	---	---	47.84	125.10*	---	---	198.90*	---	---	---	---	1978 GD005
T7351	P	0.50	R.T.	L-T	64.9	16.000	0.507	3.980	---	---	46.28	120.30*	---	---	193.70*	---	---	---	---	1978 GD005
T7351	P	0.50	R.T.	L-T	64.9	16.020	0.398	4.000	---	---	46.31	120.80*	---	---	186.20*	---	---	---	---	1978 GD005
BUCKLING OF CRACK EDGES NOT RESTRAINED																				
T761	S	0.03	R.T.	L-T	72.8	16.000	0.032	4.000	4.460	---	27.00	70.41	---	---	75.09	---	---	---	---	1973 86842
T761	S	0.04	R.T.	L-T	73.7	16.000	0.041	4.000	4.440	13.10	31.10	81.10	---	---	88.60	---	---	---	---	1973 86842
		0.04			74.3	16.000	0.041	4.000	4.440	---	29.60	77.19	79.1/ 2.6	82.10	85.4/ 4.6	---	---	---	---	1973 86842
T761	S	0.06	R.T.	L-T	66.4	16.000	0.061	4.000	4.720	---	35.70	93.10	---	---	102.78	---	---	---	---	1972 84168
		0.06			70.5	16.000	0.062	4.000	4.880	---	33.90	88.41	---	---	99.63	---	---	---	---	1972 84168
		0.06			70.5	16.000	0.062	3.000	3.520	---	40.20	89.21	---	---	97.45	---	---	---	---	1972 84168
		0.06			70.5	16.000	0.061	2.000	2.480	---	49.70	88.95*	---	---	99.37*	---	---	---	---	1972 84168
		0.06			70.5	16.000	0.062	1.000	1.660	---	61.40	77.14*	---	---	99.81*	---	---	---	---	1972 84168
		0.06			70.5	16.000	0.061	5.000	5.740	---	27.40	81.77	---	---	89.48	---	---	---	---	1972 84168
		0.06			70.5	16.000	0.061	6.000	6.800	---	24.40	82.15	86.9/ 4.9	89.99	95.9/ 4.9	---	---	---	---	1972 84168
T761	S	0.09	R.T.	L-T	66.7	15.880	0.090	4.000	4.920	---	37.70	98.38	---	---	111.48*	---	---	---	---	1972 84168
		0.09			66.7	15.880	0.090	4.000	5.050	---	38.90	101.51	---	---	116.94*	---	---	---	---	1972 84168

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD DEV

TABLE 8.20.2.2 (con't)

CONDITION	--PRODUCT-- FORM	THICK (IN)	TEST SPEC TEMP OR (F)	YIELD STR (KSI)	ALUMINUM				7475				K(C)				K(C) STAN MEAN DEV (KSI-BORT IN)	K(C) STAN MEAN DEV (KSI-BORT IN)	DATE REFER
					---SPECIMEN---				CRACK LENGTH CROSS STRESS				K(APP)						
					WIDTH (IN)	THICK (IN)	INIT (IN)	FINAL (IN)	ONSET (KSI)	MAX (KSI)	K(APP) (KSI)	K(APP) MEAN DEV (KSI-BORT IN)	K(APP) MEAN DEV (KSI-BORT IN)	K(APP) MEAN DEV (KSI-BORT IN)	K(APP) MEAN DEV (KSI-BORT IN)				
																W			
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T761	S	0.09	R.T.	L-T	70.7	15.880	0.090	3.970	3.150	---	38.20	99.25	116.28	1973	86213				
		0.09			70.7	15.880	0.090	3.980	4.970	---	37.70	98.09	99.3/ 1.5	112.19	114.2/ 2.9				
T761	S	0.09	R.T.	L-T	69.8	16.000	0.089	4.000	4.900	19.70	39.70	103.53	116.98*	1973	86842				
		0.09			67.3	16.000	0.091	4.000	5.240	18.50	38.90	101.44	102.5/ 1.5	119.61*	---				
T761	S	0.12	R.T.	L-T	66.4	16.000	0.125	4.000	5.300	17.50	41.30	107.70*	127.93*	1973	86842				
		0.12			66.8	16.000	0.125	4.000	5.240	16.00	39.70	103.53	122.07*	1973	86842				
T761	S	0.18	R.T.	L-T	66.4	16.000	0.185	4.000	6.000	17.60	42.00	109.53*	141.40*	1973	86842				
		0.18			69.3	16.000	0.192	4.000	5.880	17.80	46.20	120.48*	153.38*	1973	86842				
T761	S	0.12	83	L-T	73.2	3.000	0.129	1.230	2.278	---	40.10	62.33*	124.86*	1973	86213				
		0.12			73.2	3.000	0.129	1.117	2.158	---	43.20	62.63*	121.76*	1973	86213				
T761	S	0.06	84	L-T	73.6	16.000	0.063	3.000	3.630	28.10	37.00	82.11	91.27	1973	86213				
		0.06			73.6	16.000	0.063	1.000	1.740	52.70	60.40	75.88*	100.59*	1973	86213				
T761	S	0.09	86	L-T	66.7	3.000	0.090	1.150	1.988	---	40.70	60.26*	101.17*	1973	86213				
		0.09			66.7	3.000	0.090	1.170	1.988	---	40.70	61.00*	101.17*	1973	86213				
		0.09			70.7	3.000	0.095	1.185	1.981	---	40.90	61.83*	101.10*	1973	86213				
		0.09			70.7	3.000	0.095	1.160	1.972	---	40.00	59.58*	98.33*	1973	86213				
T761	S	0.12	86	L-T	67.1	3.000	0.115	1.180	2.014	---	40.00	60.32*	101.26*	1973	86213				
		0.12			67.1	3.000	0.115	1.200	2.027	---	40.00	61.06*	102.13*	1973	86213				
T761	S	0.06	88	L-T	73.6	16.000	0.063	6.000	6.140	9.00	19.20	64.64	65.70	1973	86213				
		0.06			73.6	16.000	0.064	4.000	4.230	15.70	31.40	81.89	84.62	1973	86213				
		0.06			73.6	16.000	0.063	4.000	4.170	19.40	28.90	73.37	74.0/ 8.7	75.8/ 9.5	1973	86213			
T761	P	0.25	R.T.	L-T	67.0	16.000	0.245	4.000	5.120	---	42.70	111.35*	129.36*	1973	86842				
		0.25			67.8	16.000	0.249	4.000	4.970	---	27.90	72.76	82.94	1973	86842				
T761	P	0.25	82	L-T	66.6	3.000	0.240	1.183	2.234	---	39.20	59.18*	117.52*	1973	86213				
		0.25			66.6	3.000	0.240	1.130	2.209	---	39.80	58.20*	116.77*	1973	86213				

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV.

TABLE 8.20.2.2 (con't)

CONDITION	ALUMINUM		7475		K(C)											
	--PRODUCT--		--SPECIMEN--		CRACK LENGTH		GROSS STRESS		K(APP)		STAN		K(C)		STAN	
	FORM	THICK (IN)	W	THICK (IN)	INIT (IN)	FINAL (IN)	ONSET (KSI)	MAX (KSI)	K(APP) (KSI)	MEAN (KSI)	DEV (KSI)	STAN (KSI)	K(C) (KSI)	MEAN (KSI)	DEV (KSI)	DATE
	THICK (IN)	OR (KSI)	(F)	(IN)	2A(D)	2A(F)	S(O)	S(MAX)								REFER
BUCKLING OF CRACK EDGES NOT RESTRAINED																
T761	P	0.25	82	L-T	72.2	3.000	0.250	1.133	2.302	---	35.20	51.54	---	111.97*	---	1973 86213
		0.25			72.2	3.000	0.250	1.150	1.743	---	34.20	50.63	---	72.31*	---	1973 86213
T761	S	0.03	R.T.	T-L	69.4	16.000	0.032	4.000	4.840	---	29.70	77.45	---	86.84	---	1973 86842
T761	S	0.04	R.T.	T-L	70.8	16.000	0.041	4.000	4.420	15.20	30.60	79.80	---	84.65	---	1973 86842
		0.04			71.1	16.000	0.042	4.000	4.420	11.60	32.40	84.49	82.1/ 3.3	89.63	87.1/ 3.3	1973 86842
T761	S	0.06	R.T.	T-L	65.0	16.000	0.062	4.000	4.560	---	33.10	86.32	---	93.30	---	1972 84368
		0.06			69.0	16.000	0.061	5.000	5.840	---	28.10	83.86	---	72.86	---	1972 84368
		0.06			69.0	16.000	0.062	2.000	2.500	---	90.80	90.92*	---	102.21*	---	1972 84368
		0.06			69.0	16.000	0.062	6.000	6.800	---	24.60	82.82	---	70.72	---	1972 84368
		0.06			69.0	16.000	0.062	1.000	1.520	---	61.00	76.64*	---	94.78*	---	1972 84368
		0.06			69.0	16.000	0.063	4.000	4.720	---	34.10	88.93	---	98.17	---	1972 84368
		0.06			69.0	16.000	0.061	3.000	3.460	---	40.50	89.87	86.4/ 3.1	97.24	94.5/ 3.1	1972 84368
T761	S	0.09	R.T.	T-L	65.3	15.880	0.090	4.000	4.920	---	35.20	91.85	---	104.08	---	1973 86213
		0.09			65.3	15.880	0.090	4.000	4.950	---	34.50	90.03	---	102.41	---	1973 86213
		0.09			68.9	15.880	0.090	3.990	4.600	---	33.80	88.07	---	95.86	---	1973 86213
		0.09			68.9	15.880	0.090	3.990	4.620	---	37.60	97.97	92.0/ 4.3	106.73	102.3/ 4.7	1973 86213
T761	S	0.09	R.T.	T-L	68.3	16.000	0.089	4.000	4.660	19.70	37.20	97.01	---	106.26	---	1973 86842
		0.09			64.6	16.000	0.090	4.000	4.920	17.40	36.60	95.45	96.2/ 1.1	108.12*	---	1973 86842
T761	S	0.12	R.T.	T-L	72.2	3.000	0.129	1.133	2.164	---	42.60	62.37*	---	120.63*	---	1973 86213
		0.12			72.2	3.000	0.129	1.193	2.251	---	41.70	63.34*	---	126.73*	---	1973 86213
T761	S	0.12	R.T.	T-L	64.9	16.000	0.125	4.000	5.240	17.00	37.40	97.53	---	115.00*	---	1973 86842
		0.12			65.6	16.000	0.125	4.000	5.240	17.00	35.20	91.80	94.7/ 4.1	108.23	---	1973 86842
T761	S	0.18	R.T.	T-L	65.3	16.000	0.185	4.000	5.660	18.20	39.80	103.79*	---	128.75*	---	1973 86842
		0.18			67.0	16.000	0.193	4.000	5.700	---	38.50	100.40	---	125.14*	---	1973 86842
T761	S	0.06	84	T-L	71.4	16.000	0.064	1.000	1.840	43.90	58.60	73.62*	---	100.45*	---	1973 86213
		0.06			71.4	16.000	0.064	3.000	3.460	23.00	34.20	75.89	---	82.11	---	1973 86213

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV.

TABLE 8.20.2.2 (con't)

ALUMINUM		7475		K(C)												
CONDITION	--PRODUCT-- FORM	THICK (IN)	TEST SPEC TEMP OR (F)	YIELD STR (KSI)	CRACK LENGTH CROSS STRESS				K(C) STAN MEAN DEV (KSI*SQRT IN)	K(C) STAN MEAN DEV (KSI*SQRT IN)	DATE REFER					
					---SPECIMEN---		GROSS									
					WIDTH (IN)	THICK (IN)	INIT (IN)	FINAL (IN)				ONSET (KSI)	MAX (KSI)			
		W	B	2A(D)	2A(F)	S(D)	S(MAX)									
BUCKLING OF CRACK EDGES NOT RESTRAINED																
T761	S	0.09	86	T-L	65.3	3.000	0.090	1.155	1.952	---	39.40	58.48*	95.53*	1973	86213	
		0.09			65.3	3.000	0.090	1.215	2.093	---	38.50	59.27*	103.16*	1973	86213	
		0.09			68.9	3.000	0.095	1.185	1.980	---	39.80	60.16*	98.38*	1973	86213	
		0.09			68.9	3.000	0.095	1.155	1.989	---	40.70	60.41*	101.17*	1973	86213	
T761	S	0.12	86	T-L	66.1	3.000	0.115	1.153	2.087	---	40.00	59.29*	106.70*	1973	86213	
		0.12			66.1	3.000	0.115	1.198	2.012	---	39.00	59.46*	98.59*	1973	86213	
T761	S	0.06	88	T-L	71.4	16.000	0.064	4.000	4.380	13.70	33.40	87.10	91.89	1973	86213	
		0.06			71.4	16.000	0.063	6.000	6.510	7.70	23.40	78.78	83.52	1973	86213	
		0.06			71.4	16.000	0.064	4.000	4.580	18.70	33.70	87.88	84.6/ 5.0	90.2/ 6.0	1973	86213
T761	P	0.25	R. T.	T-L	65.9	16.000	0.245	4.000	5.660	---	40.60	105.88*	131.34*	1973	86842	
		0.25			68.3	16.000	0.249	4.000	4.550	---	25.60	66.76	72.07	1973	86842	
T761	P	0.25	82	T-L	64.5	3.000	0.240	1.197	2.276	---	38.50	57.21*	119.66*	1973	86213	
		0.25			64.5	3.000	0.240	1.203	2.220	---	37.50	57.31*	111.12*	1973	86213	
		0.25			70.6	3.000	0.250	1.127	2.288	---	35.50	51.79*	111.51*	1973	86213	
		0.25			70.6	3.000	0.250	1.147	2.146	---	34.60	51.10	96.61*	1973	86213	
BUCKLING OF CRACK EDGES NOT RESTRAINED																
T7651	P	0.50	R. T.	L-T	70.6	15.900	0.512	4.000	----	---	40.98	106.90	130.20	1978	8D005	
T7651	P	0.50	R. T.	L-T	70.6	16.000	0.258	4.020	----	---	40.80	106.70	168.00	1978	8D005	
T7651	P	0.50	R. T.	L-T	70.6	16.000	0.355	4.010	----	---	50.49	131.90*	217.20*	1978	8D005	

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV.

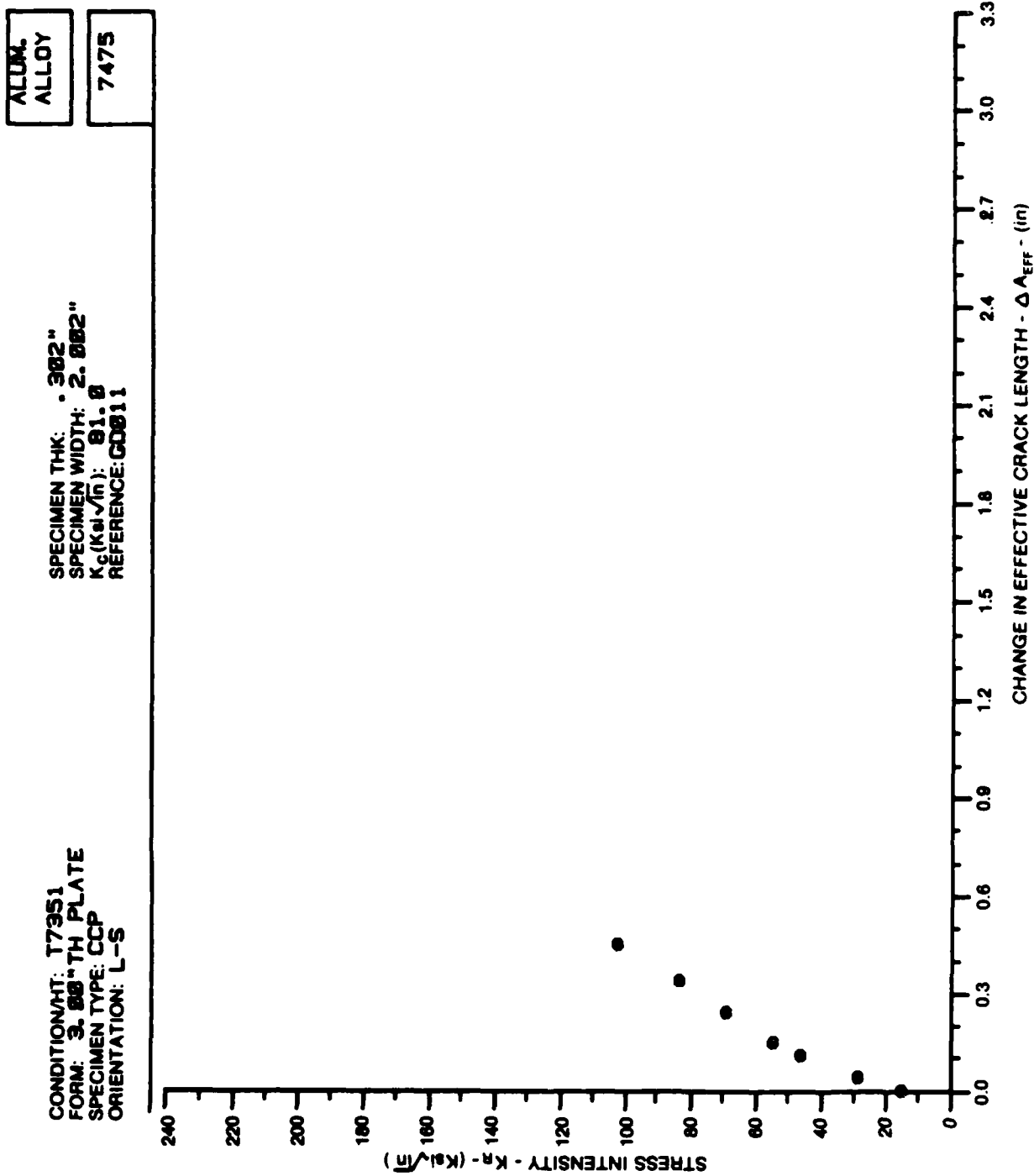


Figure 8.20.2.3

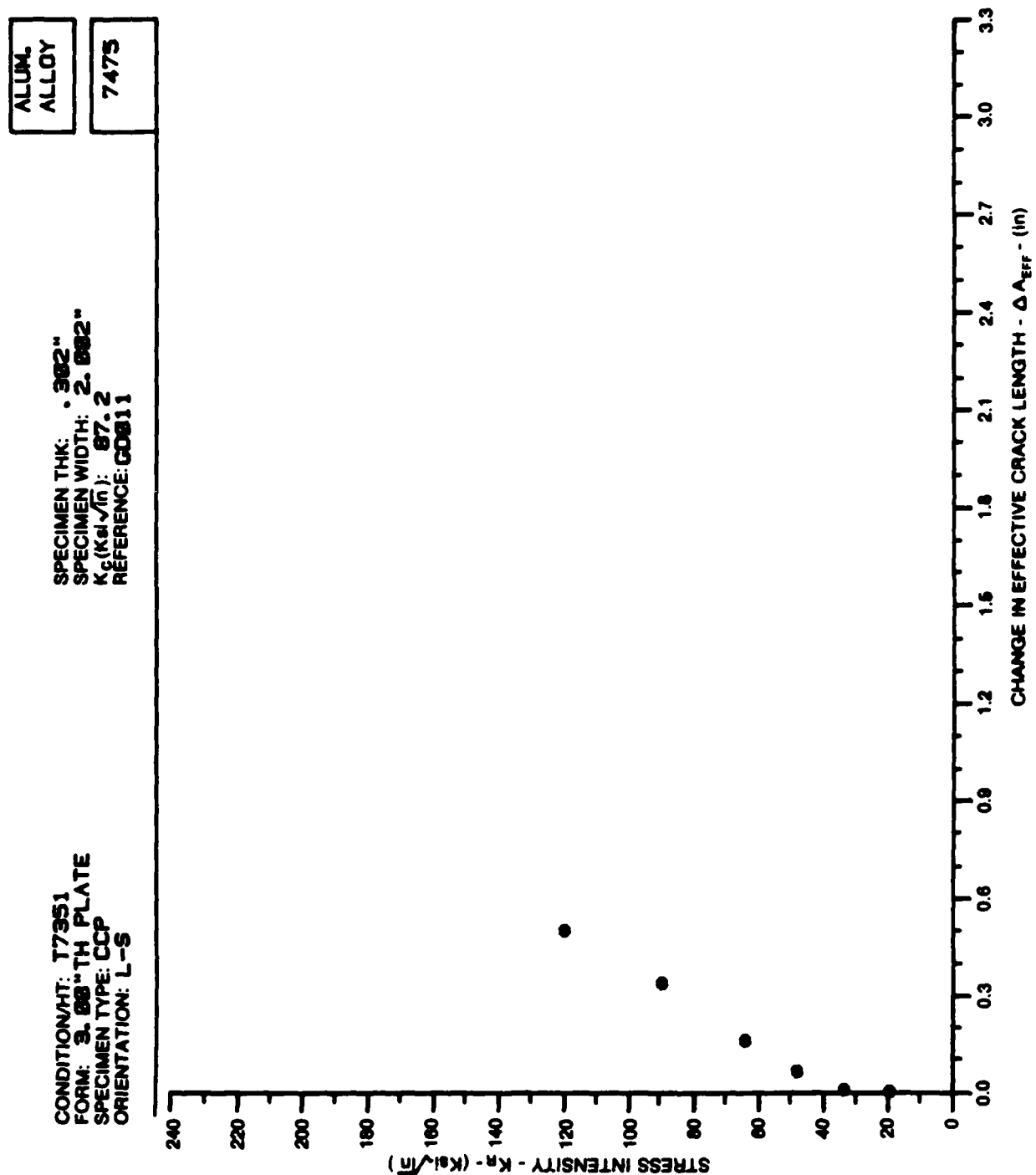


Figure 8.20.2.4

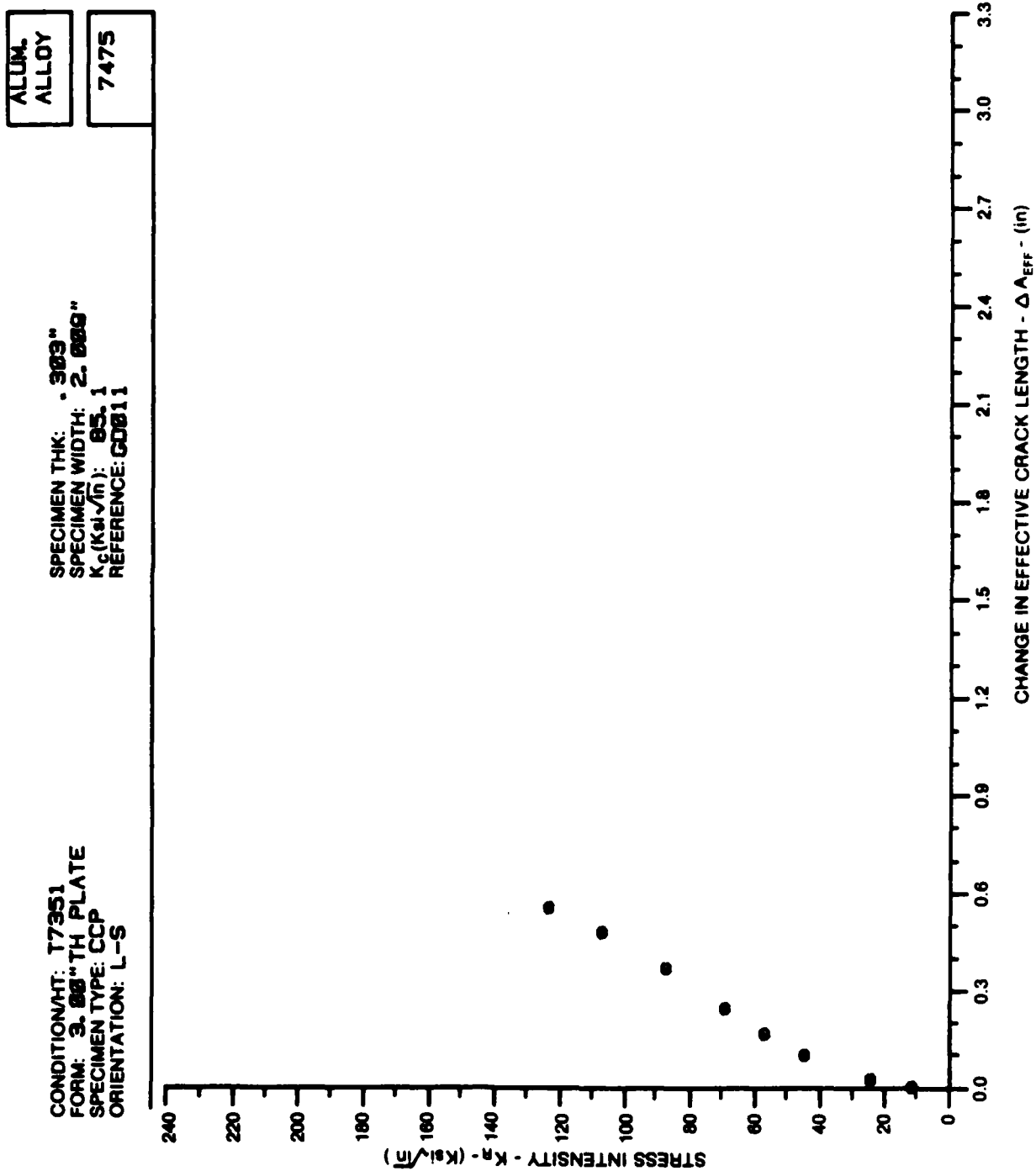


Figure 8.20.2.5

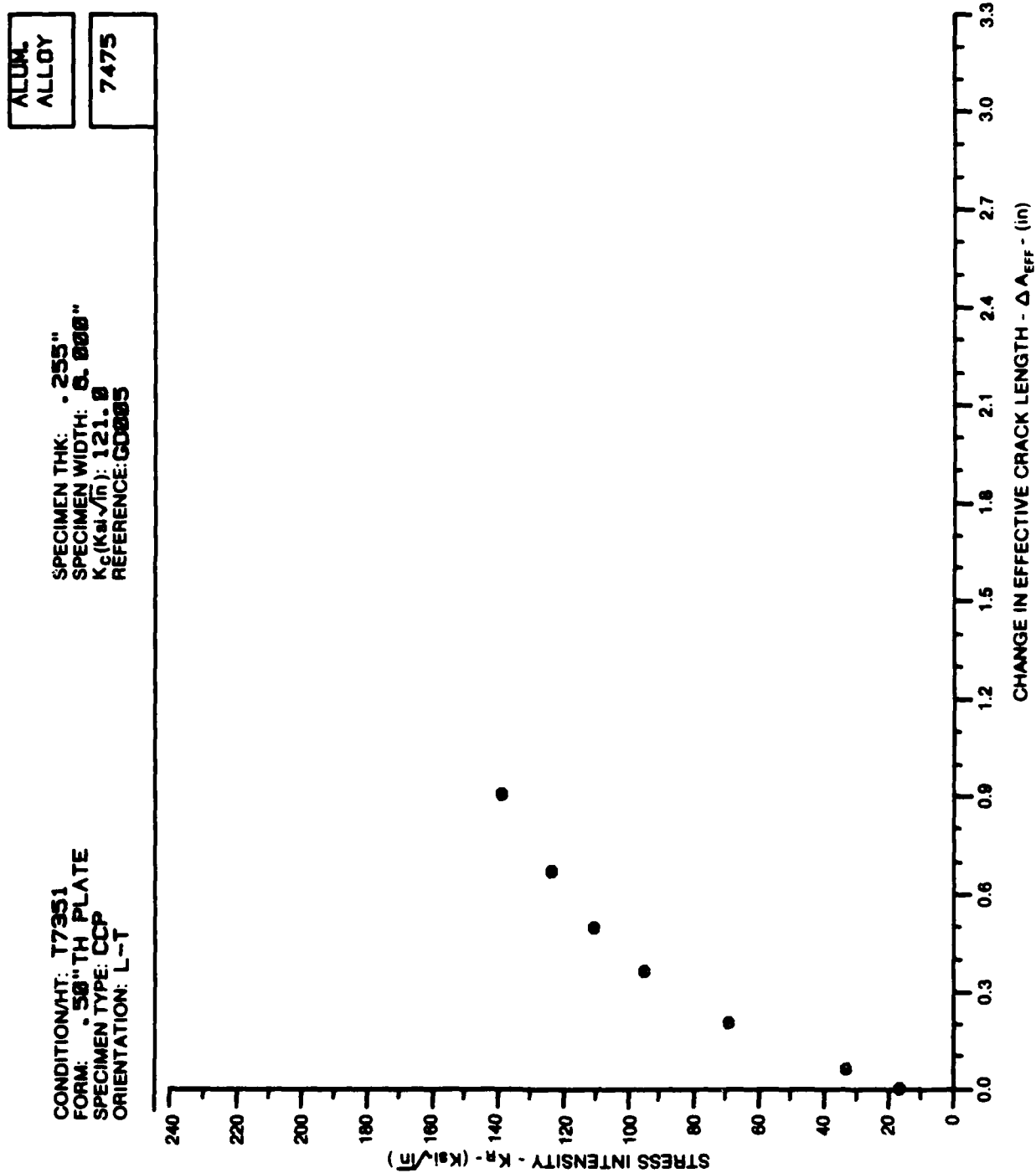


Figure 8.20.2.6

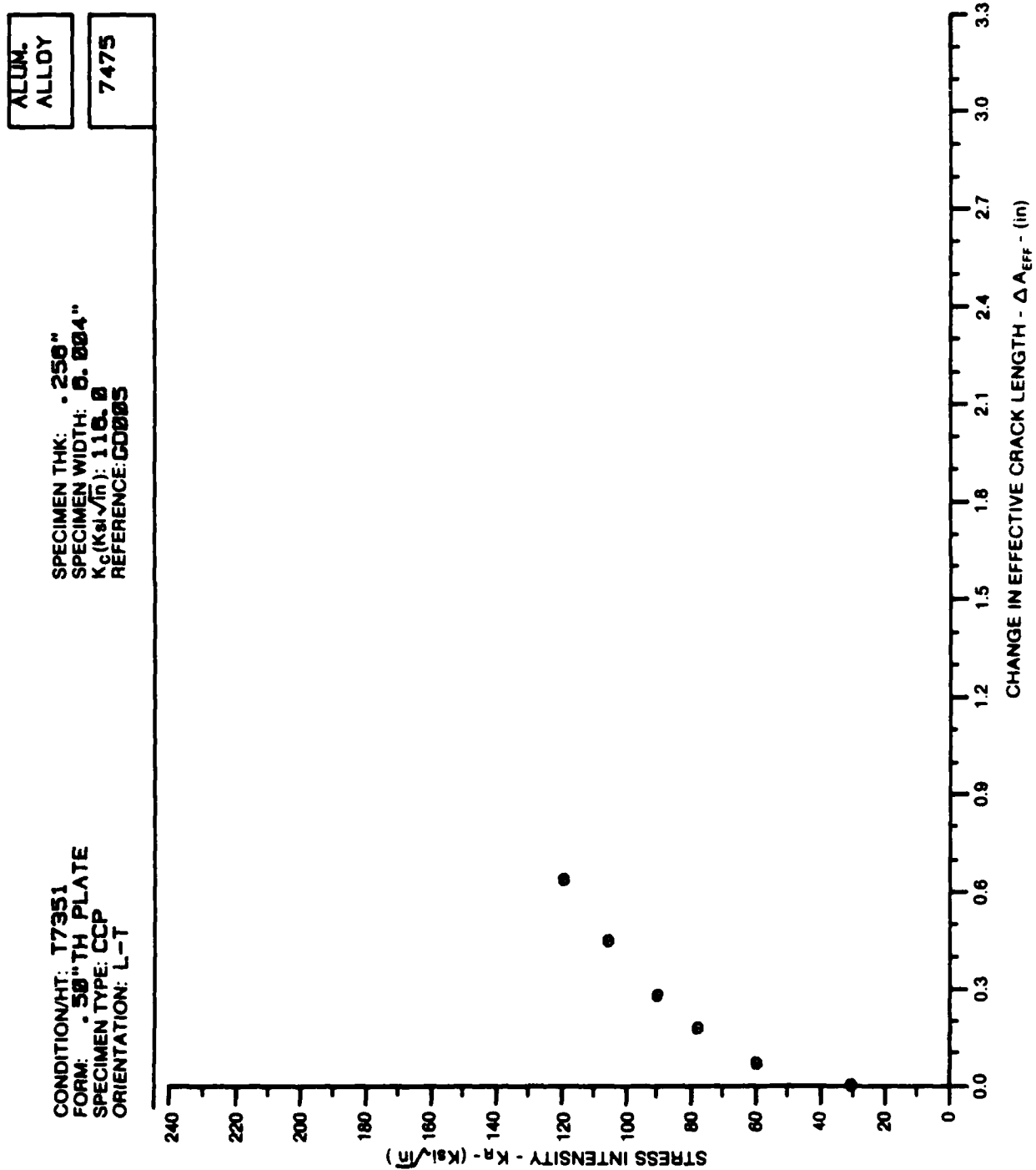


Figure 8.20.2.7

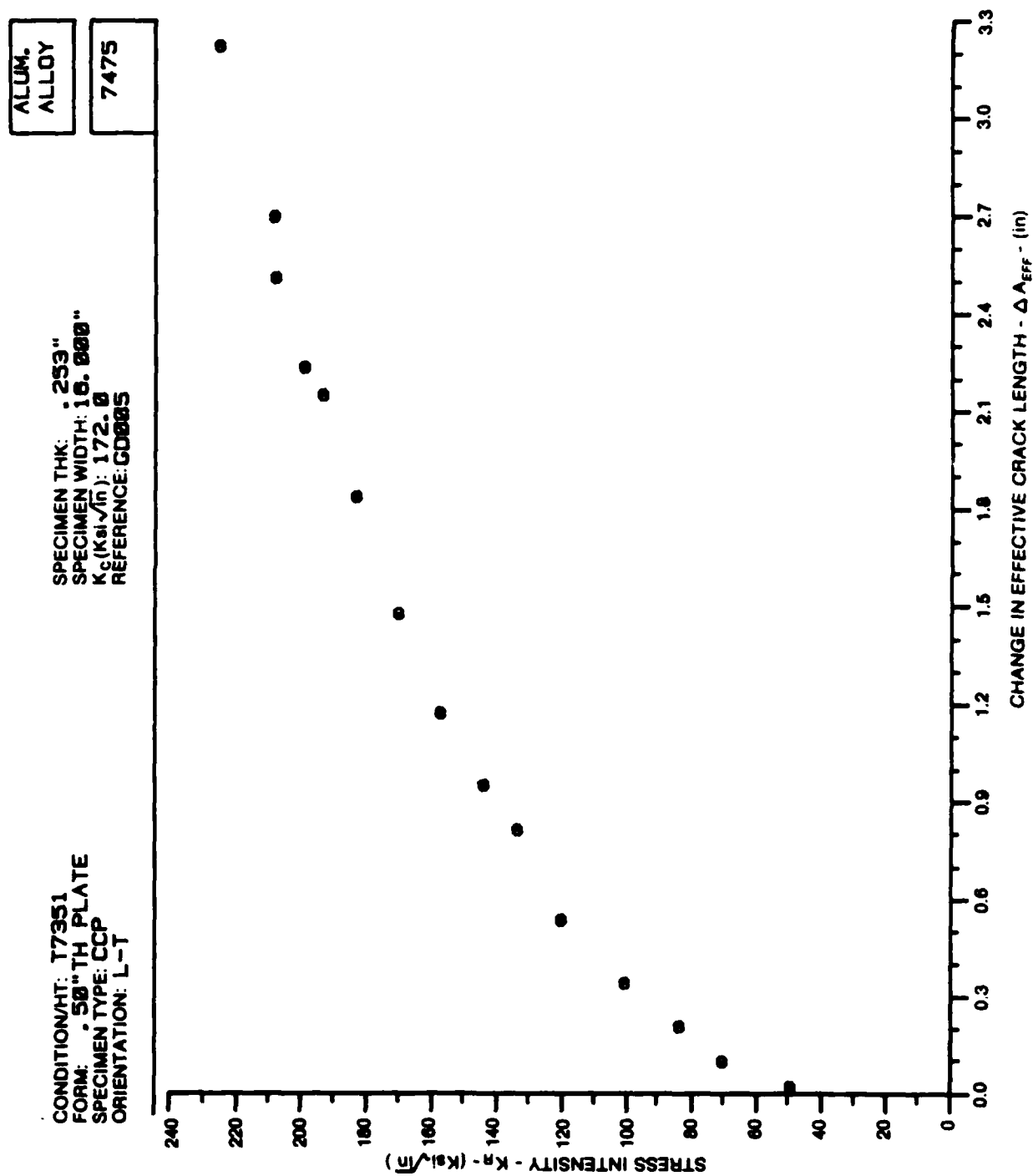


Figure 8.20.2.8

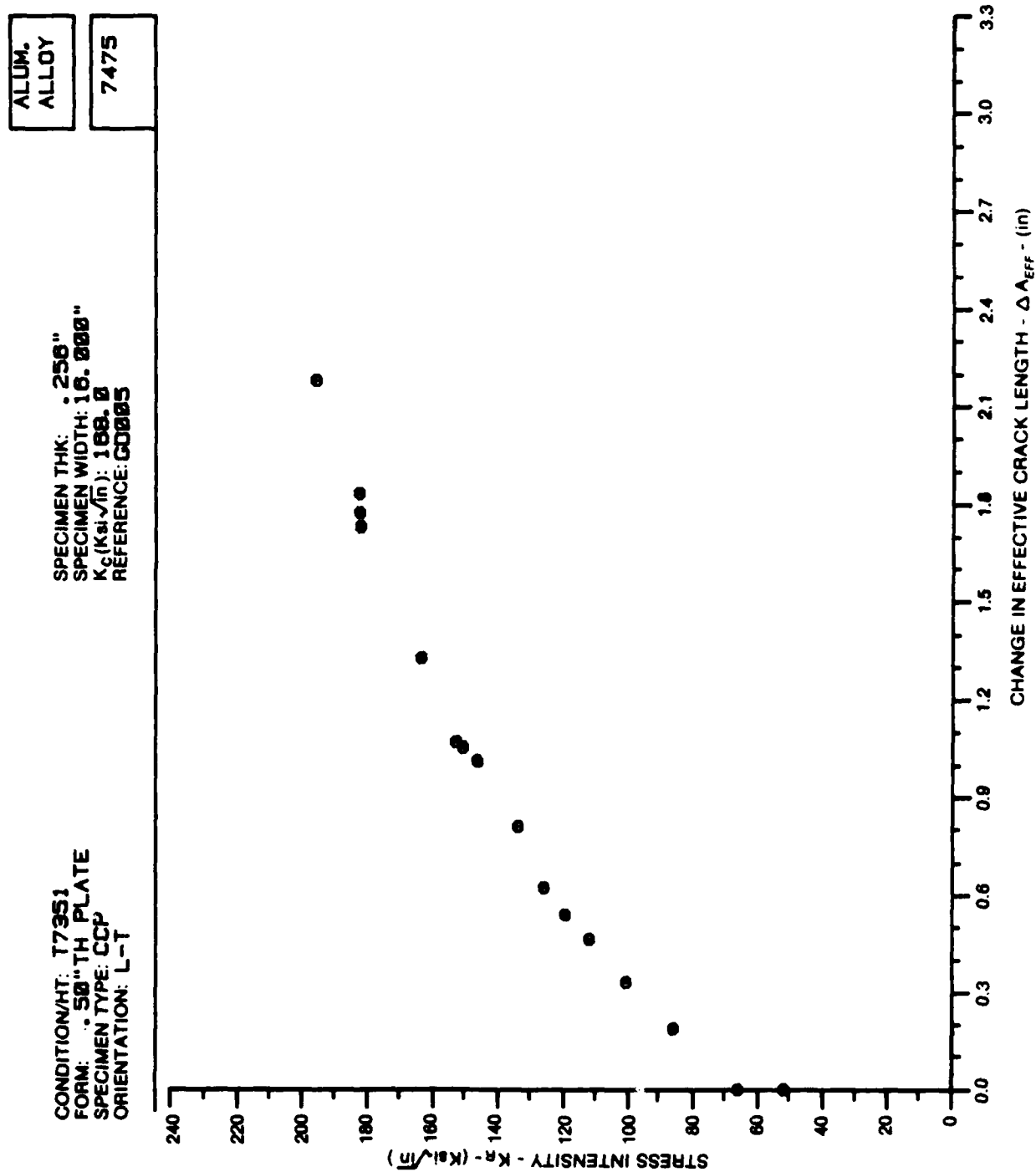


Figure 8.20.2.9

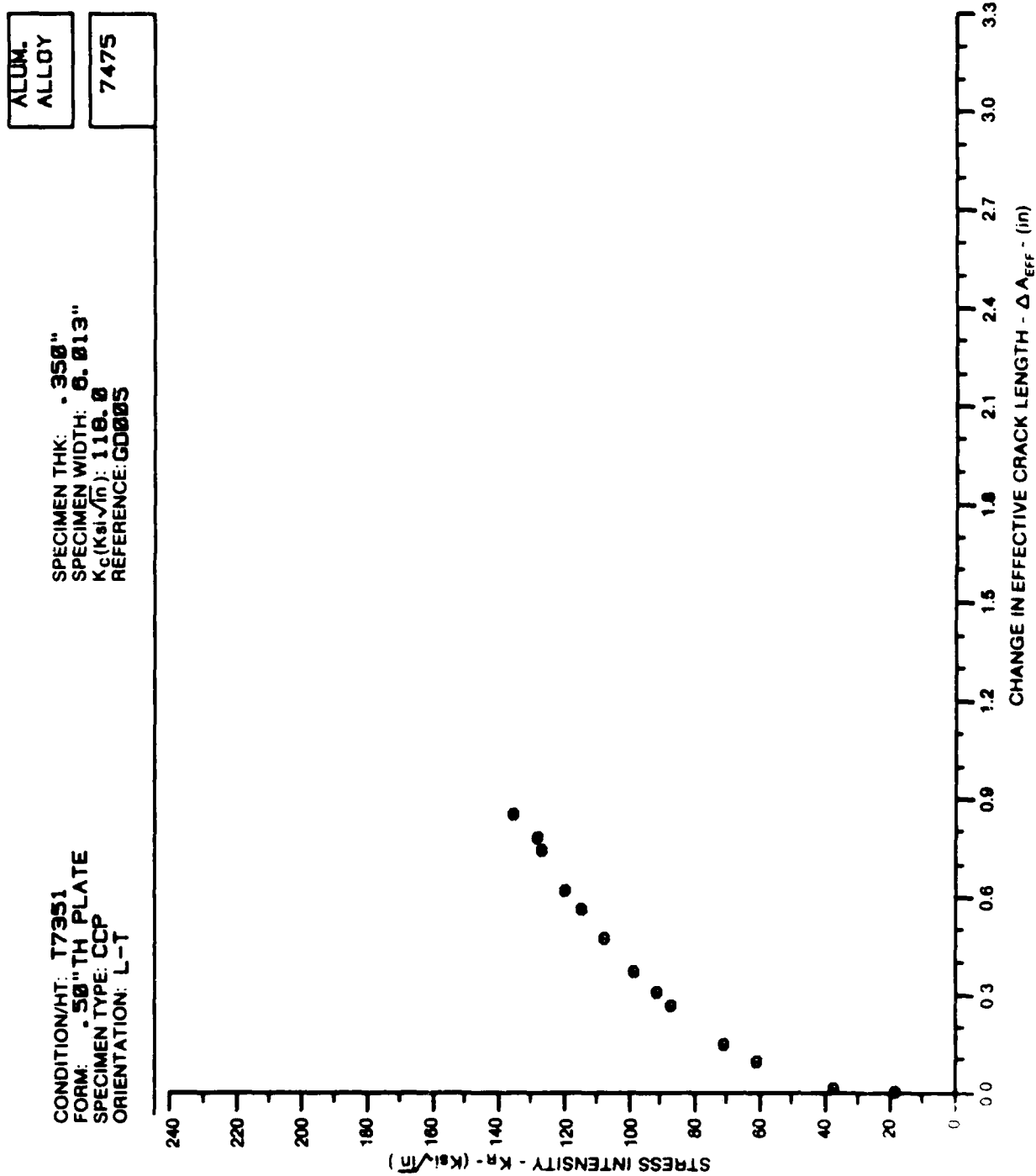


Figure 8.20.2.10

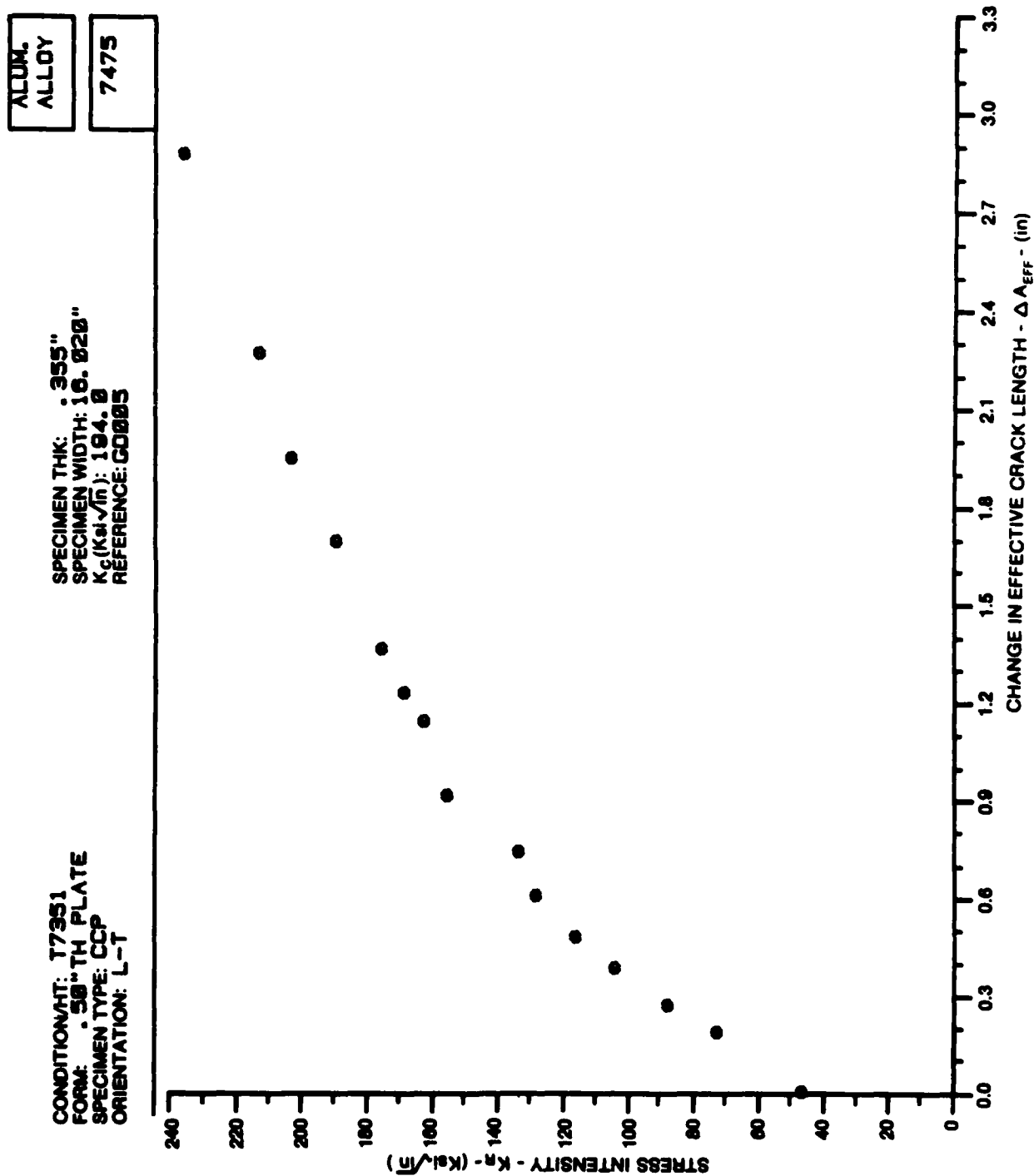


Figure 8.20.2.11

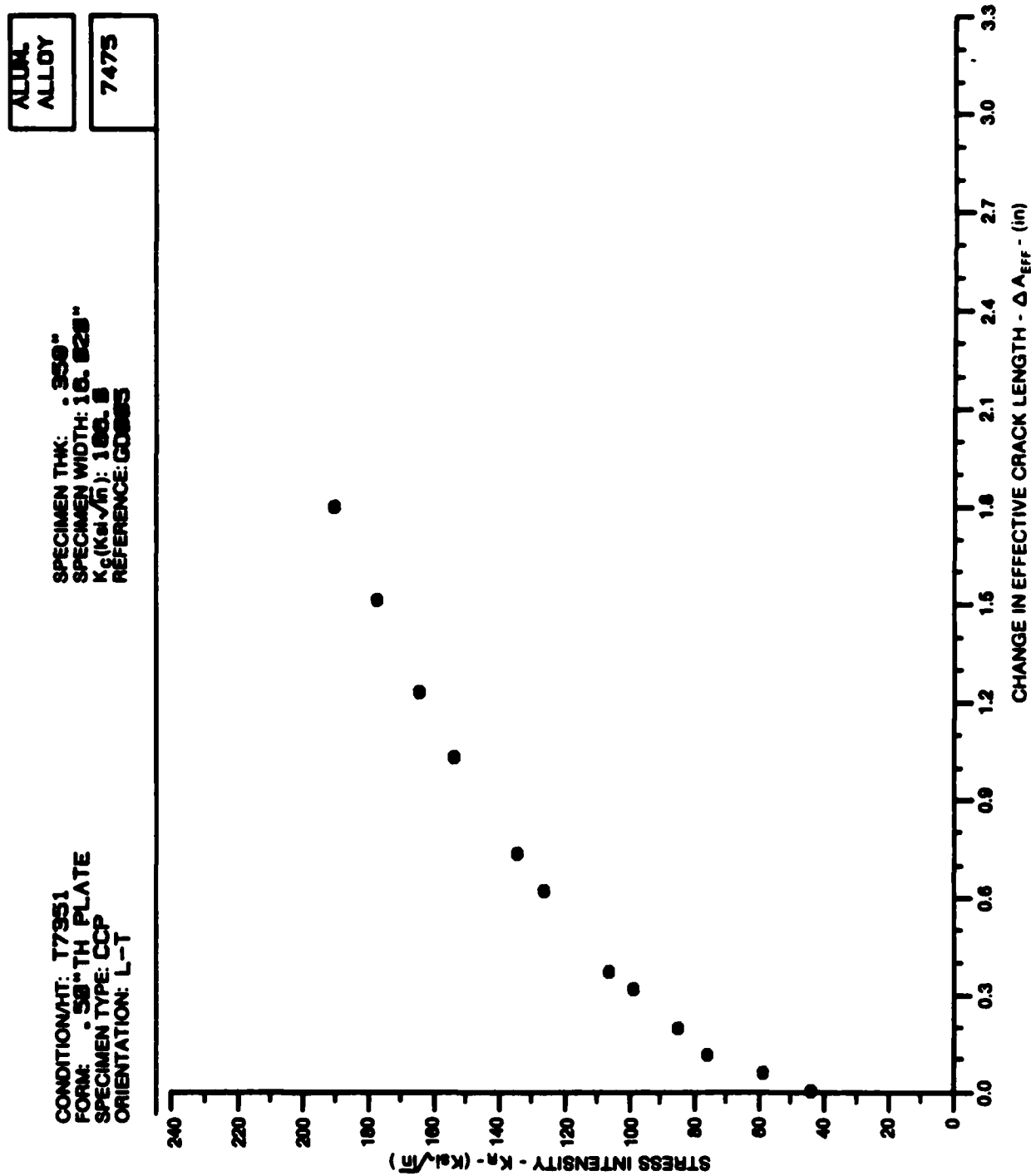


Figure 8.20.2.12

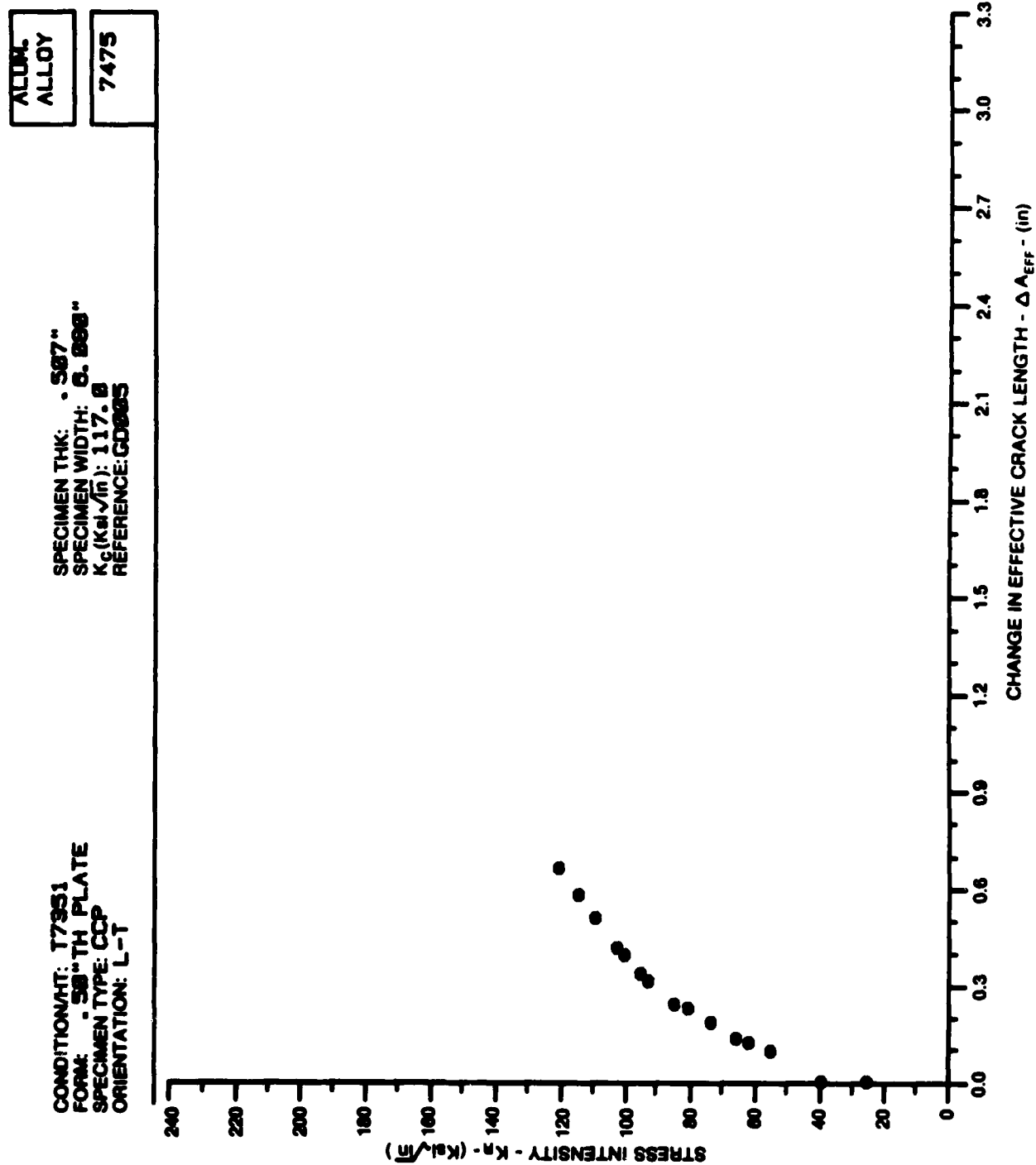


Figure 8.20.2.13

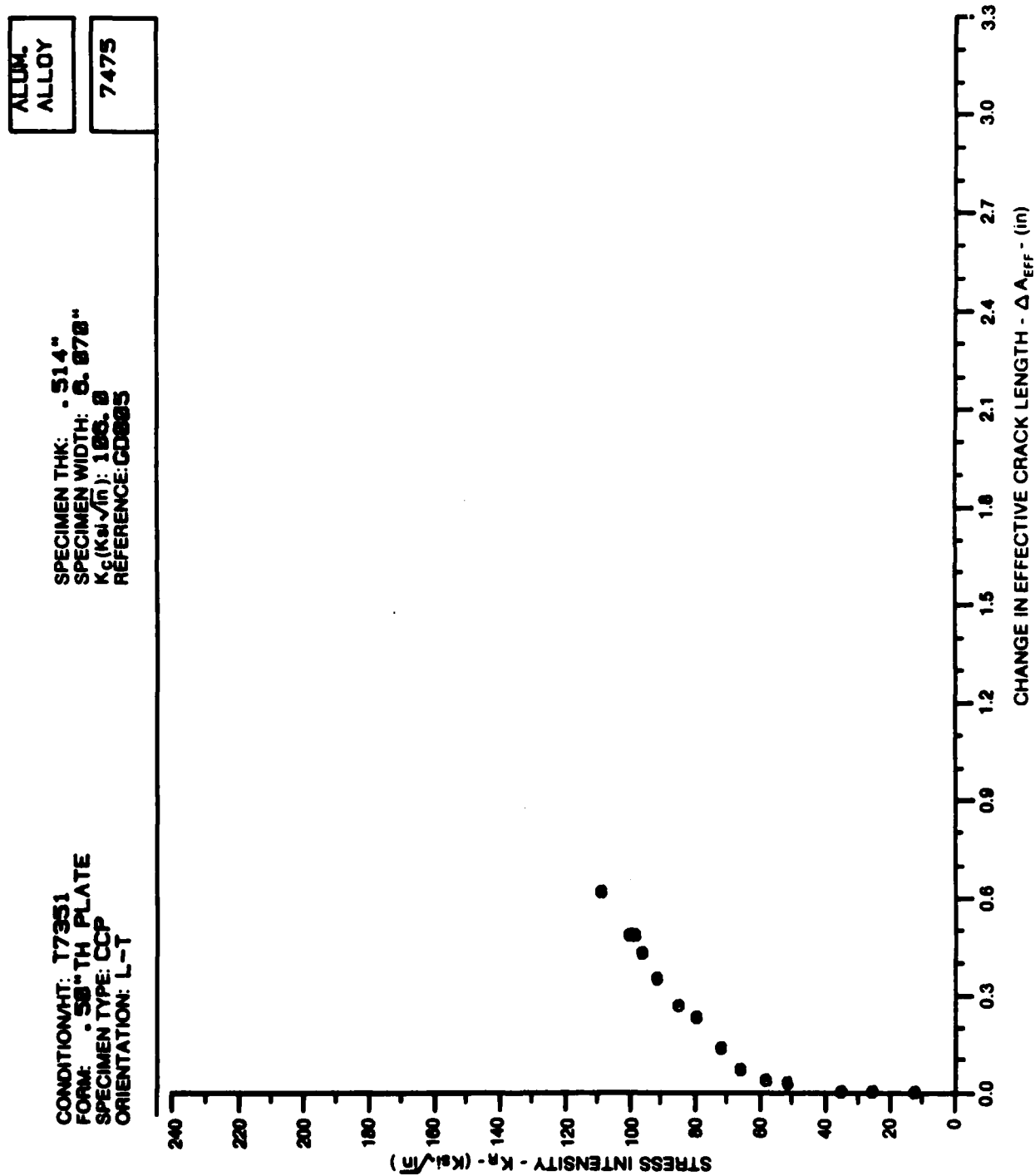


Figure 8.20.2.14

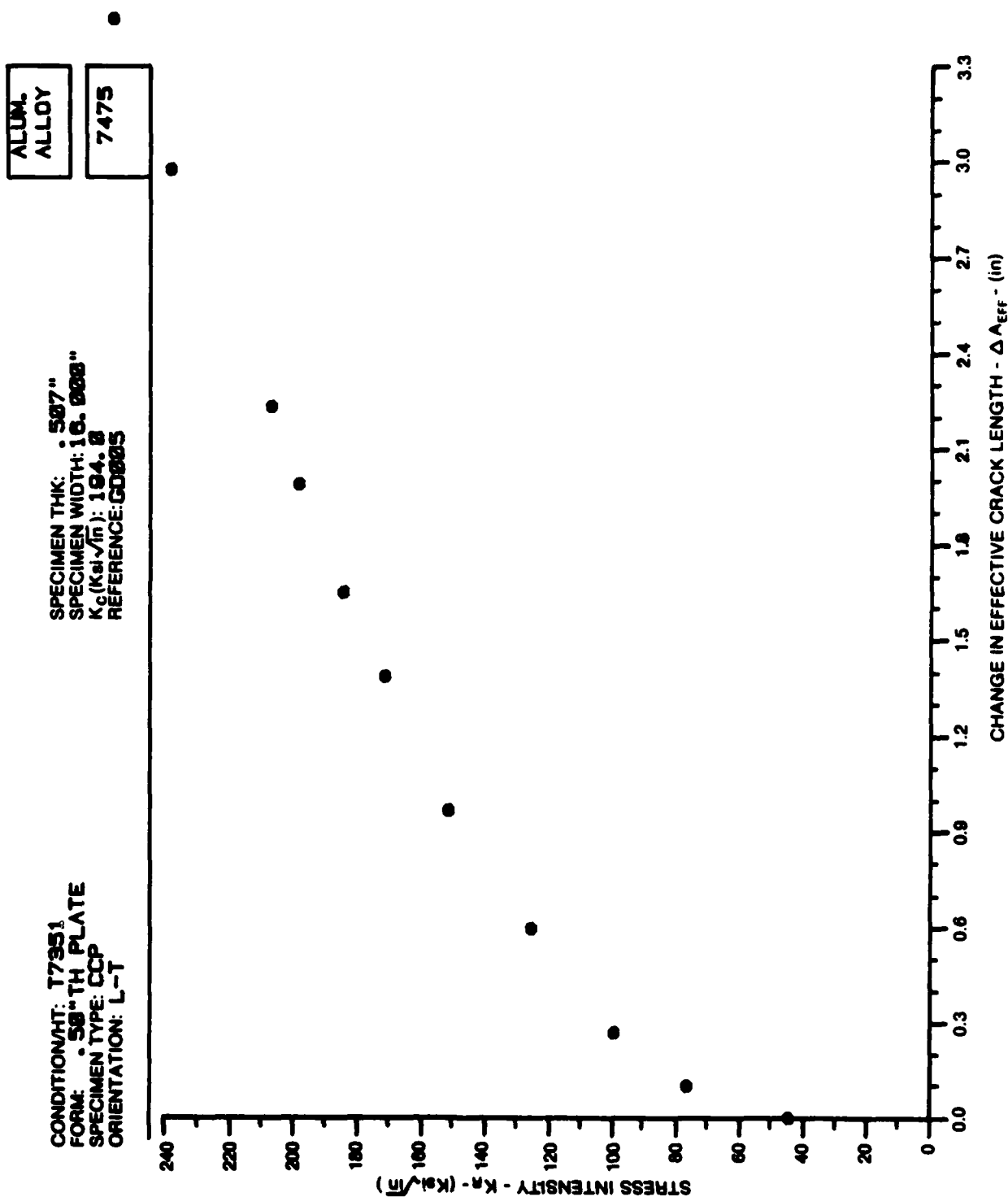


Figure 8.20.2.15

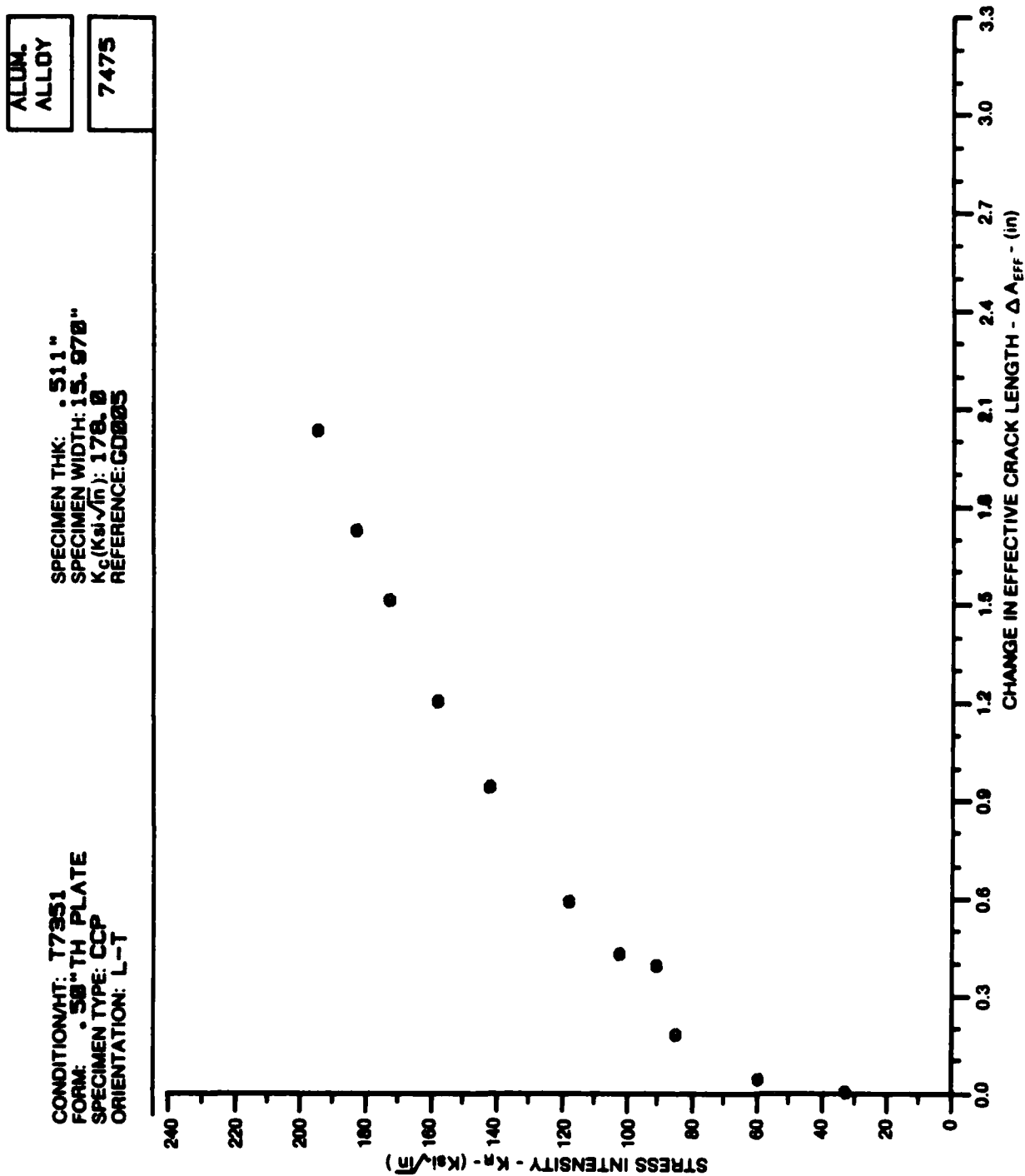


Figure 8.20.2.16

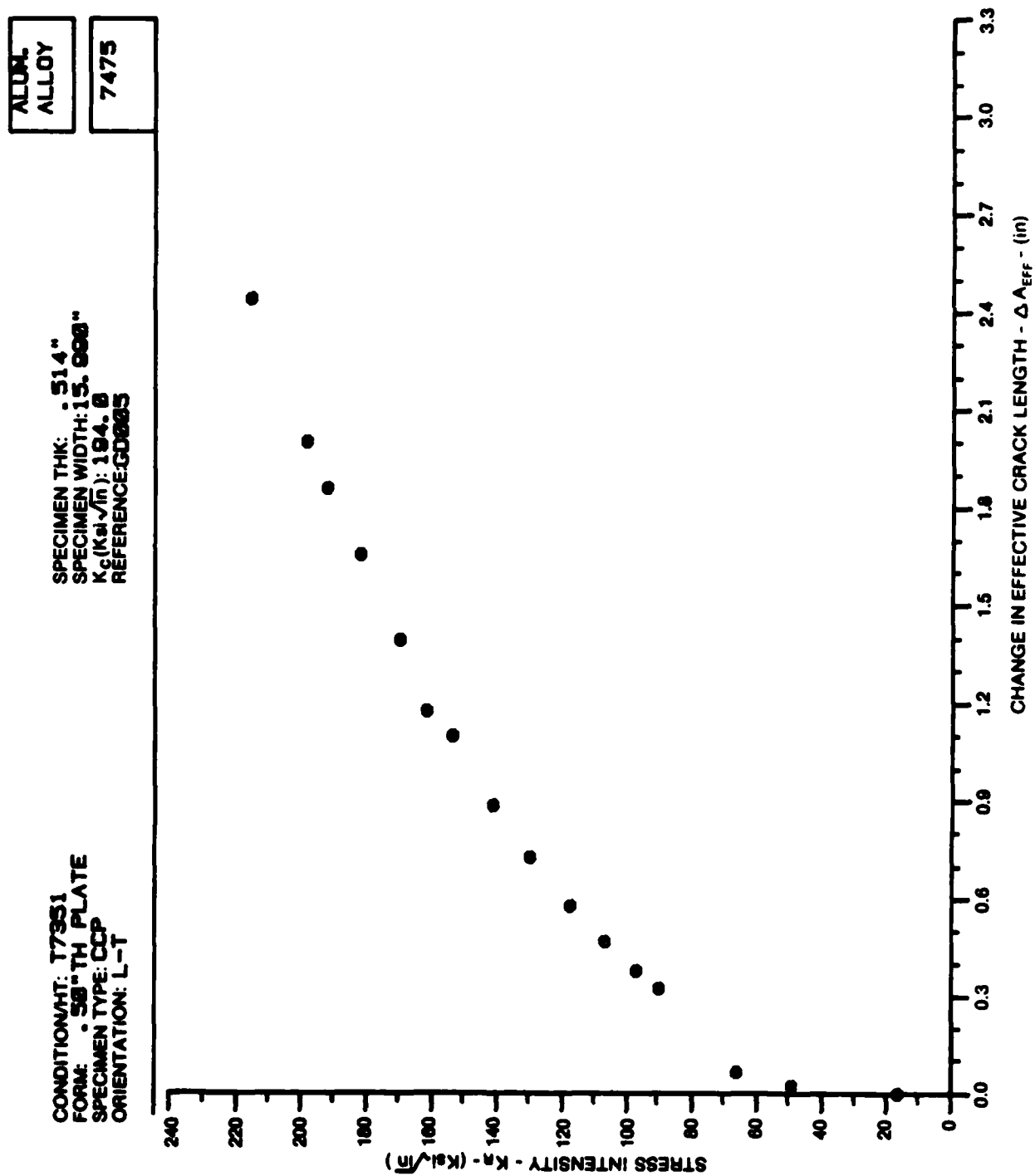


Figure 8.20.2.17

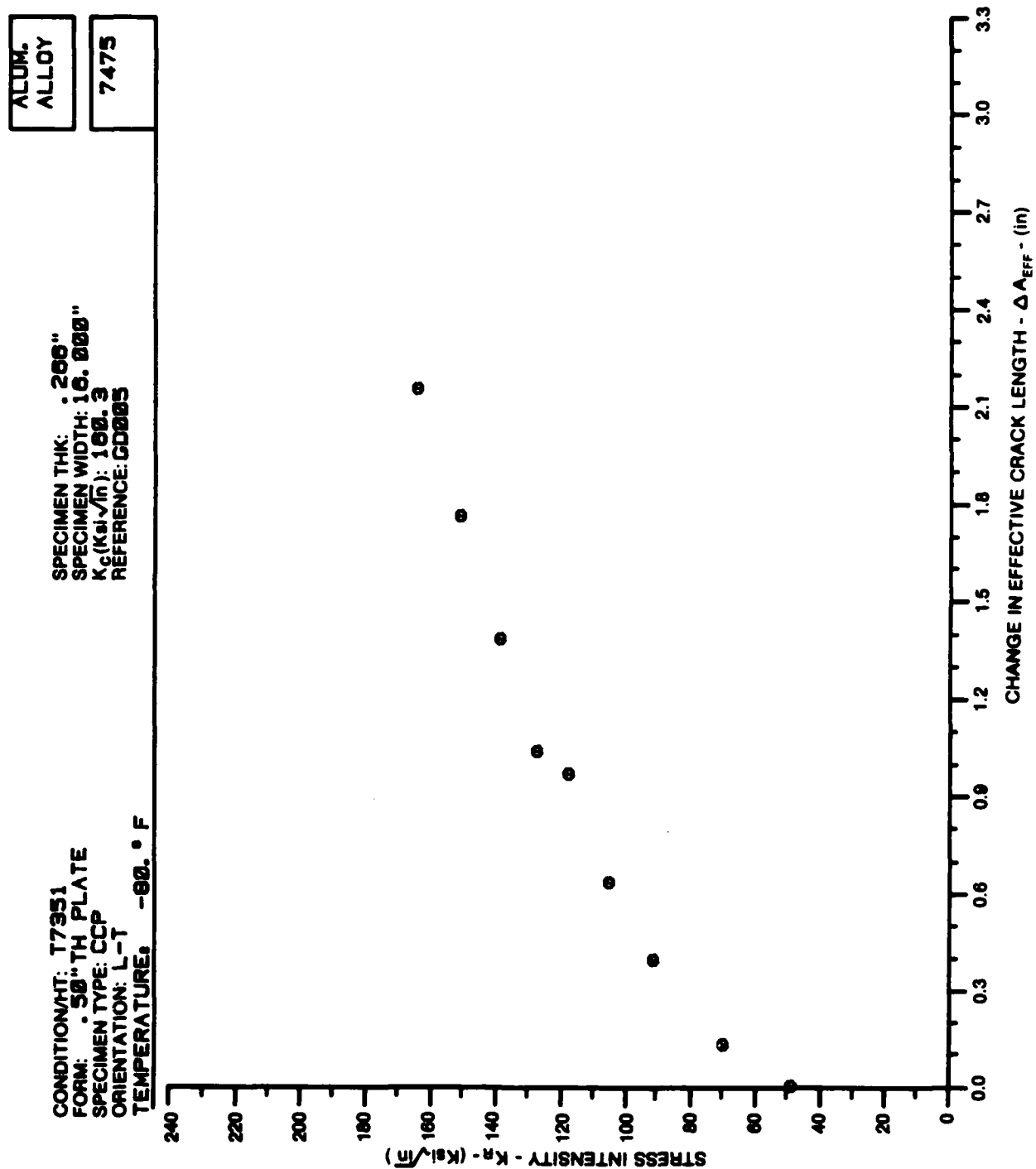


Figure 8.20.2.18

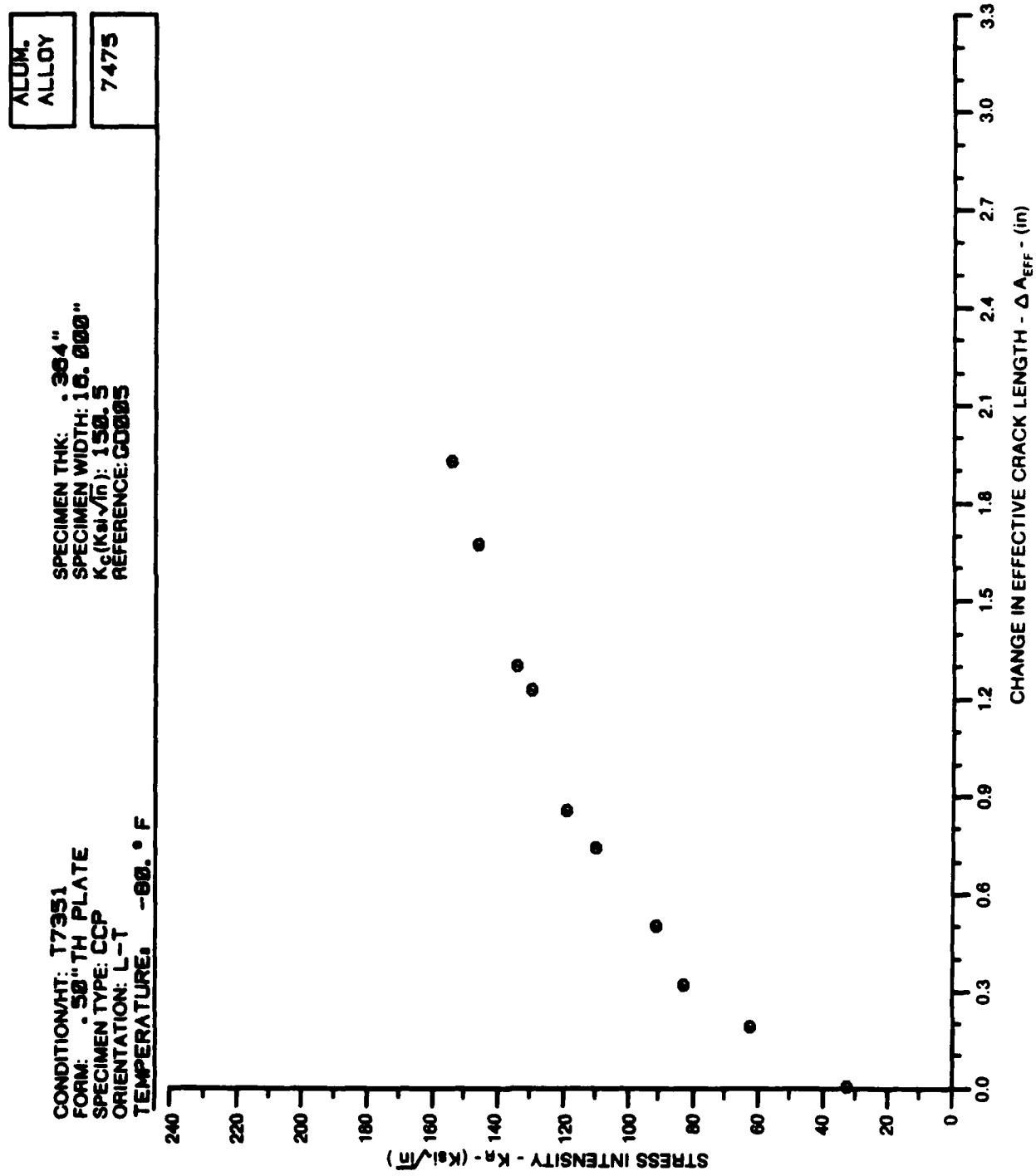


Figure 8.20.2.19

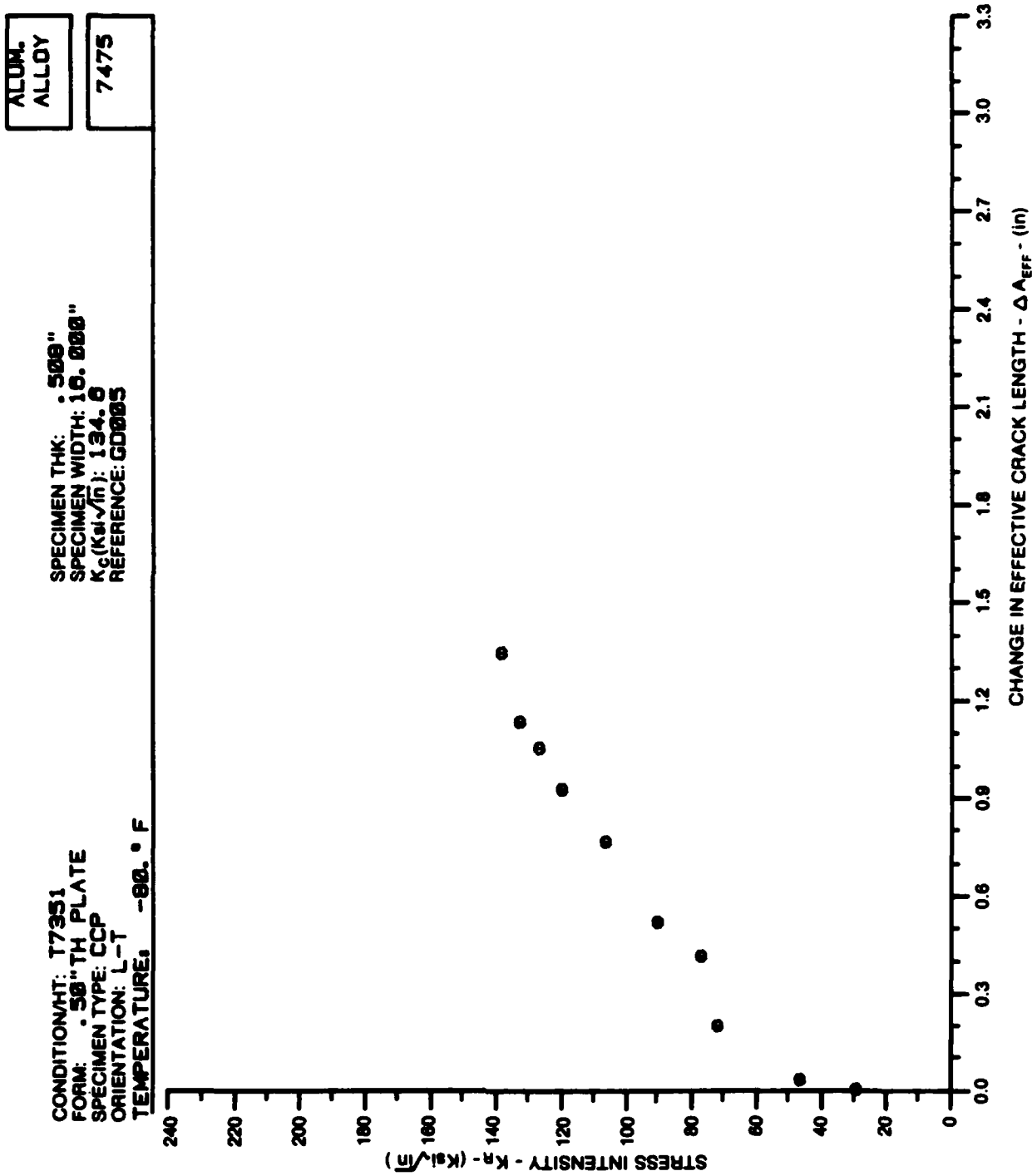


Figure 8.20.2.20

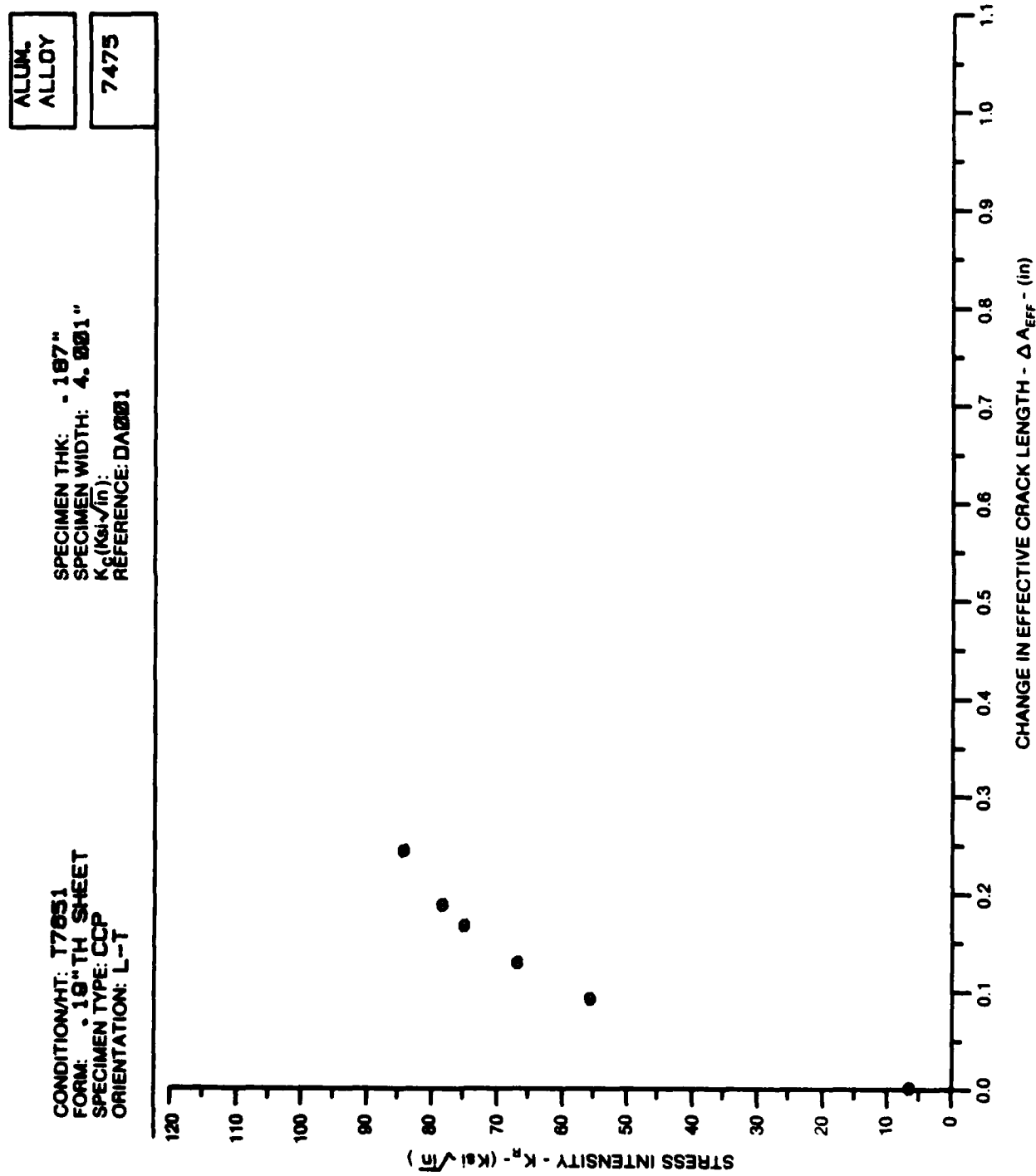


Figure 8.20.2.21

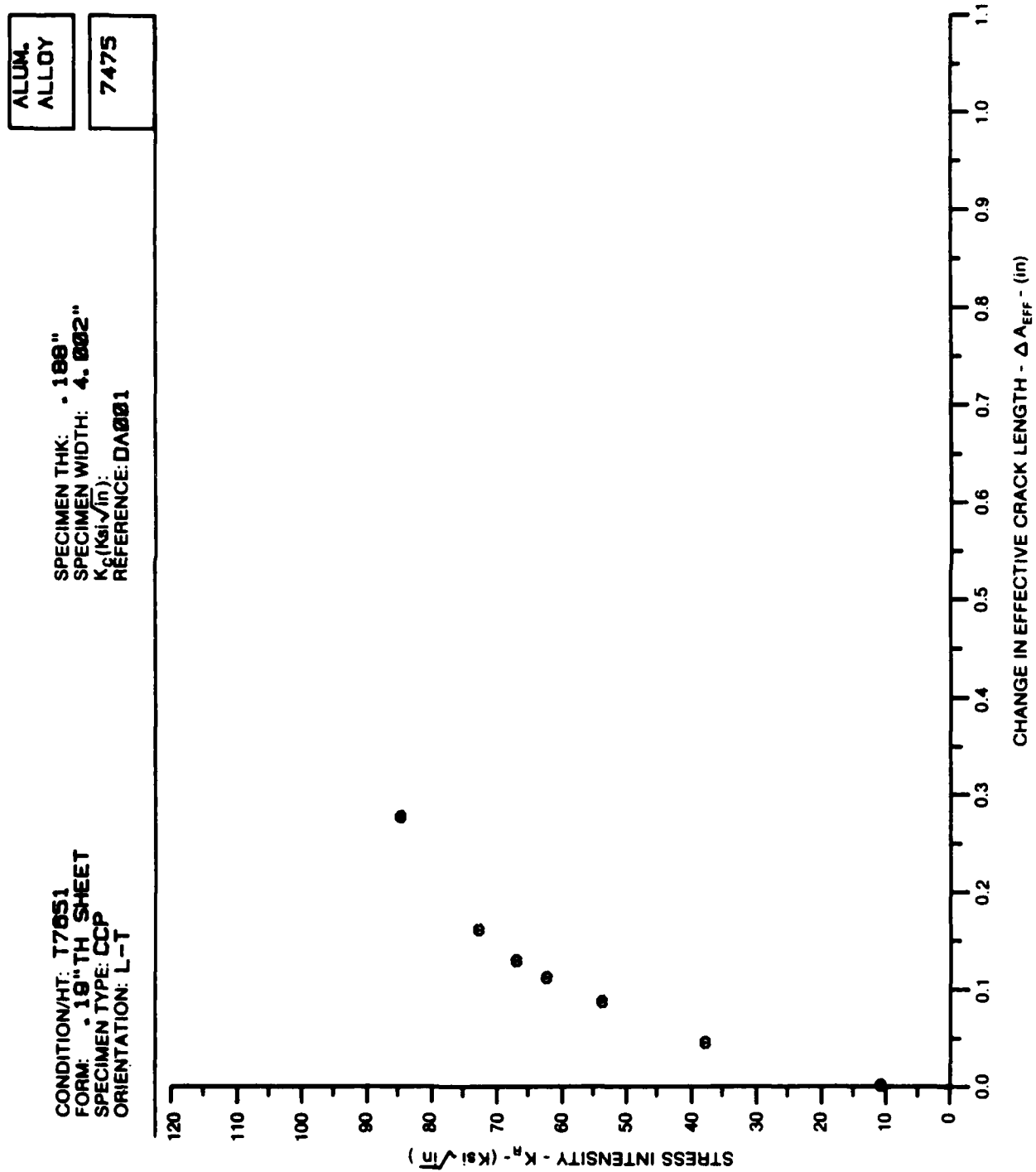


Figure 8.20.2.22

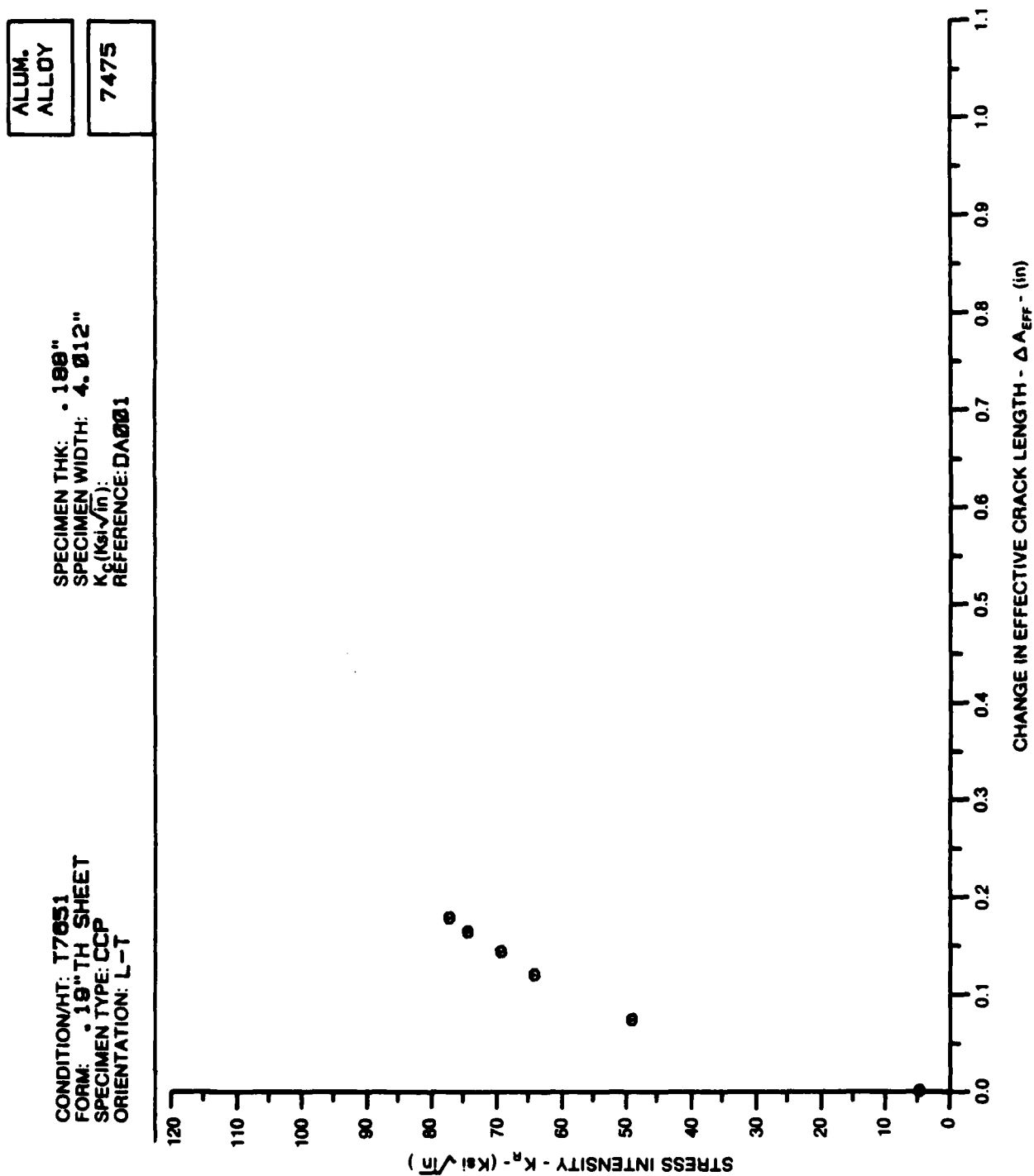


Figure 8.20.2.23

8.20-63

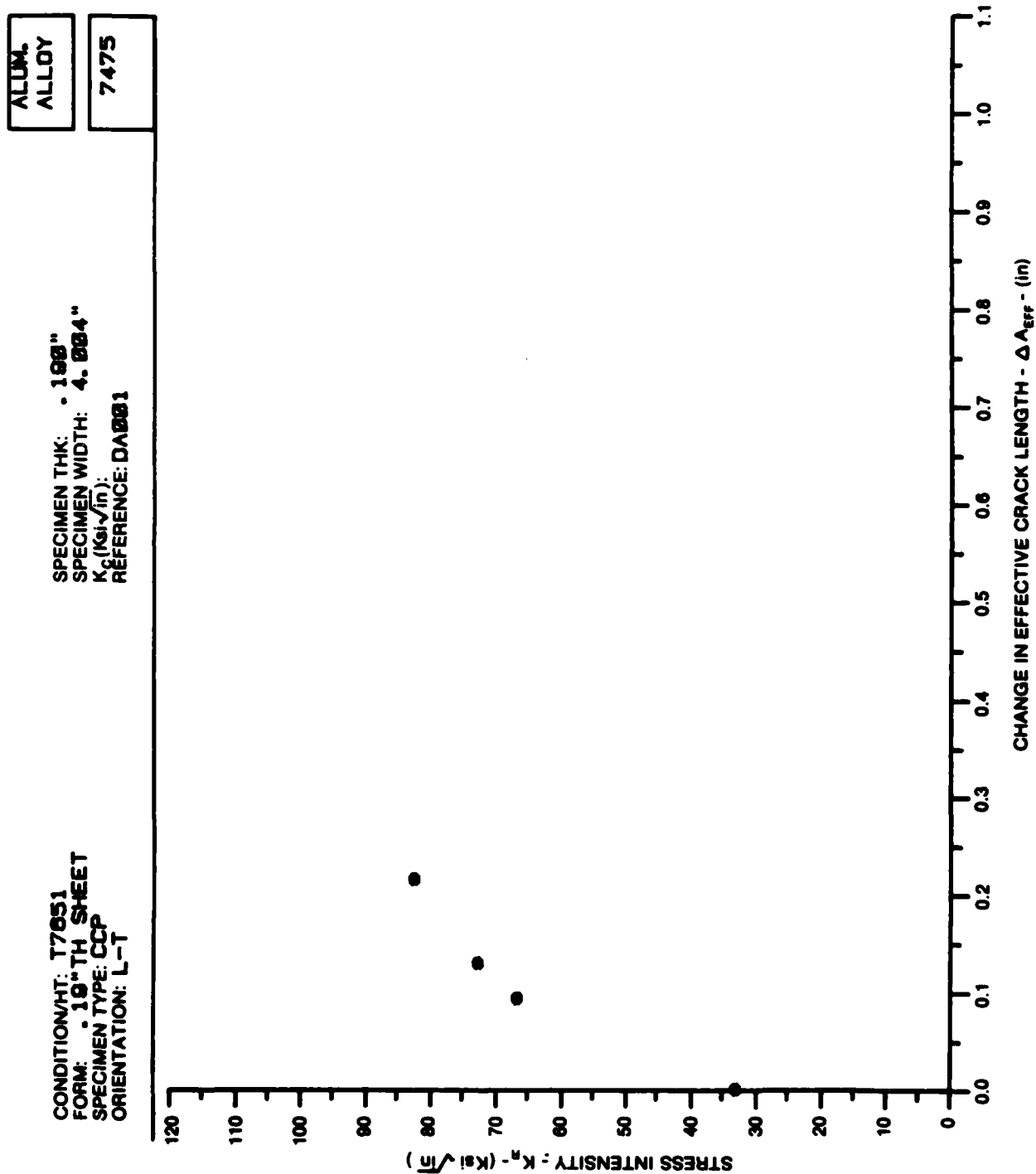


Figure 8.20.2.24

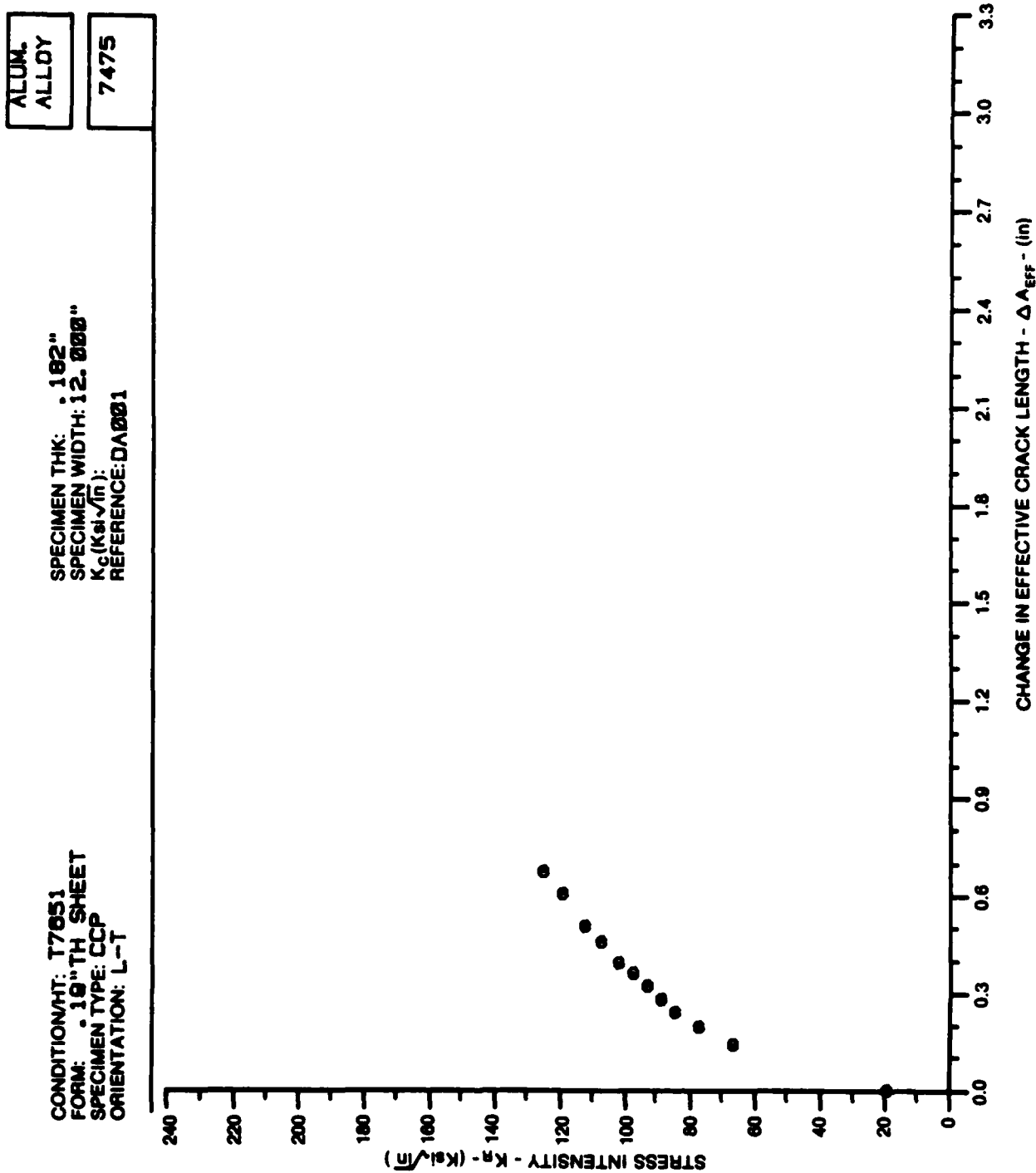


Figure 8.20.2.25

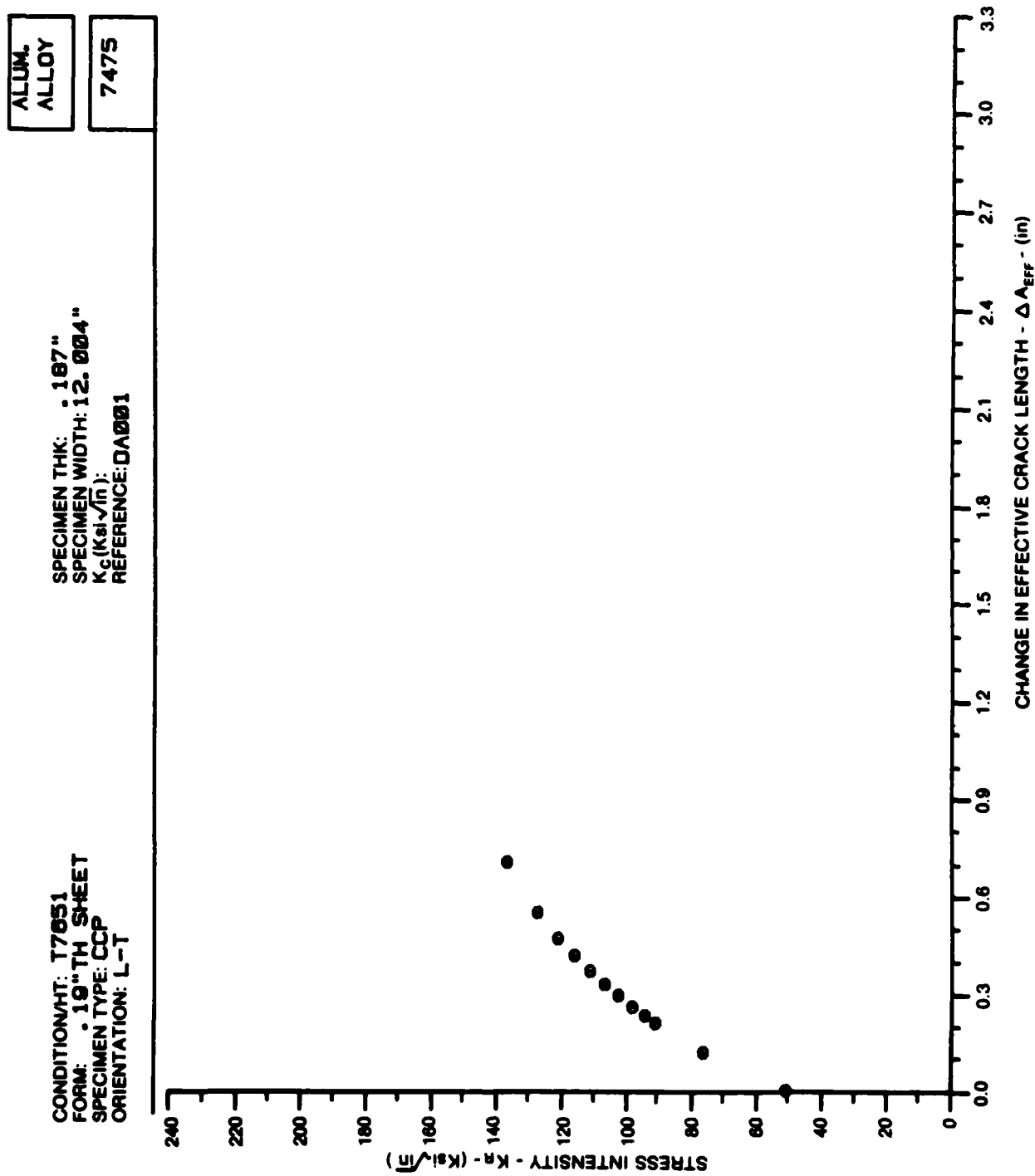


Figure 8.20.2.26

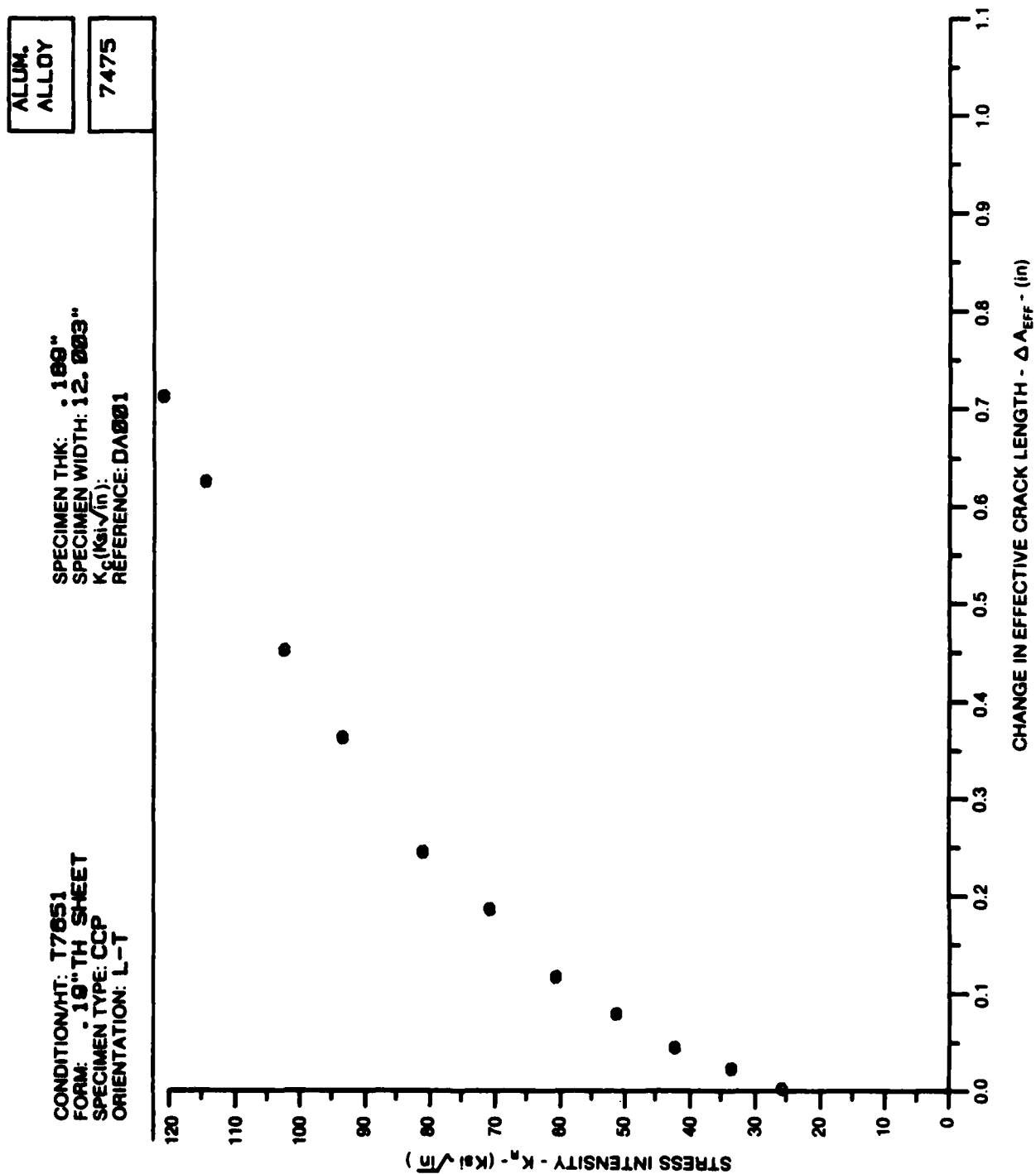


Figure 8.20.2.27

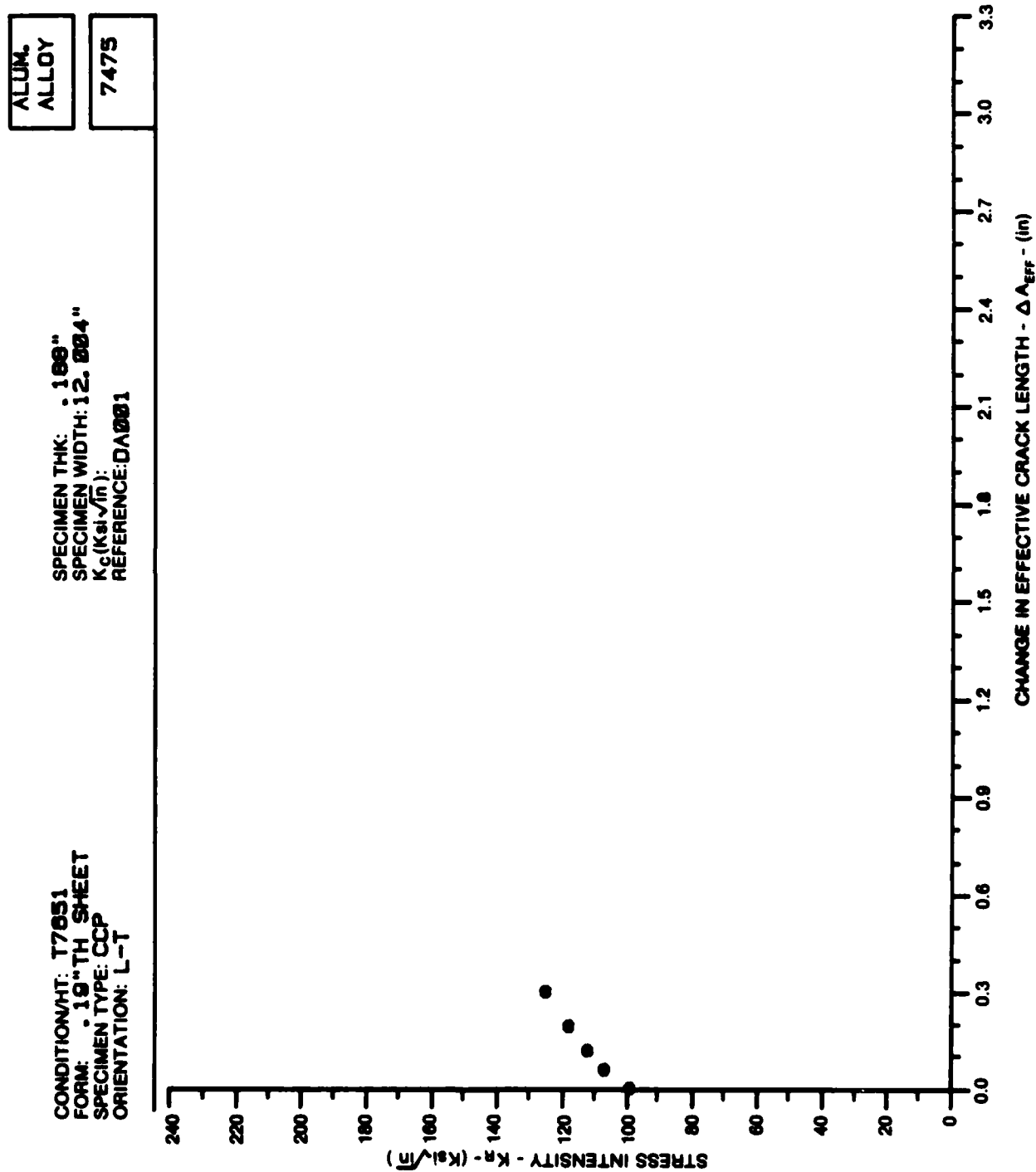


Figure 8.20.2.28

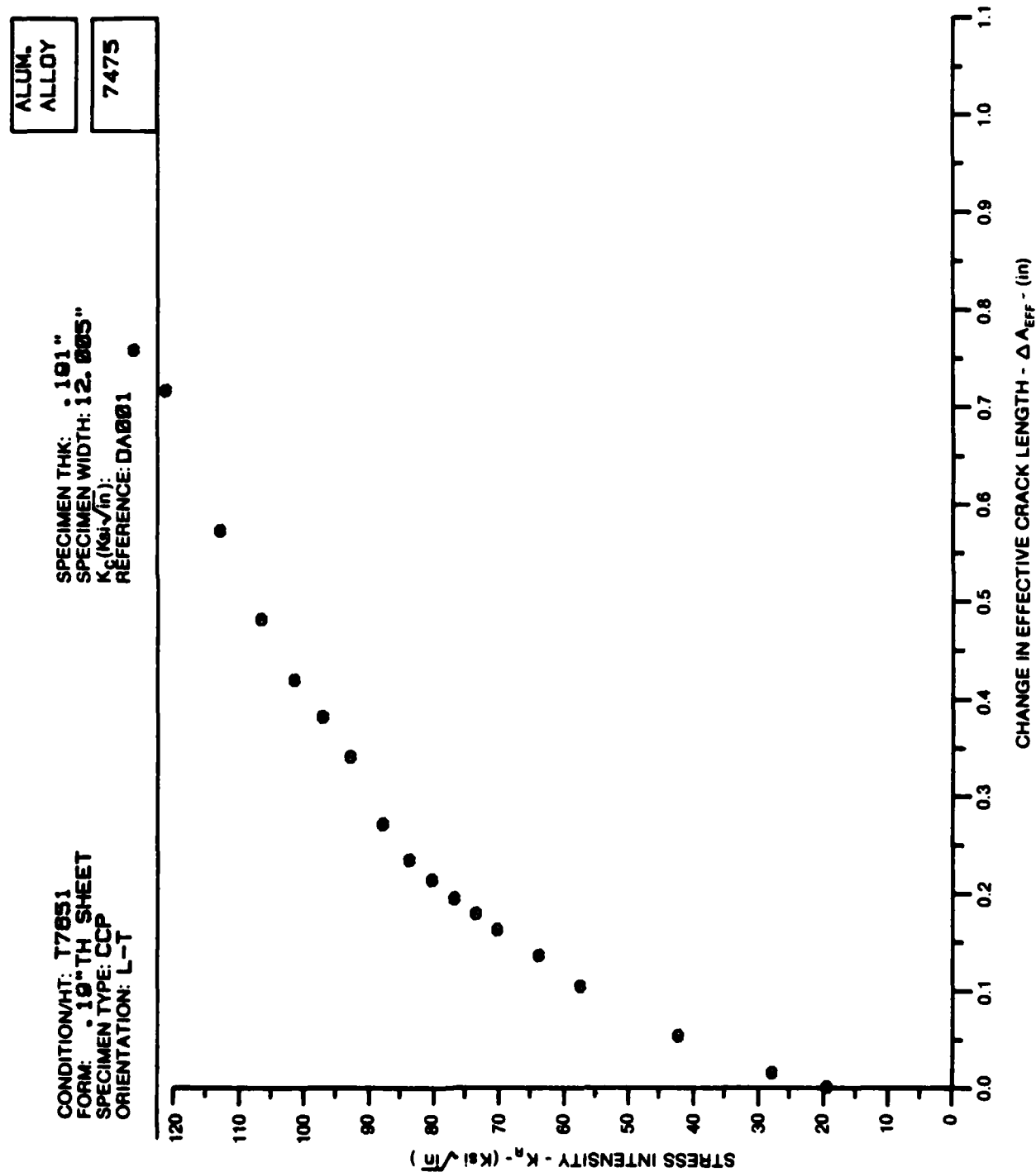


Figure 8.20.2.29

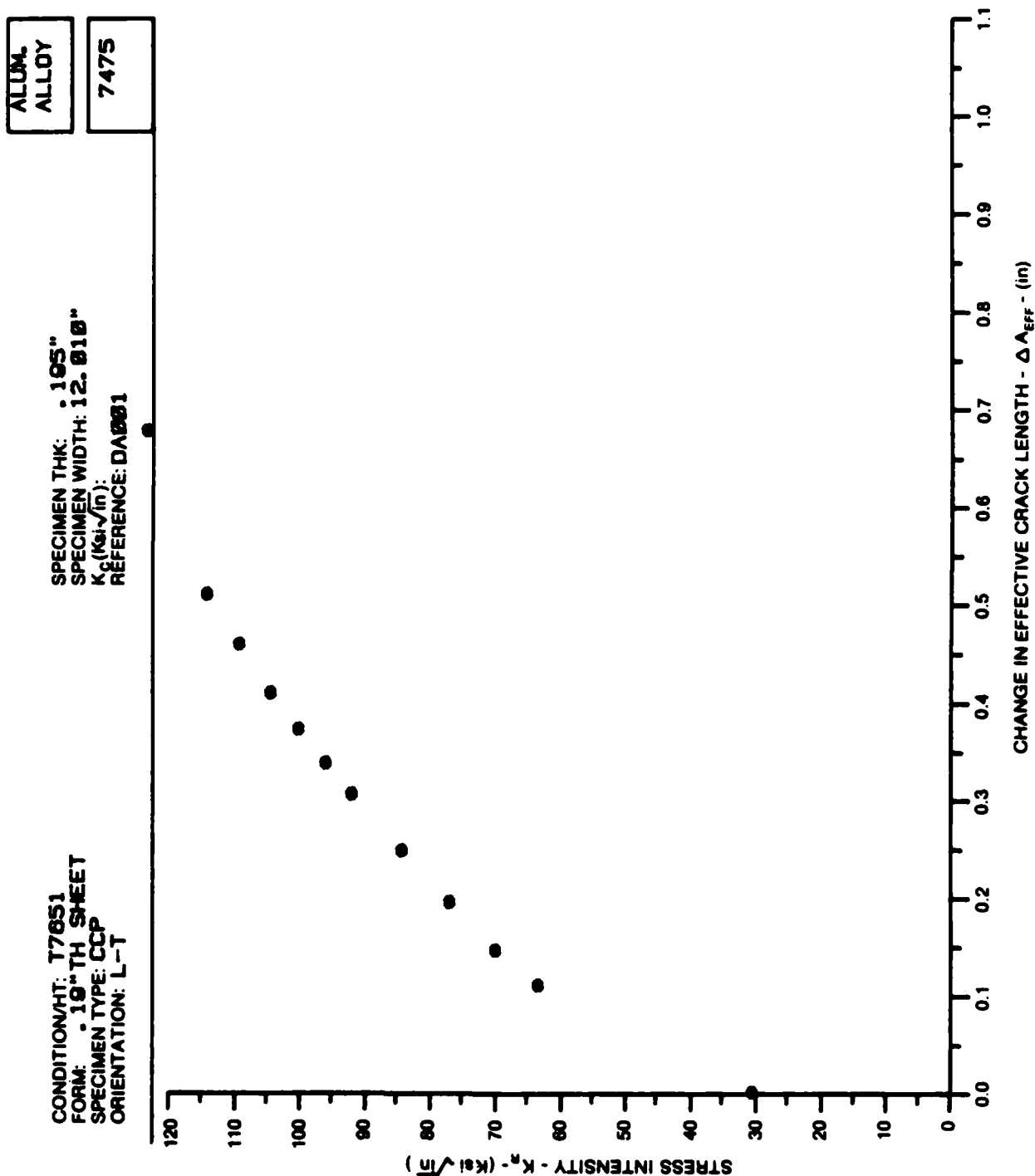


Figure 8.20.2.30

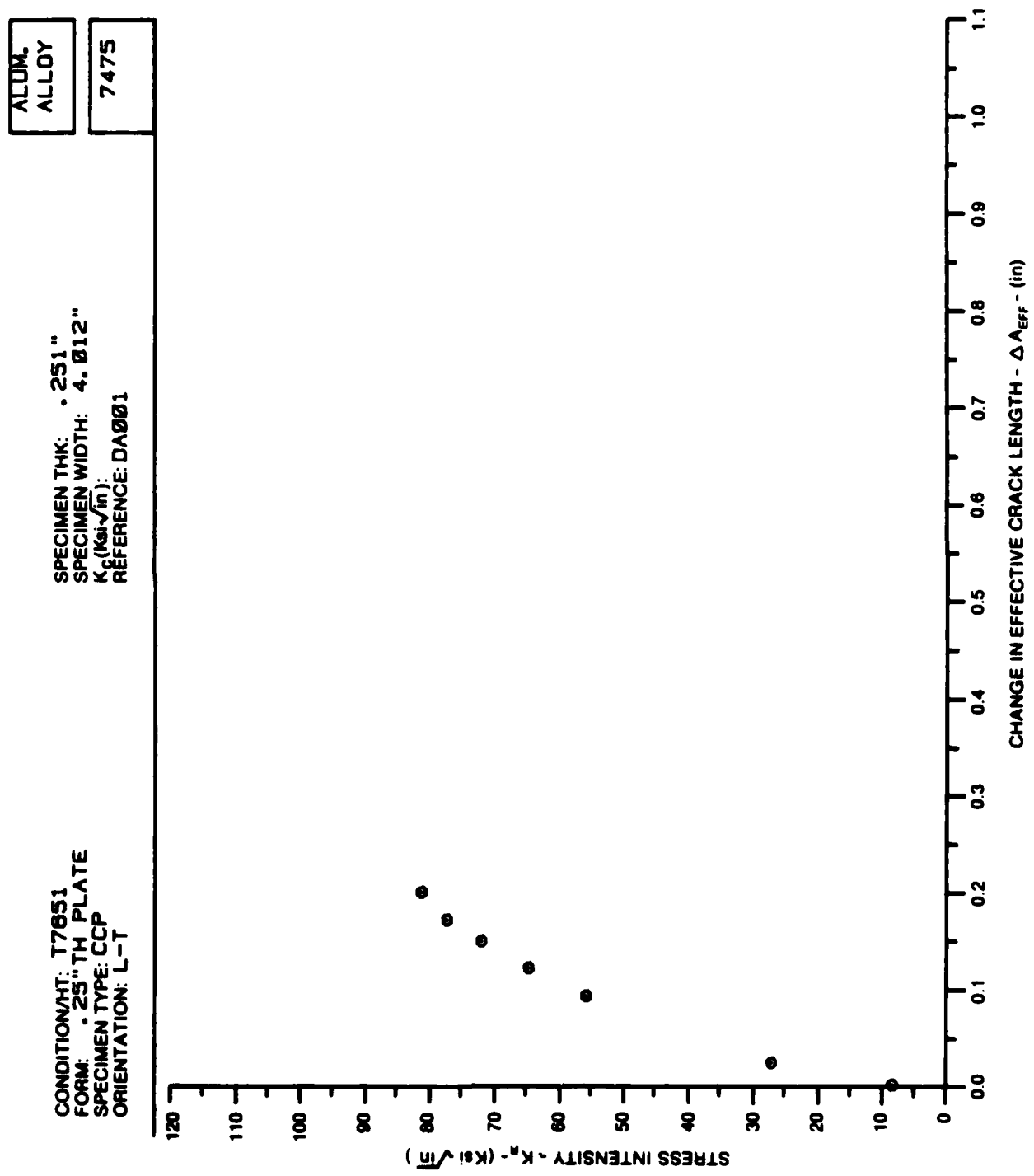


Figure 8.20.2.31

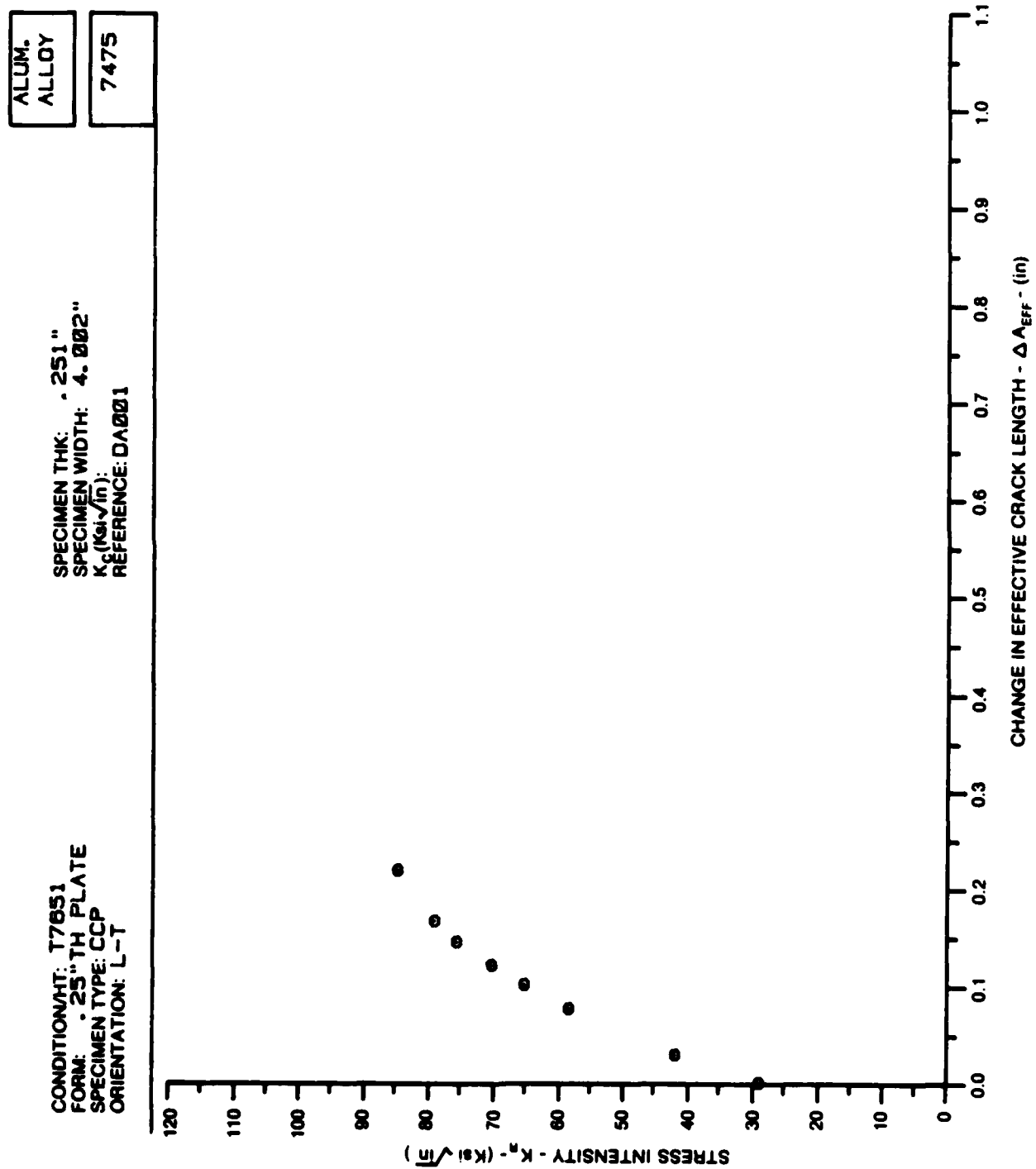


Figure 8.20.2.32

ALUM.
ALLOY

7475

SPECIMEN THK: .252"
SPECIMEN WIDTH: 3.998"
 K_{IC} (Ksi \sqrt{in}):
REFERENCE: DA001

CONDITION/HT: T7651
FORM: .25" TH PLATE
SPECIMEN TYPE: CCP
ORIENTATION: L-T

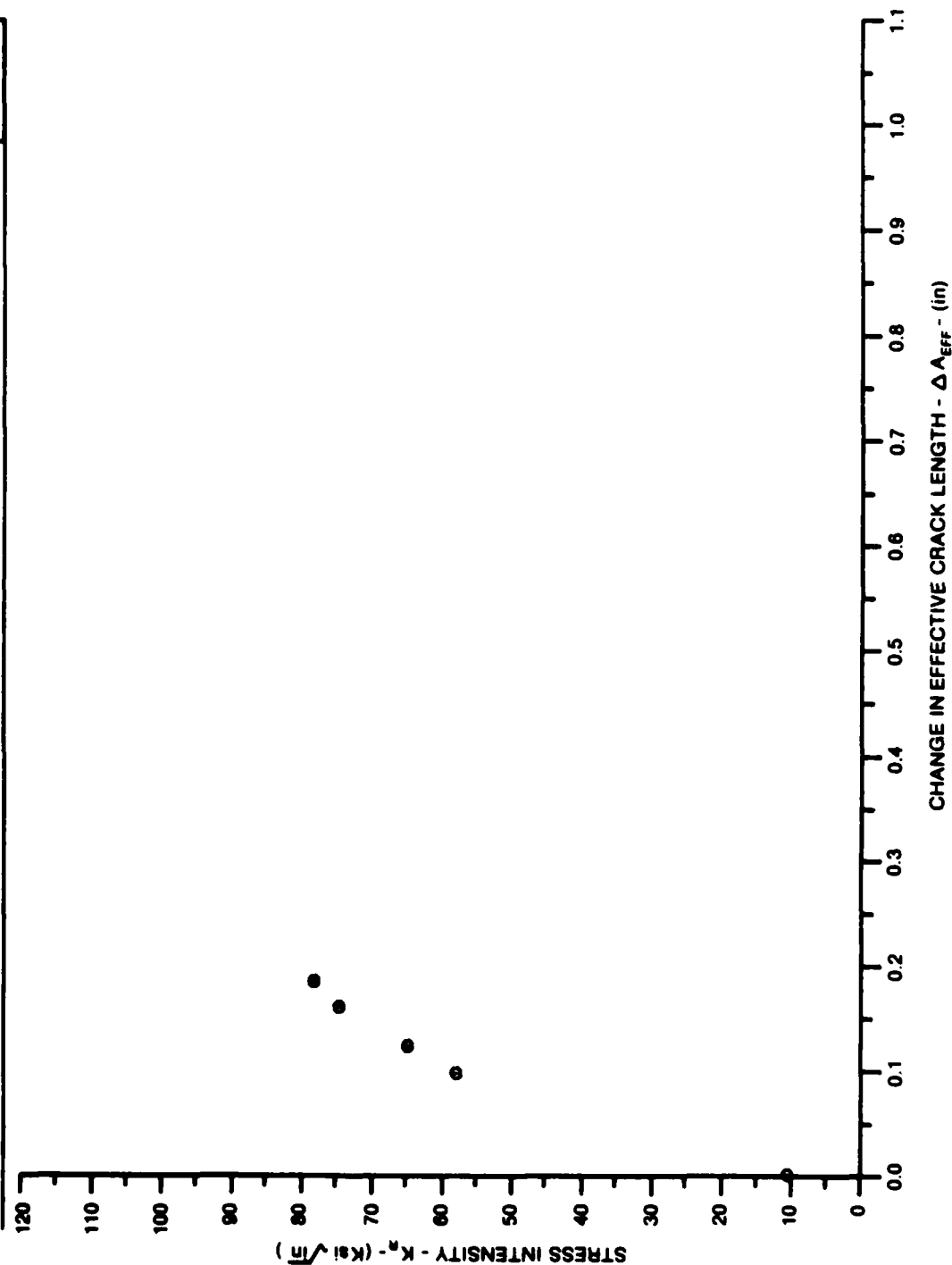


Figure 8.20.2.33

8.20-73

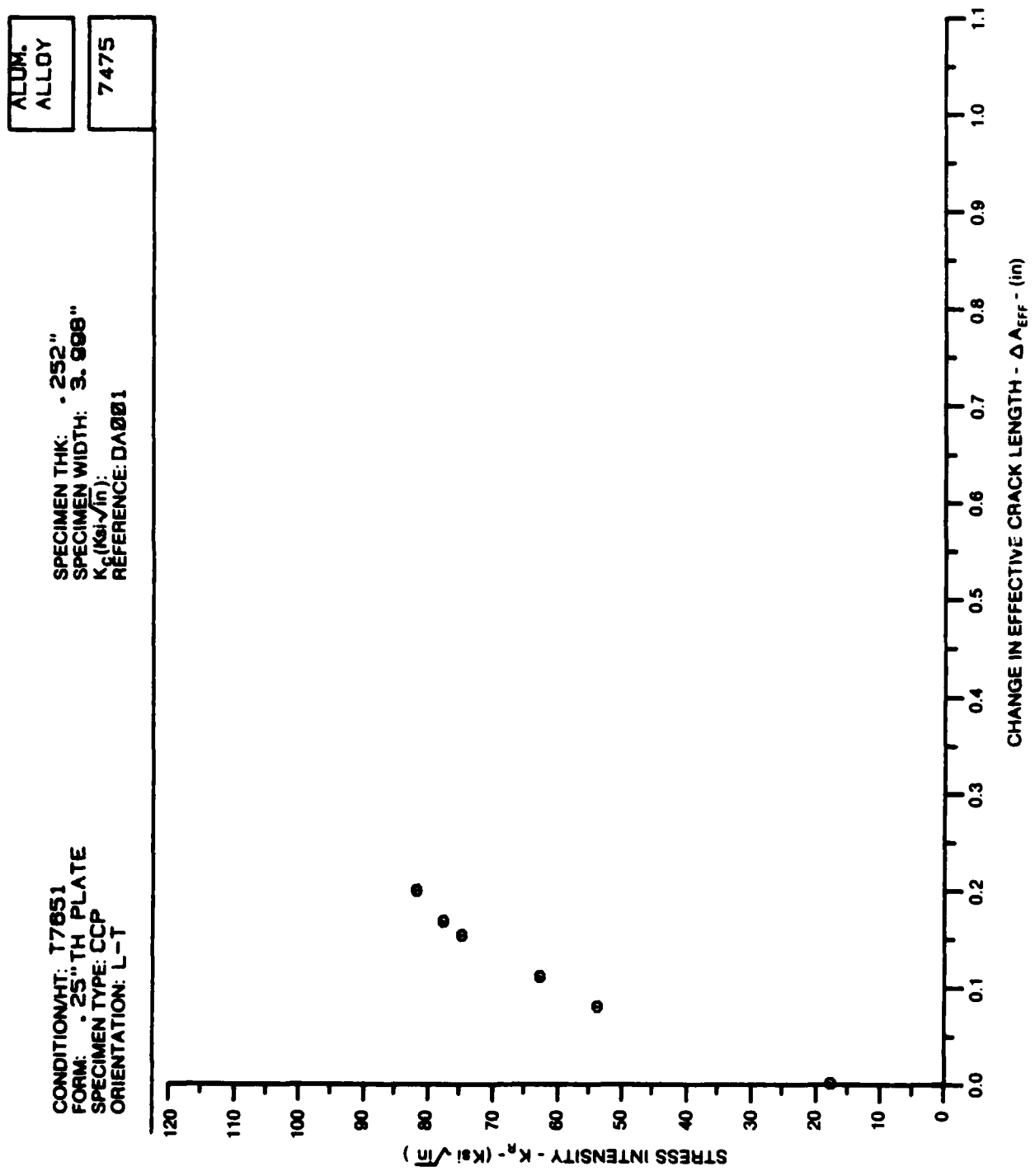


Figure 8.20.2.34
 8.20-74

ALUM.
ALLOY

7475

SPECIMEN THK: .249"
SPECIMEN WIDTH: 12.016"
 $K_C(Ksi\sqrt{in})$:
REFERENCE: DA001

CONDITION/HT: T7651
FORM: .25" TH PLATE
SPECIMEN TYPE: CCP
ORIENTATION: L-T

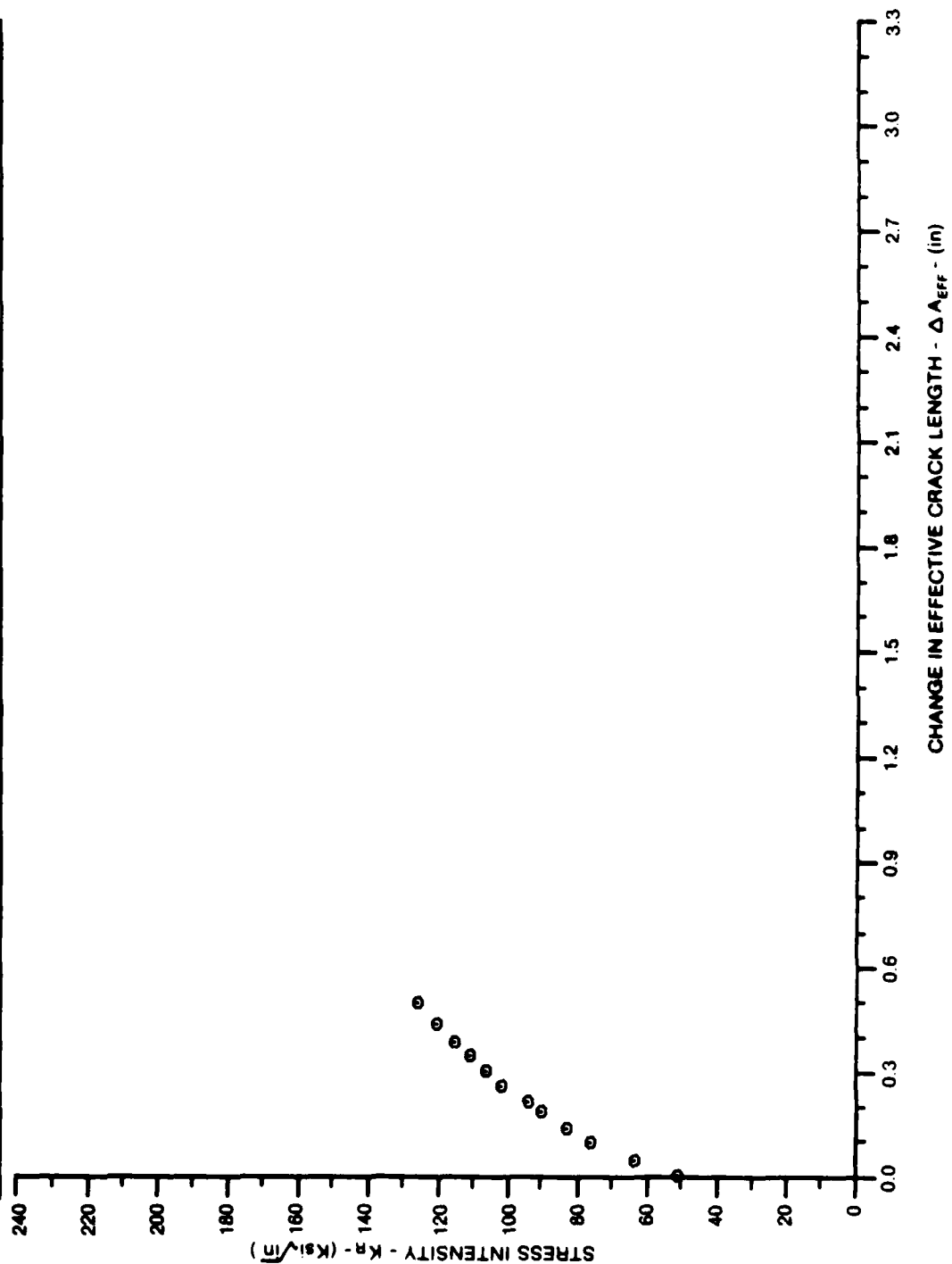


Figure 8.20.2.35
8.20-75

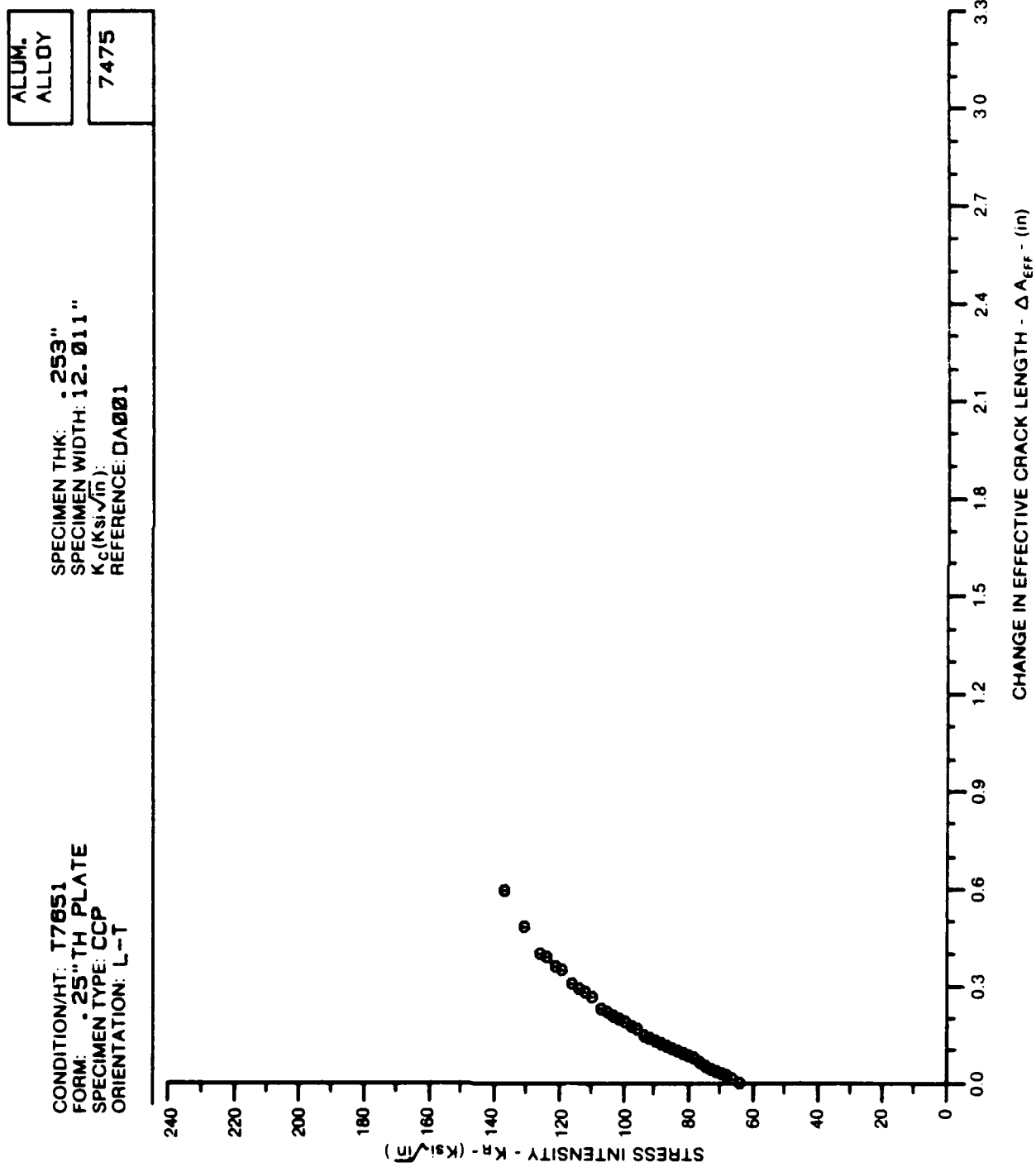


Figure 8.20.2.36

ALUM.
ALLOY

7475

SPECIMEN THK: .258"
SPECIMEN WIDTH: 16.000"
 K_C (Ksi $\sqrt{\text{in}}$): 147.0
REFERENCE GD005

CONDITION/HT: T7651
FORM: .50" TH PLATE
SPECIMEN TYPE: CCP
ORIENTATION: L-T

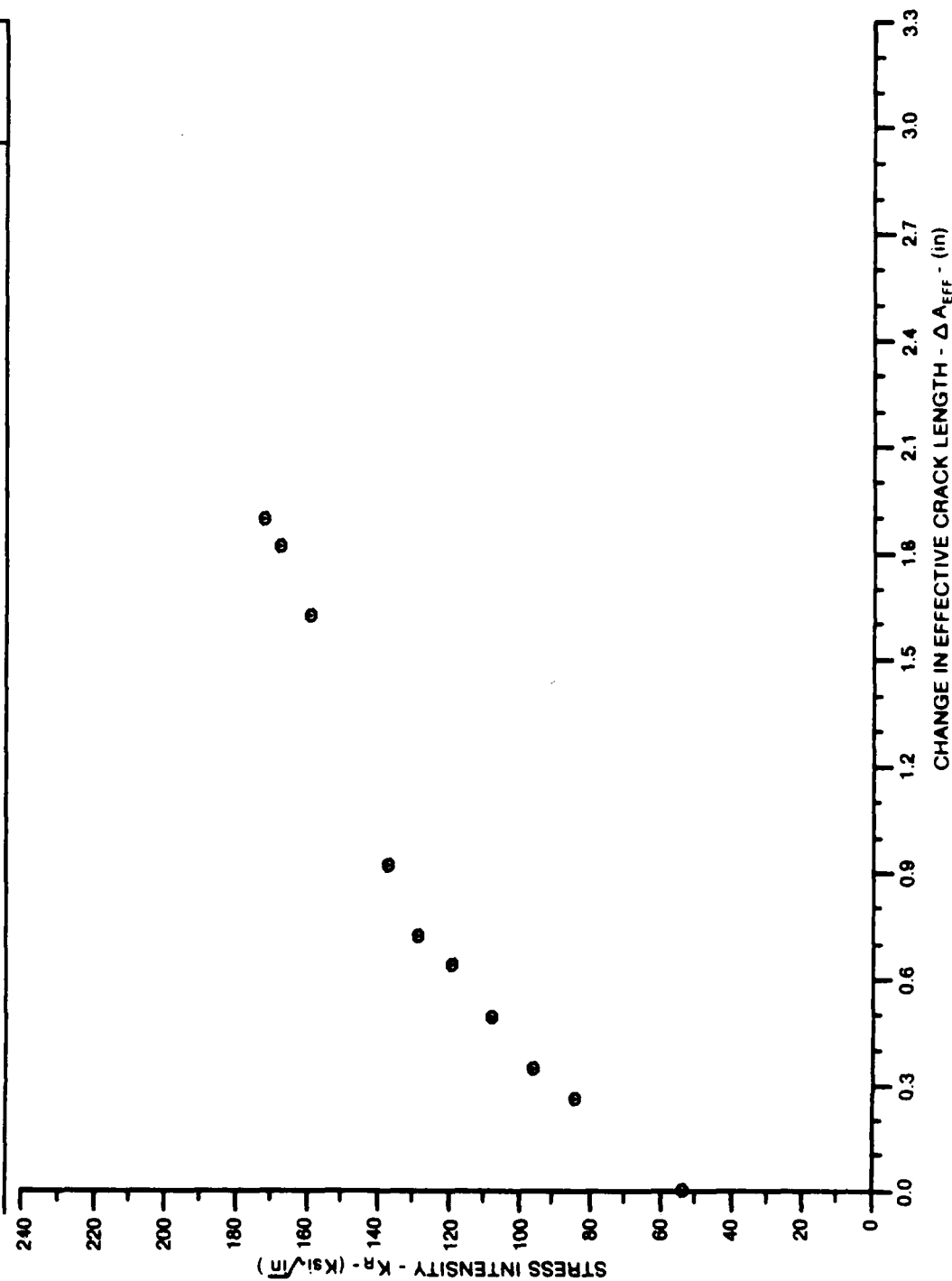


Figure 8.20.2.37

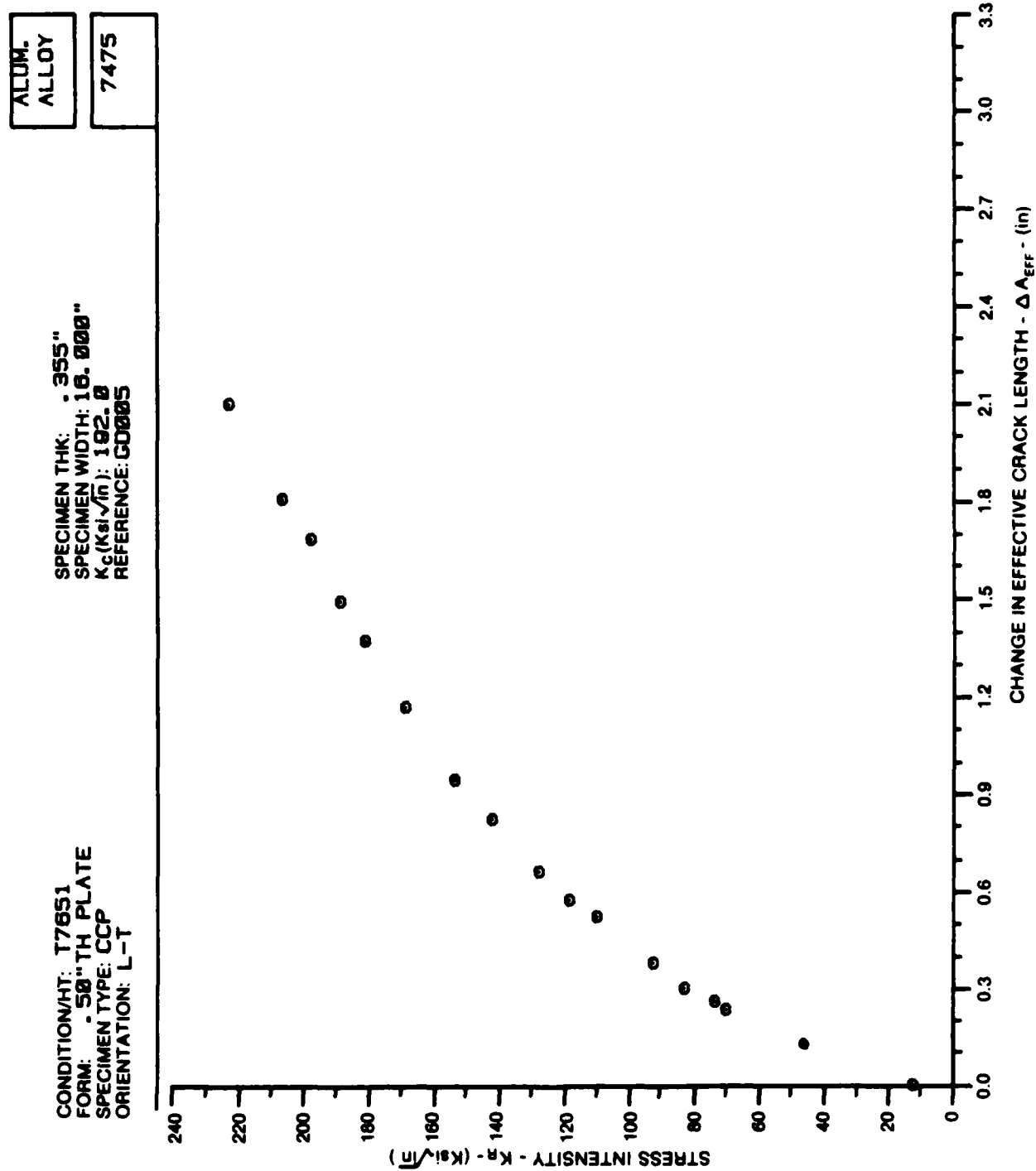


Figure 8.20.2.38

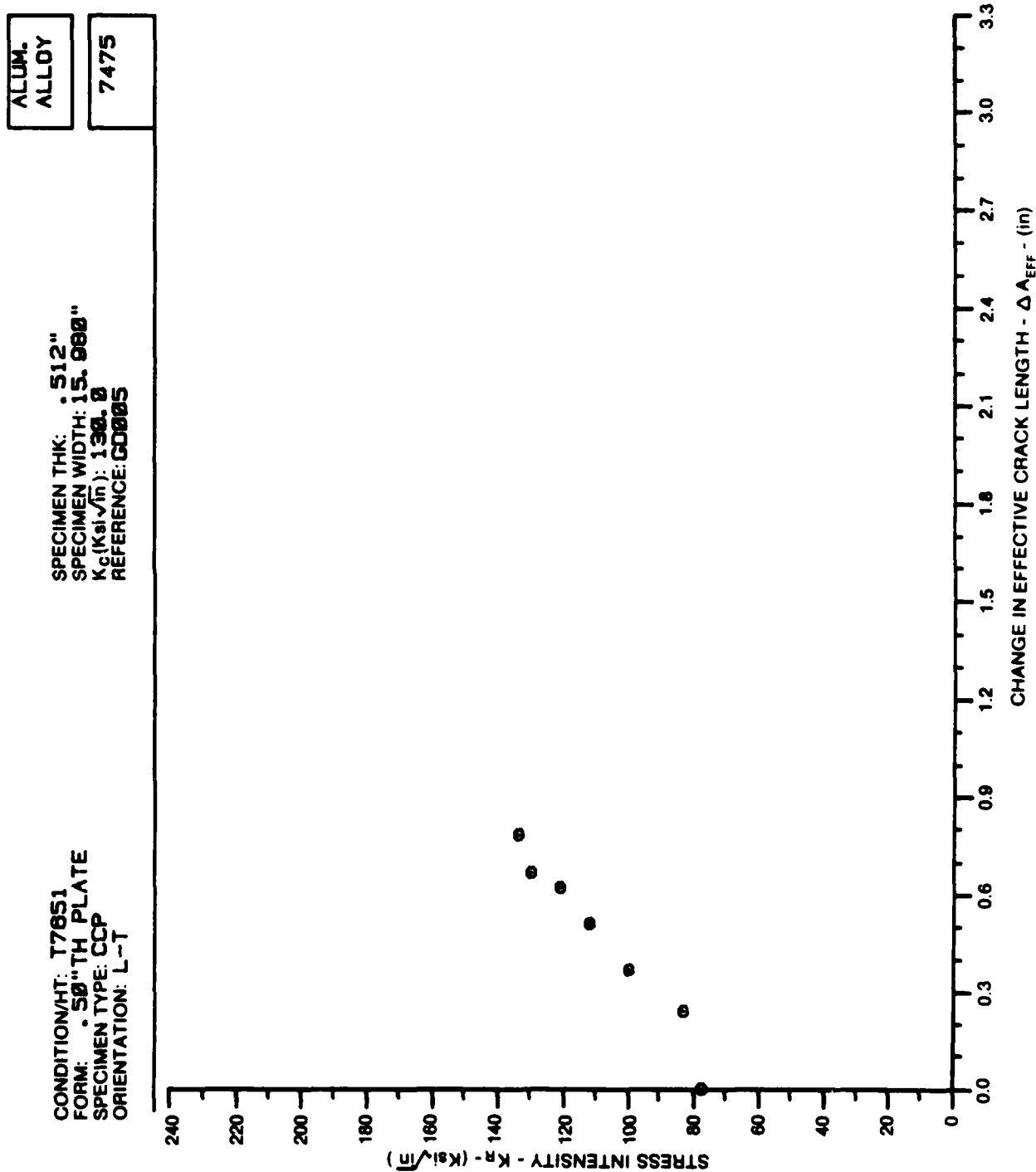


Figure 8.20.2.39

TABLE 8.20.3.1

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.20.3.1 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM 7475
CONDITION: T61

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. DRY AIR	E= R. T. H. H. A.	E= R. T. SALT FOG	
DELTA K MIN	A:	6.16	2.36		
	B:	6.60	7.04		
	C:	6.08		9.43	
	D:				
	7.00	3.44	8.26	14.2	
	8.00	4.94	11.8	19.5	
	9.00	6.66	16.2	24.8	
	10.00	8.58	21.3	30.6	
	13.00	15.7	42.4	57.3	
	16.00	25.6	73.2	120.	
DELTA K MAX	A:	19.58	119.		
	B:	19.57	125.		
	C:	16.67		144.	
	D:				
ROOT MEAN SQUARE PERCENT ERROR		12.67	4.40	5.55	
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1	1	1	
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T61
 FORM: 0.04" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: T-L
 STRESS RATIO: +0.33
 FREQUENCY: 13.30 HZ

YIELD STRENGTH: 72.1 KSI
 ULT. STRENGTH: 70.8- 79.8 KSI
 SPECIMEN THK: 0.042- 0.045"
 SPECIMEN WIDTH: 4.000"
 REFERENCES: 86842

ALUM.
 ALLOY

7475

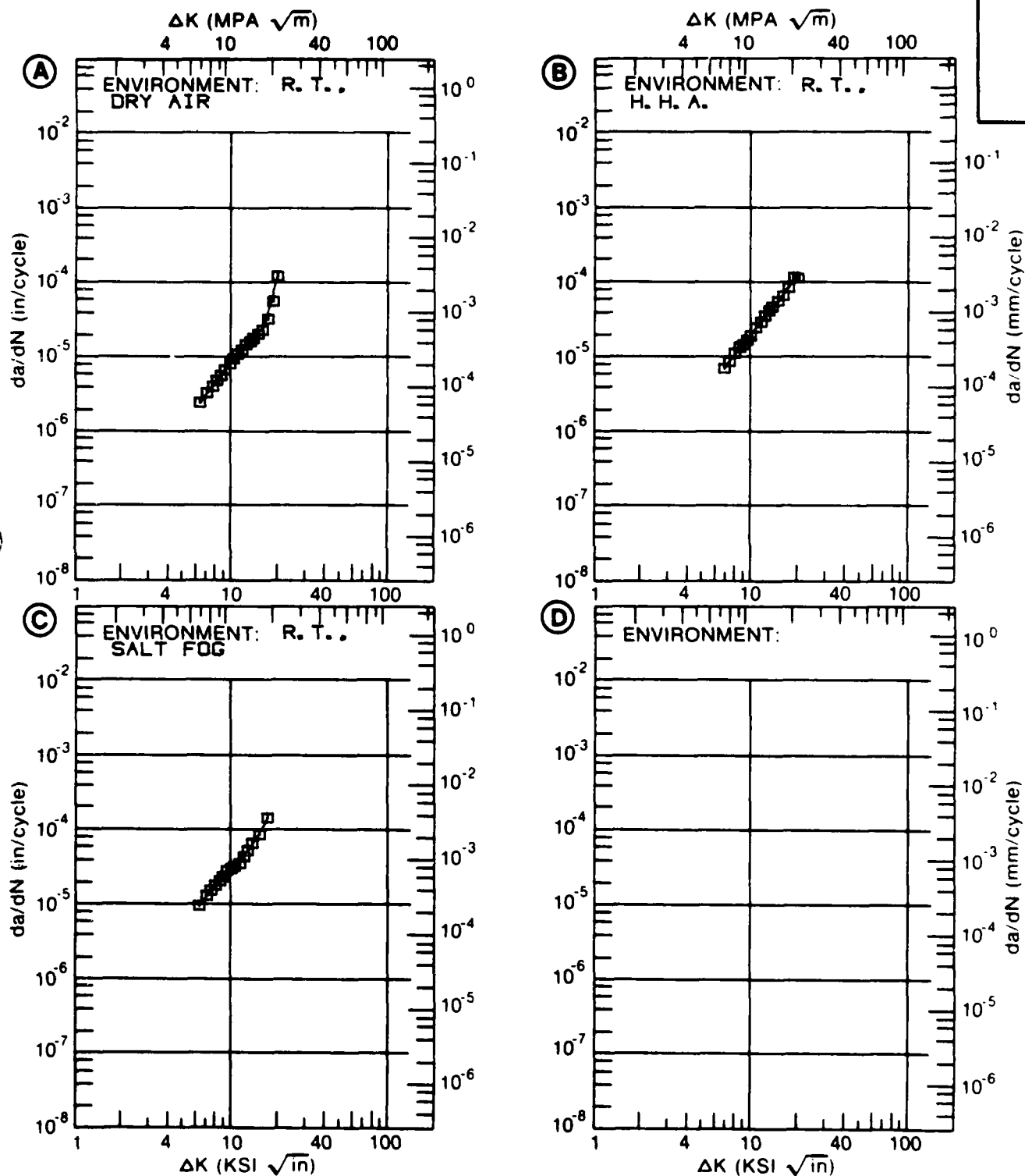


Figure 8.20.3.1

TABLE 8.20.3.2

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.20.3.2 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM 7475
CONDITION: T6J

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		E= R. T. H. H. A. SP. WIDTH=12"	E= R. T. H. H. A. SP. WIDTH=23.98"		
DELTA K MIN	A: 37.09	143.			
	B: 14.23		30.2		
	C:				
	D:				
	16.00		38.7		
	20.00		58.2		
	25.00		82.6		
	30.00				
	35.00				
	40.00	251.			
DELTA K MAX	50.00	928.			
	60.00	2439.			
	70.00	6613.			
	A: 79.11	24790.			
	B: 28.96		102.		
	C:				
	D:				
ROOT MEAN SQUARE		22.45	2.94		
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1	1		
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T81
 FORM: 0.11" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 STRESS RATIO: +0.05
 FREQUENCY: 2.00 HZ

YIELD STRENGTH: 75.3 KSI
 ULT. STRENGTH: 80.1 KSI
 SPECIMEN THK: 0.111- 0.112"
 SPECIMEN WIDTH:
 REFERENCES: 86212

ALUM.
 ALLOY

7475

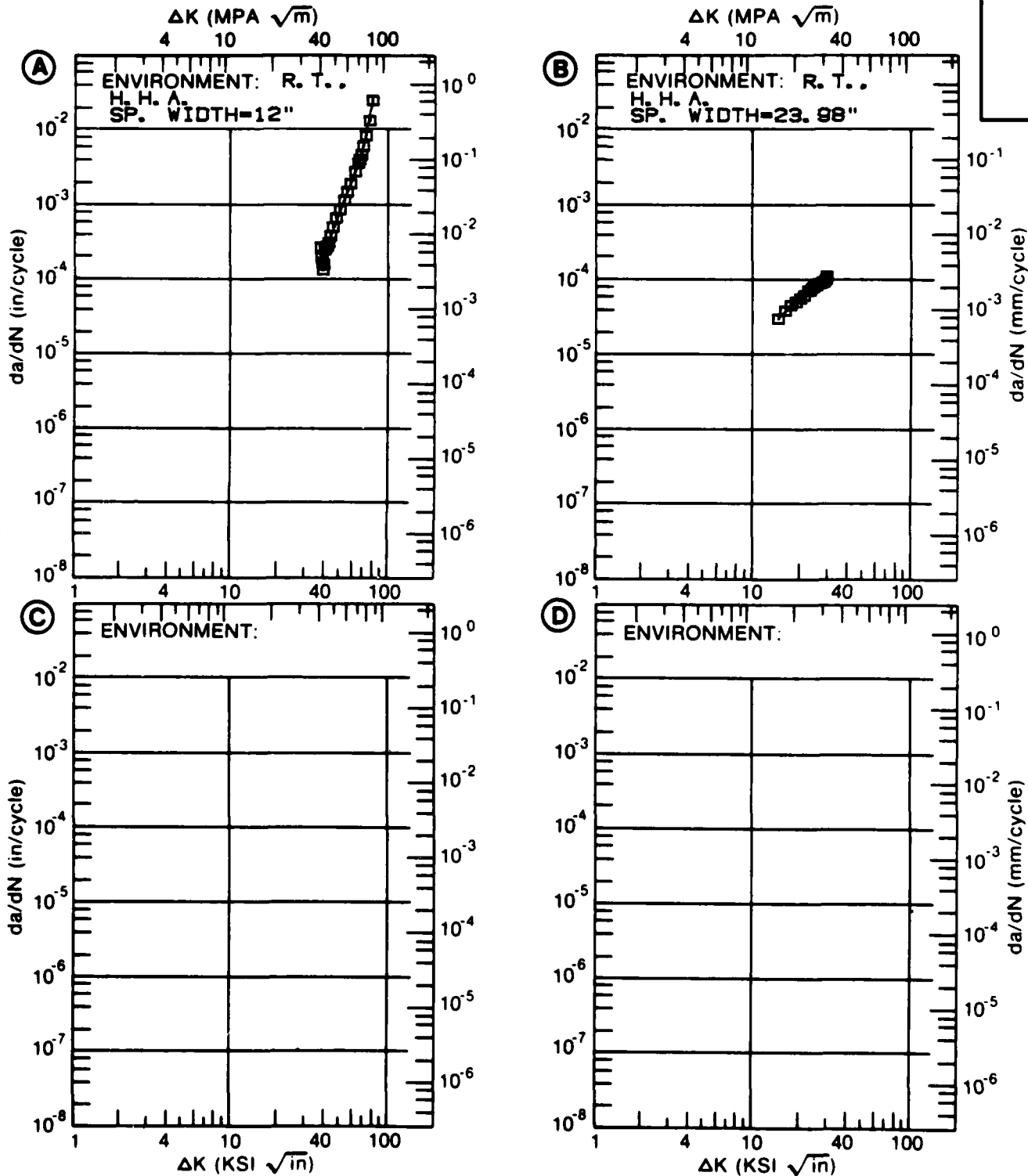


Figure 8.20.3.2

TABLE 8.20.3.3

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.20.3.3 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM
CONDITION: T61

7475

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		E= R. I. H. H. A.	E= R. T. 3. 5% NACL		
DELTA K MIN	A: 12. 56 :	18. 4			
	B: 14. 22 :		68. 5		
	C:				
	D:				
	13. 00 :	19. 7			
	16. 00 :	28. 8	91. 8		
	20. 00 :	42. 7	159.		
	25. 00 :	68. 4	265.		
	30. 00 :	113.	385.		
	35. 00 :	194.			
DELTA K MAX	A: 39. 58 :	330.			
	B: 33. 00 :		458.		
	C:				
	D:				
ROOT MEAN SQUARE		4. 98	1. 82		
PERCENT ERROR					
LIFE	0. 0-0. 5				
PREDICTION	0. 5-0. 8				
RATIO	0. 8-1. 25	1	1		
SUMMARY	1. 25-2. 0				
(NP/NA)	>2. 0				

CONDITION HT: T61
 FORM: 0.11" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 STRESS RATIO: +0.05
 FREQUENCY: 2.00 HZ

YIELD STRENGTH: 68.6- 75.3 KSI
 ULT. STRENGTH: 74.5- 80.1 KSI
 SPECIMEN THK: 0.112- 0.113"
 SPECIMEN WIDTH: 36.000"
 REFERENCES: 86212

ALUM.
 ALLOY

7475

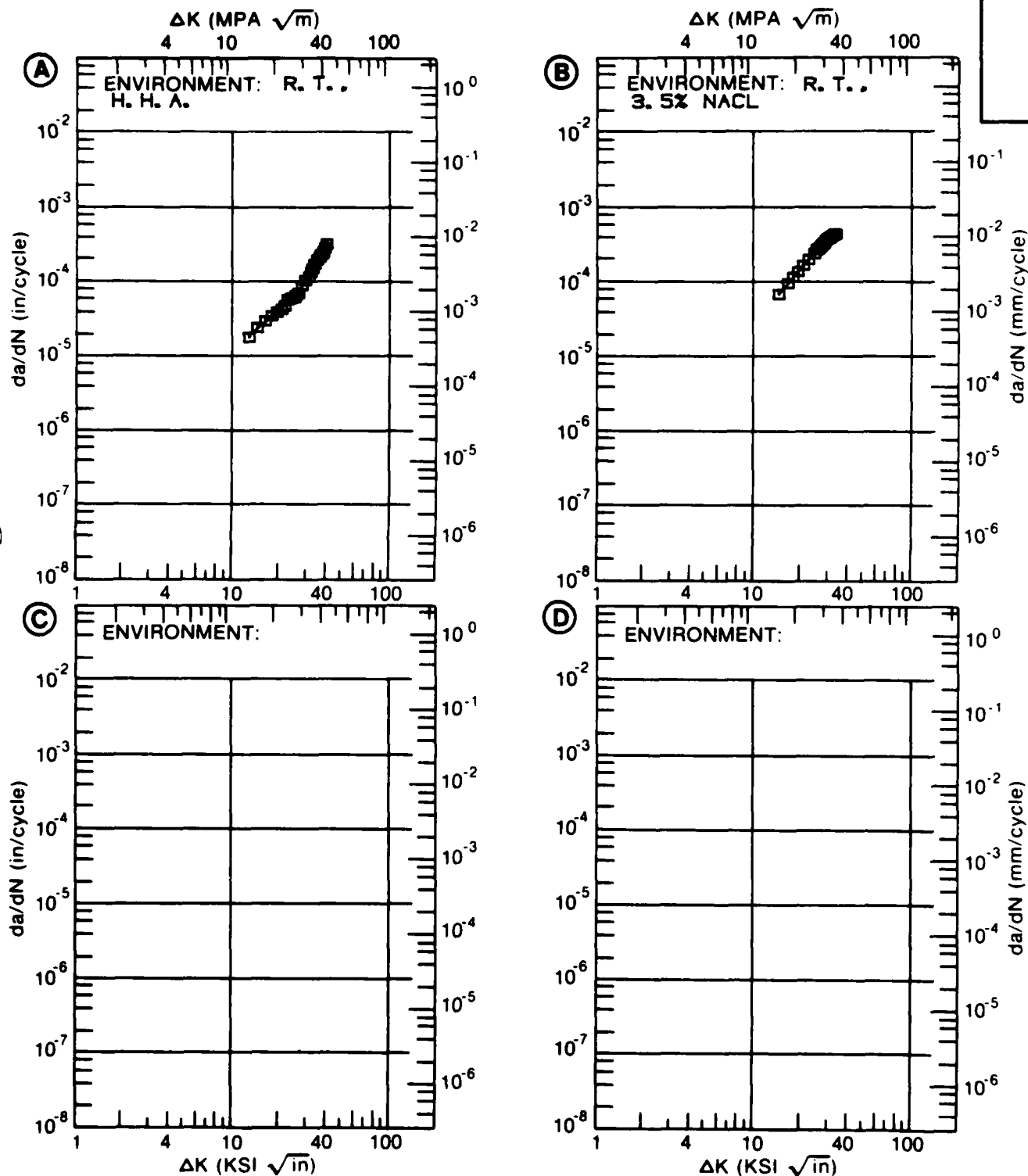


Figure 8.20.3.3

TABLE 8.20.3.4

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.20.3.4 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM 7475
CONDITION: T61

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		E= R. T. 3.5% NaCl			
DELTA K MIN	A: 12.45	61.0			
	B:				
	C:				
	D:				
	13.00	68.5			
	16.00	115.			
DELTA K MAX	20.00	188.			
	25.00	290.			
	30.00	396.			
	A: 32.47	448.			
	B:				
	C:				
	D:				

ROOT MEAN SQUARE 2.19
PERCENT ERROR

LIFE	0.0-0.5	
PREDICTION	0.5-0.8	
RATIO	0.8-1.25	1
SUMMARY	1.25-2.0	
(NP/NA)	>2.0	

CONDITION/HT: T61
 FORM: 0.11" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: T-L
 STRESS RATIO: +0.05
 FREQUENCY: 2.00 HZ

YIELD STRENGTH: 73.1 KSI
 ULT. STRENGTH: 90.6 KSI
 SPECIMEN THK: 0.112"
 SPECIMEN WIDTH: 35.980"
 REFERENCES: 88212

ALUM.
 ALLOY

7475

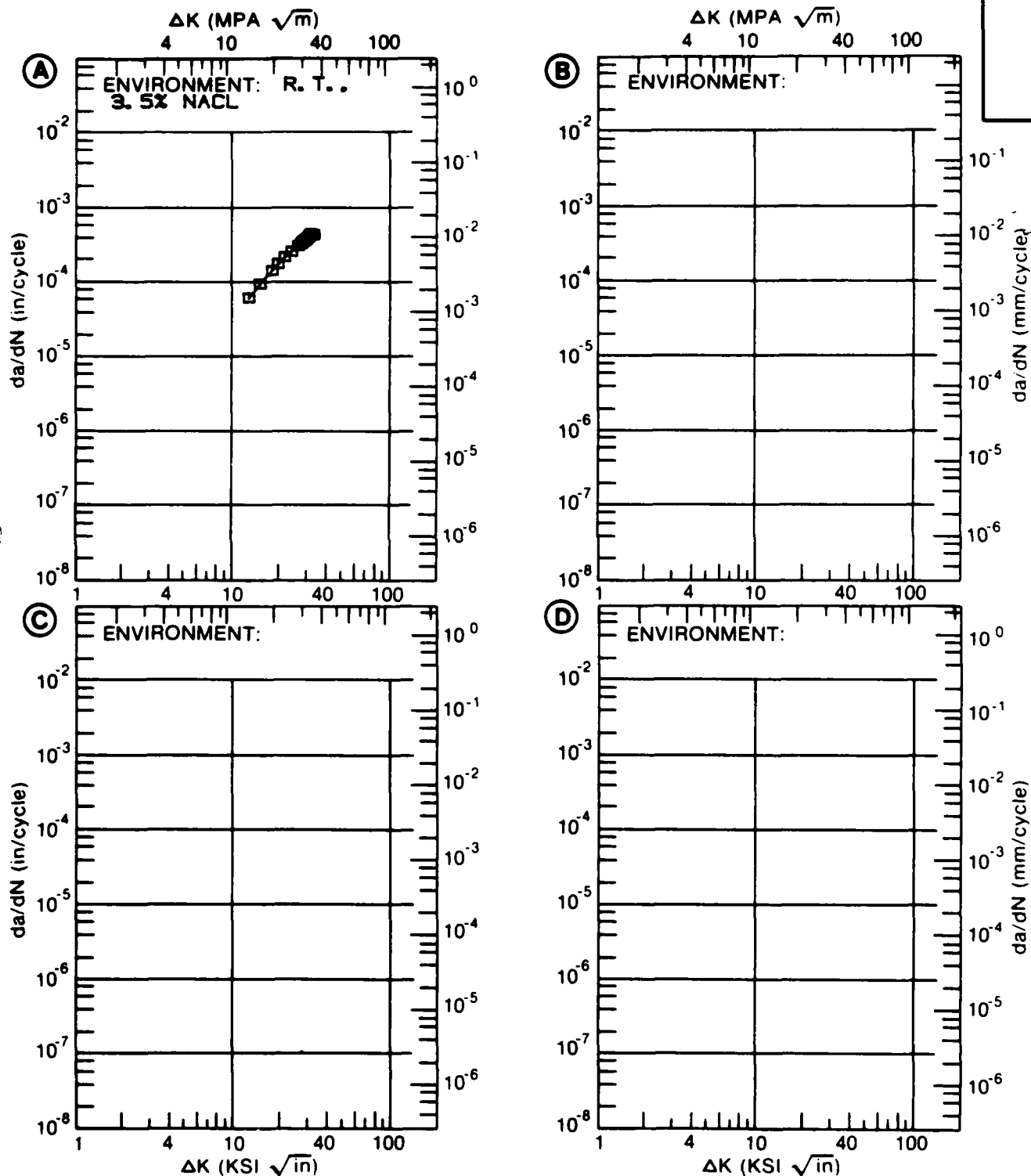


Figure 8.20.3.4

TABLE 8.20.3.5

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.20.3.5 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM		7475			
CONDITION: T61					
DELTA K (KSI*IN**1/2)		DA/DN (10***-6 IN. /CYCLE)			
		A	B	C	D
		E= R. T. DRY AIR	E= R. T. H. H. A.	E= R. T. SALT FOG	
DELTA K A:	6.32	2.10			
MIN B:	6.33		7.43		
C:	6.18			9.59	
D:					
	7.00	3.27	10.0	14.9	
	8.00	5.37	15.0	23.0	
	9.00	7.79	21.6	33.0	
	10.00	10.4	29.7	44.5	
	13.00	19.1	64.8	86.8	
	16.00	29.3	116.	138.	
DELTA K A:	18.93	42.0			
MAX B:	18.76		174.		
C:	18.95			193.	
D:					
ROOT MEAN SQUARE		5.38	4.06	3.66	
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1	1	1	
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T81
 FORM: 0.13" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 STRESS RATIO: +0.33
 FREQUENCY: 13.30 HZ

YIELD STRENGTH: 76.8 KSI
 ULT. STRENGTH: 82.0 KSI
 SPECIMEN THK: 0.126"
 SPECIMEN WIDTH: 4.000"
 REFERENCES: 86842

ALUM.
 ALLOY

7475

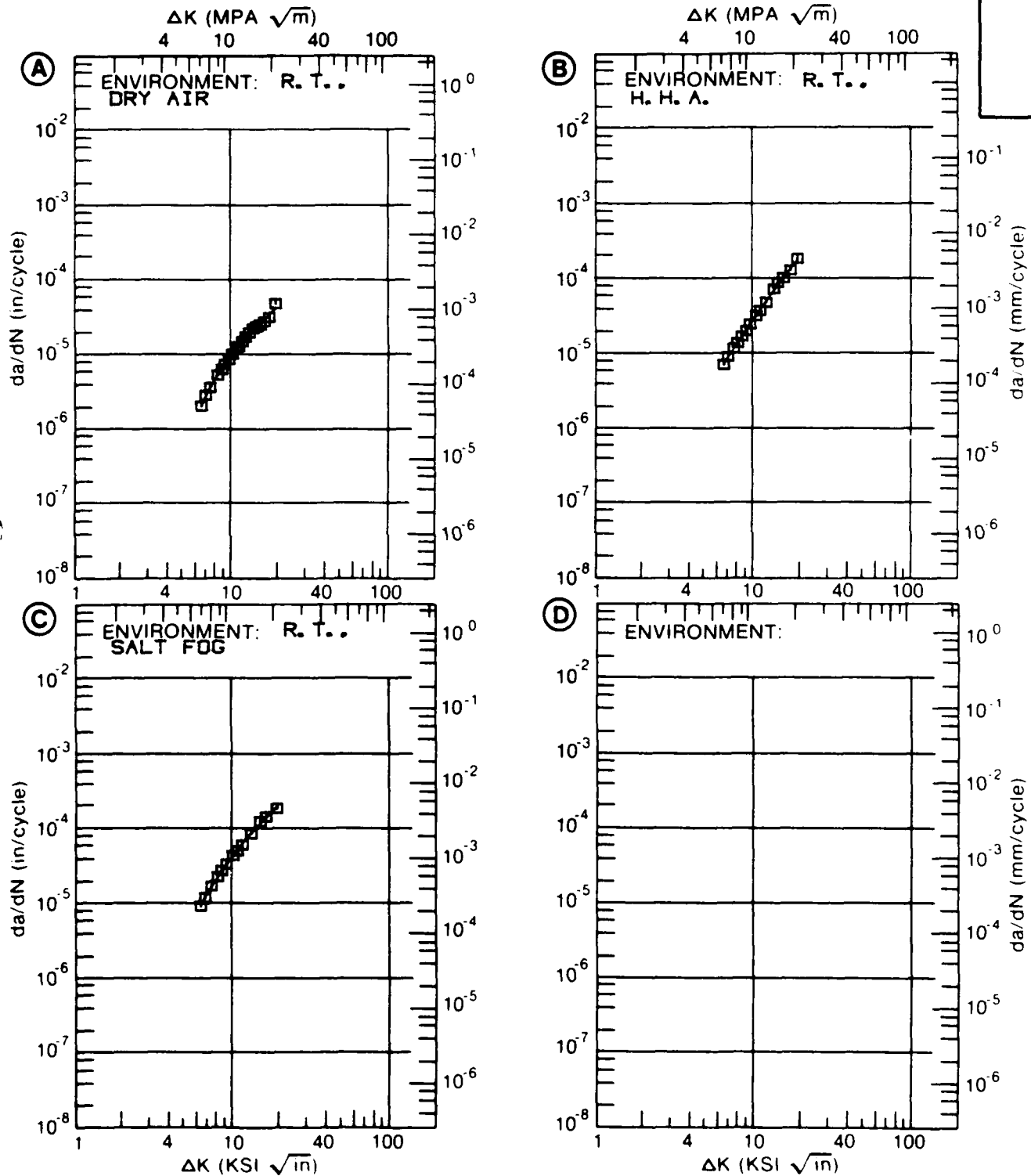


Figure 8.20.3.5

TABLE 8.20.3.6

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.20.3.6 INDICATING EFFECT
OF ENVIRONMENT

MATERIAL: ALUMINUM		7475			
CONDITION: T61					
DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. DRY AIR	E= R. T. H. H. A.	E= R. T. SALT FOG	
DELTA K A:	6.57	2.87			
DELTA K B:	5.72		4.43		
MIN C:	5.95			9.48	
D:					
	6.00		5.19	9.69	
	7.00	3.70	8.63	14.8	
	8.00	5.95	13.3	21.5	
	9.00	8.55	19.2	30.1	
	10.00	11.5	26.6	40.5	
	13.00	23.0	57.7	81.8	
	16.00	41.7	102.	132.	
	20.00	92.2	179.	198.	
DELTA K A:	23.38	187.			
DELTA K B:	21.13		204.		
MAX C:	20.82			210.	
D:					
ROOT MEAN SQUARE		8.22	5.08	7.98	
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	2	3	3	
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T61
 FORM: 0.13" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: T-L
 STRESS RATIO: +0.33
 FREQUENCY: 13.30 HZ

YIELD STRENGTH: 73.1 KSI
 ULT. STRENGTH: 76.8 KSI
 SPECIMEN THK: 0.126"
 SPECIMEN WIDTH: 4.000"
 REFERENCES: 86842

ALUM.
 ALLOY

7475

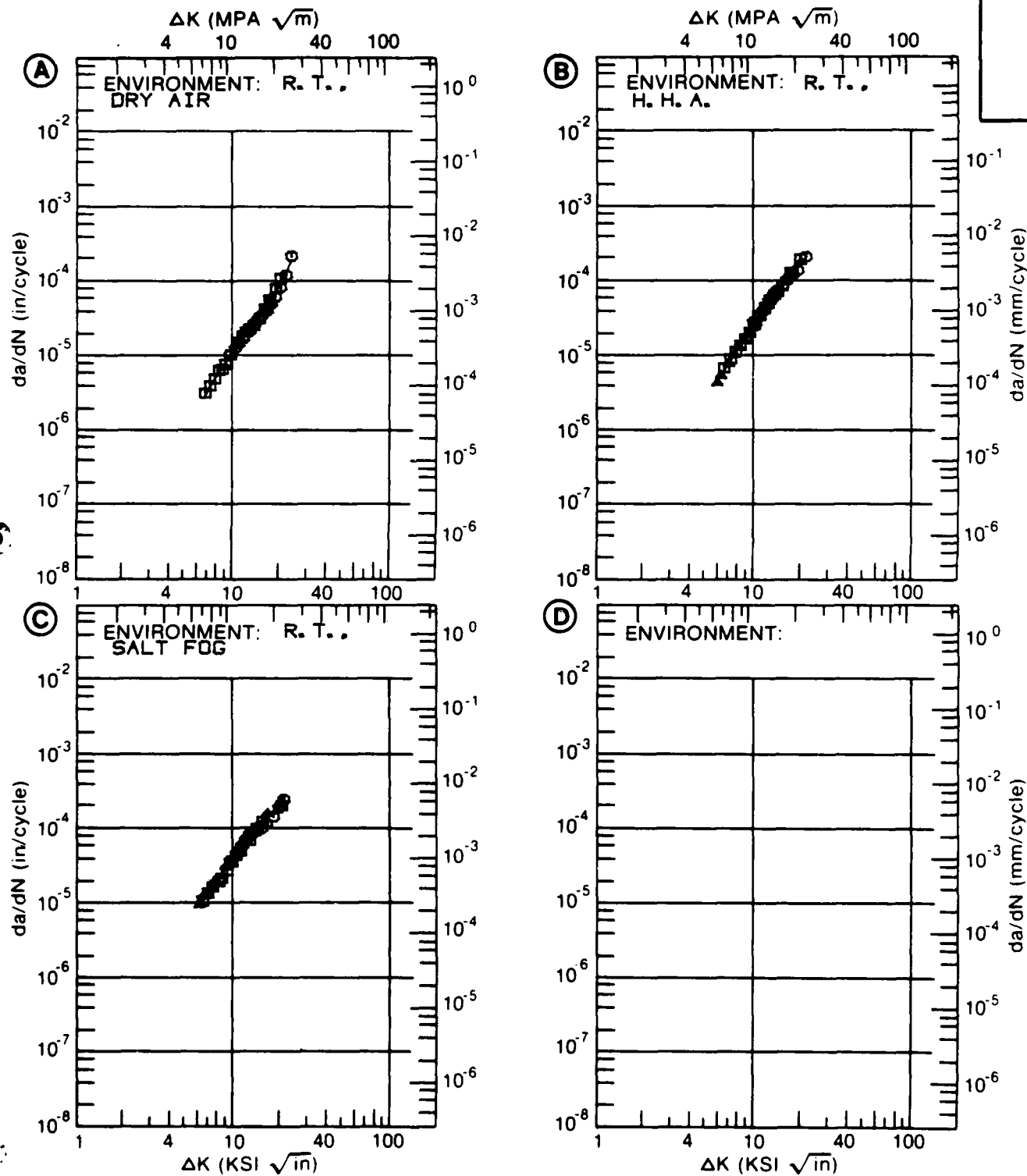


Figure 8.20.3.6

TABLE 8.20.3.7

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.20.3.7 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7475
CONDITION: T61
ENVIRONMENT: R.T., LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.10			
A:	5.90	.723			
DELTA K B:					
MIN C:					
D:					
	6.00	.727			
	7.00	1.03			
	8.00	1.94			
	9.00	3.85			
	10.00	6.87			
	13.00	19.2			
	16.00	53.9			
A:	17.32	57.4			
DELTA K B:					
MAX C:					
D:					

ROOT MEAN SQUARE 25.62
PERCENT ERROR

LIFE 0.0-0.9
PREDICTION 0.5-0.8
RATIO 0.8-1.25 2
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T81
 FORM: 1.50" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 FREQUENCY: 20.00 HZ
 ENVIRONMENT: R. T., LAB AIR

YIELD STRENGTH: 73.9 KSI
 ULT. STRENGTH: 79.5 KSI
 SPECIMEN THK: 0.650"
 SPECIMEN WIDTH: 1.490- 1.500"
 REFERENCES: 85363

ALUM.
 ALLOY

7475

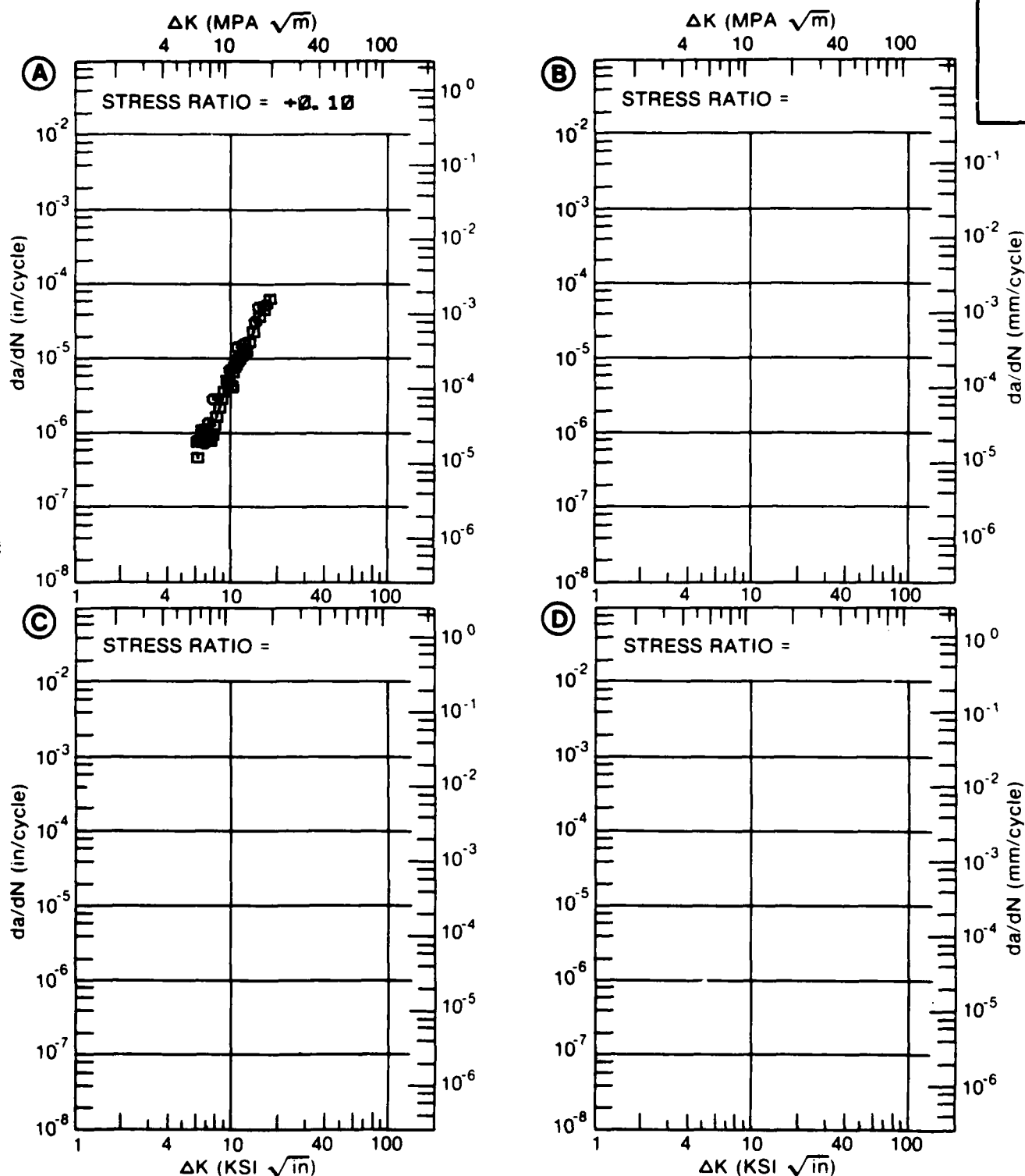


Figure 8.20.3.7

TABLE 8.20.3.8

**FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR**

**DATA ASSOCIATED WITH FIGURE 8.20.3.8 INDICATING EFFECT
OF ENVIRONMENT**

MATERIAL: ALUMINUM 7475
CONDITION: T6151

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		E= R. I. LAB AIR			
DELTA K MIN	A:	9.79	5.11		
	B:				
	C:				
	D:				
		10.00	5.52		
		13.00	14.7		
		16.00	28.2		
		20.00	40.7		
DELTA K MAX	A:	24.63	87.7		
	B:				
	C:				
	D:				

ROOT MEAN SQUARE 16.38
PERCENT ERROR

LIFE	0.0-0.9	1
PREDICTION	0.5-0.8	
RATIO	0.8-1.25	1
SUMMARY	1.25-2.0	
(NP/NA)	>2.0	

CONDITION/HT: T8151
 FORM: 0.00" TH SHEET
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 STRESS RATIO: +0.10
 FREQUENCY: 20.00 HZ

YIELD STRENGTH: 62.2 KSI
 ULT. STRENGTH: 70.2 KSI
 SPECIMEN THK: 0.009"
 SPECIMEN WIDTH: 1.496- 1.499"
 REFERENCES: 85363

ALUM.
 ALLOY

7475

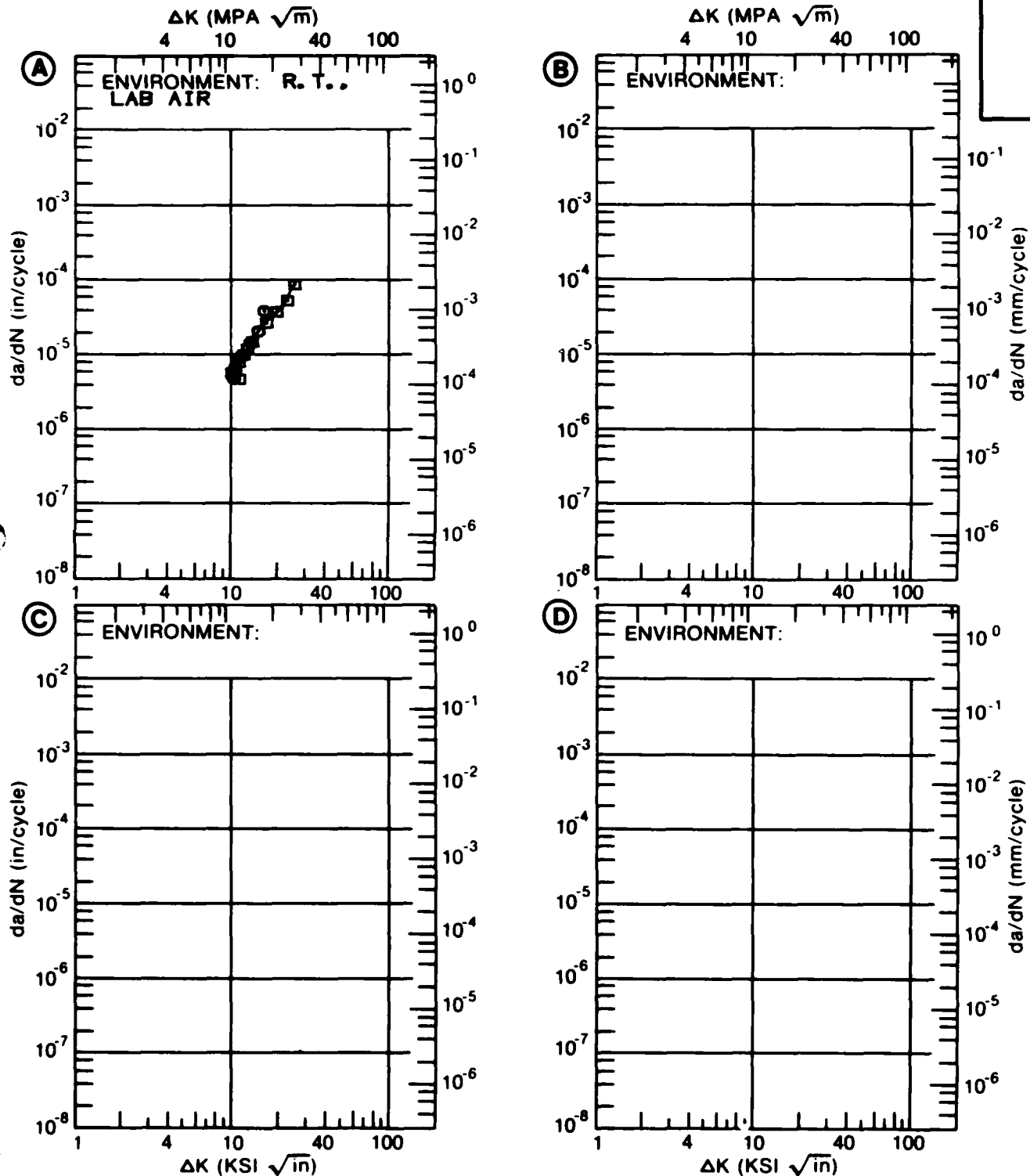


Figure 8.20.3.8

TABLE 8.20.3.9

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.20.3.9 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM 7475
CONDITION: T6151

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. LAB AIR			
DELTA K MIN	A:	8.91	5.41		
	B:				
	C:				
	D:				
		9.00	5.31		
		10.00	6.22		
		13.00	15.5		
		16.00	23.5		
DELTA K MAX		20.00	54.5		
		25.00	102.		
		30.00	115.		
	A:	30.31	122.		
	B:				
	C:				
	D:				
ROOT MEAN SQUARE		26.51			
PERCENT ERROR					

LIFE	0.0-0.9	
PREDICTION	0.5-0.8	3
RATIO	0.8-1.25	
SUMMARY	1.25-2.0	
(NP/NA)	>2.0	

CONDITION/HT: T6151
 FORM: 0.009" TH SHEET
 SPECIMEN TYPE: CT
 ORIENTATION: T-L
 STRESS RATIO: +0.10
 FREQUENCY: 20.00 HZ

YIELD STRENGTH: 82.2 KSI
 ULT. STRENGTH: 70.2 KSI
 SPECIMEN THK: 0.009"
 SPECIMEN WIDTH: 1.478- 1.488"
 REFERENCES: 85363

ALUM.
 ALLOY

7475

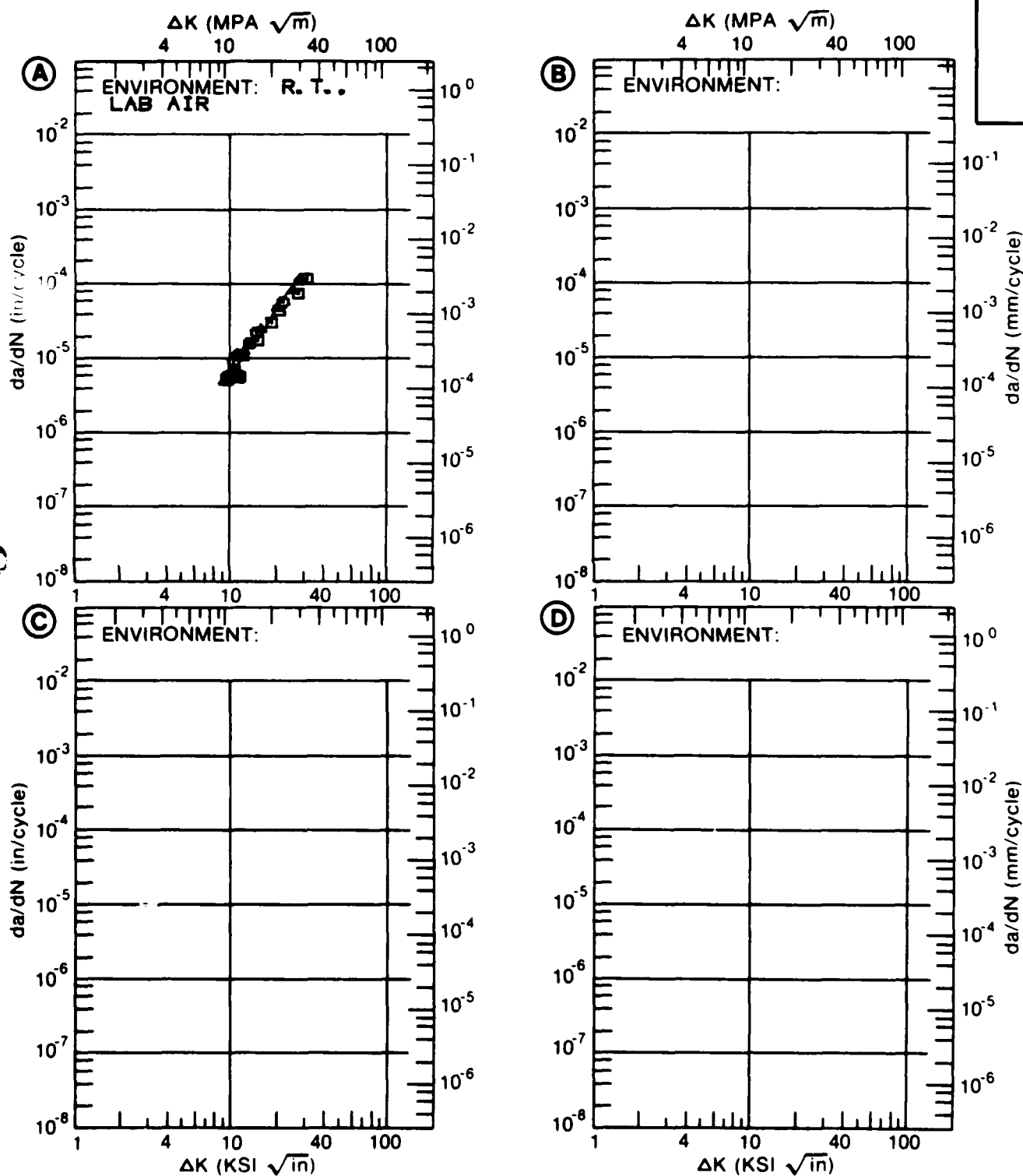


Figure 8.20.3.9

TABLE 8.20.3.10

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.20.3.10 INDICATING EFFECT
OF ENVIRONMENT

MATERIAL: ALUMINUM		7475			
CONDITION: T651					
DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		E= R. T. DRY AIR 1.00" PLATE	E= R. T. DRY AIR 0.50" PLATE	E= R. T. DRY AIR .125" PLATE	
DELTA K MIN	A:	5.60	1.21		
	B:	6.40	.918		
	C:	8.74		2.07	
	D:				
	6.00	1.72			
	7.00	3.30	1.39		
	8.00	5.19	2.44		
	9.00	7.22	3.85	2.34	
	10.00	9.31	5.61	3.51	
	13.00	15.8	12.8	7.75	
	16.00	23.6	22.6	12.5	
	20.00	39.4	39.1	19.6	
	25.00	79.0		31.5	
	30.00			50.0	
	35.00			81.2	
DELTA K MAX	A:	26.91	105.		
	B:	24.37	61.3		
	C:	35.06		81.7	
	D:				
ROOT MEAN SQUARE		8.60	10.62	11.97	
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25				
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T651

FORM:

SPECIMEN TYPE:

ORIENTATION:

STRESS RATIO: +0.10

FREQUENCY: 20.00 HZ

YIELD STRENGTH:

ULT. STRENGTH:

SPECIMEN THK: 0.125- 1.000"

SPECIMEN WIDTH:

REFERENCES: 91332

ALUM.
ALLOY

7475

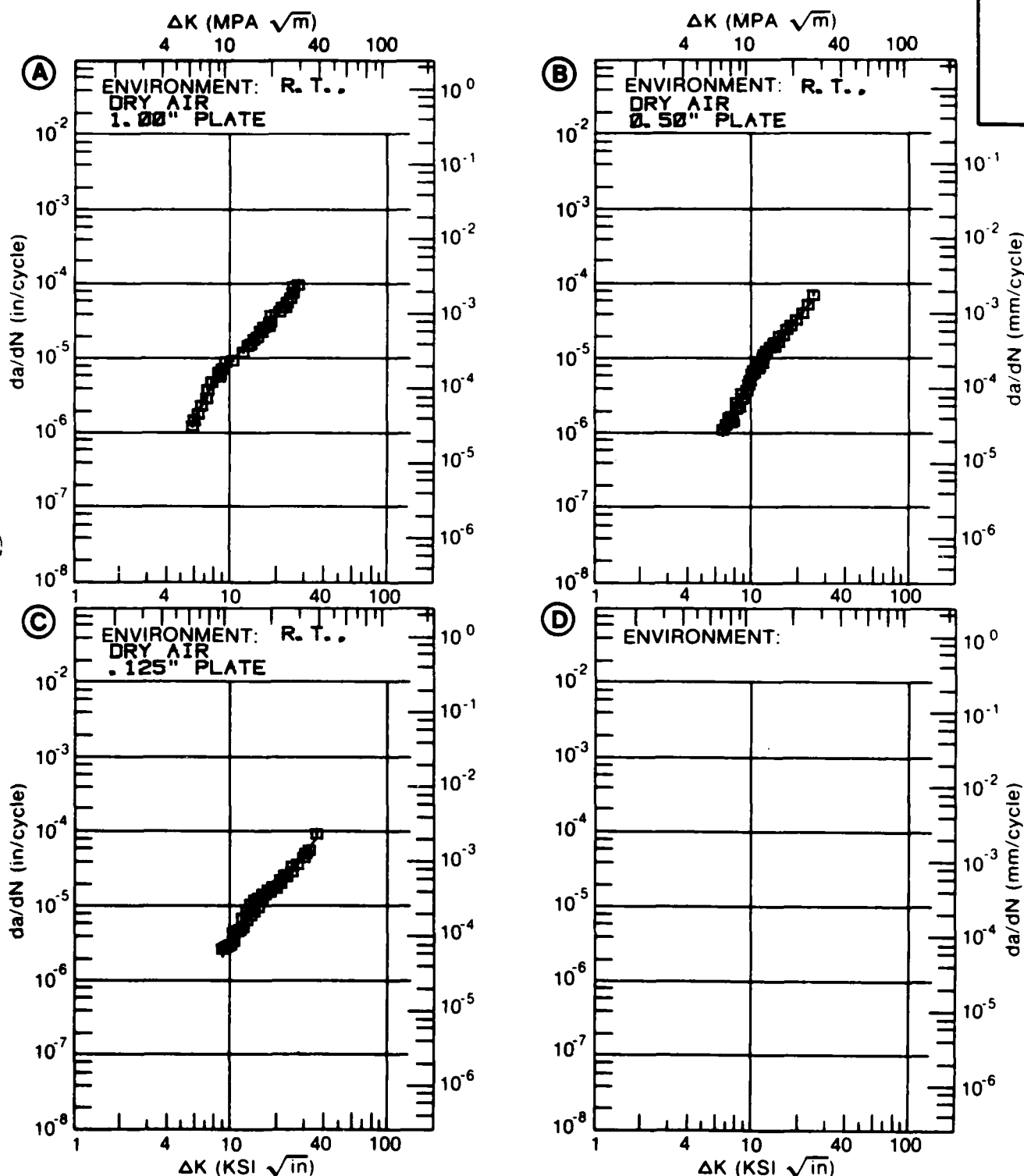


Figure 8.20.3.10

TABLE 8.20.3.11

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.20.3.11 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM		7475			
CONDITION: T651					
ENVIRONMENT: R. T., H. H. A.					
DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.33			
DELTA K MIN	A:	5.49	6.81		
	B:				
	C:				
	D:				
		6.00	8.16		
		7.00	11.8		
		8.00	17.1		
		9.00	24.4		
		10.00	34.4		
		13.00	84.8		
DELTA K MAX		16.00	168.		
		20.00	302.		
	A:	24.79	433.		
	B:				
	C:				
	D:				
ROOT MEAN SQUARE		6.04			
PERCENT ERROR					
LIFE	0.0-0.9				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	2			
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T651
 FORM: 0.51" TH PLATE
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 5.20 HZ
 ENVIRONMENT: R. T., H. H. A.

YIELD STRENGTH: 74.5 KSI
 ULT. STRENGTH: 90.0 KSI
 SPECIMEN THK: 0.508"
 SPECIMEN WIDTH: 3.025- 3.026"
 REFERENCES: 86213

ALUM.
 ALLOY

7475

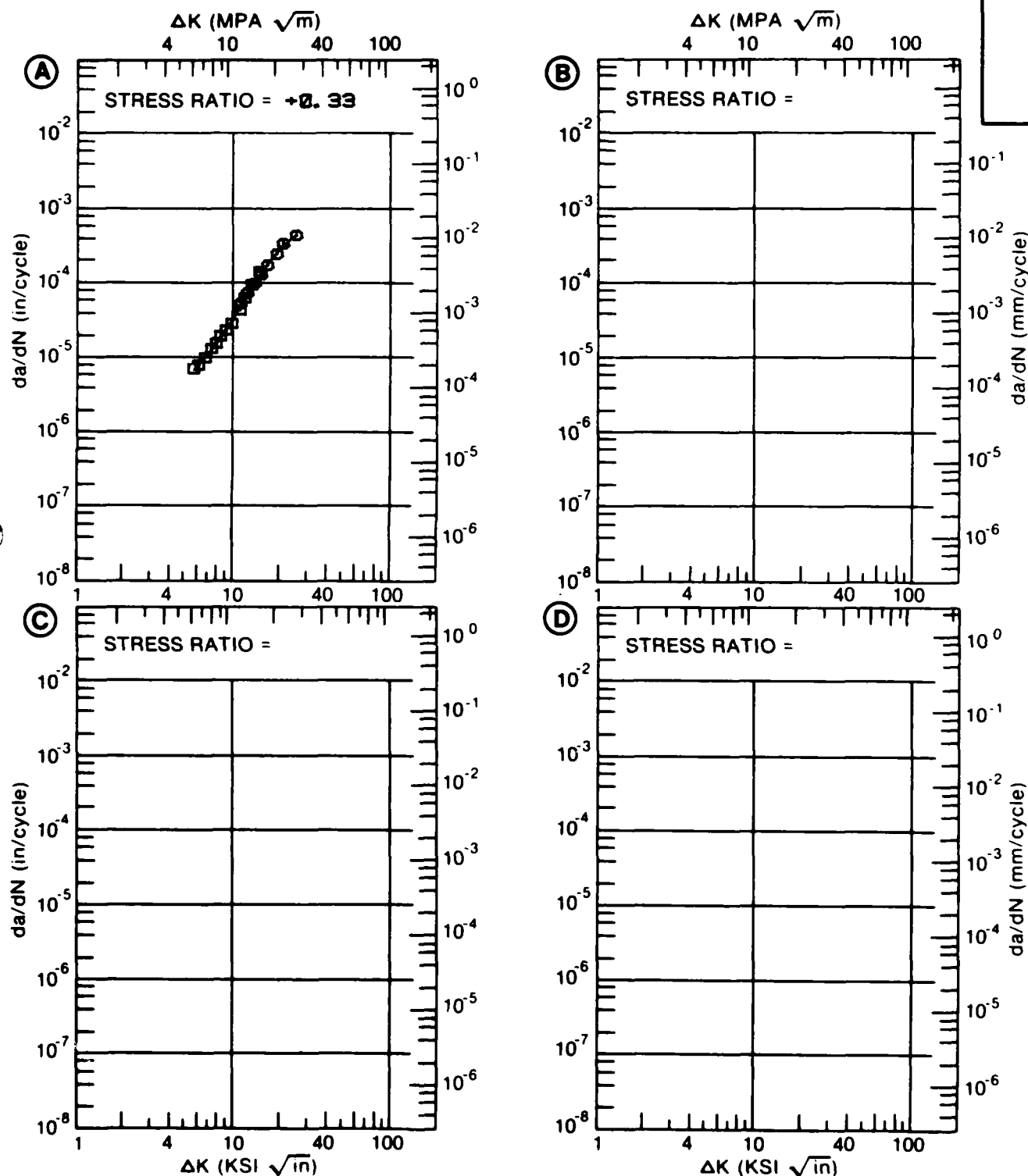


Figure 8.20.3.11

TABLE 8.20.3.12

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.20.3.12 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM 7475
CONDITION: T651

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. LAB AIR	E= R. T. H. H. A.		
DELTA K	A: 2.66	.108			
MIN	B: 2.40		.0430		
	C:				
	D:				
	2.50		.0518		
	3.00	.105	.122		
	3.50	.159	.255		
	4.00	.306	.489		
	5.00	1.19	1.45		
	6.00	3.40	3.44		
	7.00	7.14	6.99		
	8.00	12.1	12.6		
	9.00	17.6	20.6		
	10.00	22.8	31.2		
	13.00		78.4		
	16.00		141.		
	20.00		224.		
DELTA K	A: 12.54	31.3			
MAX	B: 24.13		284.		
	C:				
	D:				

ROOT MEAN SQUARE 22.53 37.43
PERCENT ERROR

LIFE 0.0-0.5
PREDICTION 0.5-0.8 2
RATIO 0.8-1.25 1 1
SUMMARY 1.25-2.0
(NP/NA) >2 0

CONDITION/HT: T651
 FORM: 0.75" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 STRESS RATIO: +0.33
 FREQUENCY: 25.00 HZ

YIELD STRENGTH: 79.6 KSI
 ULT. STRENGTH: 87.7 KSI
 SPECIMEN THK: 0.242- 0.250"
 SPECIMEN WIDTH: 2.500- 2.552"
 REFERENCES: AL002, AL003

ALUM.
 ALLOY

7475

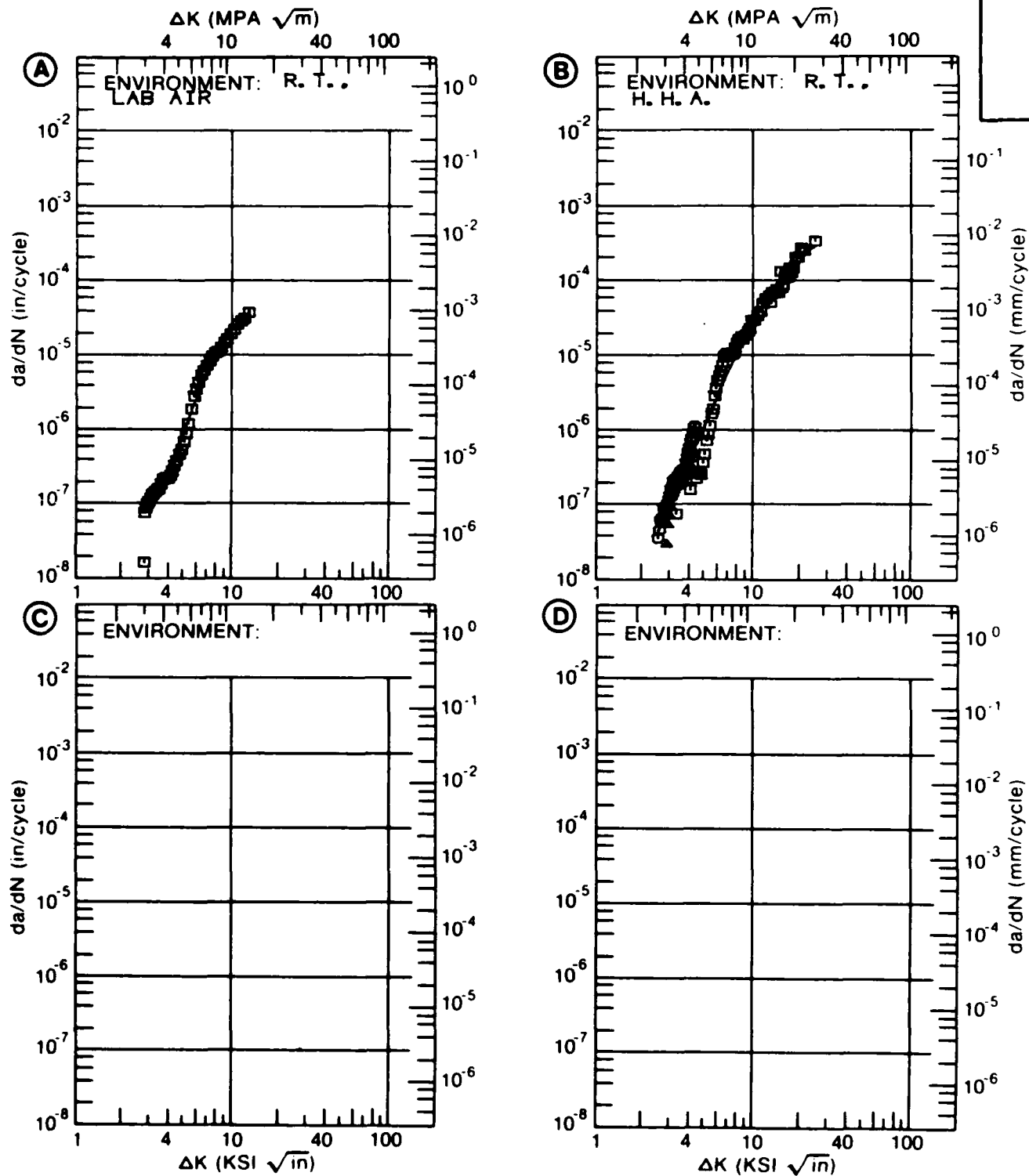


Figure 8.20.3.12

TABLE 8.20.3.13

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.20.3.13 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM
CONDITION: T651

7475

DELTA K
(KSI*IN**1/2)

DA/DN (10**-6 IN./CYCLE)

A

B

C

D

E= R. T.
: DRY AIRE= R. T.
3. 5% NACL

DELTA K	A:	5. 00	: . 903
MIN	B:		
	C:		
	D:		
	5. 00	: . 902	
	6. 00	: 1. 71	
	7. 00	: 4. 16	
	8. 00	: 6. 29	
	9. 00	: 7. 66	
	10. 00	: 8. 68	
	13. 00	: 15. 2	

DELTA K	A:	13. 95	: 20. 9
MAX	B:		
	C:		
	D:		

ROOT MEAN SQUARE
PERCENT ERROR

12. 24

0. 00

LIFE	0. 0-0. 5
PREDICTION	0. 5-0. 8
RATIO	0. 8-1. 25
SUMMARY	1. 25-2. 0
(NP/NA)	>2. 0

CONDITION/HT: T651
 FORM: 1.00" TH PLATE
 SPECIMEN TYPE: DCB
 ORIENTATION: T-L
 STRESS RATIO: +0.10
 FREQUENCY: 1.00 HZ

YIELD STRENGTH:
 ULT. STRENGTH:
 SPECIMEN THK:
 SPECIMEN WIDTH:
 REFERENCES: 88140

ALUM.
 ALLOY

7475

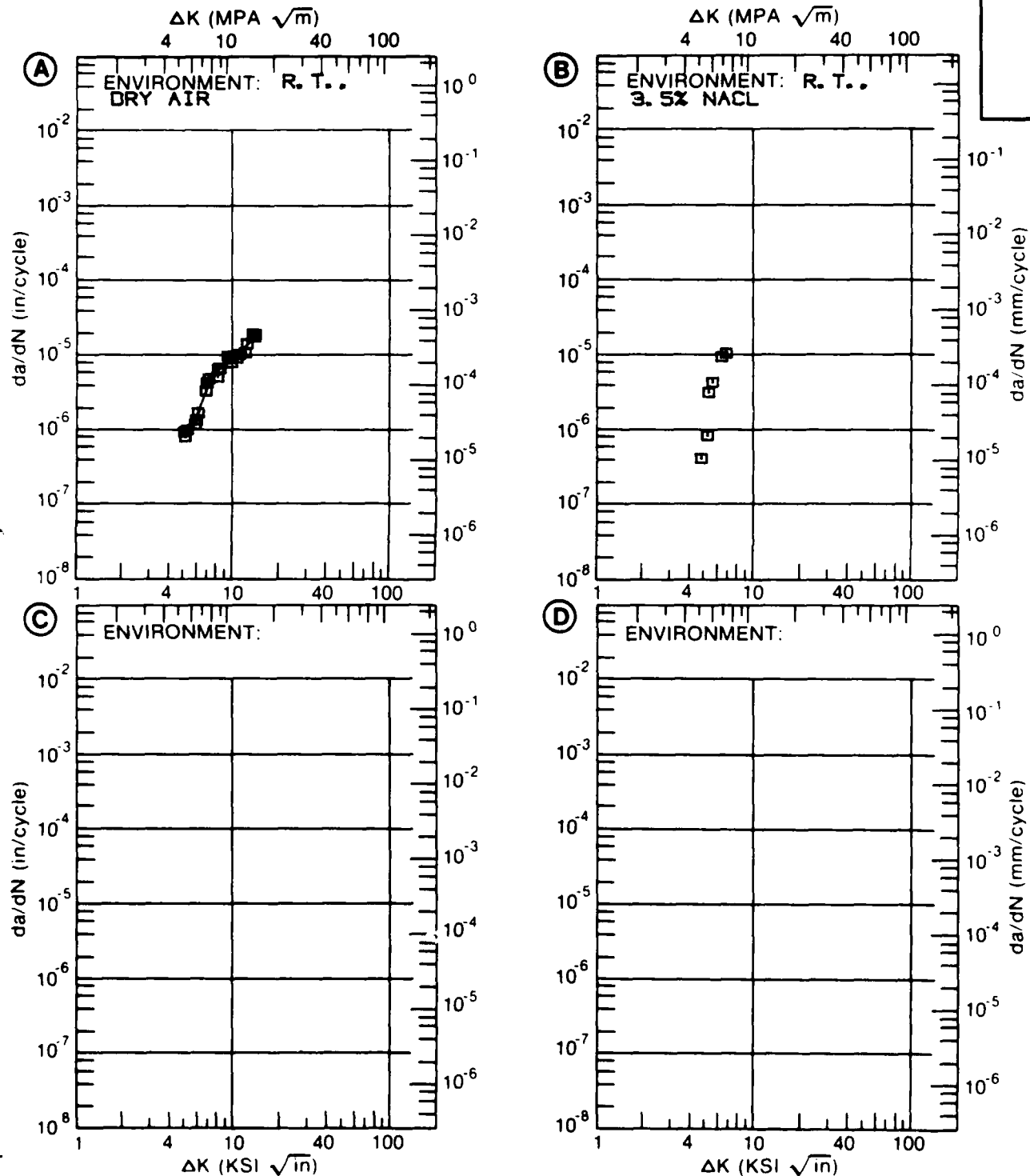


Figure 8.20.3.13

TABLE 8.20.3.14

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.20.3.14 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7475
CONDITION: T7351
ENVIRONMENT: R. T., H. H. A.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.10	R=+0.25	R=+0.50	
DELTA K MIN	A:	3.99	.165		
	B:	2.27	.00125		
	C:	1.84		.0273	
	D:				
		2.00		.0464	
		2.50	.0689	.108	
		3.00	.0731		
		3.50	.178		
DELTA K MAX		4.00	.165		
		5.00	.257		
	A:	5.96	.494		
	B:	4.73	.468		
	C:	2.80		.140	
	D:				
ROOT MEAN SQUARE PERCENT ERROR		9.95	48.27	19.66	
LIFE	0.0-0.5		1		
PREDICTION	0.5-0.8		2		
RATIO	0.8-1.25	4	3	4	
SUMMARY	1.25-2.0		2		
(NP/NA)	>2.0				

CONDITION/HT: T7351
 FORM: 0.52" TH PLATE
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 5.50- 33.00 HZ
 ENVIRONMENT: R. T., H. H. A.

YIELD STRENGTH: 57.0 KSI
 ULT. STRENGTH:
 SPECIMEN THK: 0.520- 0.530"
 SPECIMEN WIDTH: 6.000"
 REFERENCES: BL002

ALUM.
 ALLOY

7475

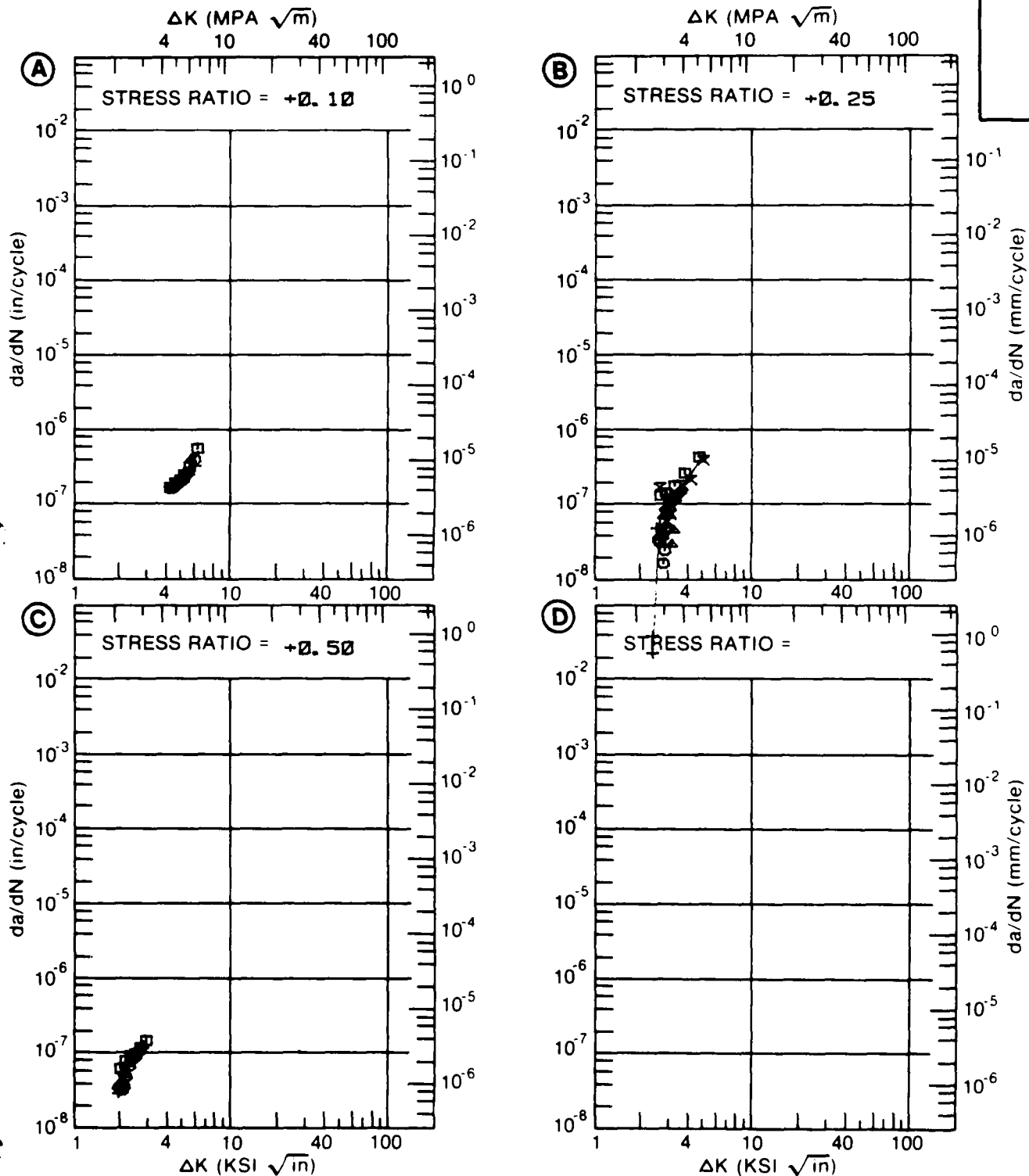


Figure 8.20.3.14

TABLE 8.20.3.15

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.20.3.15 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM		7475			
CONDITION: T7351					
ENVIRONMENT: R.T., H.H.A.					
DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.10	R=+0.25	R=+0.50	
A:	9.92	9.57			
DELTA K B:	5.05		.807		
MIN C:	9.78			19.0	
D:					
	6.00		1.41		
	7.00		3.06		
	8.00		5.77		
	9.00		8.65		
	10.00	9.90	11.8	20.6	
	13.00	25.6		49.0	
	16.00	50.5			
	20.00	101.			
	25.00	201.			
A:	25.08	203.			
DELTA K B:	12.99		32.1		
MAX C:	13.90			71.6	
D:					
ROOT MEAN SQUARE		10.61	12.76	11.47	
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8		1		
RATIO	0.8-1.25	4	7	4	
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T7351
 FORM: 0.52" TH PLATE
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 5.50- 33.00 HZ
 ENVIRONMENT: R. T., H. H. A.

YIELD STRENGTH: 57.0 KSI
 ULT. STRENGTH:
 SPECIMEN THK. 0.500- 0.528"
 SPECIMEN WIDTH: 4.000"
 REFERENCES: BL002

ALUM.
 ALLOY

7475

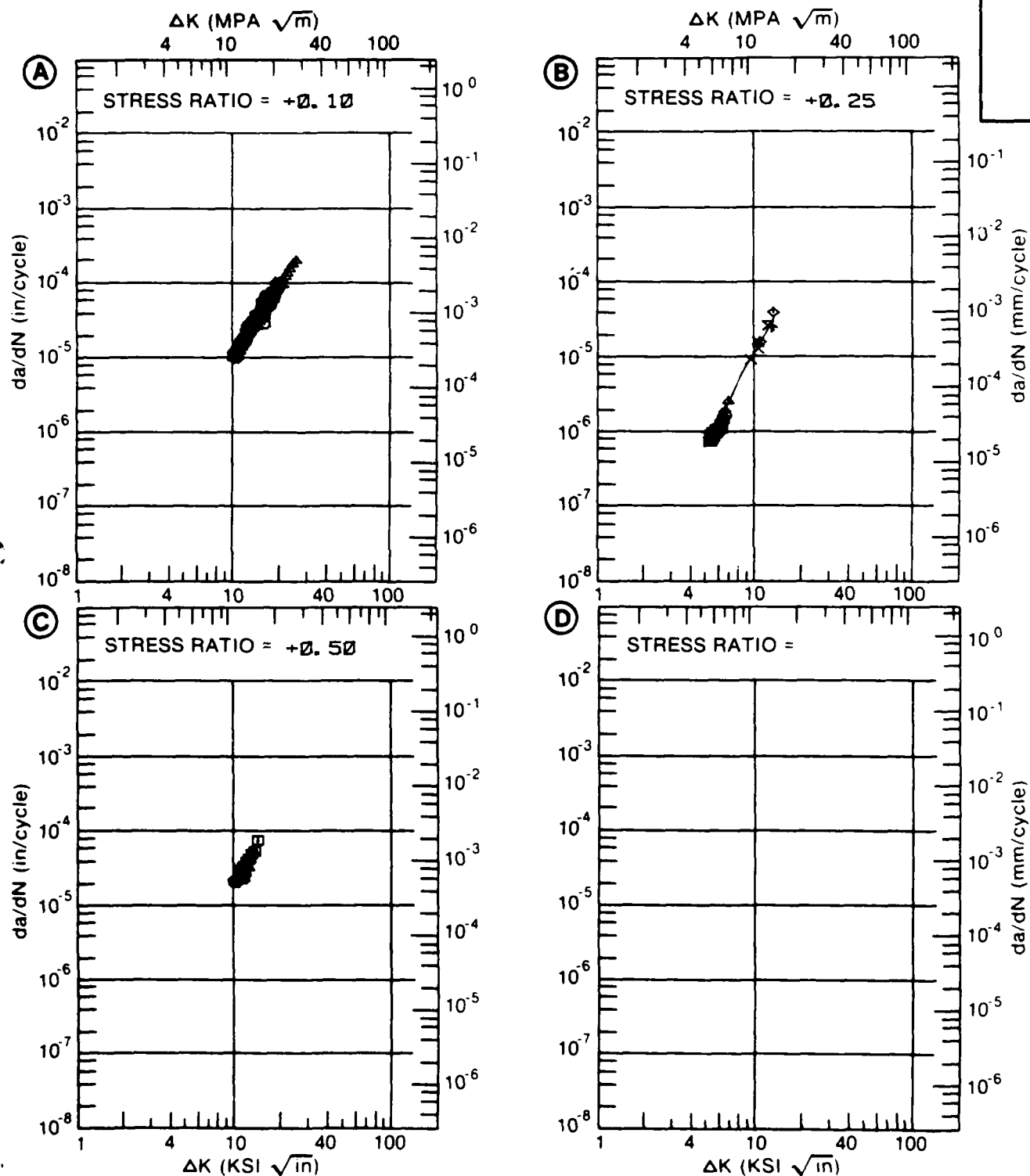


Figure 8.20.3.15

TABLE 8.20.3.16

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.20.3.16 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7475
CONDITION: T7351
ENVIRONMENT: R. T. , S. T. W.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A R=-0.20	B R=+0.10	C R=+0.30	D R=+0.50
DELTA K MIN	A:	5.37	.0822		
	B:	3.77	.194		
	C:	3.42		.170	
	D:	3.05			.113
		3.50		.158	.106
		4.00	.261	.202	.412
		5.00	.620	.717	4.18
		6.00	.196	2.37	10.7
		7.00	.299	8.15	17.4
		8.00	.608	16.1	24.3
DELTA K MAX	A:	16.99	11.4		
	B:	13.62	40.5		
	C:	12.09		86.5	
	D:	10.13			49.2
ROOT MEAN SQUARE		19.31	13.98	22.47	16.76
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25			1	
SUMMARY	1.25-2.0	1	1		1
(NP/NA)	>2.0				

CONDITION/HT: T7351
 FORM: 0.50" TH PLATE
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 1.00 HZ
 ENVIRONMENT: R. T., S. T. W.

YIELD STRENGTH: 59.5 KSI
 ULT. STRENGTH: 89.1 KSI
 SPECIMEN THK: 0.199- 0.202"
 SPECIMEN WIDTH: 5.990- 6.000"
 REFERENCES: GD006

ALUM.
 ALLOY

7475

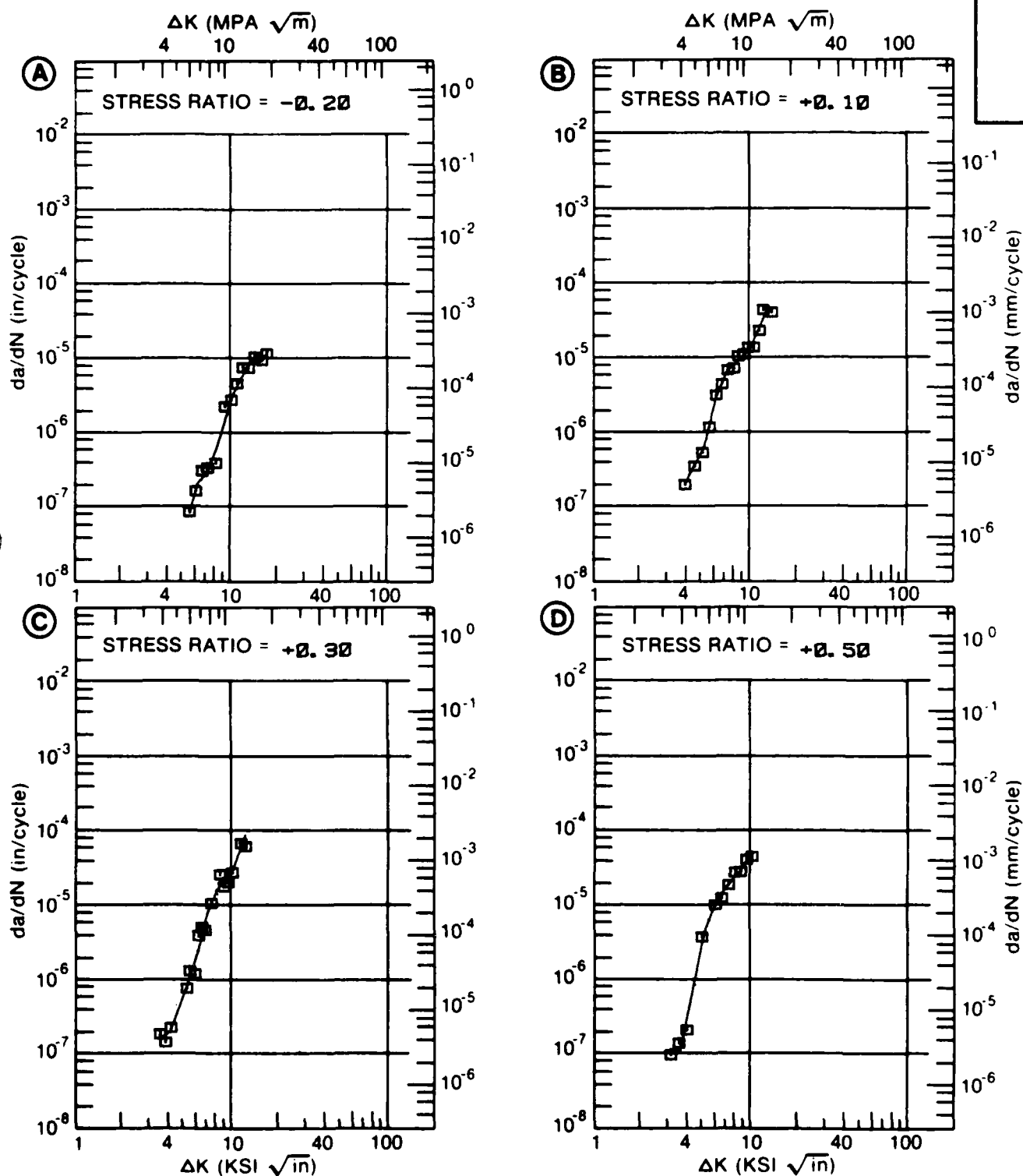


Figure 8.20.3.16

TABLE 8.20.3.17

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.20.3.17 INDICATING EFFECT
OF FREQUENCY

MATERIAL: ALUMINUM 7475
CONDITION: T7351
ENVIRONMENT: R.T., S.T.W.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		F(HZ)= 1.00		F(HZ)= 6.00	
DELTA K MIN	A:	3.77	.216		
	B:	6.13		.282	
	C:				
	D:				
		4.00	.215		
		5.00	.742		
		6.00	2.95		
		7.00	5.86	.339	
		8.00	8.19	1.00	
		9.00	10.6	3.62	
DELTA K MAX	A:	13.62	40.8		
	B:	16.61		34.2	
	C:				
	D:				

ROOT MEAN SQUARE 15.93 10.03
PERCENT ERROR

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25
SUMMARY 1.25-2.0 1
(NP/NA) >2.0

CONDITION/HT: T7351
 FORM: 0.50" TH PLATE
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 STRESS RATIO: +0.10
 ENVIRONMENT: R. T., S. T. W.

YIELD STRENGTH: 59.5 KSI
 ULT. STRENGTH: 89.1 KSI
 SPECIMEN THK: 0.199- 0.205"
 SPECIMEN WIDTH: 5.990- 6.000"
 REFERENCES: GD006

ALUM.
 ALLOY

7475

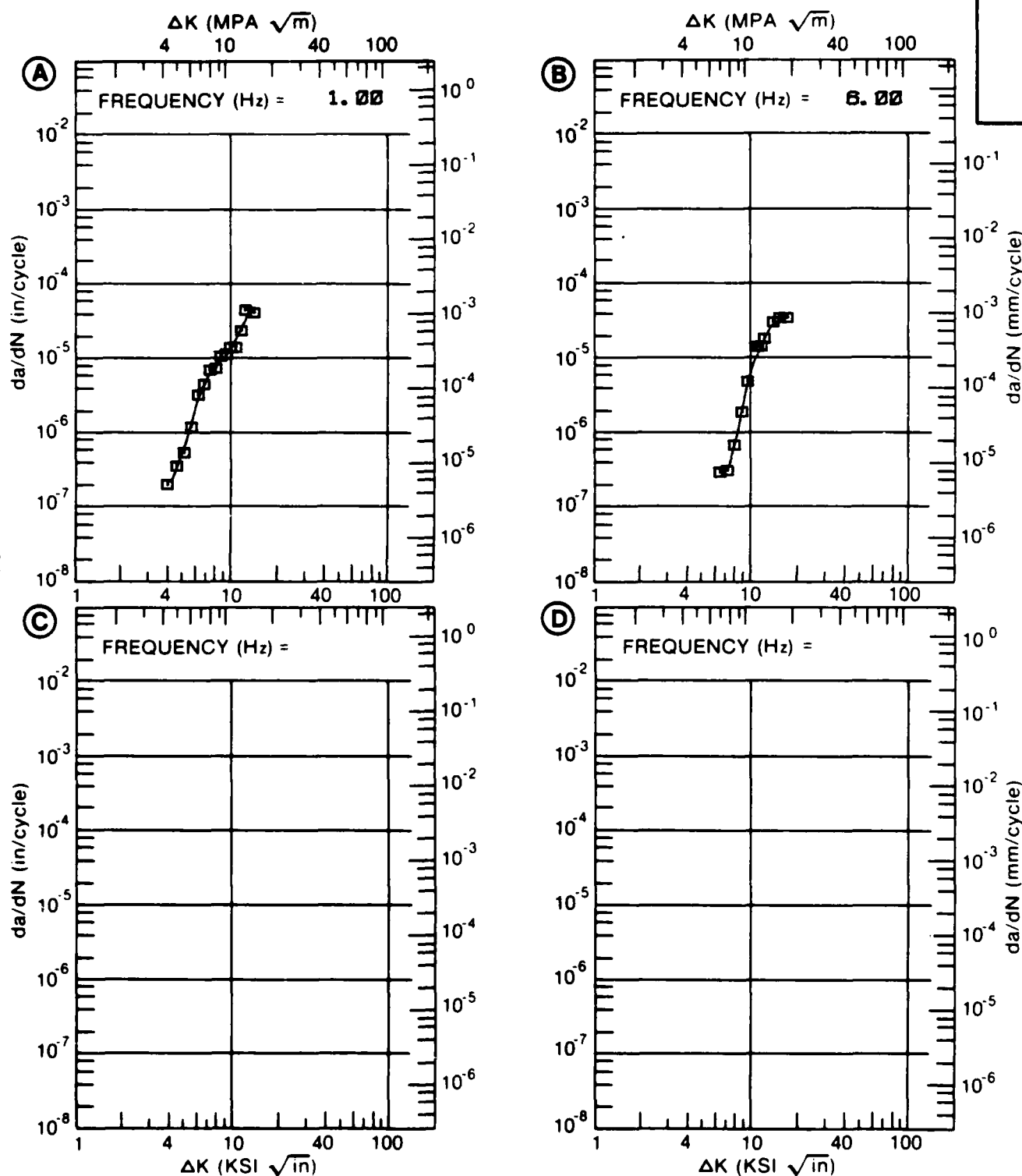


Figure 8.20.3.17

TABLE 8.20.3.18

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.20.3.18 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM 7475
CONDITION: T7351

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. L. H. A. 2-30HZ		E= R. T. H. H. A. 2-20HZ	
DELTA K MIN	A:	2.78	.08		
	B:	5.70		1.47	
	C:				
	D:				
	3.00	.0914			
	3.50	.119			
	4.00	.162			
	5.00	.312			
	6.00	.589		1.92	
	7.00	1.07		3.90	
	8.00	1.84		6.50	
	9.00	3.02		9.59	
	10.00	4.75		13.1	
	13.00	14.6		26.3	
	16.00	34.5		45.8	
	20.00	80.6			
	25.00	168.			
DELTA K MAX	A:	26.73	203.		
	B:	18.33		68.6	
	C:				
	D:				
ROOT MEAN SQUARE		30.27	16.74		
PERCENT ERROR					

LIFE 0.0-0.5
 PREDICTION 0.5-0.8
 RATIO 0.8-1.25
 SUMMARY 1.25-2.0
 (NP/NA) >2.0

CONDITION/HT: T7351
 FORM: 0.75- 4.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: T-L
 STRESS RATIO: +0.33
 FREQUENCY:

YIELD STRENGTH: 54.2- 59.4 KSI
 ULT. STRENGTH: 66.0- 70.0 KSI
 SPECIMEN THK: 0.250- 1.000"
 SPECIMEN WIDTH: 2.550- 3.805"
 REFERENCES: AL001, AL009

ALUM.
 ALLOY

7475

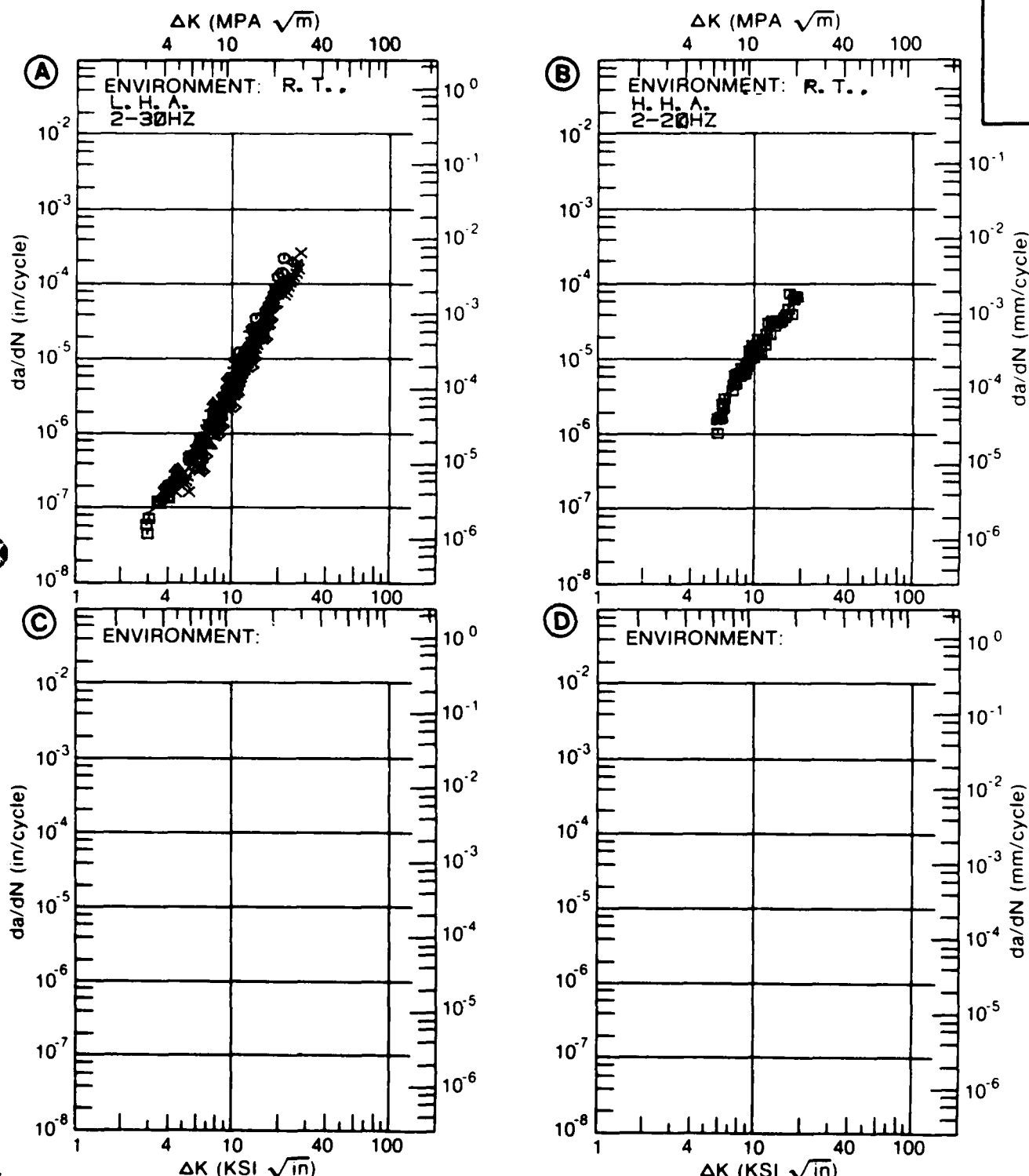


Figure 8.20.3.18

TABLE 8.20.3.19

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.20.3.19 INDICATING EFFECT

OF FREQUENCY

MATERIAL: ALUMINUM 7475
 CONDITION: T7351
 ENVIRONMENT: R T , S. T. W.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		F(HZ)= 2.00 F(HZ)= 20.00 F(HZ)= 30.00			
DELTA K MIN	A:	6.23	7.20		
	B:	3.75	.38		
	C:	4.46		1.09	
	D:				
	4.00		.614		
	5.00		2.35	2.32	
	6.00		5.32	5.13	
	7.00	11.1	9.17	8.14	
	8.00	17.8	13.6	11.9	
	9.00	24.8	18.3		
	10.00	30.0	23.5		
	13.00	50.9	43.6		
	16.00	90.4			
DELTA K MAX	A:	16.00	90.4		
	B:	15.03	64.2		
	C:	8.64		15.4	
	D:				
ROOT MEAN SQUARE PERCENT ERROR		16.06	24.42	4.42	

LIFE 0.0-0.5
 PREDICTION 0.5-0.8
 RATIO 0.8-1.25
 SUMMARY 1.25-2.0
 (NP/NA) >2.0

CONDITION/HT: T7351
 FORM: 0.75- 4.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: T-L
 STRESS RATIO: +0.33
 ENVIRONMENT: R. T., S. T. W.

YIELD STRENGTH: 54.2 KSI
 ULT. STRENGTH: 66.0 KSI
 SPECIMEN THK: 0.250- 1.000"
 SPECIMEN WIDTH: 2.550- 3.805"
 REFERENCES: AL009, AL001

ALUM.
 ALLOY

7475

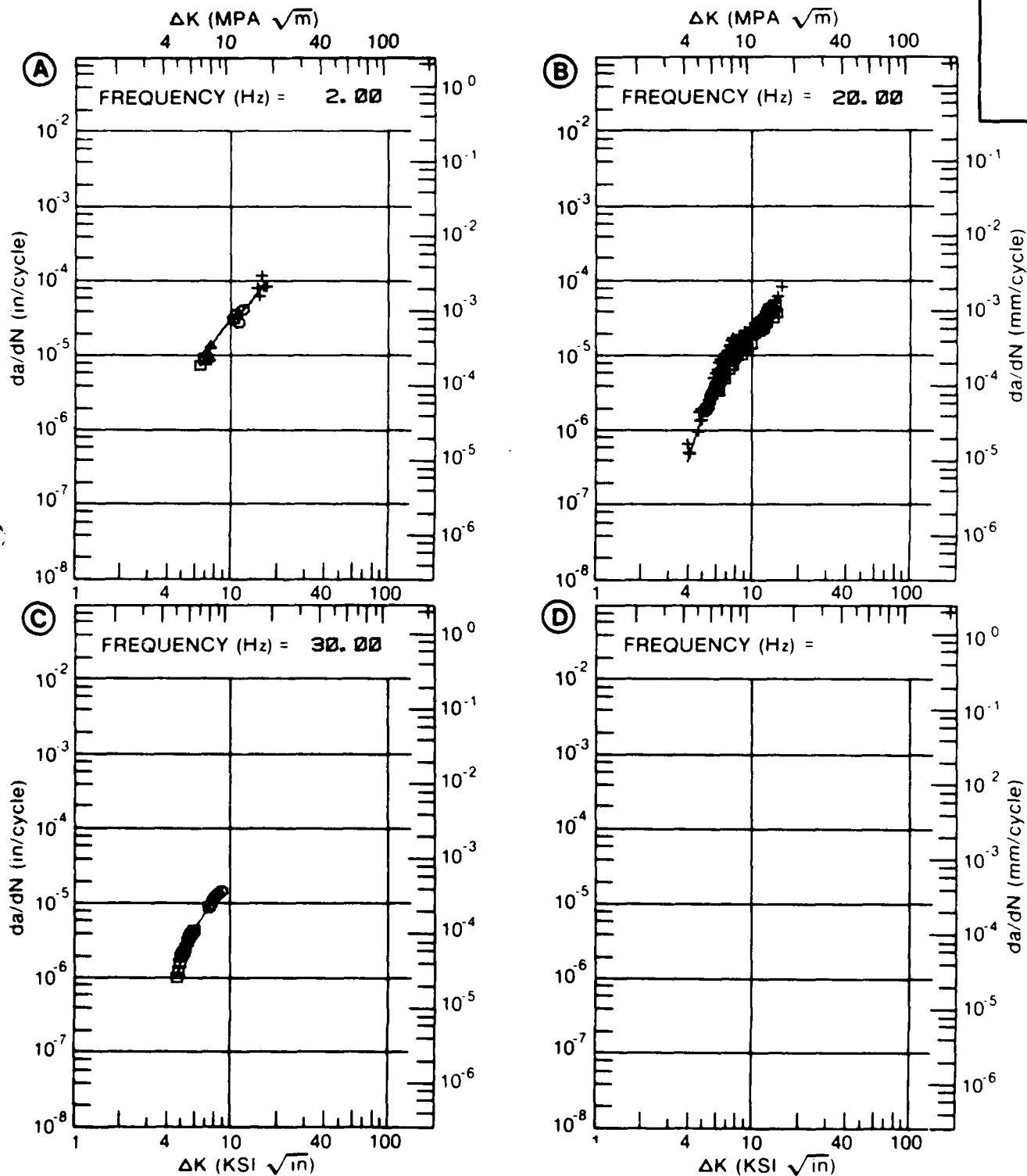


Figure 8.20.3.19

TABLE 8.20.3.20

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.20.3.20 INDICATING EFFECT
OF ENVIRONMENT

MATERIAL: ALUMINUM		7475			
CONDITION: T7351					
DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. DRY AIR	E= R. T. S. T. W.		
DELTA K	A: 5.63	.615			
MIN	B: 5.70		3.35		
	C:				
	D:				
	6.00	.732	4.75		
	7.00	1.13	9.77		
	8.00	1.76	14.1		
	9.00	2.92	17.9		
	10.00	4.97	22.3		
	13.00	17.8	45.8		
	16.00	33.7	98.2		
DELTA K	A: 19.79	62.7			
MAX	B: 16.77		111.		
	C:				
	D:				
ROOT MEAN SQUARE		24.69	20.18		
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25				
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T7351
 FORM: 1.00- 4.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 STRESS RATIO: +0.33
 FREQUENCY: 2.00- 20.00 HZ

YIELD STRENGTH: 52.6- 59.6 KSI
 ULT. STRENGTH: 63.8- 70.0 KSI
 SPECIMEN THK: 1.000"
 SPECIMEN WIDTH: 3.805"
 REFERENCES: AL001

ALUM.
 ALLOY

7475

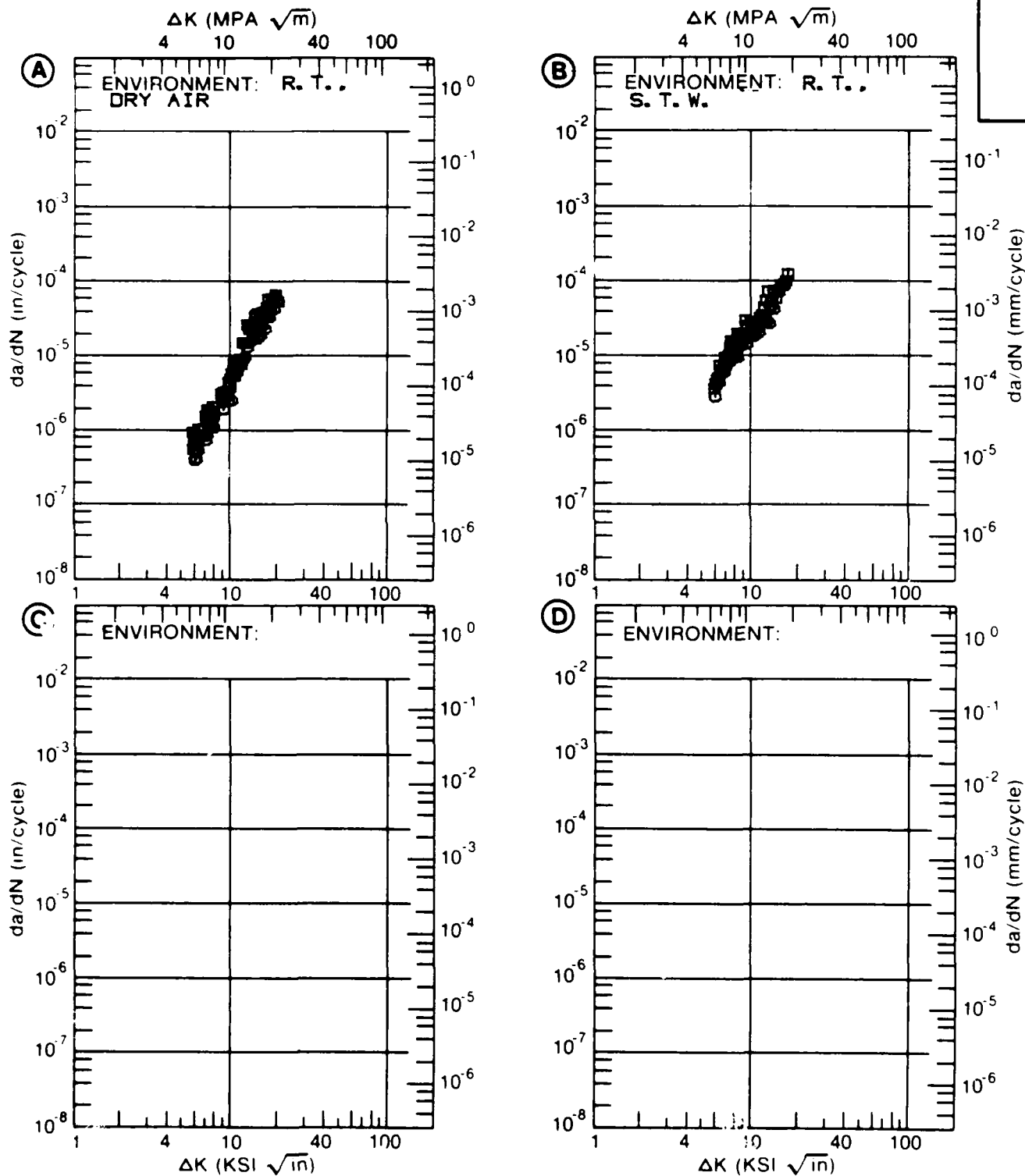


Figure 8.20.3.20

TABLE 8.20.3.21

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.20.3.21 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM
CONDITION: T7351

7475

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. LAB AIR	E= R. T. JP-4 FUEL	E= R. T. SIM SEA WATER	
DELTA K	A: 4.63	.182			
MIN	B: 4.07		.338		
	C: 4.14			.224	
	D:				
	5.00	.216	.474	.407	
	6.00	.420	.712	.850	
	7.00	.880	1.11	1.68	
	8.00	1.75	1.77	3.02	
	9.00	3.14	2.85	4.94	
	10.00	5.00	4.50	7.37	
	13.00	12.4	13.2	17.3	
	16.00	21.7	24.5	31.1	
	20.00	37.1	41.1	57.5	
	25.00	66.0	68.6	111.	
	30.00	117.	115.	205.	
	35.00	212.	204.	376.	
	40.00	398.	384.	688.	
	50.00	2520.	1622.	5477.	
DELTA K	A: 57.16	5633.			
MAX	B: 58.69		7160.		
	C: 54.23			6222.	
	D:				
ROOT MEAN SQUARE		21.03	21.01	23.16	
PERCENT ERROR					

LIFE 0.0-0.5
 PREDICTION 0.5-0.8
 RATIO 0.8-1.25
 SUMMARY 1.25-2.0
 (NP/NA) >2.0

CONDITION/HT: T7351
 FORM: 1.25" TH PLATE
 SPECIMEN TYPE: WOL
 ORIENTATION: L-T
 STRESS RATIO: +0.02
 FREQUENCY: 0.10- 20.00 HZ

YIELD STRENGTH: 62.0 KSI
 ULT. STRENGTH: 70.3 KSI
 SPECIMEN THK: 1.250"
 SPECIMEN WIDTH: 5.000"
 REFERENCES: MA005

ALUM.
 ALLOY

7475

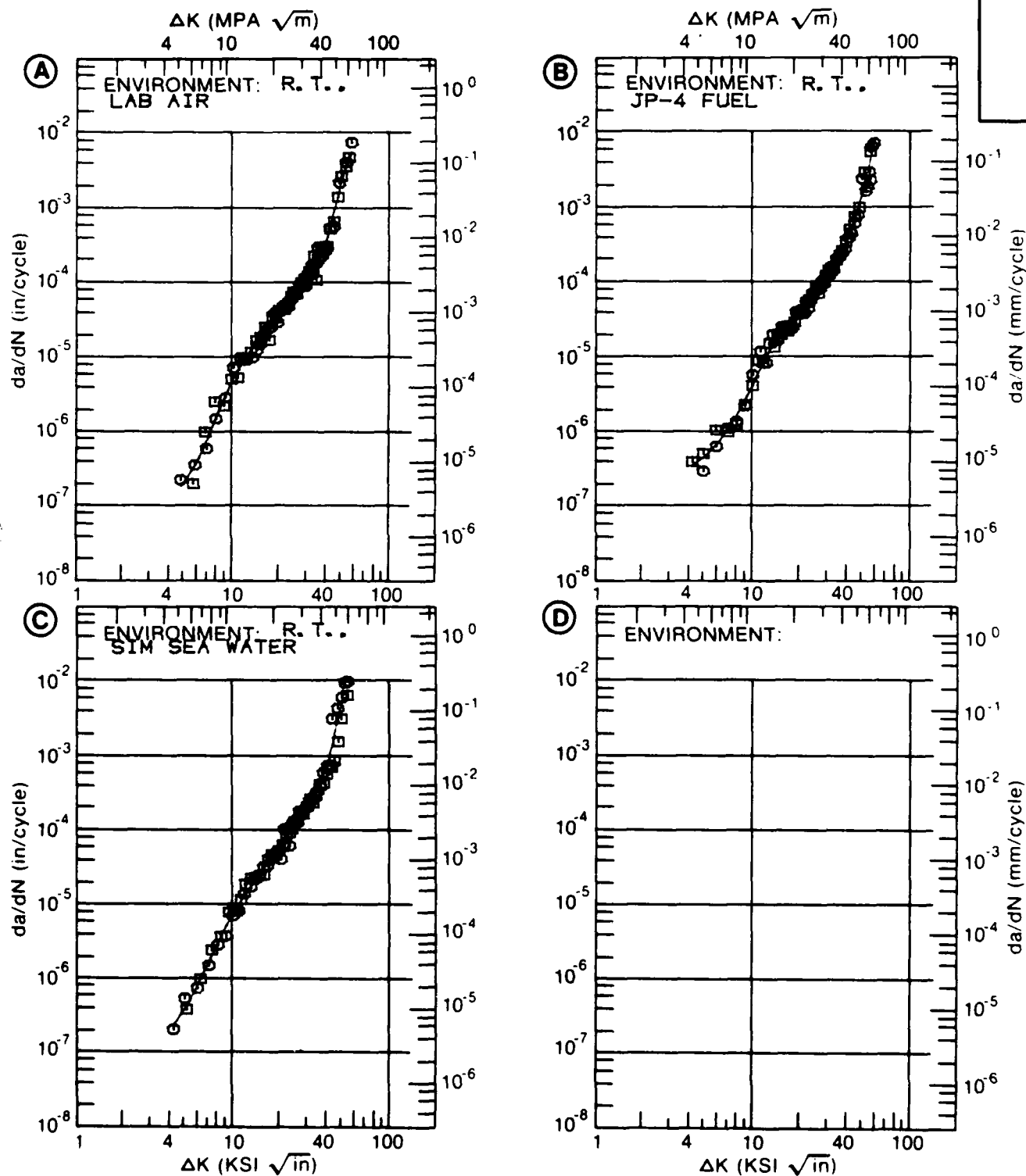


Figure 8.20.3.21

TABLE 8.20.3.22

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.20.3.22 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM
CONDITION: T7351

7475

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. LAB AIR	E= R. T. 3.5%NaCl		
DELTA K MIN	A: 5.95	.370			
	B: 6.90		2.54		
	C:				
	D:				
	6.00	.379			
	7.00	.722	2.92		
	8.00	1.53	6.32		
	9.00	3.07	8.71		
	10.00	5.55	13.6		
	13.00	16.3			
	16.00	27.4			
DELTA K MAX	A: 19.80	59.0			
	B: 10.75		24.9		
	C:				
	D:				
ROOT MEAN SQUARE PERCENT ERROR		17.20	11.31		
LIFE	0.0-0.9				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	2	1		
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T7351
 FORM: 1.50" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 STRESS RATIO: +0.10
 FREQUENCY: 20.00 HZ

YIELD STRENGTH: 82.2 KSI
 ULT. STRENGTH: 70.2 KSI
 SPECIMEN THK: 0.850"
 SPECIMEN WIDTH: 1.500"
 REFERENCES: 85363

ALUM.
 ALLOY

7475

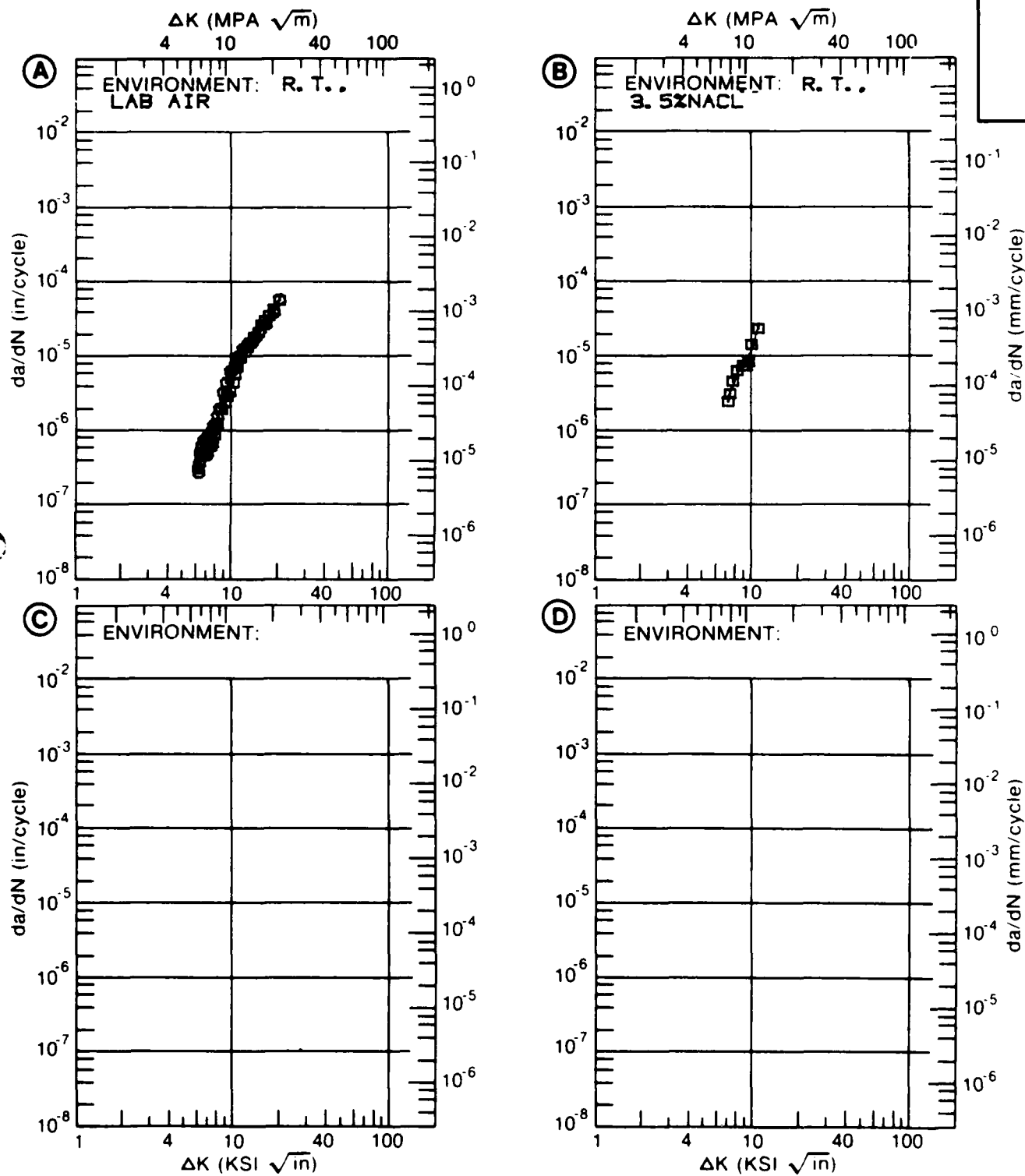


Figure 8.20.3.22

TABLE 8.20.3.23

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.20.3.23 INDICATING EFFECT
OF ENVIRONMENT

MATERIAL: ALUMINUM 7475
CONDITION: T7351

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. H. H. A.			
DELTA K MIN	A: 2.03	.016			
	B: 1				
	C:				
	D:				
	2.50	.0603			
	3.00	.151			
	3.50	.290			
	4.00	.474			
	5.00	.993			
	6.00	1.78			
	7.00	3.00			
	8.00	4.91			
	9.00	7.73			
DELTA K MAX	10.00	11.6			
	13.00	30.5			
	16.00	57.3			
	20.00	90.8			
	A: 23.17	104.			
	B:				
	C:				
	D:				

ROOT MEAN SQUARE 19.89
PERCENT ERROR

LIFE 0.0-0.5
PREDICTION 0.5-0.8 1
RATIO 0.8-1.25 2
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T7351
 FORM: 1.50- 4.00" TH PLATE
 SPECIMEN TYPE: WDL
 ORIENTATION: L-T
 STRESS RATIO: +0.33
 FREQUENCY: 25.00 HZ

YIELD STRENGTH: 64.0 KSI
 ULT. STRENGTH: 74.0 KSI
 SPECIMEN THK: 0.245- 0.251"
 SPECIMEN WIDTH: 2.548- 2.553"
 REFERENCES: AL009

ALUM.
 ALLOY

7475

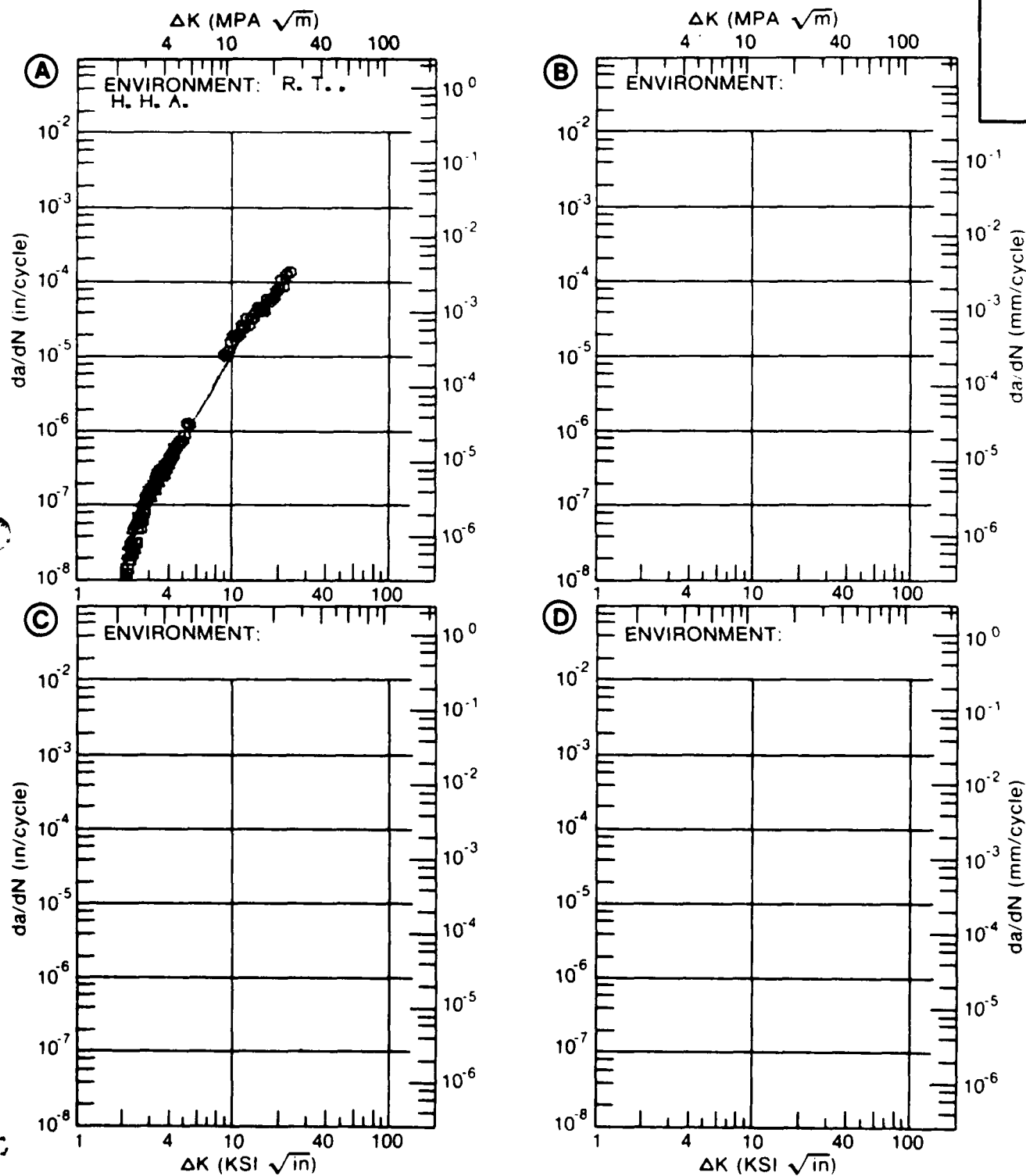


Figure 8.20.3.23

TABLE 8.20.3.24

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.20.3.24 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM 7475
 CONDITION: T7351
 ENVIRONMENT: R.T., DRY AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.10	R=+0.30	R=+0.50	
DELTA K MIN	A:	3.78	.119		
	B:	3.40	.0980		
	C:	2.69		.0671	
	D:				
	3.00			.113	
	3.50		.114	.198	
	4.00	.146	.196	.293	
	5.00	.263	.346	.543	
	6.00	.384	.550	1.01	
	7.00	.571	1.02	2.04	
	8.00	.932	2.22	3.92	
	9.00	1.65	4.61	6.57	
	10.00	2.91	7.98	9.71	
	13.00	11.3	18.9	21.6	
	16.00	25.2	28.6	39.9	
	20.00	46.5	46.0	79.7	
	25.00	87.2	98.8	145.	
	30.00		223.		
	35.00		470.		
DELTA K MAX	A:	28.02	136.		
	B:	35.96	535.		
	C:	26.23		161.	
	D:				
ROOT MEAN SQUARE		10.57	20.46	10.95	
PERCENT ERROR					

LIFE 0.0-0.5
 PREDICTION 0.5-0.8
 RATIO 0.8-1.25
 SUMMARY 1.25-2.0
 (NP/NA) >2.0

1

1

1

CONDITION/HT: T7351
 FORM: 3.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 FREQUENCY: 6.00 HZ
 ENVIRONMENT: R. T., DRY AIR

YIELD STRENGTH: 59.5 KSI
 ULT. STRENGTH: 69.1 KSI
 SPECIMEN THK: 0.747- 0.750"
 SPECIMEN WIDTH: 5.000- 5.006"
 REFERENCES: GD006

ALUM.
 ALLOY

7475

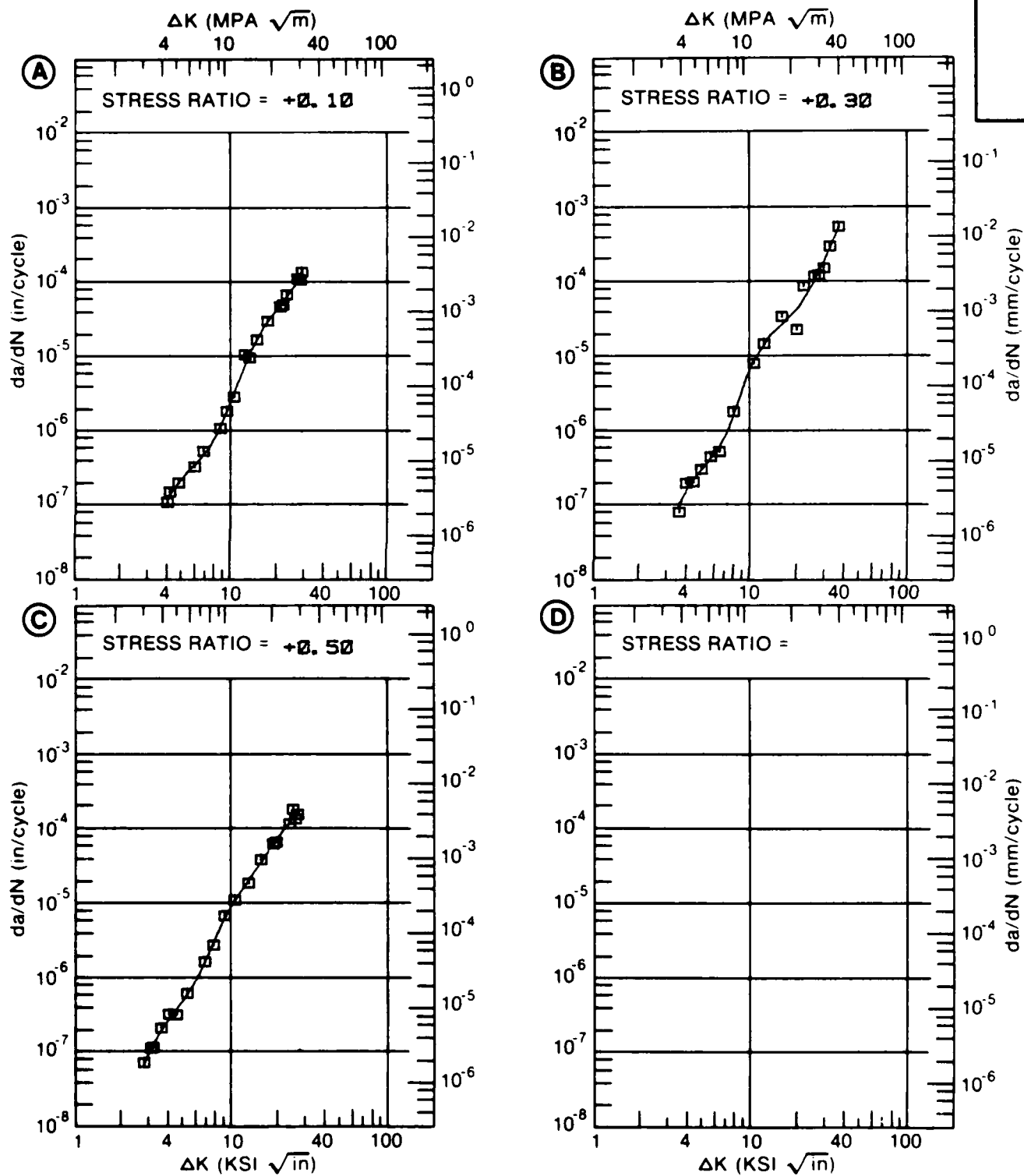


Figure 3.20.3.24

TABLE 8.20.3.25

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.20.3.25 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7475
 CONDITION: T7351
 ENVIRONMENT: R T , S. T. W.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.10	R=+0.30	R=+0.50	
DELTA K MIN	A: 6.61	3.35			
	B: 5.51		.62		
	C: 3.94			.30	
	D:				
	4.00			.302	
	5.00			1.48	
	6.00		.569	6.57	
	7.00	4.37	3.38	15.6	
	8.00	8.04	16.0	28.6	
	9.00	13.5	33.3	44.7	
	10.00	20.8	50.7	63.0	
	13.00	50.2	99.5	125.	
	16.00	83.1	134.	199.	
	20.00	130.	170.	333.	
	25.00	203.	235.		
	30.00	314.	361.		
	35.00	498.	629.		
	40.00	802.			
	50.00	2093.			
DELTA K MAX	A: 50.66	2229.			
	B: 36.44		753.		
	C: 24.36			577.	
	D:				
ROOT MEAN SQUARE		34.42	32.28	17.83	
PERCENT ERROR					

LIFE	0.0-0.5			
PREDICTION	0.5-0.8	1		
RATIO	0.8-1.25		1	
SUMMARY	1.25-2.0	1		2
(NP/NA)	>2.0		1	

CONDITION/HT: T7351
 FORM: 3.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 FREQUENCY: 1.00 HZ
 ENVIRONMENT: R. T., S. T. W.

YIELD STRENGTH: 59.5 KSI
 ULT. STRENGTH: 69.1 KSI
 SPECIMEN THK: 0.750- 0.759"
 SPECIMEN WIDTH: 4.991- 4.999"
 REFERENCES: GD006

ALUM.
 ALLOY

7475

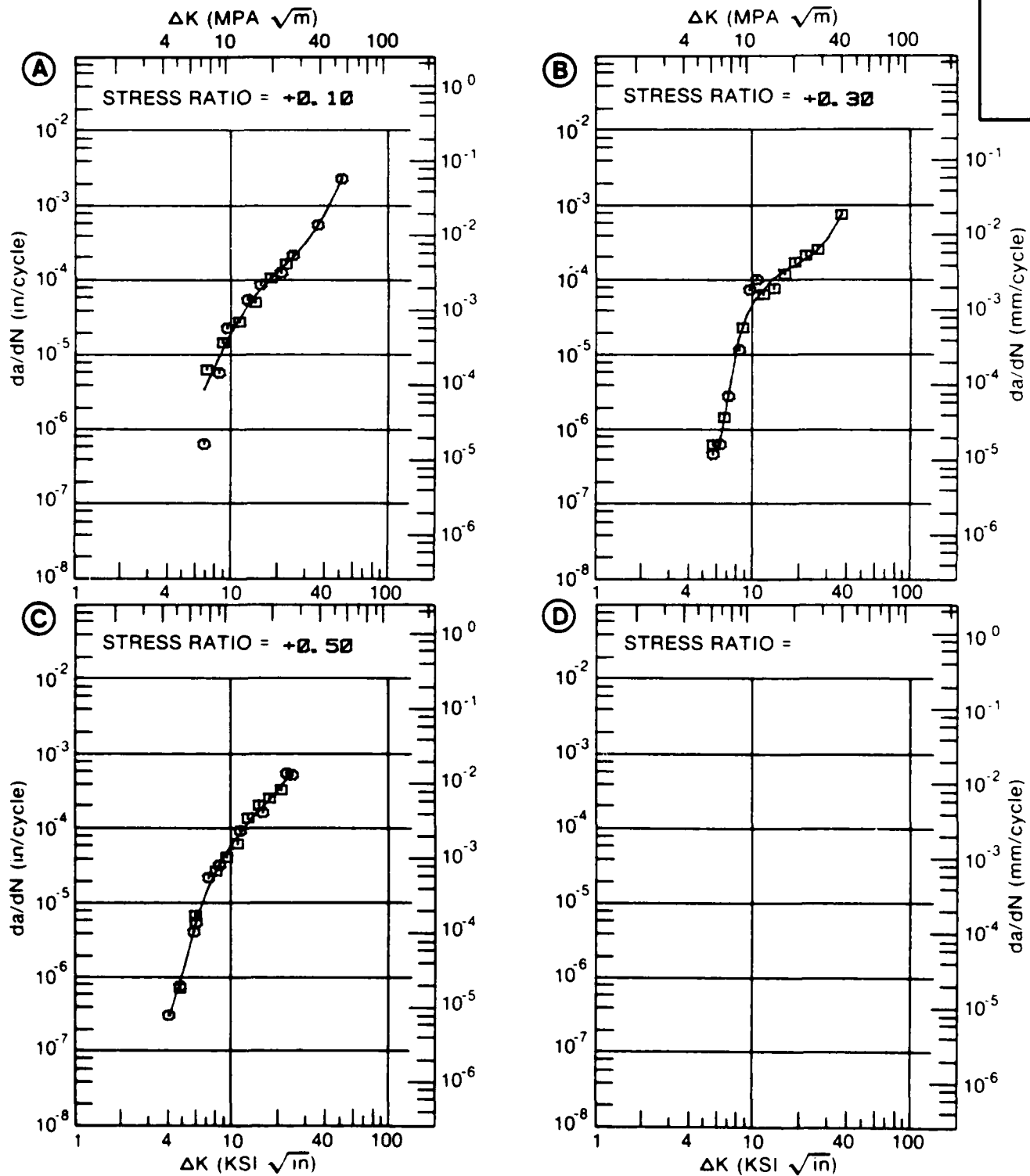


Figure 8.20.3.25

TABLE 8.20.3.26

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.20.3.26 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM
CONDITION: T7351

7475

DELTA K
(KSI*IN**1/2)

DA/DN (10**-6 IN./CYCLE)

A

B

C

D

E= R. T.

E= R. T.

H. H. A.

S. T. W.

DELTA K A: 5.04
MIN B: 6.61
C:
D:

.20

3.35

6.00

.426

7.00

.723

4.37

8.00

1.13

8.05

9.00

1.76

13.5

10.00

2.78

20.8

13.00

11.0

50.2

16.00

27.5

83.2

20.00

47.8

130.

25.00

81.5

203.

30.00

314.

35.00

498.

40.00

801.

50.00

2093.

DELTA K A: 29.75
MAX B: 50.66
C:
D:

171.

2229.

ROOT MEAN SQUARE
PERCENT ERROR

5.71

34.44

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25
SUMMARY 1.25-2.0
(NP/NA) >2.0

1

1

CONDITION/HT: T7351
 FORM: 3.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 STRESS RATIO: +0.10
 FREQUENCY: 1.00 HZ

YIELD STRENGTH: 59.5 KSI
 ULT. STRENGTH: 69.1 KSI
 SPECIMEN THK: 0.744- 0.759"
 SPECIMEN WIDTH: 4.998- 5.006"
 REFERENCES: GD006

ALUM.
 ALLOY

7475

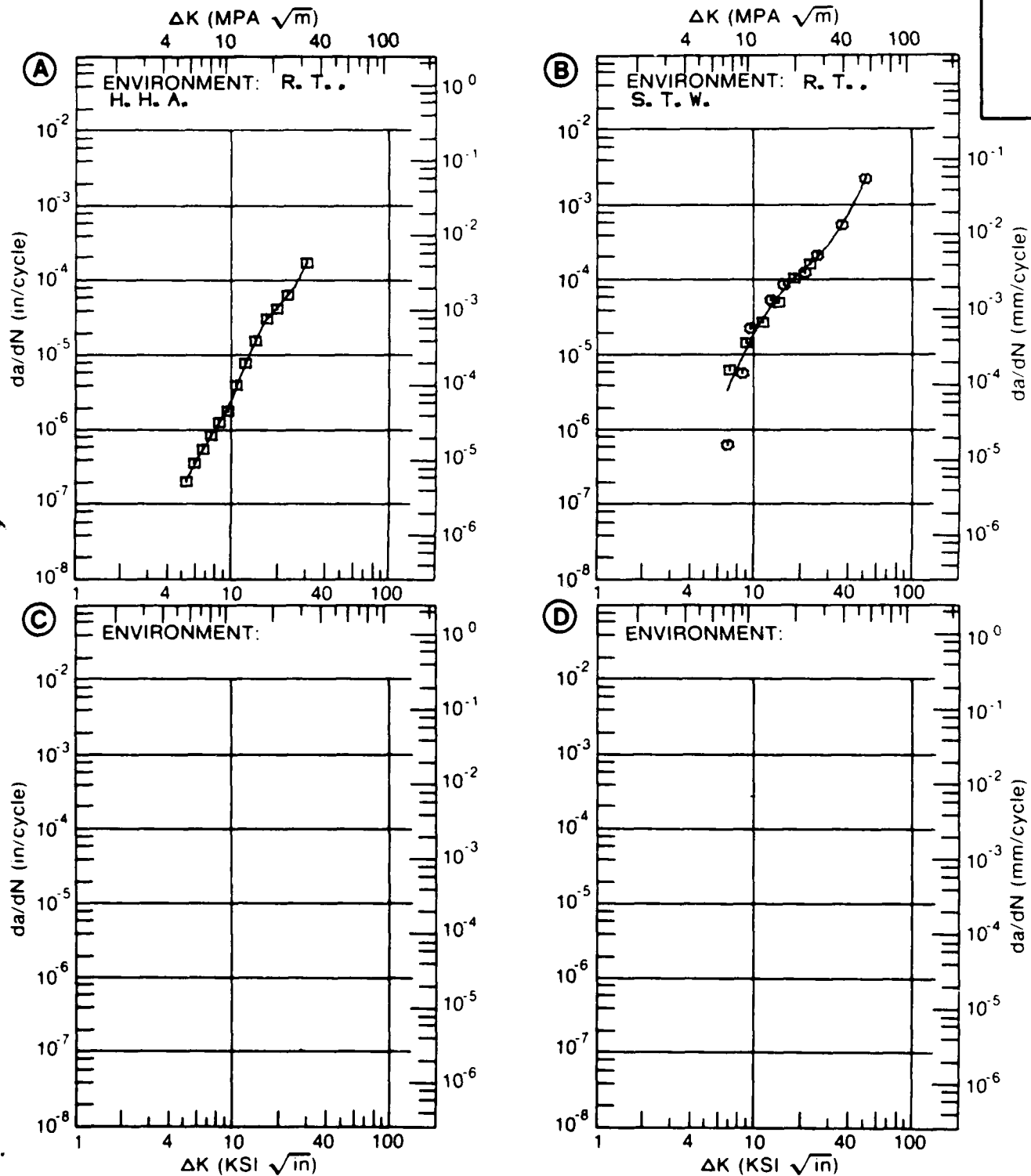


Figure 8.20.3.26

TABLE 8.20.3.27

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.20.3.27 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7475
 CONDITION: T7351
 ENVIRONMENT: R.T., DRY AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A R=+0.10	B R=+0.30	C R=+0.50	D
DELTA K	A: 4.24	.106			
MIN	B: 3.30		.118		
	C: 2.88			.160	
	D:				
	3.00			.160	
	3.50		.133	.191	
	4.00		.186	.277	
	5.00	.362	.391	.748	
	6.00	.317	.810	1.72	
	7.00	.635	1.58	2.98	
	8.00	1.25	2.86	6.95	
	9.00	2.22	4.80	9.21	
	10.00	3.64	7.54		
	13.00	11.3	20.8		
	16.00	25.4	38.8		
	20.00	56.8	65.5		
	25.00	120.			
DELTA K	A: 27.78	168.			
MAX	B: 24.91		174.		
	C: 9.11			8.75	
	D:				
ROOT MEAN SQUARE		23.64	8.01	11.47	
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1	1	1	
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T7351
 FORM: 3.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: T-L
 FREQUENCY: 6.00 HZ
 ENVIRONMENT: R.T., DRY AIR

YIELD STRENGTH: 81.3 KSI
 ULT. STRENGTH: 72.1 KSI
 SPECIMEN THK: 0.750- 0.755"
 SPECIMEN WIDTH: 5.003- 5.005"
 REFERENCES: GD006

ALUM.
 ALLOY

7475

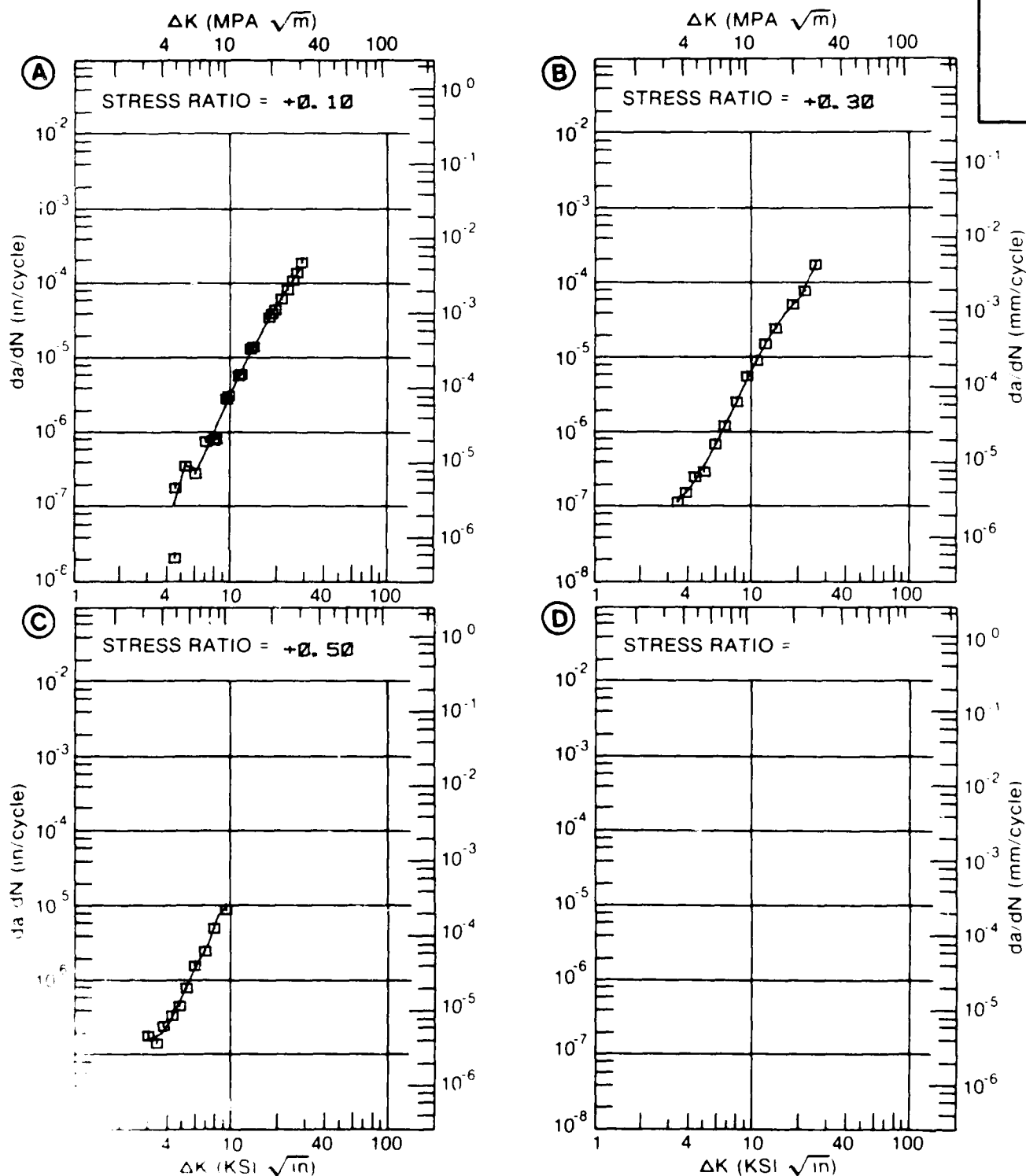


Figure 8.20.3.27

TABLE 8.20.3.28

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.20.3.28 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7475
 CONDITION: T7351
 ENVIRONMENT: R. T. , S. T. W.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		R=+0. 10	R=+0. 30	R=+0. 50	
DELTA K	A: 6. 02	. 26			
MIN	B: 4. 08		. 25		
	C: 3. 17			. 21	
	D:				
	3. 50			. 242	
	4. 00			. 382	
	5. 00		. 293	1. 39	
	6. 00		1. 21	5. 04	
	7. 00	. 603	4. 74	12. 2	
	8. 00	1. 56	12. 1	21. 3	
	9. 00	3. 78	22. 8	31. 7	
	10. 00	8. 01	35. 6	43. 5	
	13. 00	35. 9	76. 7	90. 3	
	16. 00	75. 1	118.	169.	
	20. 00	118.	197.	401.	
	25. 00	185.	421.		
	30. 00	352.			
	35. 00	871.			
DELTA K	A: 39. 82	2827.			
MAX	B: 26. 55		555.		
	C: 21. 86			615.	
	D:				
ROOT MEAN SQUARE		32. 50	24. 24	22. 33	
PERCENT ERROR					
LIFE	0. 0-0. 5				
PREDICTION	0. 5-0. 8				
RATIO	0. 8-1. 25	1			
SUMMARY	1. 25-2. 0		1	1	
(NP/NA)	>2. 0	1	1	1	

CONDITION/HT: T7351
 FORM: 3.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: T-L
 FREQUENCY: 1.00 HZ
 ENVIRONMENT: R. T., S. T. W.

YIELD STRENGTH: 61.3 KSI
 ULT. STRENGTH: 72.1 KSI
 SPECIMEN THK: 0.750- 0.752"
 SPECIMEN WIDTH: 4.997- 5.000"
 REFERENCES: GD006

ALUM.
 ALLOY

7475

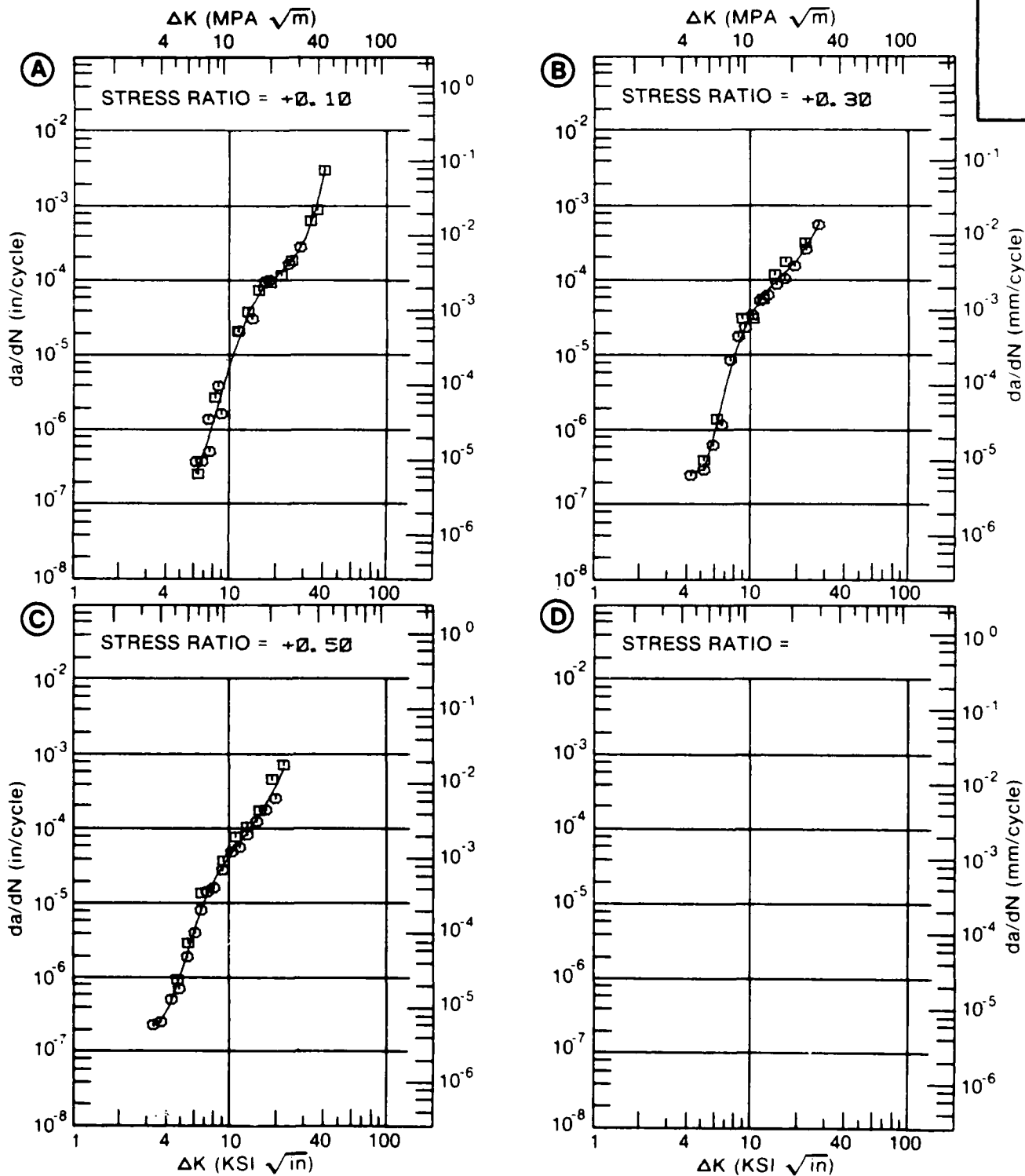


Figure 8.20.3.28

TABLE 8.20.3.29

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.20.3.29 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM 7475
CONDITION: T7351

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. H. H. A. 10HZ	E= R. T. H. H. A. 1HZ	E= R. T. S. T. W. 10HZ	
DELTA K MIN	A:	5.10	.30		
	B:	5.59	.38		
	C:				
	D:				
	6.00	.471	.444		
	7.00	.995	.725		
	8.00	1.84	1.25		
	9.00	3.04	2.16		
	10.00	4.65	3.57		
	13.00	12.4	11.8		
	16.00	25.2	25.7		
	20.00	51.0	49.4		
	25.00	98.1	97.8		
	30.00	163.	216.		
	35.00		572.		
DELTA K MAX	A:	31.22	181.		
	B:	36.11	925.		
	C:				
	D:				
ROOT MEAN SQUARE		13.48	3.95	0.00	
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1			
SUMMARY	1.25-2.0		1		
(NP/NA)	>2.0				

CONDITION/HT: T7351
 FORM: 3.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: T-L
 STRESS RATIO: +0.10
 FREQUENCY:

YIELD STRENGTH: 81.3 KSI
 ULT. STRENGTH: 72.1 KSI
 SPECIMEN THK: 0.748- 0.751"
 SPECIMEN WIDTH: 4.995- 5.002"
 REFERENCES: GD006

ALUM.
 ALLOY

7475

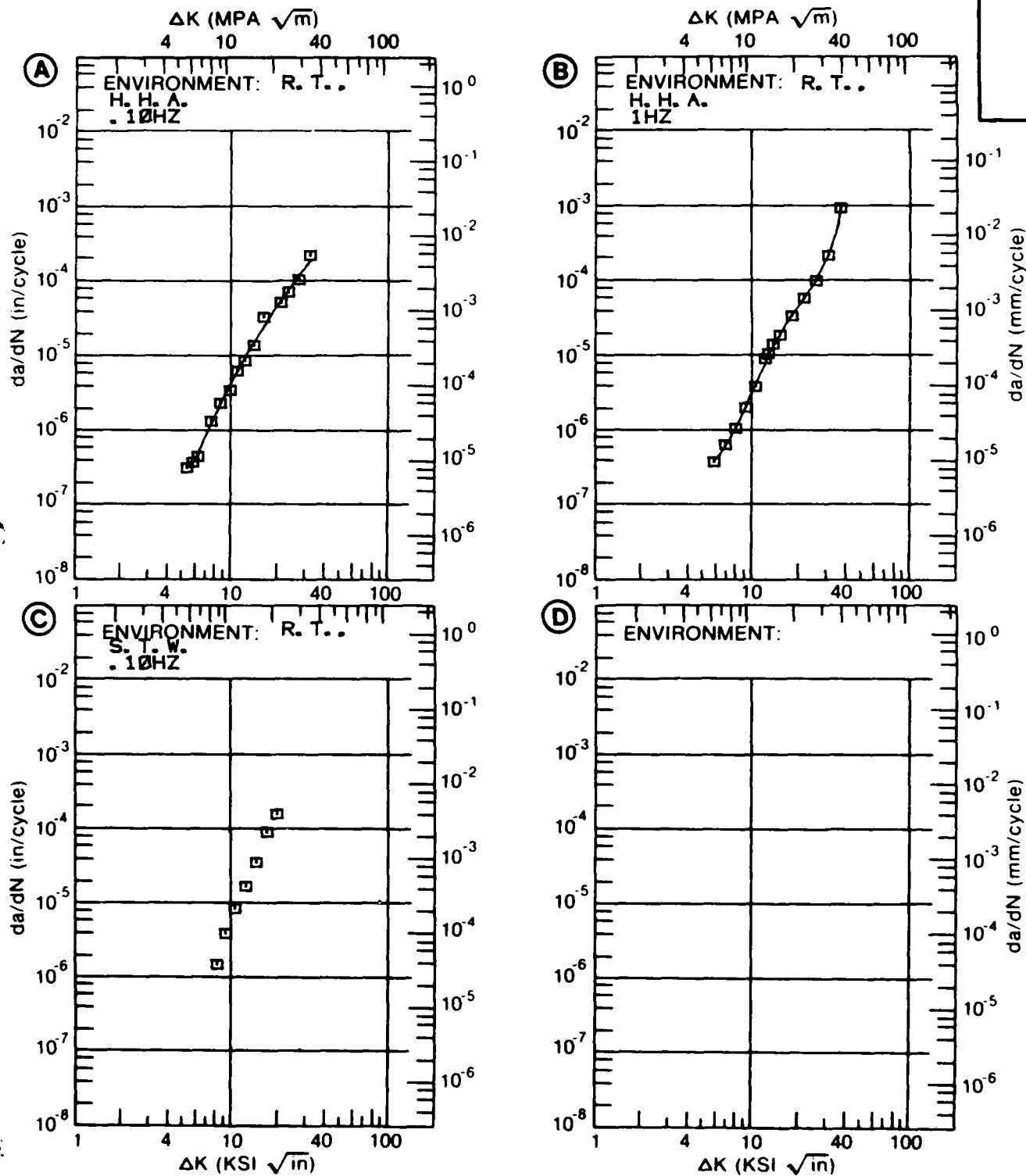


Figure 8.20.3.29

TABLE 8.20.3.30

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.20.3.30 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7475
CONDITION: T7351
ENVIRONMENT: R.T., DRY AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.10	R=+0.30	R=+0.50	
DELTA K A:	3.31	.254			
MIN B:					
C:	2.73			.467	
D:					
	3.00			.646	
	3.50	.304		.918	
	4.00	.446		1.11	
	5.00	.789		1.44	
	6.00	1.26		2.03	
	7.00	1.96		3.35	
	8.00	3.08		6.56	
	9.00	4.83		13.5	
	10.00	7.49		25.8	
	13.00	24.2			
	16.00	54.2			
	20.00	145.			
DELTA K A:	20.84	210.			
MAX B:					
C:	11.73			57.1	
D:					
ROOT MEAN SQUARE		24.19	0.00	17.91	
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25				
SUMMARY	1.25-2.0	1			
(NP/NA)	>2.0				

CONDITION/HT: T7351
 FORM: 3.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: S-L
 FREQUENCY: 6.00 HZ
 ENVIRONMENT: R. T., DRY AIR

YIELD STRENGTH: 57.4 KSI
 ULT. STRENGTH: 70.6 KSI
 SPECIMEN THK: 0.502- 0.503"
 SPECIMEN WIDTH: 2.552- 2.554"
 REFERENCES: GD006

ALUM.
 ALLOY

7475

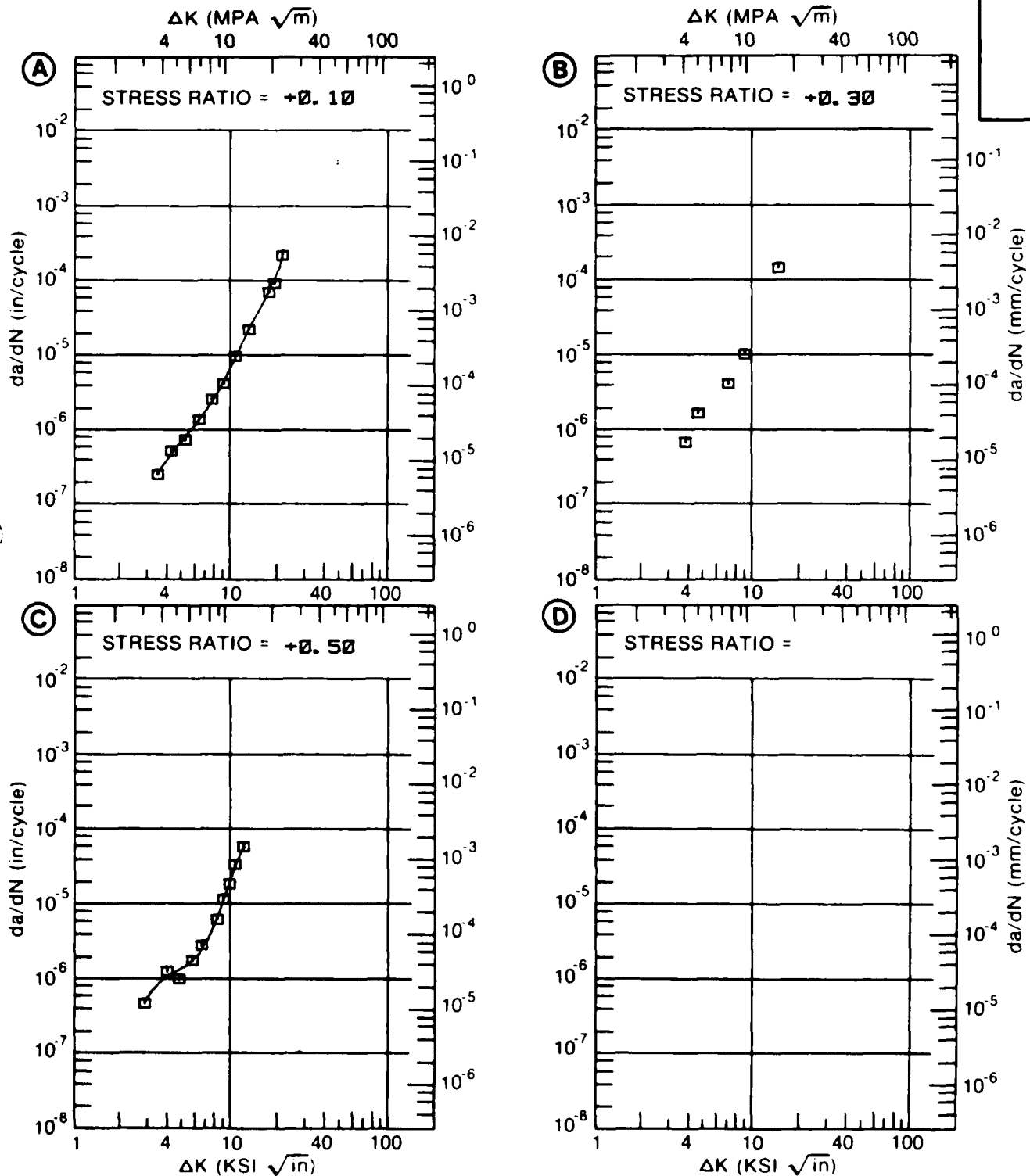


Figure 8.20.3.30

TABLE 3.20.3.31

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.20.3.31 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7475
CONDITION: T7351
ENVIRONMENT: R.T., S.T.W.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.10	R=+0.30	R=+0.50	
DELTA K MIN	A:	4.00	.86		
	B:	3.44	.81		
	C:	3.55		1.66	
	D:				
	3.50		.873		
	4.00		2.35	2.44	
	5.00	2.02	4.37	5.02	
	6.00	4.28	5.86	9.20	
	7.00	8.12	11.6	15.7	
	8.00	13.9	22.9	25.4	
	9.00	21.9	38.3	39.9	
	10.00	32.1	54.6	60.9	
	13.00	74.0	107.	194.	
	16.00		192.		
DELTA K MAX	A:	15.42	113.		
	B:	18.55	348.		
	C:	13.03		196.	
	D:				
ROOT MEAN SQUARE		23.64	28.38	24.44	
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1	1	1	
SUMMARY	1.25-2.0	1	1		
(NP/NA)	>2.0			1	

CONDITION/HT: T7351
 FORM: 3.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: S-L
 FREQUENCY: 1.00 HZ
 ENVIRONMENT: R. T., S. T. W.

YIELD STRENGTH: 57.4 KSI
 ULT. STRENGTH: 70.6 KSI
 SPECIMEN THK: 0.502- 0.518"
 SPECIMEN WIDTH: 2.554- 2.555"
 REFERENCES: GD006

ALUM.
 ALLOY

7475

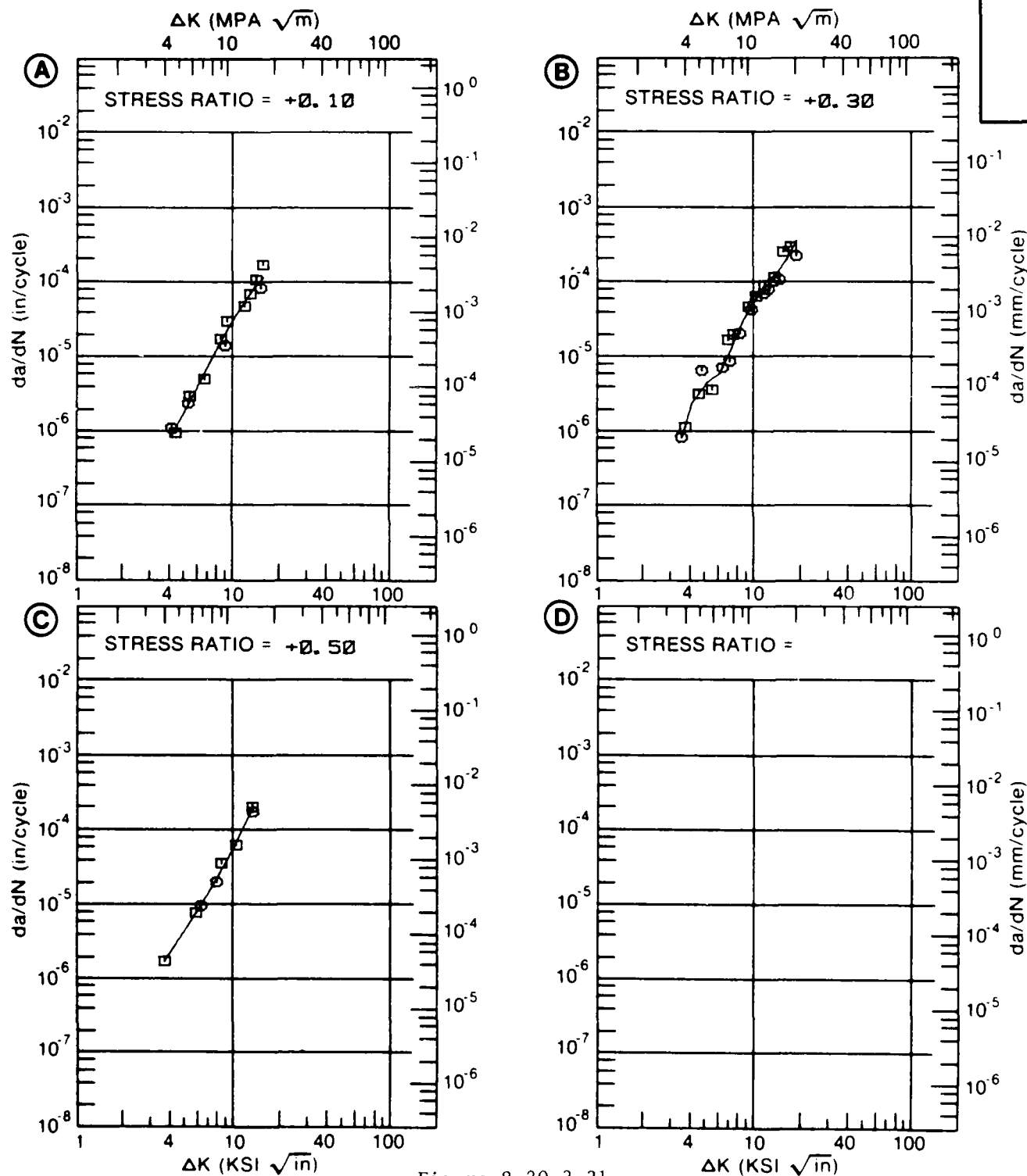


Figure 8.20.3.31

TABLE 8.20.3.32

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.20.3.32 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM
CONDITION: T7351

7475

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		E= R. T. DRY AIR 2-20HZ	E= R. T. L. H. A. 2-30HZ	E= R. T. H. H. A. 2-20HZ	E= R. T. S. T. W. 20HZ
DELTA K	A:	5.68	.99		
MIN	B:	2.80	.30		
	C:	5.74		2.10	
	D:	5.70			5.48
		3.00	.373		
		3.50	.554		
		4.00	.732		
		5.00	1.09		
		6.00	1.15	2.49	6.36
		7.00	1.76	4.24	9.63
		8.00	2.65	6.31	13.4
		9.00	3.91	8.75	17.9
		10.00	5.71	11.8	23.1
		13.00	16.9	28.0	
		16.00	47.8	72.3	
DELTA K	A:	19.93	321.		
MAX	B:	17.86	79.1		
	C:	18.53		175.	
	D:	11.87			36.3
ROOT MEAN SQUARE		26.89	13.57	16.38	14.42
PERCENT ERROR					

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T7351
 FORM: 3.5- 4.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: S-L
 STRESS RATIO: +0.33
 FREQUENCY:

YIELD STRENGTH: 52.5 KSI
 ULT. STRENGTH: 65.0 KSI
 SPECIMEN THK: 1.000"
 SPECIMEN WIDTH: 3.546- 3.805"
 REFERENCES: AL001, AL009

ALUM.
 ALLOY

7475

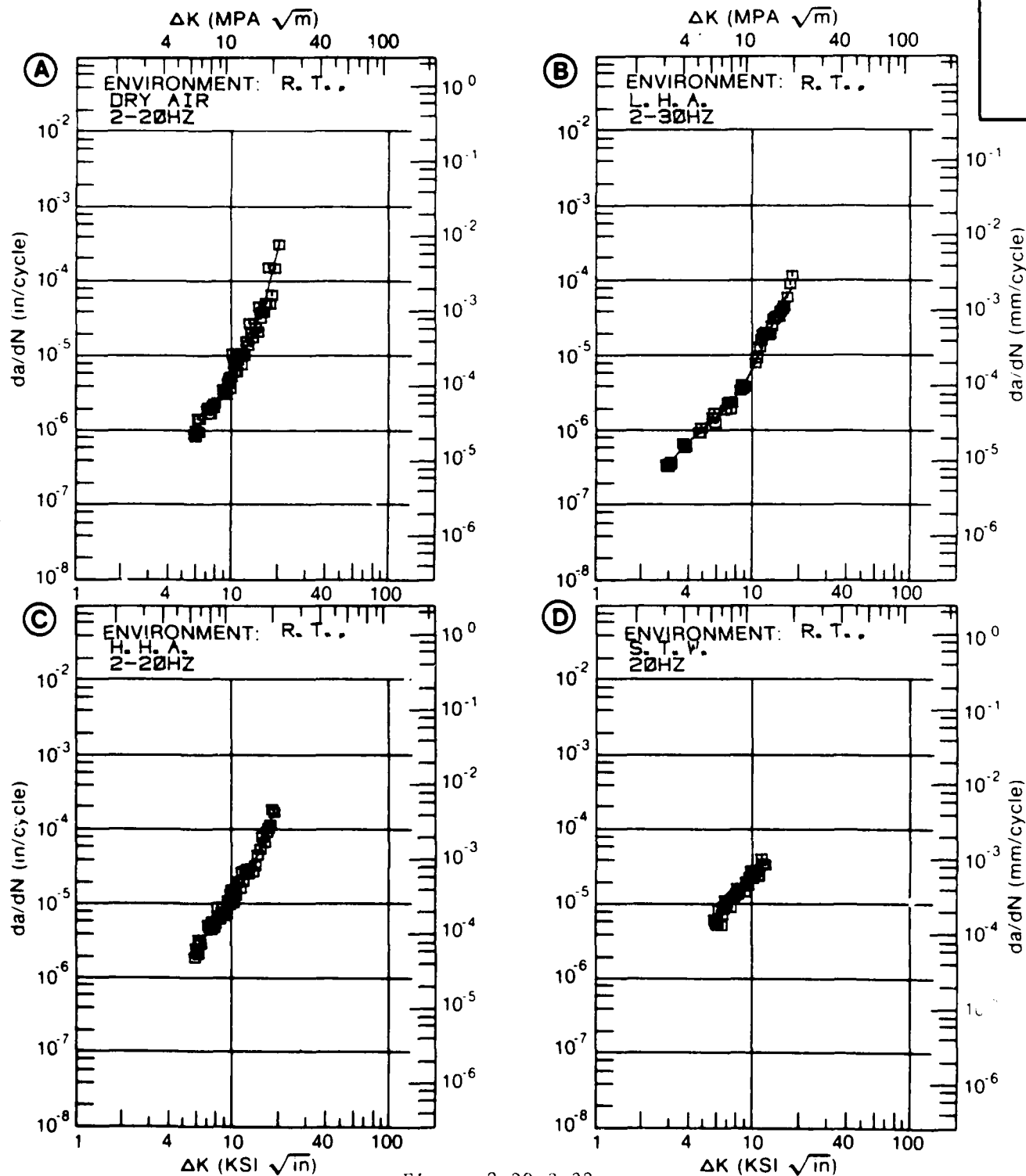


Figure 3.20.3.32

TABLE 8.30.3.33

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.20.3.33 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM 7475
 CONDITION: T76
 ENVIRONMENT: R.T., LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.33			
DELTA K MIN	A:	5.18	1.49		
	B:				
	C:				
	D:				
	6.00	2.41			
	7.00	3.83			
	8.00	5.56			
	9.00	7.59			
	10.00	9.90			
	13.00	18.6			
	16.00	30.0			
DELTA K MAX	A:	19.87	49.5		
	B:				
	C:				
	D:				
ROOT MEAN SQUARE		9.56			
PERCENT ERROR					

LIFE 0.0-0.5
 PREDICTION 0.5-0.8
 RATIO 0.8-1.25 1
 SUMMARY 1.25-2.0
 (NP/NA) 2.0

CONDITION/HT: T76
 FORM: 0.09" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: T-L
 FREQUENCY: 13.30 HZ
 ENVIRONMENT: R.T., LAB AIR

YIELD STRENGTH: 67.0 KSI
 ULT. STRENGTH: 76.2 KSI
 SPECIMEN THK: 0.091"
 SPECIMEN WIDTH: 4.000"
 REFERENCES: 86213

ALUM.
 ALLOY

7475

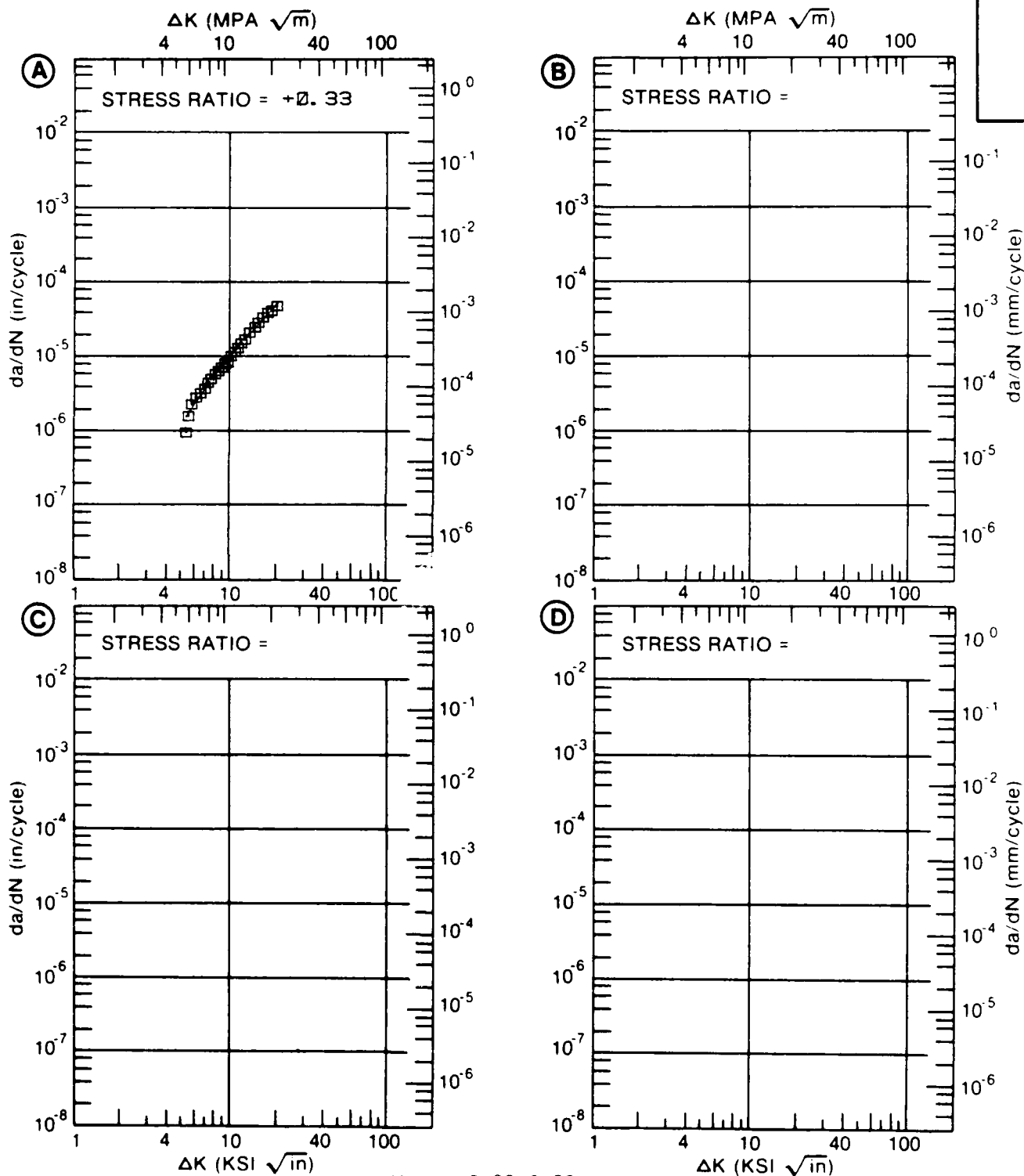


Figure 8.20.3.33

TABLE 8.20.3.34

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.20.3.34 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL ALUMINUM 7475
CONDITION: T761

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. DRY AIR	E= R. T. H. H. A.	E= R. T. SALT FOG	
DELTA K	A: 6.32	2.27			
MIN	B: 6.20		4.68		
	C: 6.53			12.0	
	D:				
	7.00	3.11	6.46	14.7	
	8.00	4.58	9.56	20.6	
	9.00	6.32	13.8	26.7	
	10.00	8.36	19.1	33.1	
	13.00	16.7	41.2	56.8	
	16.00	29.8	66.8	95.9	
DELTA K	A: 17.65	40.1			
MAX	B: 16.34		69.5		
	C: 17.48			126.	
	D:				

ROOT MEAN SQUARE	2.75	4.65	4.51
PERCENT ERROR			

LIFE	0.0-0.5
PREDICTION	0.5-0.8
RATIO	0.8-1.25
SUMMARY	1.25-2.0
(NP/NA)	>2.0

1

1

1

CONDITION/HT: T7B1
 FORM: 0.04" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: T-L
 STRESS RATIO: +0.33
 FREQUENCY: 13.30 HZ

YIELD STRENGTH: 71.1 KSI
 ULT. STRENGTH: 78.9 KSI
 SPECIMEN THK: 0.042"
 SPECIMEN WIDTH: 4.000"
 REFERENCES: 86842

ALUM.
 ALLOY

7475

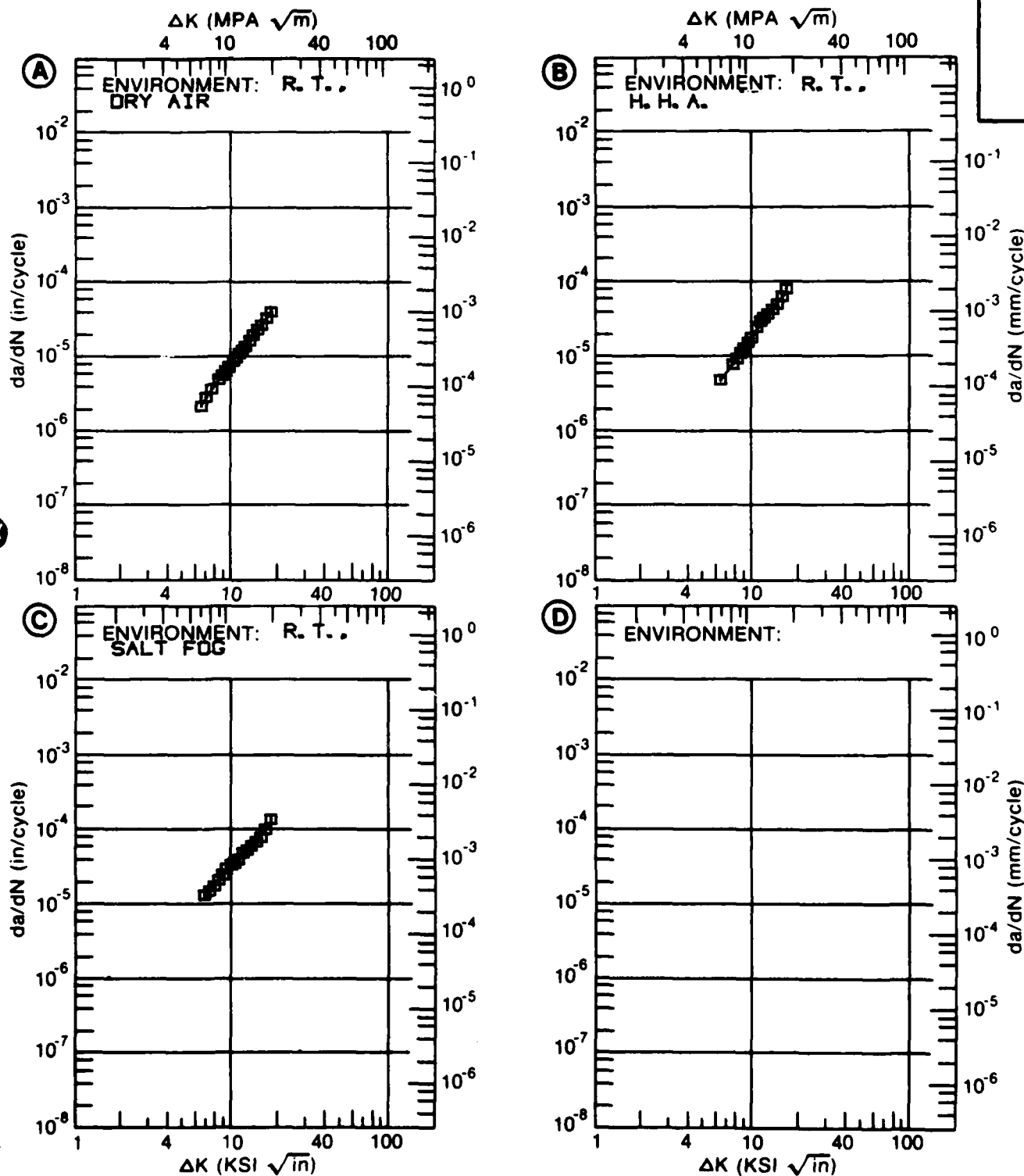


Figure 8.20.3.34

TABLE 8.20.3.35

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.20.3.35 INDICATING EFFECT
OF ENVIRONMENT

MATERIAL: ALUMINUM		7475			
CONDITION: T761					
DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T.			
		LAB AIR			
DELTA K MIN	A: 8.75	3.85			
	B:				
	C:				
	D:				
	9.00	4.09			
	10.00	5.41			
	13.00	13.1			
DELTA K MAX	16.00	23.6			
	20.00	33.1			
	25.00	65.4			
	A: 27.73	129.			
DELTA K MAX	B:				
	C:				
	D:				
ROOT MEAN SQUARE		21.37			
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8	3			
RATIO	0.8-1.25				
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T781
 FORM: 0.09" TH SHEET
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 STRESS RATIO: +0.10
 FREQUENCY: 20.00 HZ

YIELD STRENGTH: 82.2 KSI
 ULT. STRENGTH: 70.2 KSI
 SPECIMEN THK: 0.099"
 SPECIMEN WIDTH: 1.493- 1.499"
 REFERENCES: 85363

ALUM.
 ALLOY

7475

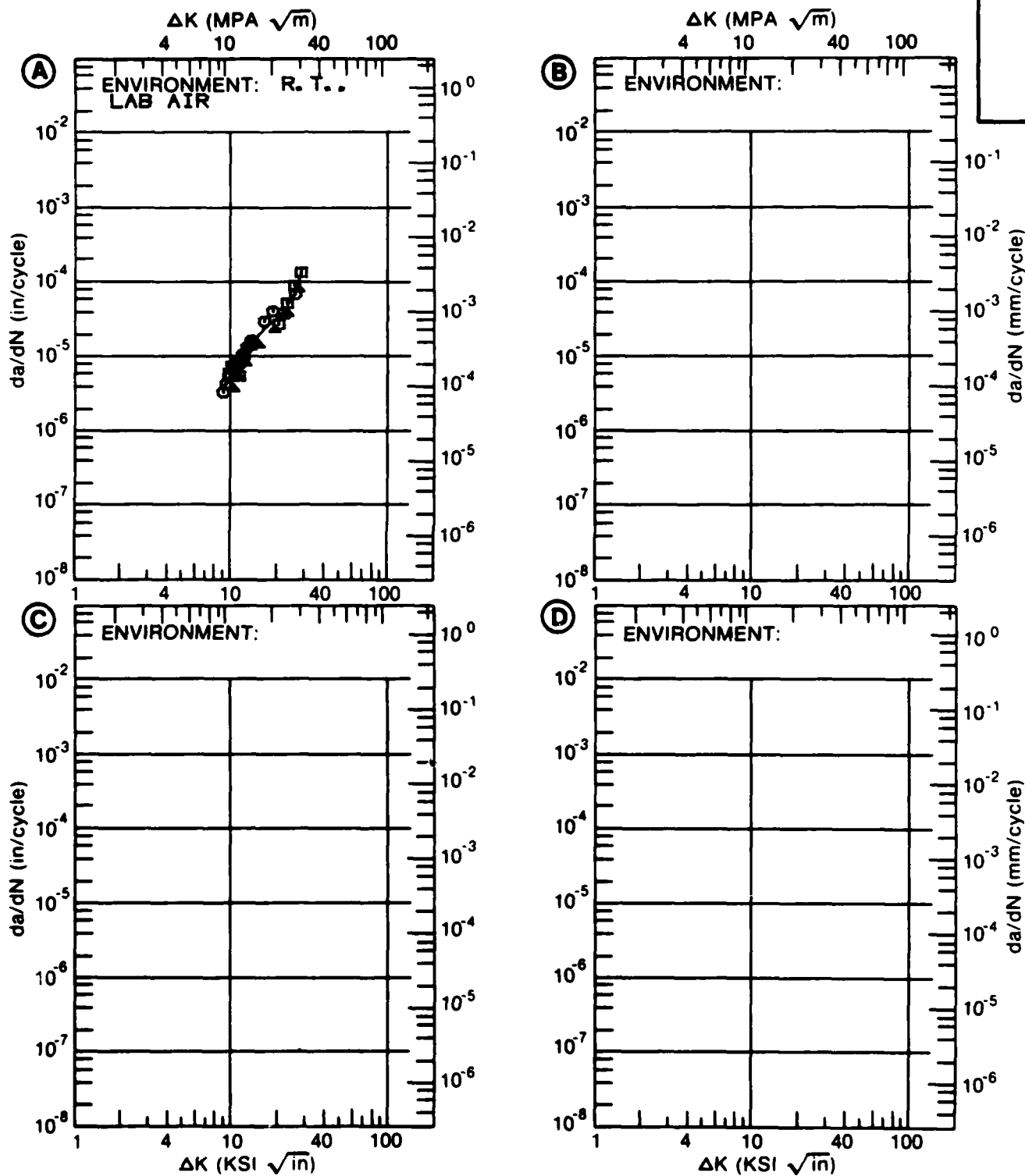


Figure 8.20.3.35

TABLE 8.20.3.36

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.20.3.36 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM 7475
CONDITION: T761

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. LAB AIR			
DELTA K MIN	A: 8.76	2.27			
	B:				
	C:				
	D:				
	9.00	2.62			
	10.00	4.36			
	13.00	12.3			
	16.00	23.6			
	20.00	43.8			
	25.00	81.5			
DELTA K MAX	A: 29.38	134.			
	B:				
	C:				
	D:				

ROOT MEAN SQUARE 18.71
PERCENT ERROR

LIFE 0.0-0.5
PREDICTION 0.5-0.8 3
RATIO 0.8-1.25
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T761
 FORM: 0.09" TH SHEET
 SPECIMEN TYPE: CT
 ORIENTATION: T-L
 STRESS RATIO: +0.10
 FREQUENCY: 20.00 HZ

YIELD STRENGTH: 82.2 KSI
 ULT. STRENGTH: 70.2 KSI
 SPECIMEN THK: 0.099"
 SPECIMEN WIDTH: 1.489"
 REFERENCES: 85363

ALUM.
 ALLOY

7475

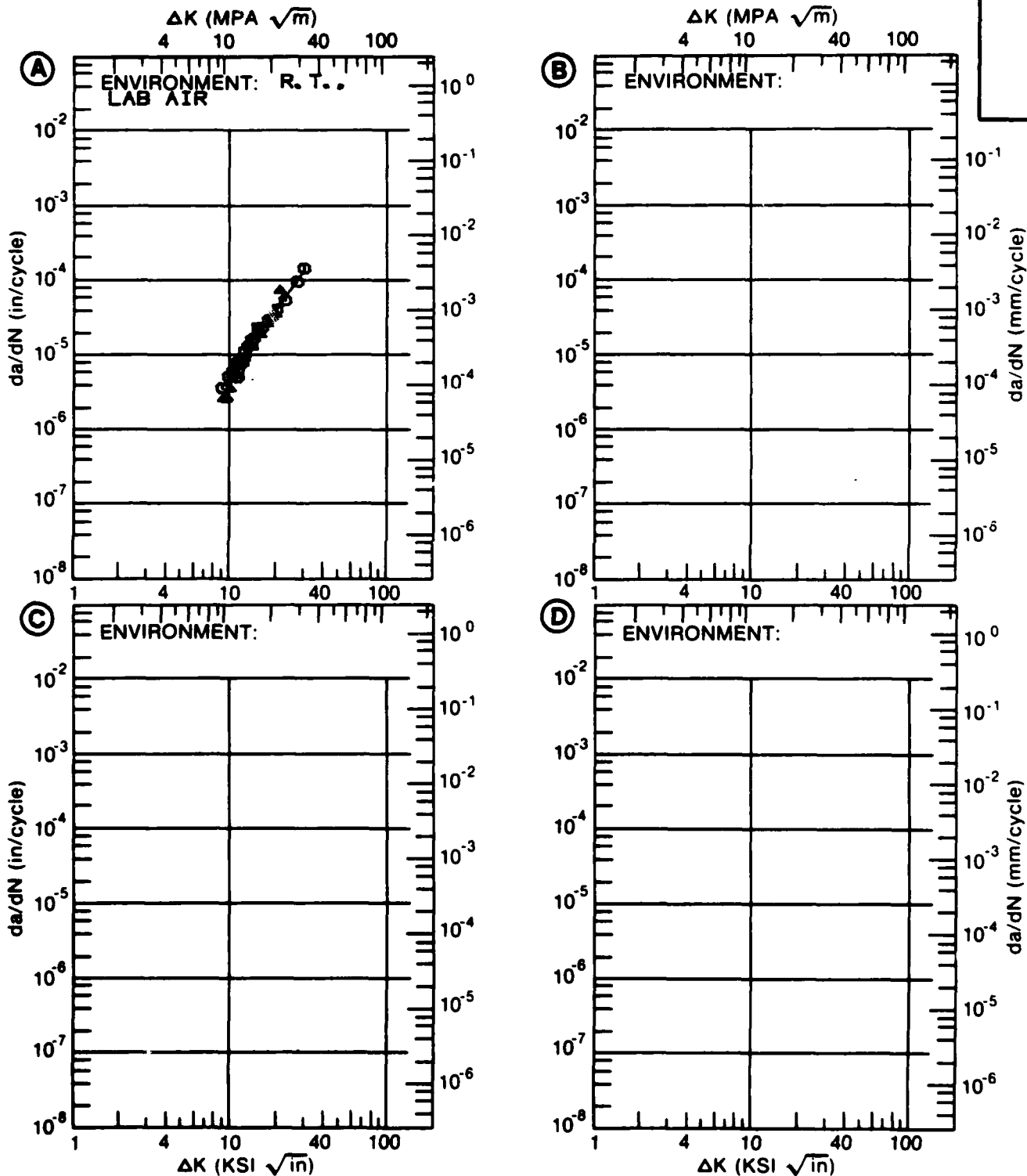


Figure 8.20.3.36

TABLE 8.20.3.37

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.20.3.37 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7475
CONDITION: T/61
ENVIRONMENT: R.T., 3.5% NaCl

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.05			
DELTA K MIN	A: 12.56	56.3			
	B:				
	C:				
	D:				
	13.00	60.6			
	16.00	96.1			
	20.00	158.			
	25.00	244.			
	30.00	319.			
DELTA K MAX	A: 33.19	354.			
	B:				
	C:				
	D:				

ROOT MEAN SQUARE 2.88
PERCENT ERROR

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25 1
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T781
 FORM: 0.11" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: T-L
 FREQUENCY: 2.00 HZ
 ENVIRONMENT: R. T., 3.5% NaCl

YIELD STRENGTH: 59.8 KSI
 ULT. STRENGTH: 88.7 KSI
 SPECIMEN THK: 0.114"
 SPECIMEN WIDTH: 38.070"
 REFERENCES: 88212

ALUM.
 ALLOY

7475

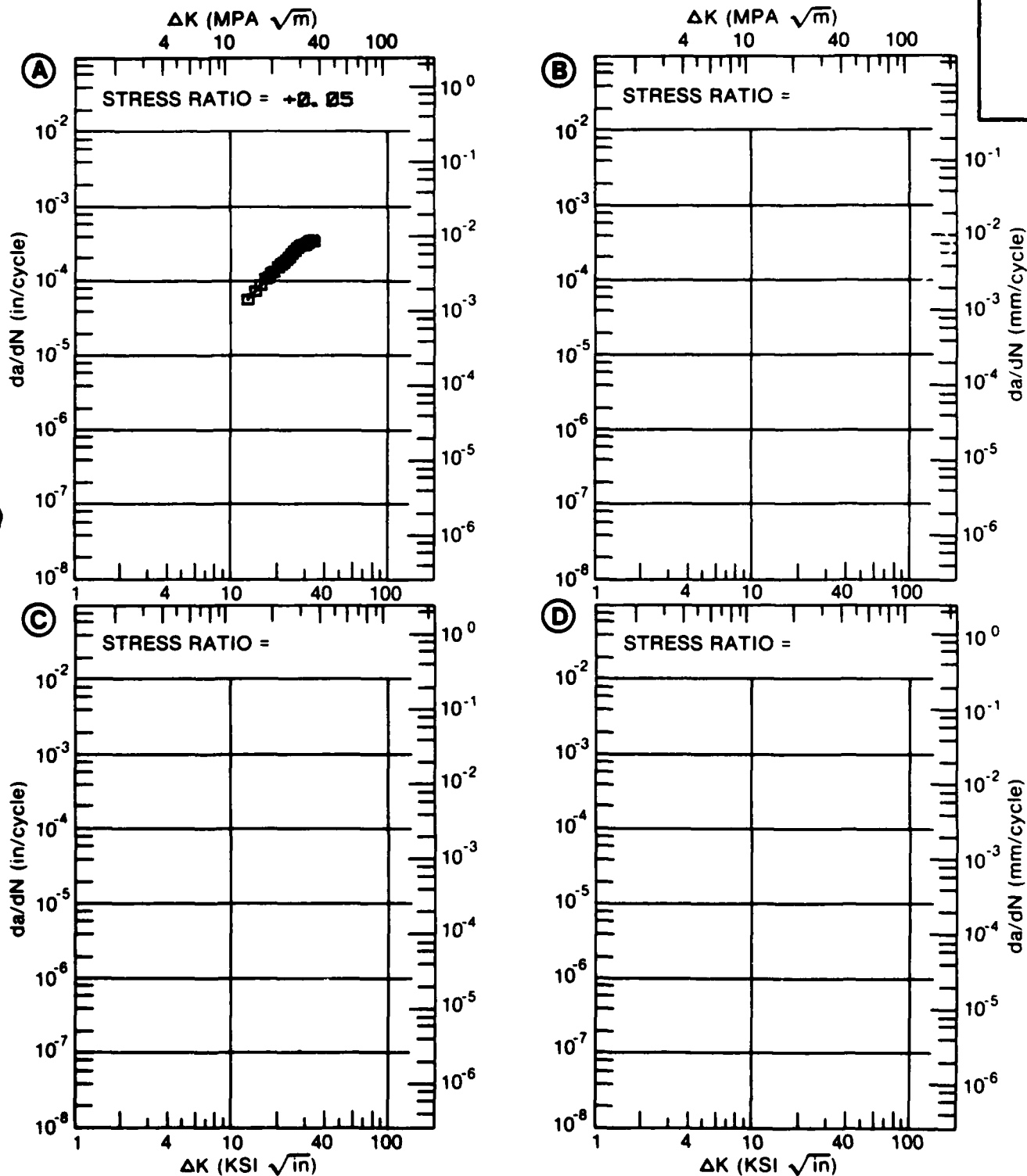


Figure 8.20.3.37

TABLE 8.20.3.38

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.20.3.38 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM
CONDITION: T761

7475

DELTA K
(KSI*IN**1/2)

DA/DN (10**-6 IN. /CYCLE)

A

B

C

D

E= R. T.
H. H. A.E= R. T.
3. 5% NACLDELTA K A:
MIN B: 12. 85
C:
D:

53. 7

13. 00

55. 2

16. 00

88. 7

20. 00

139.

25. 00

205.

30. 00

269.

DELTA K A:
MAX B: 32. 63
C:
D:

302.

ROOT MEAN SQUARE
PERCENT ERROR

0. 00

3. 54

LIFE 0. 0-0. 5
PREDICTION 0. 5-0. 8
RATIO 0. 8-1. 25
SUMMARY 1. 25-2. 0
(NP/NA) >2. 0

1

CONDITION/HT: T781
 FORM: 0.11" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: T-L
 STRESS RATIO: +0.05
 FREQUENCY: 2.00 HZ

YIELD STRENGTH: 65.3 KSI
 ULT. STRENGTH: 74.5 KSI
 SPECIMEN THK: 0.040- 0.115"
 SPECIMEN WIDTH: 12.000- 36.000"
 REFERENCES: 86212

ALUM.
 ALLOY

7475

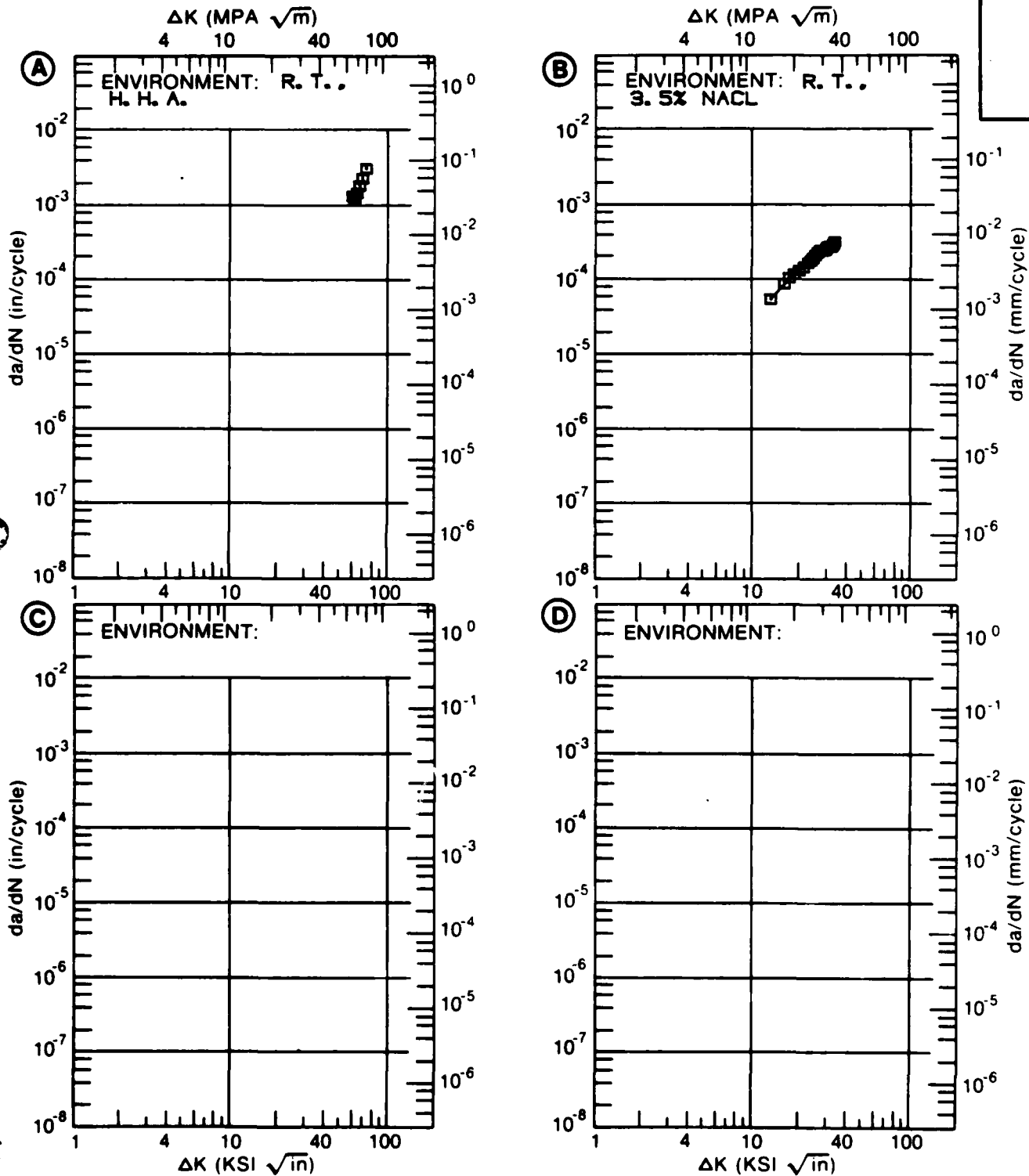


Figure 8.20.3.38

TABLE 8.20.3.39

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.20.3.39 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM 7475
CONDITION: T761

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. H. H. A.			
DELTA K MIN	A:	7.84	5.07		
	B:				
	C:				
	D:				
		8.00	5.43		
		9.00	7.96		
		10.00	10.8		
		13.00	21.4		
		16.00	34.7		
		20.00	58.1		
DELTA K MAX	A:	22.71	79.3		
	B:				
	C:				
	D:				
ROOT MEAN SQUARE PERCENT ERROR		6.43			
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1			
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T761
 FORM: 0.11" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: T-L
 STRESS RATIO: +0.25
 FREQUENCY: 2.00 HZ

YIELD STRENGTH: 85.3 KSI
 ULT. STRENGTH: 74.5 KSI
 SPECIMEN THK: 0.115"
 SPECIMEN WIDTH: 24.030"
 REFERENCES: 86212

ALUM.
 ALLOY

7475

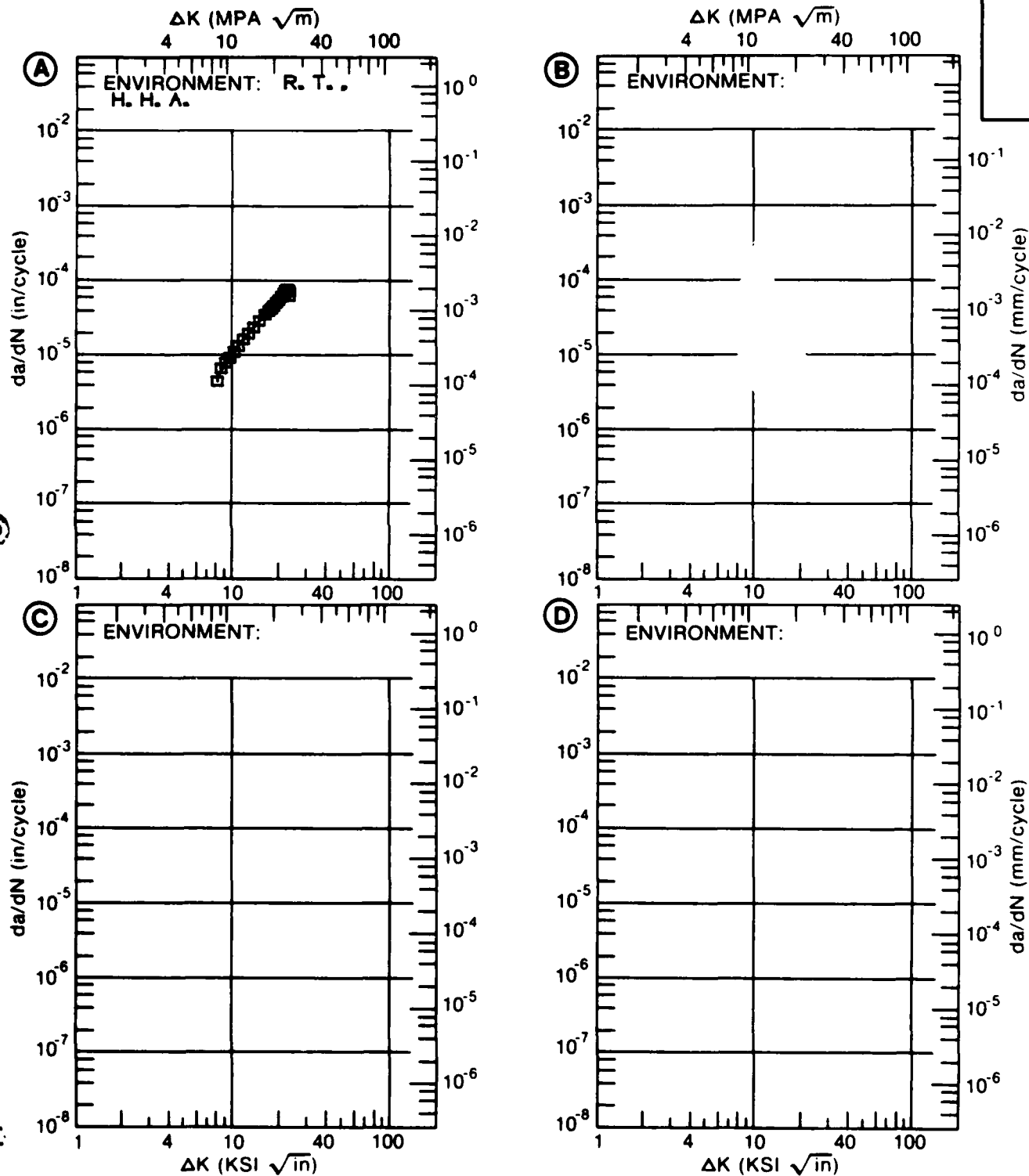


Figure 8.20.3.39

TABLE 8.20.3.40

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.20.3.40 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM 7475
CONDITION: T761

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. DRY AIR	E= R. T. H. H. A.	E= R. T. SALT FOG	
DELTA K	A: 6.38	2.05			
MIN	B: 6.18		2.95		
	C: 6.42			9.72	
	D:				
	7.00	3.00	5.08	15.3	
	8.00	4.81	8.67	23.7	
	9.00	6.87	13.3	29.8	
	10.00	9.10	19.0	35.5	
	13.00	16.9	41.9	64.6	
	16.00	27.9	72.0	113.	
	20.00	53.1		190.	
DELTA K	A: 20.38	56.5			
MAX	B: 17.61		90.9		
	C: 21.42			214.	
	D:				
ROOT MEAN SQUARE		7.76	4.64	5.44	
PERCENT ERROR					

LIFE 0.0-0.5
 PREDICTION 0.5-0.8
 RATIO 0.8-1.25
 SUMMARY 1.25-2.0
 (NP/NA) >2.0

1

1

1

CONDITION/HT: T761
 FORM: 0.13" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 STRESS RATIO: +0.33
 FREQUENCY: 13.30 HZ

YIELD STRENGTH: 86.8 KSI
 ULT. STRENGTH: 74.8 KSI
 SPECIMEN THK: 0.126"
 SPECIMEN WIDTH: 4.000"
 REFERENCES: 86842

ALUM.
 ALLOY

7475

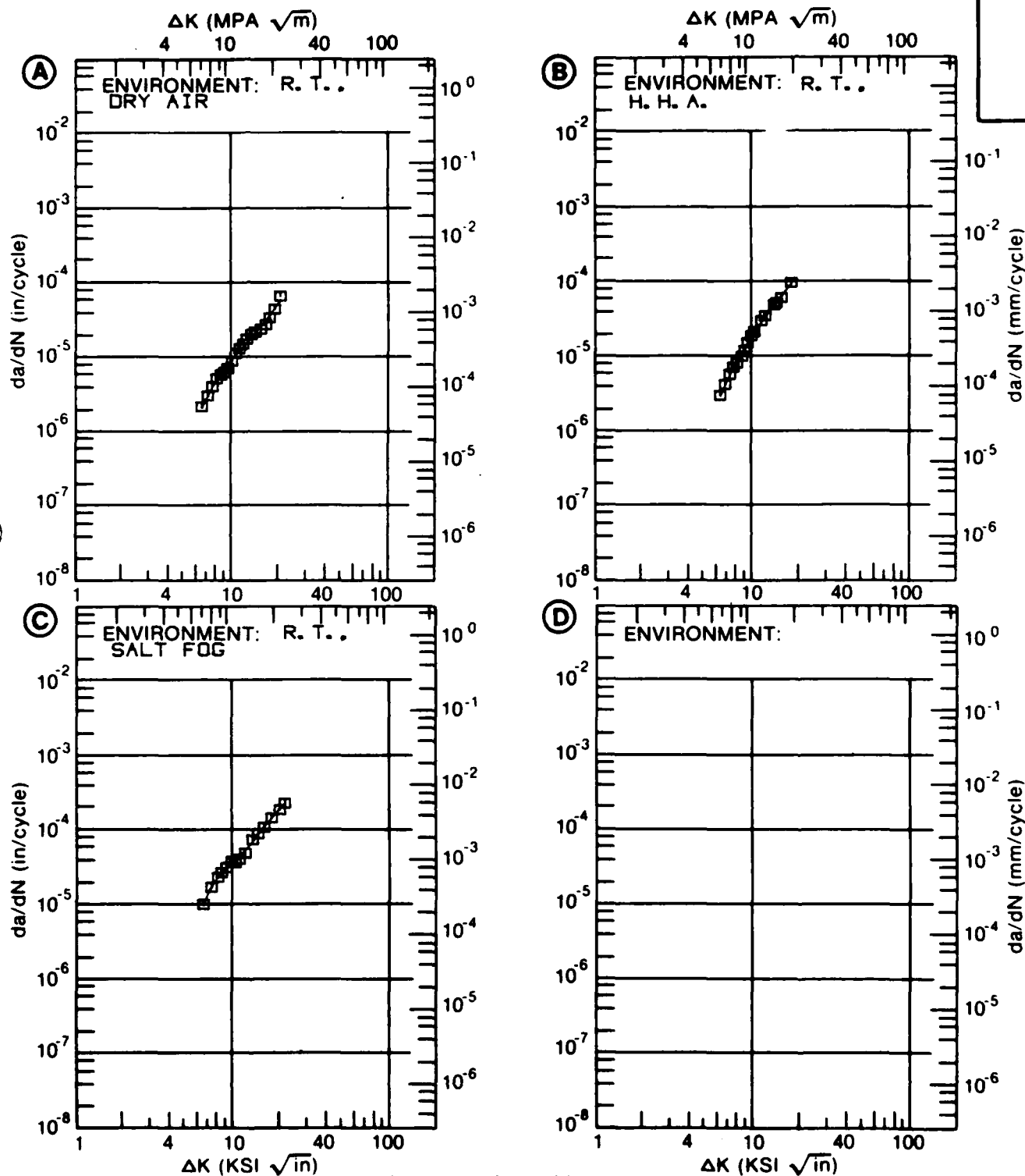


Figure 8.20.3.40

TABLE 8.20.3.41

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.20.3.41 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM 7475
CONDITION: T761

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. DRY AIR	E= R. T. H. H. A.	E= R. T. SALT FOG	
DELTA K	A: 5.60	1.36			
MIN	B: 5.54		2.23		
	C: 5.98			6.66	
	D:				
	6.00	1.86	3.15	6.76	
	7.00	3.43	5.84	12.2	
	8.00	5.40	9.48	19.6	
	9.00	7.70	14.0	28.6	
	10.00	10.3	19.5	39.3	
	13.00	20.5	40.9	78.7	
	16.00	36.4	69.3	125.	
	20.00	75.7	118.	191.	
	25.00		202.		
DELTA K	A: 24.97	192.			
MAX	B: 25.01		202.		
	C: 22.77			237.	
	D:				
ROOT MEAN SQUARE		6.90	7.68	6.13	
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	3	3	3	
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T761
 FORM: 0.13" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: T-L
 STRESS RATIO: +0.33
 FREQUENCY: 13.30 HZ

YIELD STRENGTH: 85.6 KSI
 ULT. STRENGTH: 78.0 KSI
 SPECIMEN THK: 0.128"
 SPECIMEN WIDTH: 4.000"
 REFERENCES: 85842

ALUM.
 ALLOY

7475

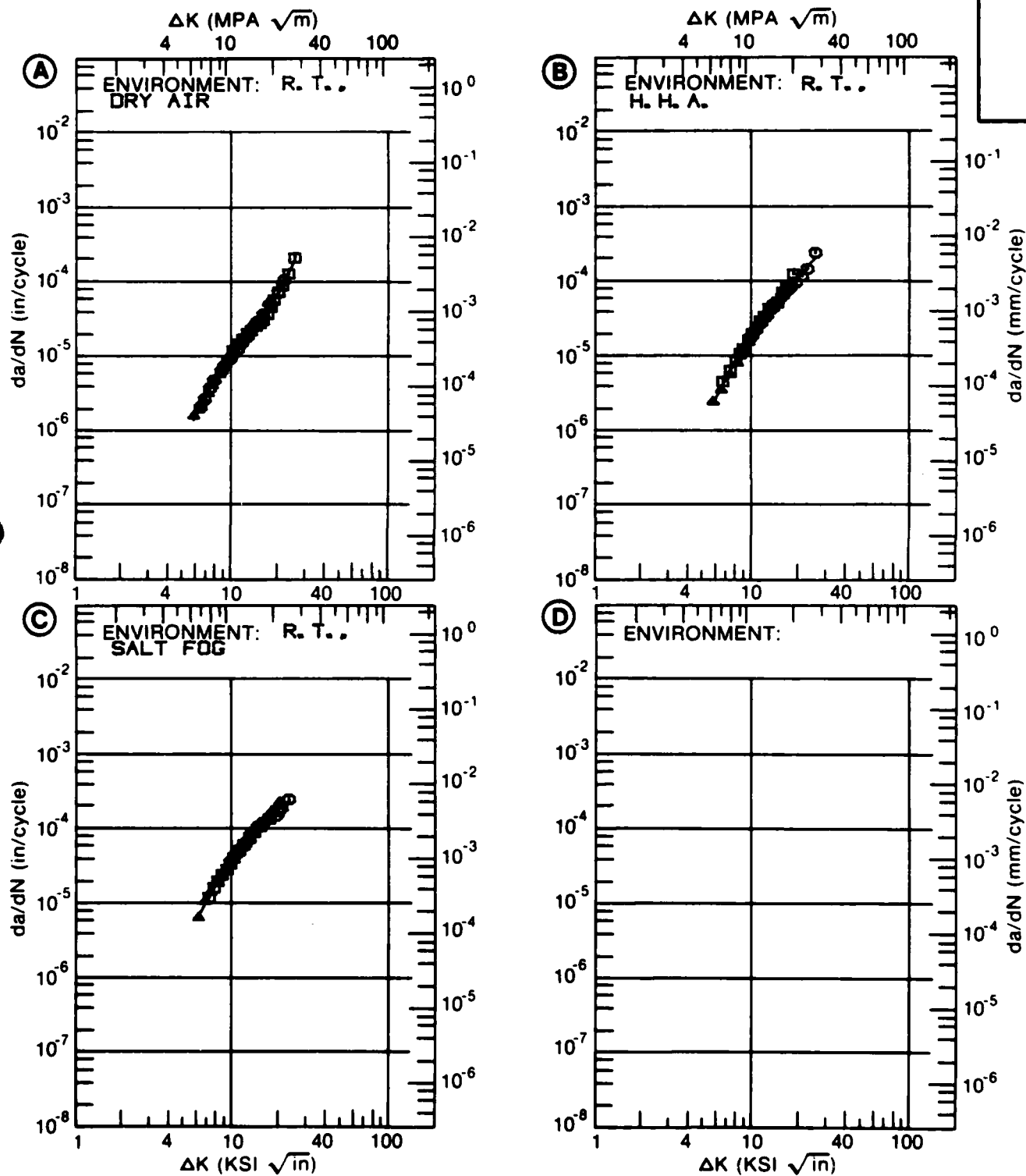


Figure 8.20.3.41

TABLE 8.20.3.42

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.20.3.42 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7475
 CONDITION: T7651
 ENVIRONMENT: R.T., LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.00	R=+0.40	R=+0.80	
DELTA K MIN	A:	3.89			
	B:	3.68	.224		
	C:	3.62	.233		
	D:			1.23	
	4.00	.216	.380	1.72	
	5.00	.254	1.19	3.26	
	6.00	.458	2.57	5.17	
	7.00	.900	4.50	7.53	
	8.00	1.68	6.93	10.6	
	9.00	2.88	9.80	14.6	
	10.00	4.56	13.1	20.0	
	13.00	12.8	25.4	52.3	
	16.00	24.8	42.3		
	20.00	42.3	75.4		
	25.00		145.		
DELTA K MAX	A:	23.91	54.9		
	B:	28.77	232.		
	C:	13.30		57.7	
	D:				
ROOT MEAN SQUARE		8.37	8.69	6.74	
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8		1		
RATIO	0.8-1.25	2		2	
SUMMARY	1.25-2.0		1		
(NP/NA)	>2.0				

CONDITION/HT: T7851

FORM: SHEET

SPECIMEN TYPE: CCP

ORIENTATION: L-T

FREQUENCY: 2.00- 30.00 HZ

ENVIRONMENT: R. T., LAB AIR

YIELD STRENGTH: 87.8 KSI

ULT. STRENGTH:

SPECIMEN THK: 0.187- 0.190"

SPECIMEN WIDTH: 4.000- 12.004"

REFERENCES: DA001

ALUM.
ALLOY

7475

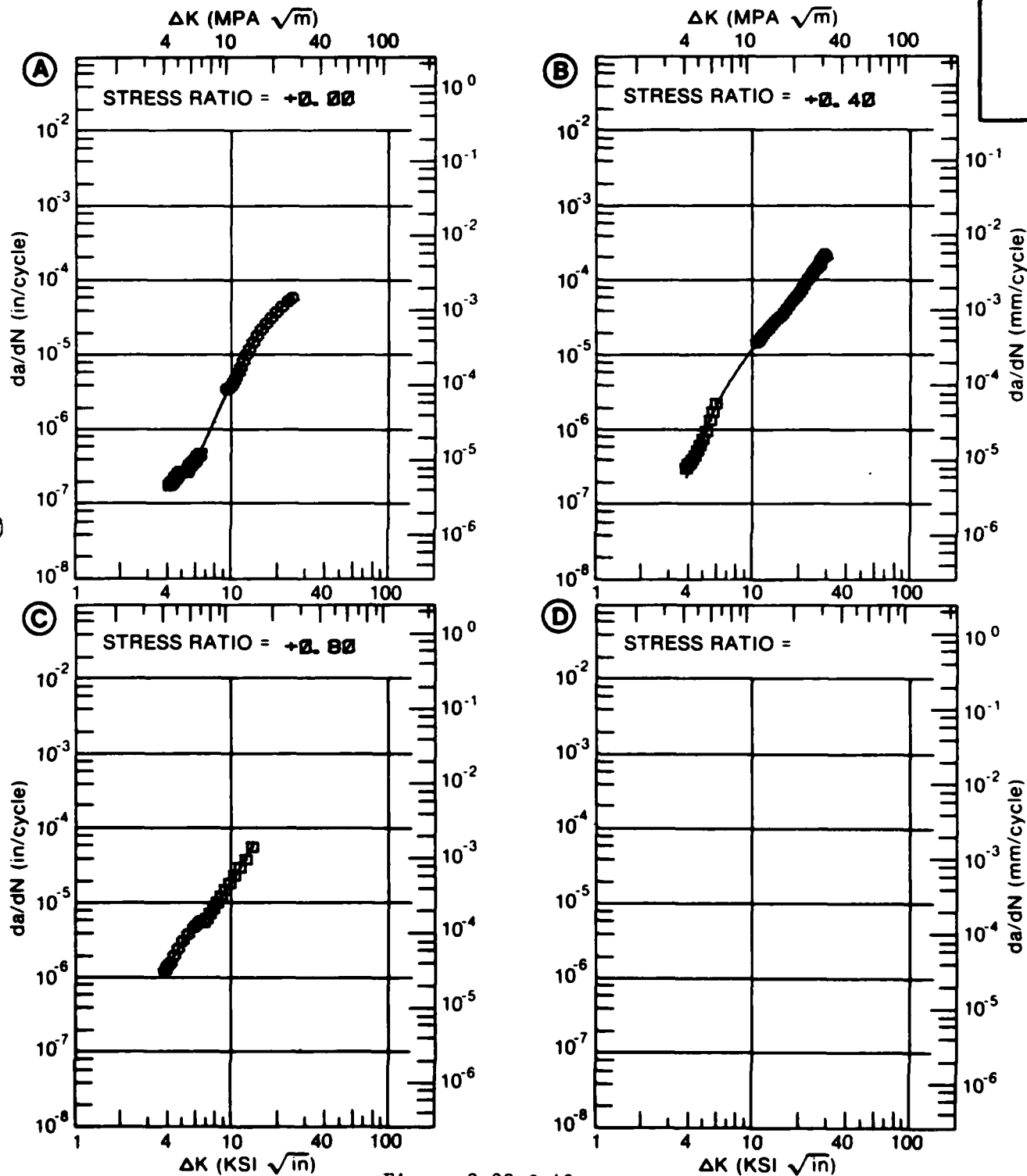


Figure 8.20.3.42

TABLE 8.20.3.43

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.20.3.43 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM 7475
CONDITION: T7651

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E=- 65 AIR, 3-20HZ	E= R. T. LAB AIR, 6-30HZ	E= R. T. S. T. W., 1-5HZ	
DELTA K	A: 11.25	3.55			
MIN	B: 3.89		.183		
	C: 6.10			.622	
	D:				
	4.00		.187		
	5.00		.274		
	6.00		.481		
	7.00		.874		
	8.00		1.55	6.36	
	9.00		2.64	23.3	
	10.00		4.26	32.1	
	13.00	6.44	13.0	54.0	
	16.00	13.9	26.7	81.2	
	20.00	28.4	43.3		
	25.00	53.2			
DELTA K	A: 29.01	77.5			
MAX	B: 23.91		47.7		
	C: 18.16			118.	
	D:				
ROOT MEAN SQUARE		10.11	8.70	13.61	
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1	2	2	
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T7851
 FORM: SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 STRESS RATIO: +0.00
 FREQUENCY:

YIELD STRENGTH: 67.6 KSI
 ULT. STRENGTH:
 SPECIMEN THK: 0.188- 0.193"
 SPECIMEN WIDTH: 4.000- 12.007"
 REFERENCES: DA001

ALUM.
 ALLOY

7475

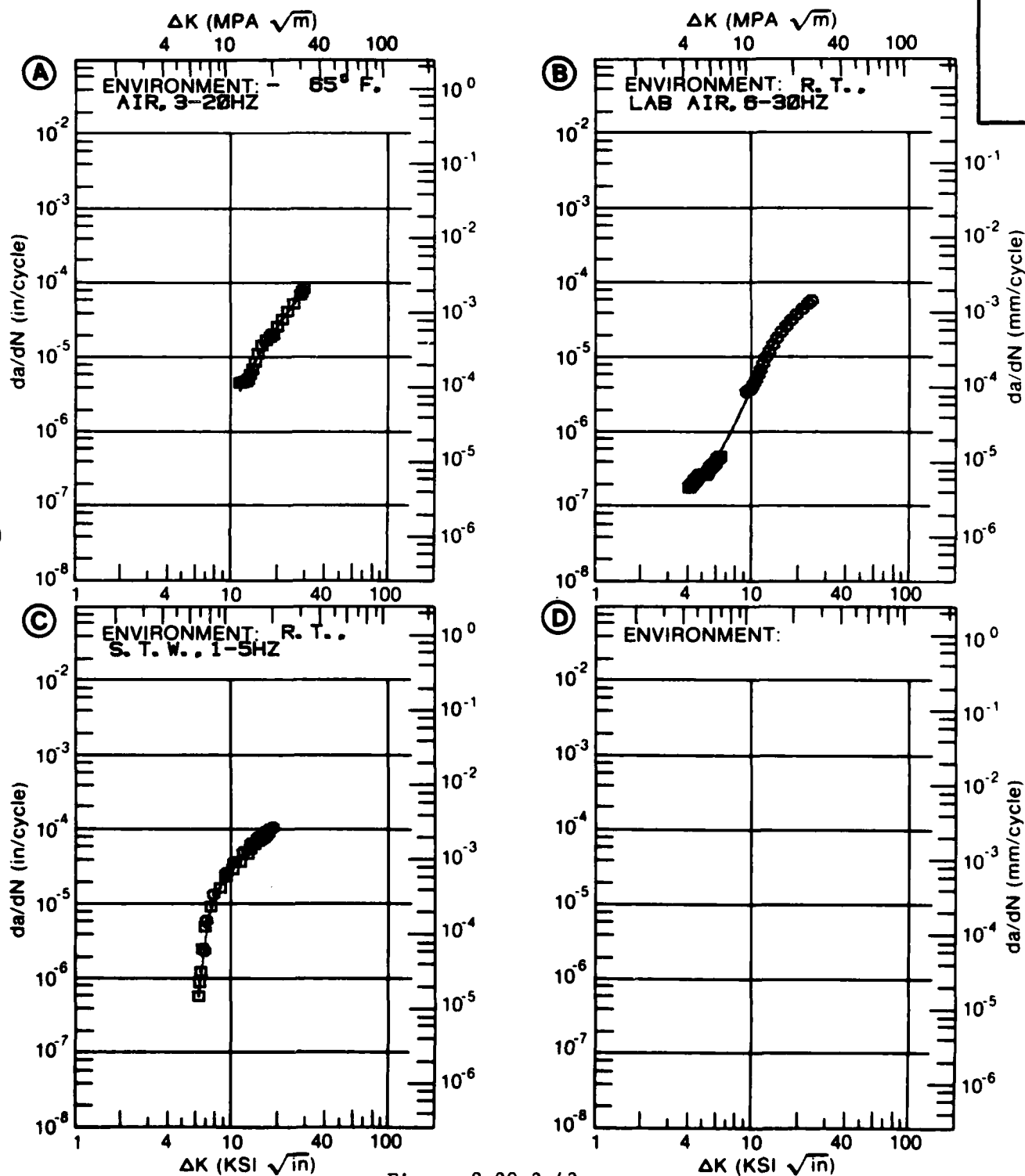


Figure 8.20.3.43

TABLE 8.20.3.44

**FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR**

**DATA ASSOCIATED WITH FIGURE 8.20.3.44 INDICATING EFFECT
OF ENVIRONMENT**

**MATERIAL: ALUMINUM
CONDITION: T7651**

7475

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E=- 65F AIR, 10HZ		E= R. T. LAB AIR, 2-10HZ	
DELTA K MIN	A: 6.25	2.03			
	B: 3.62		1.23		
	C:				
	D:				
	4.00		1.72		
	5.00		3.26		
	6.00		5.17		
	7.00	3.63	7.53		
	8.00	6.28	10.6		
	9.00	9.57	14.6		
DELTA K MAX	10.00	13.9	20.0		
	13.00		52.3		
	A: 11.72	26.0			
MAX	B: 13.30		57.7		
	C:				
	D:				
ROOT MEAN SQUARE		2.18	6.74		
PERCENT ERROR					

**LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25
SUMMARY 1.25-2.0
(NP/NA) >2.0**

1

2

CONDITION/HT: T7651
 FORM: SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 STRESS RATIO: +0.90
 FREQUENCY:

YIELD STRENGTH: 67.6 KSI
 ULT. STRENGTH:
 SPECIMEN THK: 0.188- 0.190"
 SPECIMEN WIDTH: 4.004- 12.004"
 REFERENCES: DA001

ALUM.
 ALLOY

7475

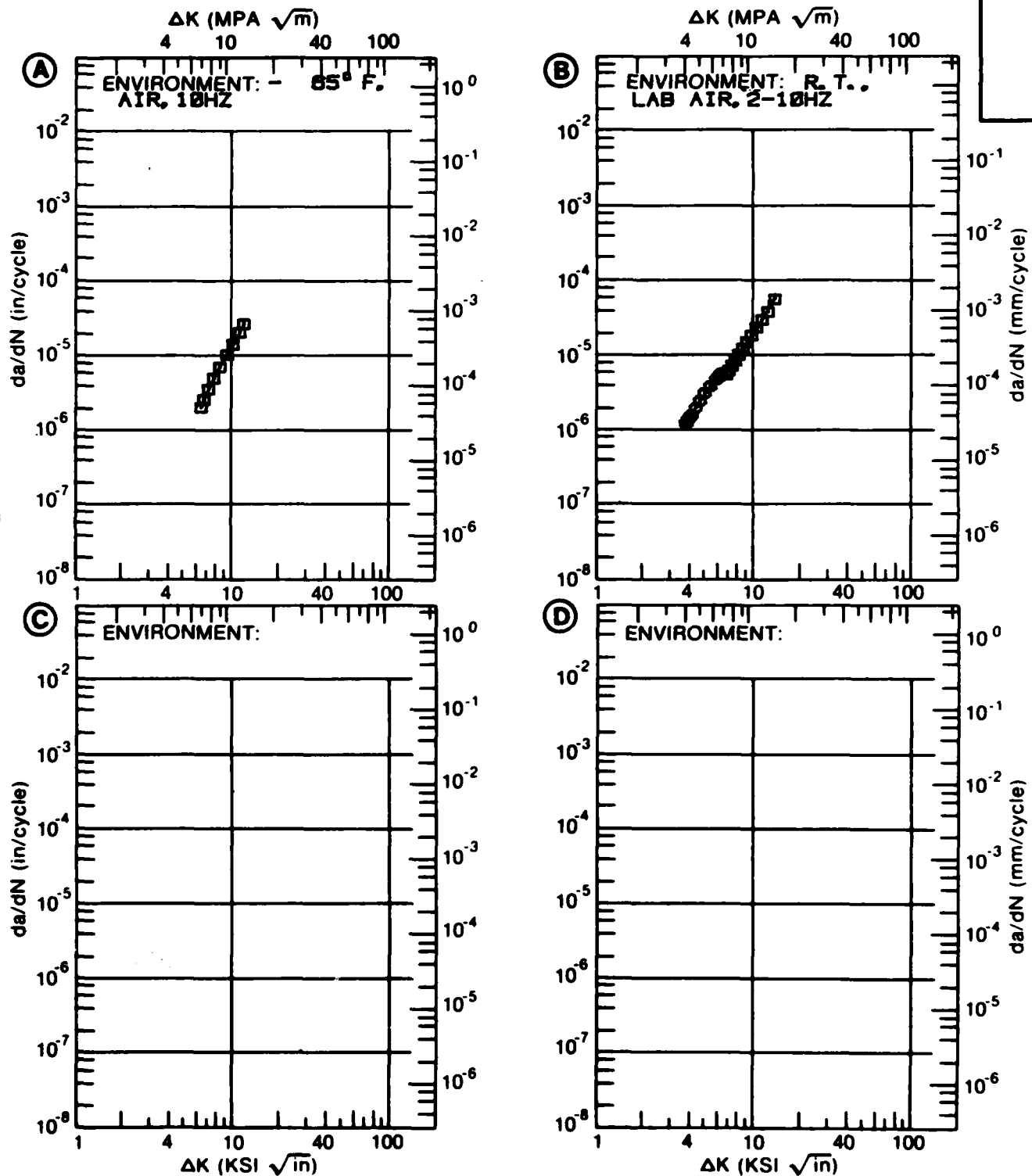


Figure 8.20.3.44

TABLE 8.20.3.45

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.20.3.45 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM 7475
CONDITION: T7651
ENVIRONMENT: R.T., LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**--6 IN./CYCLE)			
		A	B	C	D
		R=+0.00	R=+0.40	R=+0.80	
DELTA K MIN	A:	6.12	.441		
	B:	6.82	4.51		
	C:	3.18		.654	
	D:				
	3.50			.901	
	4.00			1.68	
	5.00			4.03	
	6.00				
	7.00	.789	4.93		
	8.00	1.44	7.36		
	9.00	2.45	10.0		
	10.00	3.93			
	13.00	11.8			
	16.00	24.7			
	20.00	47.6			
	25.00	83.7			
	30.00	129.			
	35.00	188.			
	40.00	265.			
	50.00	508.			
DELTA K MAX	A:	57.35	813.		
	B:	9.50	11.5		
	C:	5.14		4.24	
	D:				
ROOT MEAN SQUARE		9.10	.69	3.88	
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1	1	1	
SUMMARY	1.25-2.0				
(NP/NA)	>2.0	1			

CONDITION/HT: T7651
 FORM: 0.25" TH PLATE
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 3.00- 30.00 HZ
 ENVIRONMENT: R. T., LAB AIR

YIELD STRENGTH: 67.6 KSI
 ULT. STRENGTH:
 SPECIMEN THK: 0.251- 0.253"
 SPECIMEN WIDTH: 3.998- 12.011"
 REFERENCES: DA001

ALUM.
 ALLOY

7475

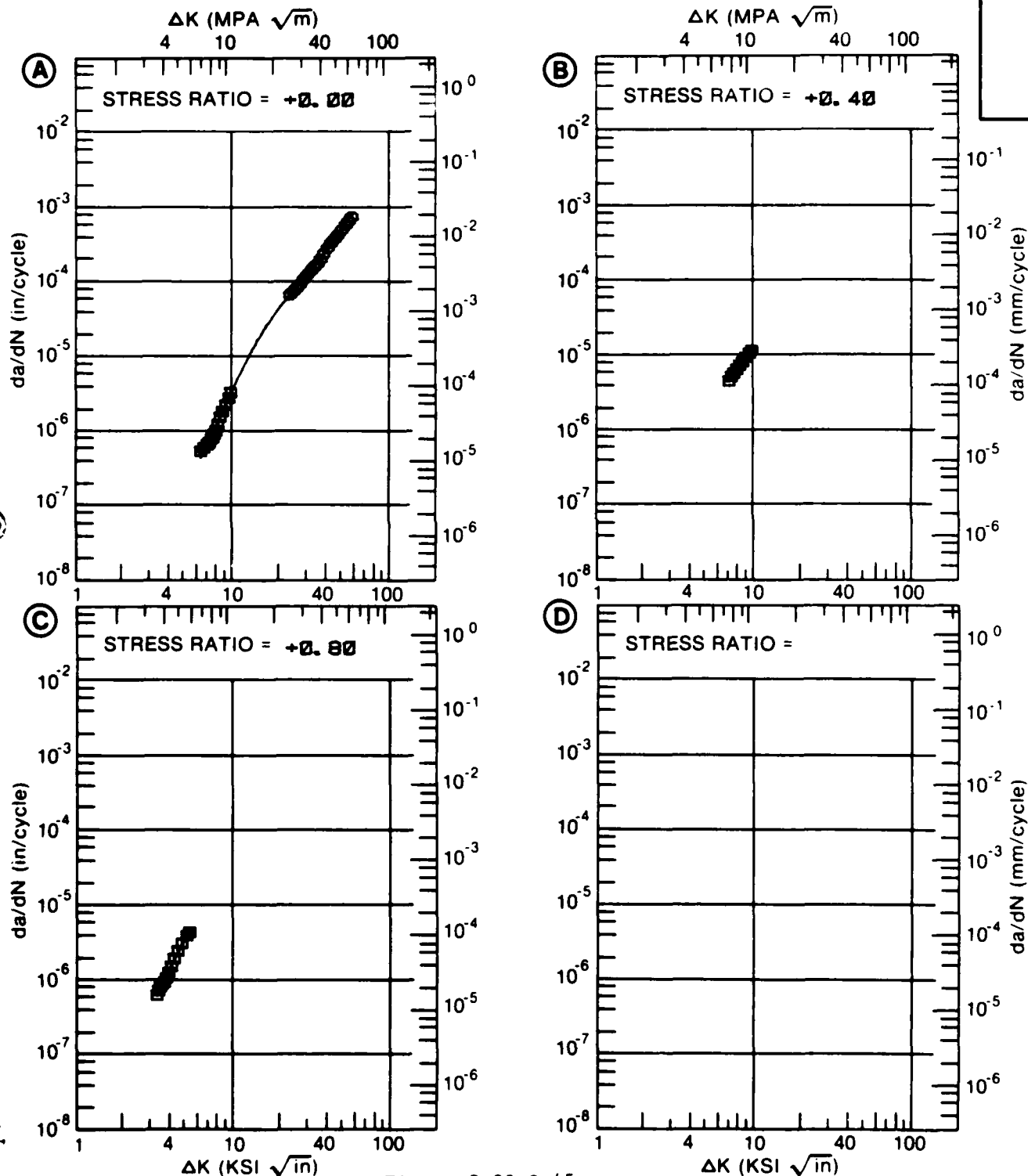


Figure 8.20.3.45

TABLE 8.20.3.46

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.20.3.46 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7475
 CONDITION: T7651
 ENVIRONMENT: R.T., DRY AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=-0.20	R=+0.10	R=+0.30	R=+0.50
DELTA K MIN	A: 3.26	.062			
	B: 5.62		.466		
	C: 3.51			.147	
	D: 2.38				.101
	2.50				.109
	3.00				.169
	3.50	.0723			.280
	4.00	.0990		.245	.465
	5.00	.191		.627	1.15
	6.00	.377	.575	1.40	2.35
	7.00	.728	.891	2.79	4.07
	8.00	1.33	1.37		6.29
	9.00	2.27	2.25		8.97
	10.00	3.63	3.73		12.1
	13.00	10.2	11.2		23.5
	16.00	19.0	21.4		
	20.00	32.7	37.7		
	25.00	54.0	63.0		
	30.00	84.0			
	35.00	130.			
DELTA K MAX	A: 39.76	199.			
	B: 28.70		80.1		
	C: 7.94			4.88	
	D: 15.98				37.4

ROOT MEAN SQUARE PERCENT ERROR	10.22	12.89	9.40	7.47
--------------------------------	-------	-------	------	------

LIFE PREDICTION RATIO SUMMARY (NP/NA)	0.0-0.5	0.5-0.8	0.8-1.25	1.25-2.0	>2.0
---------------------------------------	---------	---------	----------	----------	------

1	1	1	1
---	---	---	---

CONDITION/HT: T7651
 FORM: 0.50" TH PLATE
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 6.00 HZ
 ENVIRONMENT: R. T., DRY AIR

YIELD STRENGTH: 70.6 KSI
 ULT. STRENGTH: 78.1 KSI
 SPECIMEN THK: 0.198- 0.202"
 SPECIMEN WIDTH: 6.007- 6.009"
 REFERENCES: GD006

ALUM.
 ALLOY

7475

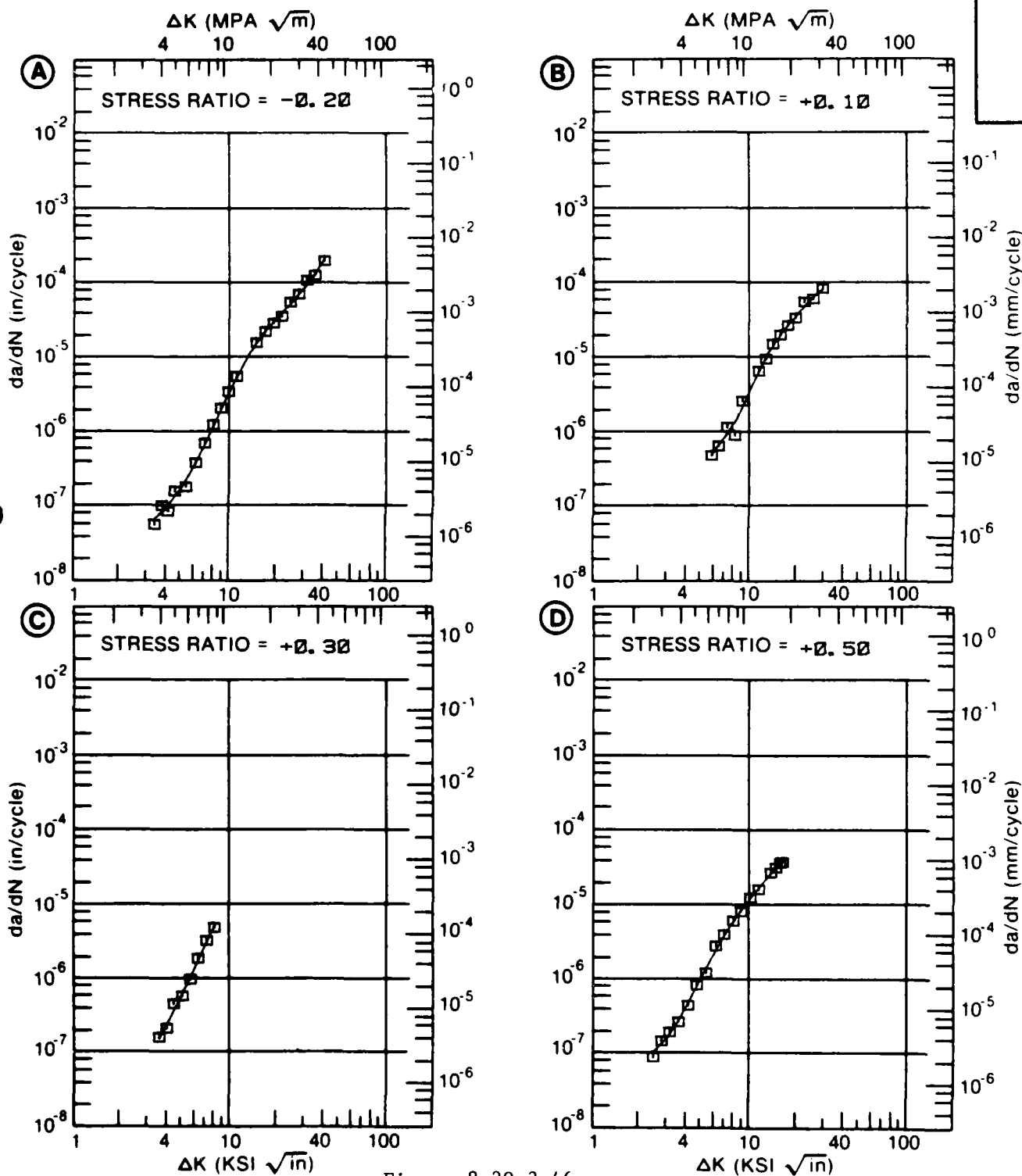


Figure 8.20.3.46

TABLE 8.20.3.47

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.20.3.47 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM 7475
 CONDITION: T7651
 ENVIRONMENT: R.T., S.T.W.

DELTA K (KSI*IN**1/2)		DA/DN (10** ⁻⁶ IN./CYCLE)			
		A	B	C	D
		R=-0.20	R=+0.10	R=+0.30	R=+0.50
DELTA K A:	4.45	.262			
DELTA K B:	3.34		.0791		
MIN C:	3.58			.0800	
D:	3.02				.211
	3.50		.100		.245
	4.00		.151	.241	.597
	5.00	.346	.264	.764	4.06
	6.00	1.03	.956	5.15	12.6
	7.00	3.20	4.73	12.0	21.2
	8.00	7.91	11.0	17.9	28.4
	9.00	15.4	17.9	23.7	35.9
	10.00	24.6	25.9	30.8	44.8
	13.00	43.9	52.1	60.1	
	16.00	50.8	78.6	100.	
	20.00		115.	162.	
	25.00			233.	
DELTA K A:	18.59	79.1			
DELTA K B:	22.11		136.		
MAX C:	25.47			238.	
D:	11.88				70.4

ROOT MEAN SQUARE 28.02 19.91 15.71 26.97
 PERCENT ERROR

LIFE 0.0-0.5
 PREDICTION 0.5-0.8
 RATIO 0.8-1.25
 SUMMARY 1.25-2.0 1 1 2
 (NP/NA) >2.0 1

CONDITION/HT: T7851
 FORM: 0.50" TH PLATE
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 1.00 HZ
 ENVIRONMENT: R. T., S. T. W.

YIELD STRENGTH: 70.6 KSI
 ULT. STRENGTH: 79.1 KSI
 SPECIMEN THK: 0.200- 0.208"
 SPECIMEN WIDTH: 6.005- 6.011"
 REFERENCES: GD006

ALUM.
 ALLOY

7475

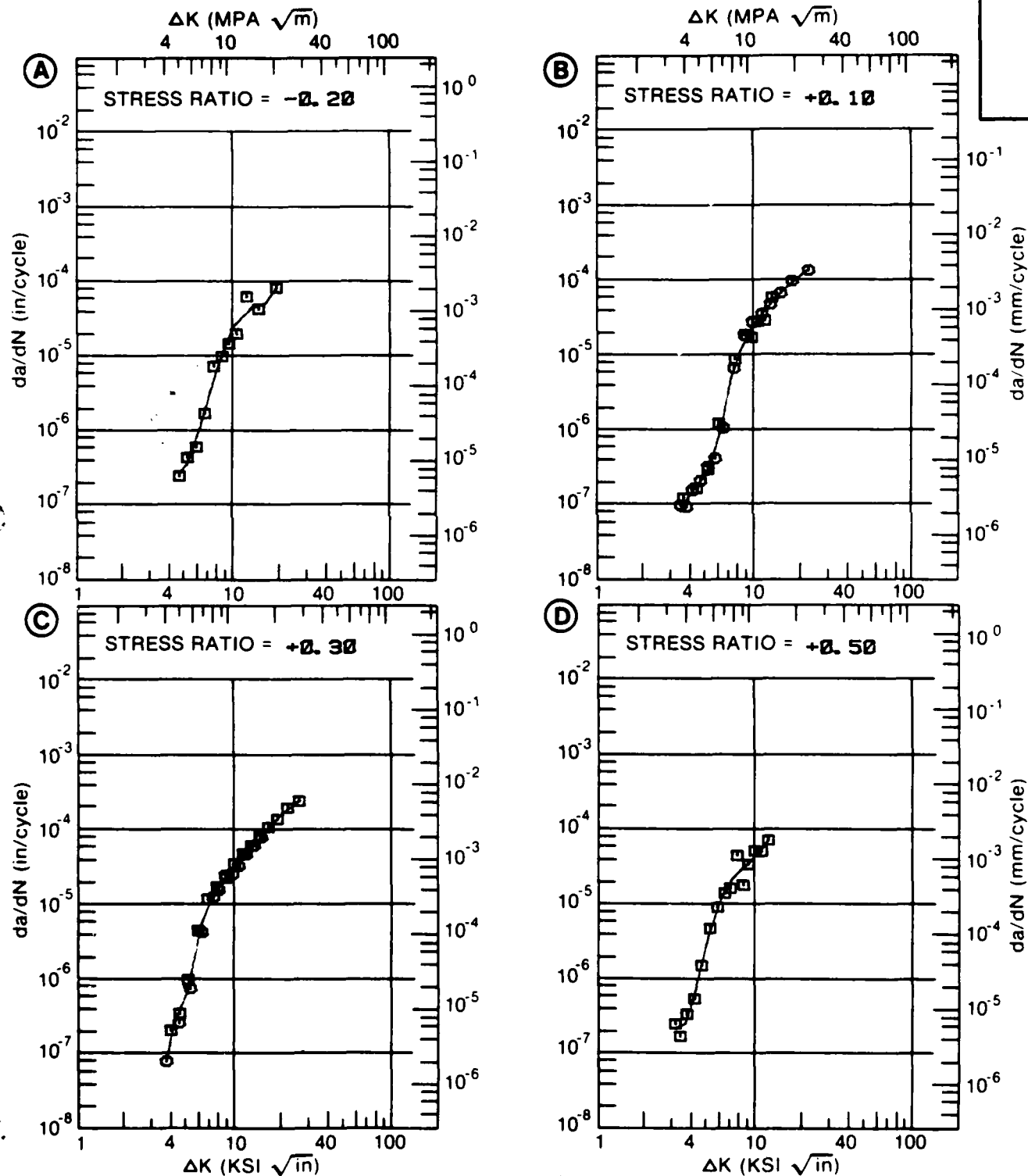


TABLE 8.20.3.48

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.20.3.48 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM
CONDITION: T7651

7475

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. H. H. A.	E= R. T. S. T. W.		
DELTA K MIN	A:	6.80	1.70		
	B:	5.69	1.13		
	C:				
	D:				
	6.00		1.26		
	7.00	1.98	2.31		
	8.00	3.55	4.80		
	9.00	5.18	9.41		
	10.00	6.84	16.2		
	13.00	13.9	44.7		
DELTA K MAX	16.00	27.6	87.3		
	20.00		199.		
	A:	18.72	45.1		
	B:	21.30	264.		
ROOT MEAN SQUARE PERCENT ERROR		7.88	14.71		
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25				
SUMMARY	1.25-2.0	1	1		
(NP/NA)	>2.0				

CONDITION/HT: T7651
 FORM: 0.50" TH PLATE
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 STRESS RATIO: +0.10
 FREQUENCY: 0.10 HZ

YIELD STRENGTH: 70.8 KSI
 ULT. STRENGTH: 78.1 KSI
 SPECIMEN THK: 0.198- 0.202"
 SPECIMEN WIDTH: 6.006- 6.007"
 REFERENCES: GD006

ALUM.
 ALLOY

7475

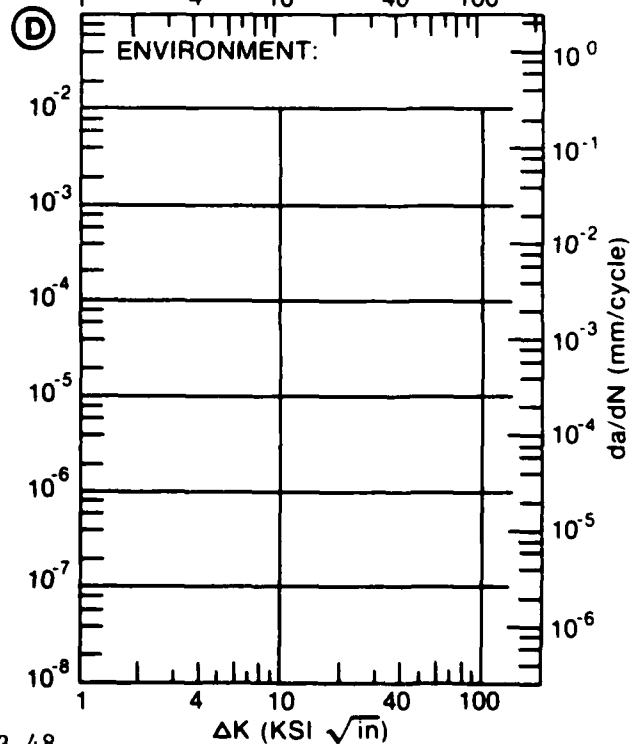
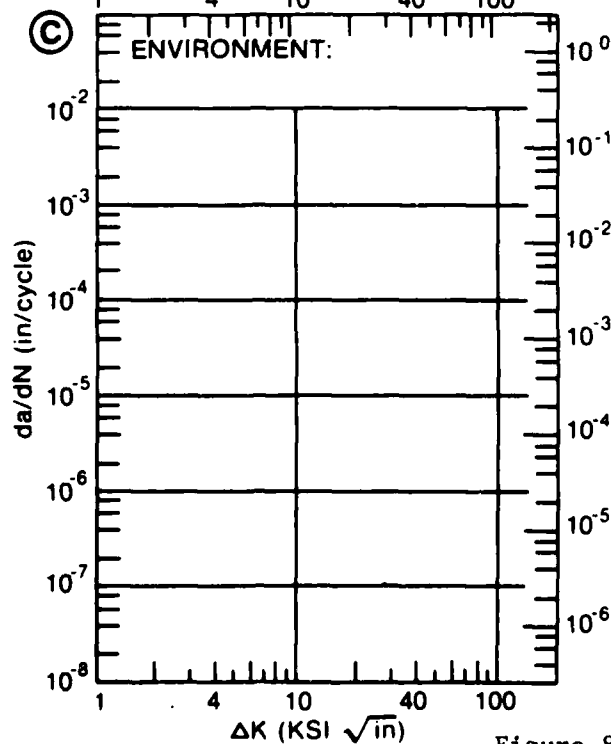
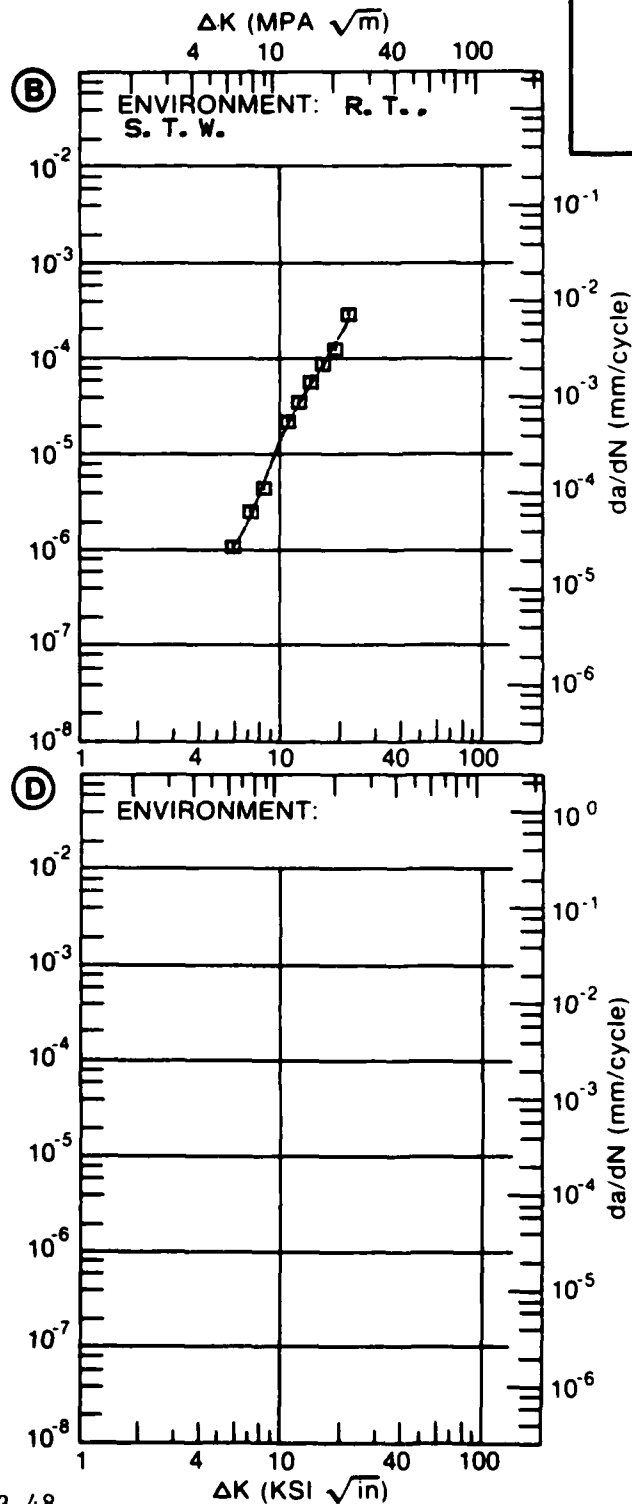
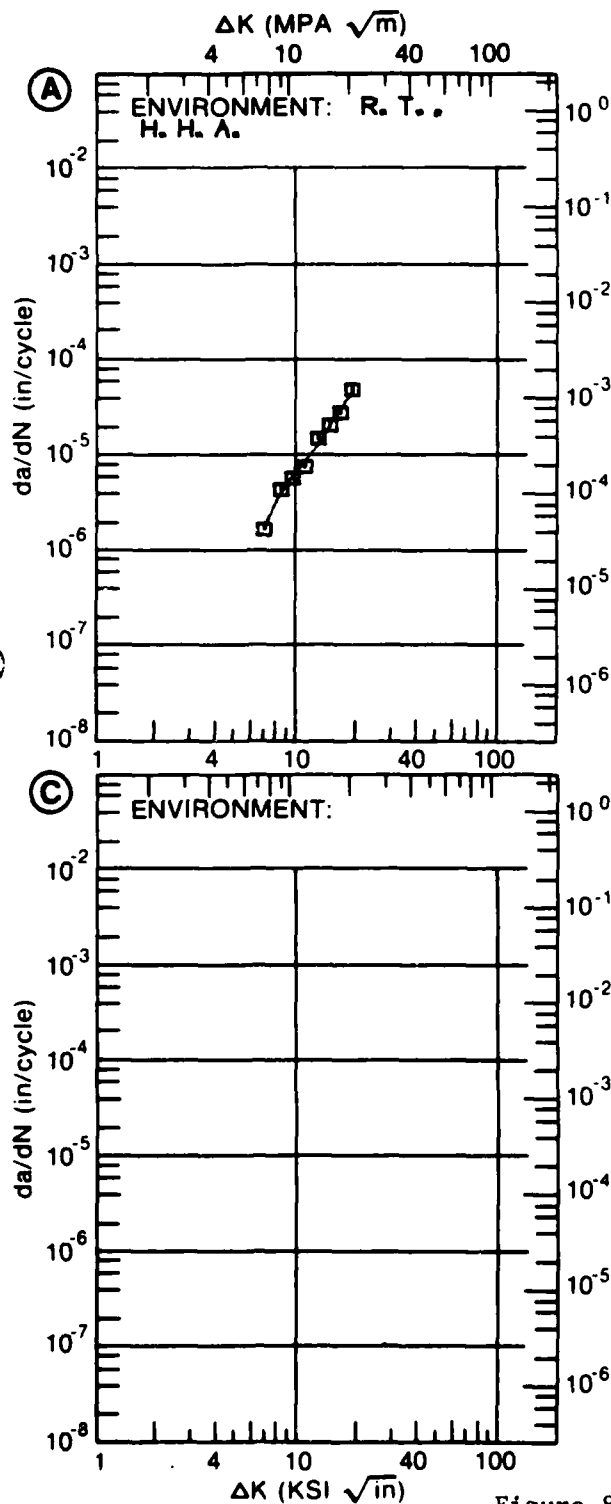


Figure 8.20.3.48

TABLE 8.20.3.49

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.20.3.49 INDICATING EFFECT
OF ENVIRONMENT

MATERIAL: ALUMINUM 7475
CONDITION: T7651

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		E= R. T. 3.5% NaCl			
DELTA K MIN	A:	5.68	1.23		
	B:				
	C:				
	D:				
		6.00	1.33		
		7.00	9.87		
		8.00	12.1		
		9.00	18.0		
		10.00	27.3		
		13.00	64.4		
	A:	15.14	83.1		
	B:				
	C:				
	D:				
DELTA K MAX					
ROOT MEAN SQUARE		9.36			
PERCENT ERROR					

LIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T7551
 FORM: 1.00" TH PLATE
 SPECIMEN TYPE:
 ORIENTATION:
 STRESS RATIO: +0.10
 FREQUENCY: 1.00 HZ

YIELD STRENGTH:
 ULT. STRENGTH:
 SPECIMEN THK:
 SPECIMEN WIDTH:
 REFERENCES: 81332

ALUM.
 ALLOY

7475

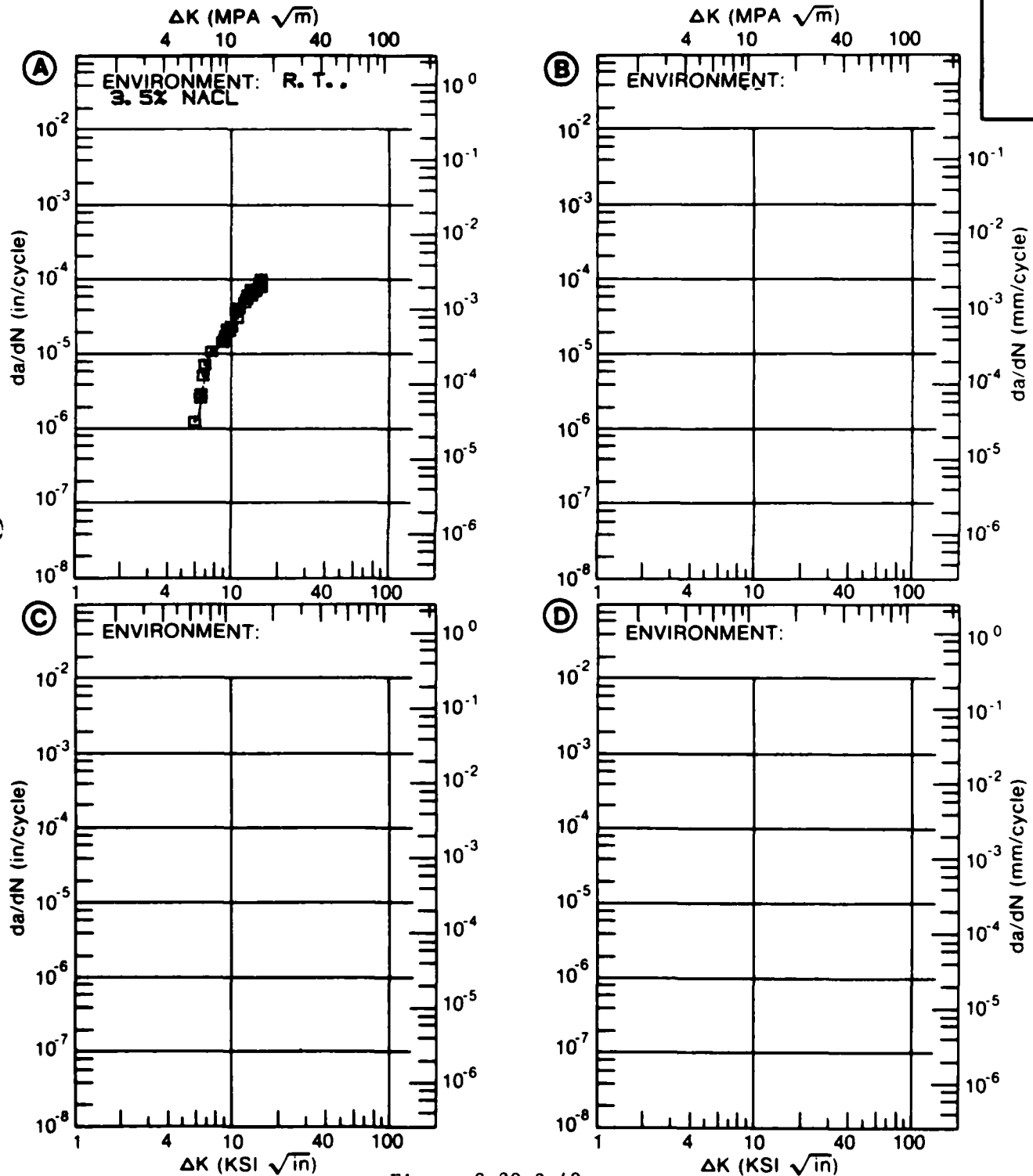


Figure 8.20.3.49

TABLE 8.20.3.50

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.20.3.50 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM 7475
CONDITION: T7651DELTA K
(KSI*IN**1/2)

DA/DN (10**-6 IN./CYCLE)

A

B

C

D

E= R. T.
DRY AIRDELTA K A: 4.44 : .591
MIN B:
C:
D:5.00 : 1.03
6.00 : 1.98
7.00 : 2.97
8.00 : 3.94
9.00 : 4.92
10.00 : 5.97
13.00 : 10.5
16.00 : 19.9DELTA K A: 16.94 : 25.0
MAX B:
C:
D:ROOT MEAN SQUARE 7.66
PERCENT ERRORLIFE 0.0-0.5
PREDICTION 0.5-0.8
RATIO 0.8-1.25
SUMMARY 1.25-2.0
(NP/NA) >2.0

CONDITION/HT: T7651
 FORM: 1.00" TH PLATE
 SPECIMEN TYPE: CT
 ORIENTATION: L-T
 STRESS RATIO: +0.10
 FREQUENCY: 20.00 HZ

YIELD STRENGTH:
 ULT. STRENGTH:
 SPECIMEN THK:
 SPECIMEN WIDTH:
 REFERENCES: 91332

ALUM.
 ALLOY

7475

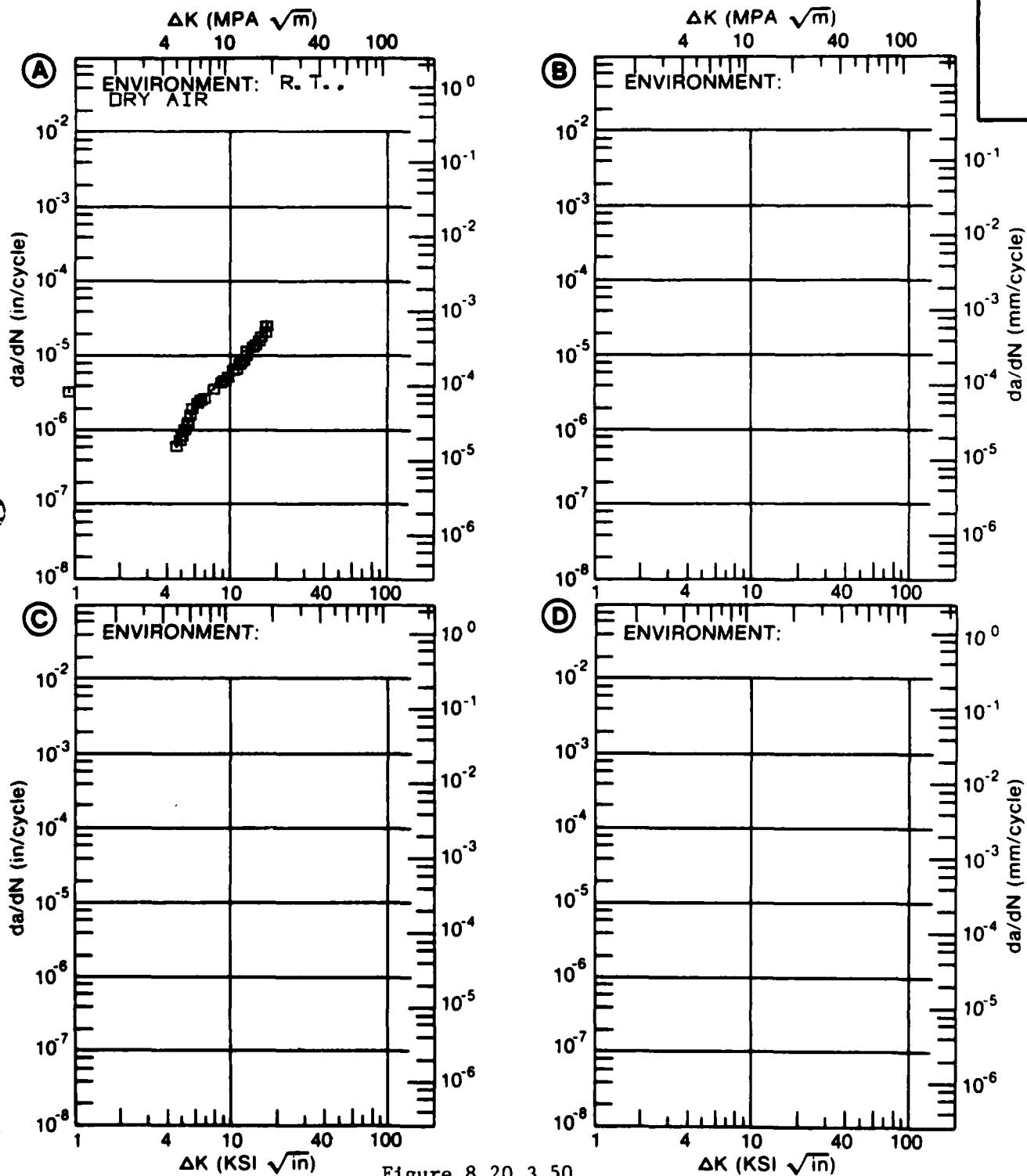


Figure 8.20.3.50

TABLE 8.20.3.51

SUSTAINED CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.20.3.51 INDICATING EFFECT
OF FORM

MATERIAL: ALUMINUM		7475			
CONDITION: T761					
ENVIRONMENT: R. T.		, 3.5% NaCl.			
K MAX (KSI*IN**1/2)		DA/DT (10**-6 IN/HOUR)			
		A	B	C	D
		T(IN)= 0.04 SHEET			
K MAX	A:				
MIN	B:				
	C:				
	D:				
	200.00				
K MAX	A:				
MAX	B:				
	C:				
	D:				
ROOT MEAN SQUARE		0.00			
PERCENT ERROR					

CONDITION/HT: T781
 ENVIRONMENT: R. T., 3.5% NaCl
 SPECIMEN TYPE: CNT
 ORIENTATION: L-T; T-L
 YIELD STRENGTH: 58.8- 59.9 KSI
 ULT. STRENGTH:

SPECIMEN THK: 0.040"
 SPECIMEN WIDTH: 12.000"
 CRACK LENGTH (A_0):
 K_{ISCC} :
 REFERENCES: 86212

ALUM.
 ALLOY

7475

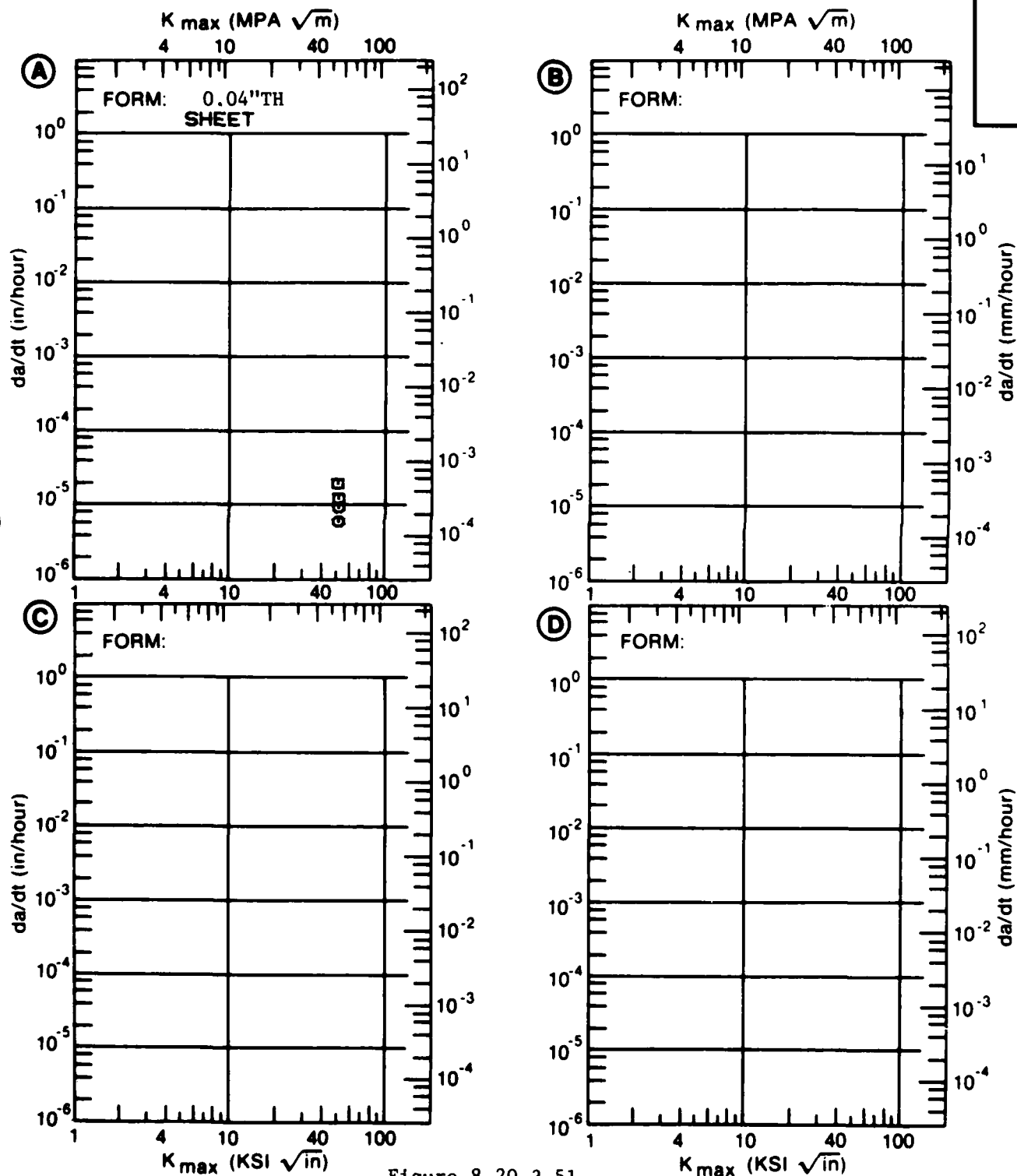


Figure 8.20.3.51

CONDITION	ALUMINUM						K(18CC)								
	--PRODUCT--		TEST SPEC		YIELD		SPECIMEN			CRACK					
	FORM	THICK (IN)	TEMP (F)	OR	STR (KSI)	ENVIRONMENT	WIDTH (IN)	THICK (IN)	DESIGN (%SG)	LENGTH (IN)	K(G) (KBI*SQRT IN)	MEAN DEV	STAN DEV	TEST TIME (MIN)	DATE REFER
							W	B	A						
T77351	P	1.25	R.T.	L-T	62.0	JP-4 FUEL	3.087	1.252	BHOL	1.379	-----	> 35.00		>193840	1977 MA005
		1.25			62.0		3.093	1.255	BHOL	1.381	-----	> 35.20		>193840	1977 MA005
T77351	P	3.00	R.T.	L-T	59.5	S.T.W.	5.093	2.500	BHOL	2.179	-----	> 38.60		>112020	1978 GD006
		3.00			59.5		5.093	2.503	BHOL	2.227	-----	> 42.70		>112020	1978 GD006
T77351	P	1.25	R.T.	L-T	62.0	SIM. SEA WATER	3.085	1.250	BHOL	1.370	-----	> 35.00		>193840	1977 MA005
		1.25			62.0		3.084	1.254	BHOL	1.360	-----	> 35.10		>193840	1977 MA005
T77351	P	3.00	R.T.	L-T	59.5	3.5% NaCl	5.110	2.502	BHOL	2.198	-----	> 37.50		>112020	1978 GD006
		3.00			59.5		5.097	2.503	BHOL	2.185	-----	> 42.70		>112020	1978 GD006
T77351	P	1.25	R.T.	T-L	61.8	JP-4 FUEL	3.082	1.253	BHOL	1.360	-----	> 30.30		>193840	1977 MA005
		1.25			61.8		3.087	1.254	BHOL	1.381	-----	> 30.60		>193840	1977 MA005
T77351	P	3.00	R.T.	T-L	61.3	S.T.W.	5.119	2.502	BHOL	2.177	-----	> 31.50		>112020	1978 GD006
		3.00			61.3		5.106	2.503	BHOL	2.199	-----	> 34.10		>112020	1978 GD006
T77351	P	1.25	R.T.	T-L	61.8	SIM. SEA WATER	3.087	1.250	BHOL	1.347	-----	> 30.70		>193840	1977 MA005
		1.25			61.8		3.087	1.250	BHOL	1.370	-----	> 30.50		>193840	1977 MA005
T77351	P	3.00	R.T.	T-L	61.3	3.5% NaCl	5.102	2.503	BHOL	2.056	-----	> 31.50		>112020	1978 GD006
		3.00			61.3		5.107	2.505	BHOL	2.202	-----	> 33.80		>112020	1978 GD006
T77351	P	3.00	R.T.	S-L	57.4	S.T.W.	2.545	1.004	BHOL	1.110	-----	> 30.90		> 74400	1978 GD006
		3.00			57.4		2.534	1.006	BHOL	1.091	-----	> 26.60		> 74400	1978 GD006
T77351	P	3.00	R.T.	S-L	57.4	3.5% NaCl	2.554	1.003	BHOL	1.108	-----	> 20.40		> 74400	1978 GD006
		3.00			57.4		2.552	1.004	BHOL	1.118	-----	> 30.60		> 68700	1978 GD006
T77651	P	0.50	R.T.	L-T	70.6	S.T.W.	2.555	0.509	BHOL	1.079	-----	> 30.90		>104820	1978 GD006
		0.50			70.6		2.555	0.509	BHOL	1.072	-----	> 35.10*		>104820	1978 GD006
T77651	P	0.50	R.T.	T-L	70.8	S.T.W.	2.556	0.509	BHOL	1.130	-----	> 30.80		>104820	1978 GD006
		0.50			70.8		2.557	0.509	BHOL	1.085	-----	> 34.50*		>104820	1978 GD006

*NOTE-DATA WHICH DO NOT MEET MINIMUM SPECIMEN THICKNESS REQUIREMENTS OF 2.5(KISCC/TY9)SQUARED

TABLE 8.20.3.52 (con't)

CONDITION	ALUMINUM				7475		K(18CC)		STAN DEV	TEST TIME (MIN)	DATE REFER	
	--PRODUCT--		YIELD STR (KSI)	ENVIRONMENT	--SPECIMEN--		CRACK LENGTH (IN)	K(18CC) (IN) (KSI*SQRT IN)				
	FORM THICK (IN)	TEST SPEC TEMP OR (F)			WIDTH (IN) W	THICK (IN) B						DESIGN (IN) (S-SQ) A
T7651	P	0.50	R. T. T-L	70.8	3.5% NaCl	2.557	0.509	8MDL	1.115	---	>104820	1978 QD006
		0.50		70.8		2.558	0.509	8MDL	1.104	---	>104820	1978 QD006

*NOTE-DATA WHICH DO NOT MEET MINIMUM SPECIMEN THICKNESS REQUIREMENTS OF 2.5(K18CC/TV8)SQUARED

TABLE 8.21.1.1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7475(ALCLAD)

TEST CONDITIONS

SPECIMEN
ORIENTATION: L-TENVIRONMENT: LAB AIR
AT R.T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ. (HZ)	DELTA K LEVELS: (KSI SQRT(IN))	2.5	5	10	20	50	100
T61	SHEET	0.00	13.30				5.71	32.7		
T61	SHEET	0.00	13.30				6.62	33.1		
T61	SHEET	0.33	13.30				10.8	56.9		
T61	SHEET	0.33	13.30				12.2	65.4		

TABLE 8.21.1.1.2

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR
ALUMINUM 7475(AlCLAD)

TEST CONDITIONS:SPECIMEN
ORIENTATION: L-TENVIRONMENT: H.H.A.
AT R.T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ. (HZ)	DELTA K LEVELS: (KSI SQRT(IN))	FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)				
				2.5	5	10	20	50	100
T61	SHEET	0.05	2.00				39.1		
T61	SHEET	0.25	2.00			12.6	72.6		
T761	SHEET	0.05	2.00				29.7		
T761	SHEET	0.25	2.00			9.15	47.0		

TABLE 8.21.1.3

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7475(AlCLAD)

TEST CONDITIONS

SPECIMEN
ORIENTATION L-TENVIRONMENT: 3.5% NaCl
AT R.T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ. (HZ)	DELTA K LEVELS (KSI SQRT(IN))	2.5	5	10	20	50	100
T61	SHEET	0.05	2.00					107.		
T61	SHEET	0.25	2.00					121.		
T761	SHEET	0.05	2.00					86.1		
T761	SHEET	0.25	2.00					126.		

TABLE 8.21.1.1.4

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7475(AlCLAD)

TEST CONDITIONS

SPECIMEN
ORIENTATION: T-LENVIRONMENT: LAB AIR
AT R.T.

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ. (HZ)	DELTA K LEVELS: (KSI SQRT(IN))	FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)				
					2.5	5	10	20	50
T61	SHEET	0.00	13.30				8.36	19.9	
T61	SHEET	0.33	13.30				10.6	37.3	
T761	SHEET	0.00	13.30				5.53	31.0	
T761	SHEET	0.33	13.30				10.5	52.0	

TABLE 8.21.1.5

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7475(AlClAD)

TEST CONDITIONS

SPECIMEN
ORIENTATION T-LENVIRONMENT
H H A
A T R T

CONDITION/HT	PRODUCT FORM	STRESS RATIO	FREQ (HZ)	DELTA K LEVELS (KSI SQRT(IN))	2 5	5	10	20	50	100
T61	SHEET	0.05	2.00					39.7		
T61	SHEET	0.05	2.00					43.8		
T61	SHEET	0.05	2.00						1795	
T61	SHEET	0.25	2.00				8.45	60.9		
T61	SHEET	0.25	2.00				10.8	56.1		
T761	SHEET	0.05	2.00					34.5		
T761	SHEET	0.05	2.00						605	
T761	SHEET	0.25	2.00				9.89	55.9		

TABLE 8.21.1.6

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF THE STRESS-INTENSITY FACTOR

ALUMINUM 7475(ALCLAD)

TEST CONDITIONS

SPECIMEN
ORIENTATION T-LENVIRONMENT 3.5% NaCl
AT R.T.

CONDITION/HIT	PRODUCT FORM	STRESS RATIO	FREQ (HZ)	DELTA K LEVELS (KSI SQRT(IN))		FATIGUE CRACK GROWTH RATES (MICRO IN/CYCLE)			
				2.5	5	10	20	50	100
161	SHEET	0.05	2.00				104		
7761	SHEET	0.05	2.00				89.1		

TABLE 8.21.2.1

		ALUMINUM		7475 (ALCLAD)										K(C)	
				CRACK LENGTH CROSS STRESS											
CONDITION	--PRODUCT-- FORM THICK TEMP OR (IN) (F)	TEST SPEC STR (KSI)	---SPECIMEN---				CRACK LENGTH CROSS STRESS				K(C) STAN K(1) MEAN DEV (KSI) (KSI) IN)	K(C) STAN K(1) MEAN DEV (KSI) (KSI) IN)	REFER		
			WIDTH (IN)	THICK (IN)	INIT (IN)	FINAL (IN)	ONSET (KSI)	MAX (KSI)	2A(1) 2A(2) S(1) S(2)	2A(1) 2A(2) S(1) S(2)					
T61	S	0.09	82	L-T	68.8	3.000	0.088	1.170	2.154	---	40.20	60.25*	112.95*	1973 86213	
		0.09			68.8	3.000	0.089	1.150	2.340	---	40.70	60.26*	134.07*	1973 86213	
T61	S	0.18	82	L-T	73.8	3.000	0.192	1.080	2.166	---	43.50	61.66*	123.38*	1973 86213	
		0.18			73.8	3.000	0.192	1.163	2.274	---	40.10	59.81*	124.42*	1973 86213	
T61	S	0.09	84	L-T	73.6	3.000	0.089	1.060	2.071	---	43.70	61.17*	115.20*	1973 86213	
		0.09			73.6	3.000	0.089	1.080	2.147	---	43.50	61.66*	121.46*	1973 86213	
		0.09			71.0	3.000	0.098	1.070	2.196	---	42.20	60.19*	122.61*	1973 86213	
		0.09			71.0	3.000	0.098	1.100	2.249	---	42.80	61.43*	129.85*	1973 86213	
T61	S	0.12	84	L-T	72.6	3.000	0.126	1.330	2.303	---	37.50	61.88*	119.28*	1973 86213	
		0.12			72.6	3.000	0.126	1.150	2.193	---	42.30	62.63*	122.50*	1973 86213	
		0.12			69.1	3.000	0.130	1.280	2.316	---	37.40	59.91*	120.48*	1973 86213	
		0.12			69.1	3.000	0.130	1.180	2.228	---	40.30	60.77*	120.22*	1973 86213	
T61	S	0.09	85	L-T	73.9	3.000	0.089	1.190	1.919	---	40.30	61.14*	95.48*	1973 86842	
		0.09			73.9	3.000	0.089	1.200	1.997	---	39.90	60.90*	99.73*	1973 86842	
T61	S	0.06	86	L-T	69.3	3.000	0.064	1.135	1.976	---	39.90	58.49*	98.35*	1973 86842	
		0.06			69.3	3.000	0.064	1.130	1.947	---	40.70	59.52*	98.28*	1973 86842	
		0.06			69.9	3.000	0.063	1.180	2.062	---	40.00	60.32*	104.82*	1973 86213	
		0.06			69.9	3.000	0.063	1.135	2.014	---	40.00	58.64*	101.26*	1973 86213	
		0.06			71.8	3.000	0.063	1.150	1.893	---	41.00	60.70*	95.47*	1973 86842	
		0.06			71.8	3.000	0.063	1.185	2.028	---	39.40	59.56*	100.74*	1973 86842	
		0.06			73.0	3.000	0.063	1.115	1.872	---	41.60	60.23*	95.99*	1973 86213	
		0.06			73.0	3.000	0.063	1.120	1.874	---	41.50	60.31*	95.49*	1973 86213	
T61	P	0.25	82	L-T	69.6	3.000	0.244	1.148	2.260	---	38.50	56.93*	118.01*	1973 86213	
		0.25			69.6	3.000	0.243	1.133	2.311	---	38.10	55.79*	122.07*	1973 86213	
T61	S	0.04	R.T.	T-L	64.8	3.000	0.041	1.210	2.404	---	32.50	49.91*	113.98*	1973 86213	
		0.04			64.8	3.000	0.041	1.170	2.124	---	38.80	68.75*	106.51*	1973 86213	
T61	S	0.06	R.T.	T-L	66.5	16.000	0.064	3.000	3.680	---	37.40	82.99	92.97	1972 84368	

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV

TABLE 8.21.2.1 (con't)

ALUMINUM		7475 (ALCLAD)										K(C)						
		CRACK LENGTH CROSS STRESS																
CONDITION	--PRODUCT-- FORM	THICK (IN)	TEST SPEC TEMP OR (F)	YIELD STR (KSI)	---SPECIMEN---			CRACK LENGTH CROSS STRESS			K(C)	STAN DEV	K(C) STAN DEV	DATE	REFER			
					W	B	THICK (IN)	INIT 2A(D)	FINAL 2A(F)	ONSET S(O)						MAX S(MAX)		
T61	S	0.06	R. T.	T-L	66.5	16.000	0.064	4.000	5.080	---	31.50	82.15	---	94.95	---	1972	84368	
					66.5	16.000	0.064	6.000	7.150	---	23.20	78.11	---	88.98	---	1972	84368	
					0.06	66.5	16.000	0.064	4.000	5.080	---	31.20	81.36	---	94.05	---	1972	84368
					0.06	66.5	16.000	0.064	1.000	1.780	---	57.30	71.99*	---	96.55*	---	1972	84368
					0.06	68.4	16.000	0.063	3.000	3.520	---	36.50	81.00	---	88.48	---	1972	84368
					0.06	68.4	16.000	0.063	4.000	4.500	---	28.00	73.02	---	78.30	---	1972	84368
					0.06	68.4	16.000	0.063	1.350	55.80	69.39*	---	81.62*	---	81.99	---	1972	84368
					0.06	68.4	16.000	0.063	3.990	4.380	---	29.80	77.60	---	81.99	---	1972	84368
					0.06	68.4	16.000	0.063	5.980	6.350	---	21.50	72.22	78.6/ 4.1	75.36	86.9/ 7.5	1972	84368
T61	S	0.09	R. T.	T-L	71.5	15.880	0.089	3.980	4.520	12.40	27.70	77.27	---	83.34	---	1973	86842	
					71.5	15.880	0.089	3.960	4.270	---	27.90	72.38	74.8/ 3.5	75.66	79.5/ 5.4	1973	86842	
T61	S	0.04	82	T-L	66.0	3.000	0.039	1.400	2.528	---	28.70	49.37*	---	115.63*	---	1973	86213	
		0.04			66.0	3.000	0.038	1.400	2.407	---	31.60	54.36*	---	111.05*	---	1973	86213	
T61	S	0.09	82	T-L	66.4	3.000	0.088	1.130	2.320	---	39.70	58.06*	---	128.36*	---	1973	86213	
		0.09			66.4	3.000	0.088	1.140	2.388	---	39.70	58.42*	---	137.00*	---	1973	86213	
T61	S	0.18	82	T-L	71.6	3.000	0.192	1.142	2.201	---	39.30	57.90*	---	114.55*	---	1973	86213	
		0.18			71.6	3.000	0.193	1.160	2.256	---	38.40	57.20*	---	117.30*	---	1973	86213	
T61	S	0.12	83	T-L	66.9	3.000	0.130	1.280	2.381	---	37.90	60.71*	---	129.75*	---	1973	86213	
		0.12			66.9	3.000	0.130	1.170	2.210	---	39.40	59.05*	---	115.79*	---	1973	86213	
T61	S	0.09	84	T-L	71.6	3.000	0.089	1.180	2.175	---	40.30	60.77*	---	115.03*	---	1973	86213	
		0.09			69.4	3.000	0.097	1.100	2.215	---	41.70	59.85*	---	122.95*	---	1973	86213	
		0.09			69.4	3.000	0.098	1.150	2.241	---	41.00	60.70*	---	123.54*	---	1973	86213	
T61	S	0.12	84	T-L	68.6	3.000	0.126	1.220	2.213	---	39.70	61.34*	---	116.86*	---	1973	86213	
		0.12			68.6	3.000	0.126	1.140	2.192	---	41.70	61.36*	---	120.76*	---	1973	86213	
T61	S	0.06	85	T-L	68.4	3.000	0.064	1.175	1.996	---	38.30	57.54*	---	95.73*	---	1973	86842	
		0.06			68.4	3.000	0.064	1.160	1.973	---	37.80	56.31*	---	92.92*	---	1973	86842	

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV.

TABLE 8.21.2.1 (con't)

ALUMINUM		7475 (ALCLAD)										K(C)							
CONDITION	--PRODUCT-- FORM	THICK (IN)	TEST SPEC TEMP OR (F)	YIELD STR (KSI)	--SPECIMEN--				CRACK LENGTH				GROSS STRESS						
					W	B	(IN)	(IN)	INIT (IN)	FINAL (IN)	ONSET (KSI)	MAX (KSI)	K(APP) (KSI*SQRT IN)	K(C) (KSI*SQRT IN)	STAN DEV	K(C) MEAN	DEV	DATE	REFER
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T61	S	0.09	85	T-L	71.5	3.000	0.089	1.190	1.925	---	38.20	57.96*	90.87*	1973	86842				
		0.09			71.5	3.000	0.090	1.190	1.872	---	39.40	59.78*	90.54*	1973	86842				
		0.09						1.185	2.029	---	40.60	61.37*	103.81*	1973	86213				
T61	S	0.06	86	T-L	66.5	3.000	0.064	1.185	2.039	---	38.30	57.90*	98.64*	1973	86842				
		0.06			66.5	3.000	0.064	1.180	2.040	---	38.20	57.40*	98.52*	1973	86842				
		0.06			67.2	3.000	0.062	1.225	2.044	---	37.10	57.46*	95.96*	1973	86213				
		0.06			67.2	3.000	0.062	1.110	2.011	---	39.00	56.33*	98.45*	1973	86213				
		0.06			70.2	3.000	0.063	1.150	1.874	---	39.20	58.04*	90.20*	1973	86213				
		0.06			70.2	3.000	0.063	1.150	1.854	---	39.70	58.78*	90.16*	1973	86213				
T61	P	0.25	82	T-L	67.8	3.000	0.244	1.157	2.113	---	36.10	53.64*	98.19*	1973	86213				
		0.25			67.8	3.000	0.244	1.170	1.954	---	36.70	55.00*	89.10*	1973	86213				
BUCKLING OF CRACK EDGES NOT RESTRAIN D																			
T73	S	0.09	82	L-T	60.6	3.000	0.089	1.150	2.450	---	37.20	55.07*	136.93*	1973	86213				
		0.09			60.6	3.000	0.089	1.145	2.410	---	37.40	55.17*	131.97*	1973	86213				
T73	S	0.09	82	T-L	58.5	3.000	0.088	1.105	2.428	---	37.40	53.82*	134.46*	1973	86213				
		0.09			58.5	3.000	0.089	1.200	2.417	---	35.60	54.34*	126.40*	1973	86213				
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T731	P	0.25	82	L-T	60.1	3.000	0.245	1.180	2.554	---	37.80	57.00*	157.39*	1973	86213				
		0.25			60.1	3.000	0.245	1.185	2.558	---	37.70	56.99*	157.79*	1973	86213				
T731	S	0.25	82	T-L	58.8	3.000	0.246	1.203	2.585	---	37.10	56.70*	160.78*	1973	86213				
		0.25			58.8	3.000	0.245	1.233	2.580	---	36.60	56.96*	157.75*	1973	86213				

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV.

TABLE 8.21.2.1 (con't)

CONDITION	--PRODUCT-- FORM	THICK (IN)	TEST SPEC TEMP OR (F)	YIELD STR (KSI)	ALUMINUM		7475 (ALCLAD)						K(C)					
					W	B	CRACK LENGTH				GROSS STRESS		K (APP) (KSI*SQRT IN)	STAN DEV (KSI*SQRT IN)	K (C) MEAN DEV (KSI*SQRT IN)	K (C) MEAN DEV (KSI*SQRT IN)	REFER	
							W	B	INIT (IN)	FINAL (IN)	ONSET (KSI)	MAX (KSI)						
																		2A(O) 2A(F)
BUCKLING OF CRACK EDGES NOT RESTRAINED																		
T761	S	0.06	R. T.	L-T	62.0	15.880	0.063	4.000	4.920	---	33.90	88.46	100.24	---	1973	86213		
		0.06			62.0	15.880	0.062	1.000	2.000	---	57.40	72.12*	102.75*	---	1973	86213		
		0.06			62.0	15.880	0.062	2.980	3.920	---	39.50	87.37	101.87*	---	1973	86213		
		0.06			62.0	15.880	0.063	3.990	5.130	---	33.20	86.51	100.81	---	1973	86213		
		0.06			62.0	15.880	0.063	6.000	7.500	---	24.20	81.60	96.74	---	1973	86213		
		0.06			66.9	15.880	0.063	4.000	4.980	---	30.40	79.33	85.99	---	1973	86213		
		0.06			66.9	15.880	0.063	6.000	6.550	---	22.90	77.21	82.26	---	1973	86213		
		0.06			66.9	15.880	0.063	1.000	1.520	32.90	52.50	65.96*	81.98*	---	1973	86213		
		0.06			66.9	15.880	0.062	2.980	3.500	---	36.30	80.29	83.0/ 4.4	92.3/ 8.0	1973	86213		
T761	S	0.09	R. T.	L-T	66.5	15.880	0.089	4.000	5.000	18.60	37.00	96.55	110.53*	---	1973	86213		
		0.09			66.5	15.880	0.089	4.000	4.750	12.80	36.60	95.51	96.0/ 0.7	108.64	---	1973	86213	
T761	S	0.09	82	L-T	61.4	3.000	0.088	1.190	2.406	---	36.40	55.22*	127.92*	---	1973	86213		
		0.09			61.4	3.000	0.087	1.160	2.267	---	37.40	55.71*	115.24*	---	1973	86213		
T761	S	0.18	82	L-T	64.1	3.000	0.193	1.107	2.480	---	41.00	59.07*	136.05*	---	1973	86213		
		0.18			64.1	3.000	0.193	1.090	2.495	---	40.80	58.20*	157.81*	---	1973	86213		
T761	S	0.06	85	L-T	62.0	3.000	0.063	1.185	1.993	---	38.40	58.05*	95.71*	---	1973	86213		
		0.06			62.0	3.000	0.063	1.140	1.965	---	38.00	55.91*	92.89*	---	1973	86213		
		0.06			66.9	3.000	0.063	1.140	2.041	---	38.80	57.09*	100.07*	---	1973	86213		
		0.06			66.9	3.000	0.063	1.170	2.040	---	37.70	56.50*	97.23*	---	1973	86213		
T761	S	0.09	85	L-T	66.5	3.000	0.088	1.200	2.065	---	38.20	58.31*	100.25*	---	1973	86213		
		0.09			66.5	3.000	0.088	1.150	2.057	---	39.40	58.33*	102.80*	---	1973	86213		
T761	P	0.25	82	L-T	60.9	3.000	0.246	1.145	2.610	---	38.60	56.94*	173.56*	---	1973	86213		
		0.25			60.9	3.000	0.246	1.138	2.522	---	39.00	57.31*	155.97*	---	1973	86213		
T761	S	0.06	R. T.	T-L	60.5	15.880	0.062	4.000	5.050	---	33.90	88.46	101.91*	---	1973	86213		
		0.06			60.5	15.880	0.063	6.010	7.240	---	24.30	82.03	94.35	---	1973	86213		
		0.06			60.5	15.880	0.063	3.020	3.920	---	39.30	87.56*	101.36*	---	1973	86213		
		0.06			60.5	15.880	0.062	4.000	5.000	---	33.20	86.63	99.17	---	1973	86213		
		0.06			60.5	15.880	0.063	1.000	1.980	---	55.10	69.23*	98.11*	---	1973	86213		

*NOTE- NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STD. DEV.

TABLE 8.21.2.1 (con't)

CONDITION	ALUMINUM		7475 (ALCLAD)						K(C)						
	--PRODUCT-- FORM	TEST SPEC THICK TEMP OR (IN) (F)	YIELD		CRACK LENGTH CROSS STRESS				K(APP) MEAN DEV (KBI*8ORT IN)	K(C) STAN MEAN DEV	K(C) STAN MEAN DEV (KBI*8ORT IN)	DATE REFER			
			STR (KSI)	W	WIDTH (IN)	THICK (IN)	INIT (IN)	FINAL (IN)					ONSET (KBI)	MAX (KBI)	S(O)
T761	S	0.06	R. T.	T-L	64.9	15.880	0.063	3.000	3.430	---	35.50	78.80	84.86	1973	86213
					64.9	15.880	0.063	1.000	1.420	---	58.00	72.87*	87.05*	1973	86213
					64.9	15.880	0.063	4.000	4.950	---	30.60	79.85	86.21	1973	86213
					64.9	15.880	0.063	3.990	4.600	---	33.30	86.77	94.45	1973	86213
					64.9	15.880	0.063	5.990	6.600	---	22.50	75.78	82.6/ 4.8	90.1/ 6.9	1973
T761	S	0.09	R. T.	T-L	65.6	15.880	0.089	3.970	4.600	14.90	31.70	82.36	89.91	1973	86213
					65.6	15.880	0.089	3.980	4.800	---	32.10	83.52	82.9/ 0.8	91.7/ 2.5	1973
T761	S	0.09	82	T-L	59.4	3.000	0.088	1.170	2.387	---	36.30	54.41*	125.02*	1973	86213
		0.09			59.4	3.000	0.088	1.195	2.397	---	36.70	54.47*	127.67*	1973	86213
T761	S	0.18	82	T-L	62.9	3.000	0.193	1.188	2.413	---	38.90	58.95*	137.55*	1973	86213
					62.9	3.000	0.193	1.240	2.551	---	37.50	58.64*	159.33*	1973	86213
T761	S	0.06	85	T-L	60.5	3.000	0.063	1.140	2.190	---	37.40	55.03*	108.13*	1973	86213
					60.5	3.000	0.063	1.085	2.085	---	39.00	55.42*	103.88*	1973	86213
					64.9	3.000	0.063	1.165	2.046	---	39.20	58.54*	101.54*	1973	86213
					64.9	3.000	0.063	1.150	1.923	---	39.90	59.07*	94.79*	1973	86213
T761	S	0.09	85	T-L	65.6	3.000	0.089	1.170	2.033	---	39.00	58.45*	100.01*	1973	86213
					65.6	3.000	0.089	1.150	2.066	---	39.70	58.78*	104.34*	1973	86213
T761	P	0.25	82	T-L	61.9	3.000	0.245	1.180	2.723	---	38.00	57.30*	206.31*	1973	86213
					61.9	3.000	0.245	1.197	2.580	---	37.70	57.41*	162.49*	1973	86213

TABLE 8.21.3.1

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.21.3.1 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7475 (ALCLAD)
CONDITION: T61
ENVIRONMENT: R.T., H.H.A.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.05	R=+0.25		
A:	11.50	9.78			
DELTA K B:	8.78		11.4		
MIN C:					
D:					
	9.00		11.5		
	10.00		12.6		
	13.00	15.9	21.0		
	16.00	26.1	37.6		
	20.00	39.1	72.6		
	25.00	77.3			
A:	27.35	121.			
DELTA K B:	22.61		101.		
MAX C:					
D:					
ROOT MEAN SQUARE		6.41	13.11		
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1	1		
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T61
 FORM: 0.04" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 2.00 HZ
 ENVIRONMENT: R. T., H. H. A.

YIELD STRENGTH: 65.7 KSI
 ULT. STRENGTH: 73.6 KSI
 SPECIMEN THK: 0.040"
 SPECIMEN WIDTH: 23.970- 24.010"
 REFERENCES: 86212

ALUM.
 ALLOY

7475
 (ALCLAD)

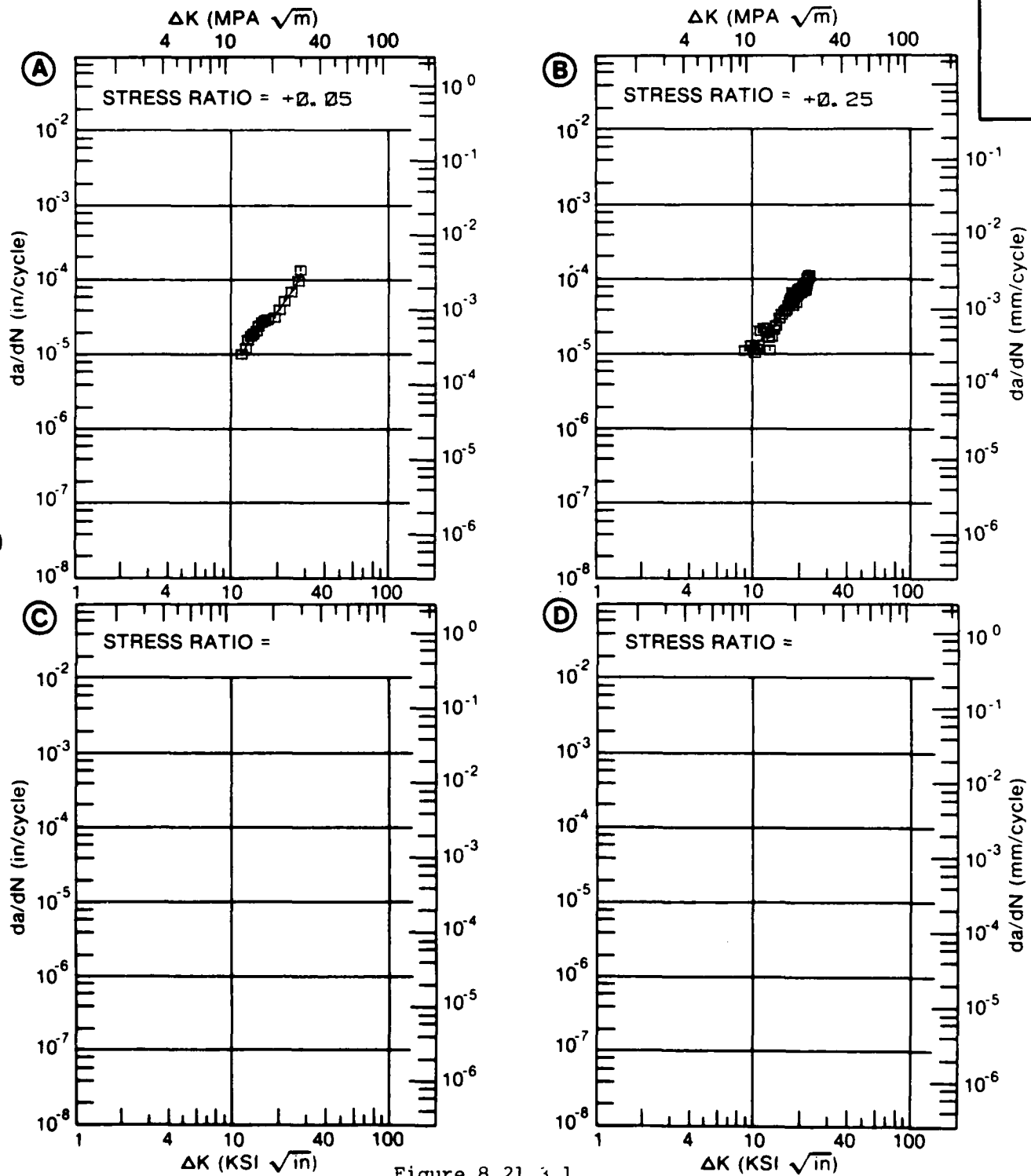


Figure 8.21.3.1

TABLE 8.21.3.2

**FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR**

**DATA ASSOCIATED WITH FIGURE 8.21.3.2 INDICATING EFFECT
OF STRESS RATIO**

MATERIAL: ALUMINUM 7475 (ALCLAD)
CONDITION: T61
ENVIRONMENT: R. T. , 3. 5% NACL

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		R=+0. 05	R=+0. 25		
DELTA K MIN	A: 13. 24	48. 9			
	B: 11. 34		69. 4		
	C:				
	D:				
	13. 00		72. 5		
	16. 00	75. 0	85. 6		
DELTA K MAX	20. 00	107.	121.		
	25. 00	150.			
	30. 00	215.			
	A: 32. 52	264.			
	B: 23. 86		184.		
	C:				
	D:				
ROOT MEAN SQUARE PERCENT ERROR		4. 06	6. 45		
LIFE	0. 0-0. 5				
PREDICTION	0. 5-0. 8				
RATIO	0. 8-1. 25	1	1		
SUMMARY	1. 25-2. 0				
(NP/NA)	>2. 0				

CONDITION/HT: T61
 FORM: 0.04" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 2.00 HZ
 ENVIRONMENT: R. T., 3.5% NaCl

YIELD STRENGTH: 68.6 KSI
 ULT. STRENGTH: 74.5 KSI
 SPECIMEN THK: 0.040"
 SPECIMEN WIDTH: 36.030- 36.040"
 REFERENCES: 86212

ALUM.
 ALLOY

7475
 (ALCLAD)

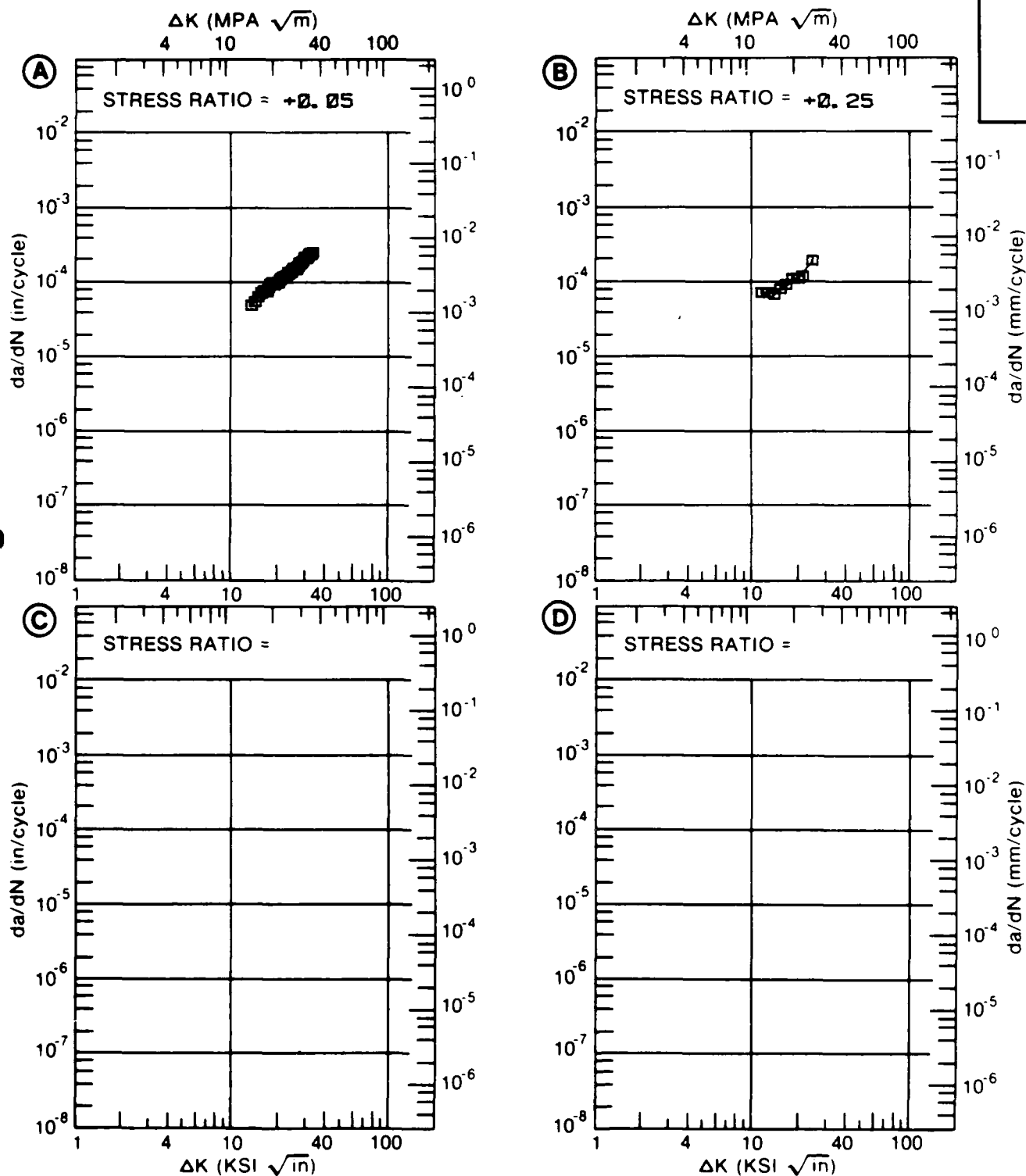


Figure 8.21.3.2

TABLE 8.21.3.3

**FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR**

DATA ASSOCIATED WITH FIGURE 8.21.3.3 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7475 (ALCLAD)
CONDITION: T61
ENVIRONMENT: R. T. , H. H. A.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		R=+0.05			
DELTA K MIN	A: 45.66	818.			
	B:				
	C:				
	D:				
	50.00	1796.			
	60.00	5797.			
	70.00	17228.			
DELTA K MAX	A: 72.32	23137.			
	B:				
	C:				
	D:				
ROOT MEAN SQUARE		11.05			
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8	1			
RATIO	0.8-1.25	1			
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T61
 FORM: 0.04" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: T-L
 FREQUENCY: 2.00 HZ
 ENVIRONMENT: R. T., H. H. A.

YIELD STRENGTH: 65.7- 88.6 KSI
 ULT. STRENGTH: 73.6- 74.5 KSI
 SPECIMEN THK: 0.040"
 SPECIMEN WIDTH: 12.000"
 REFERENCES: 86212

ALUM.
 ALLOY

7475
 (ALCLAD)

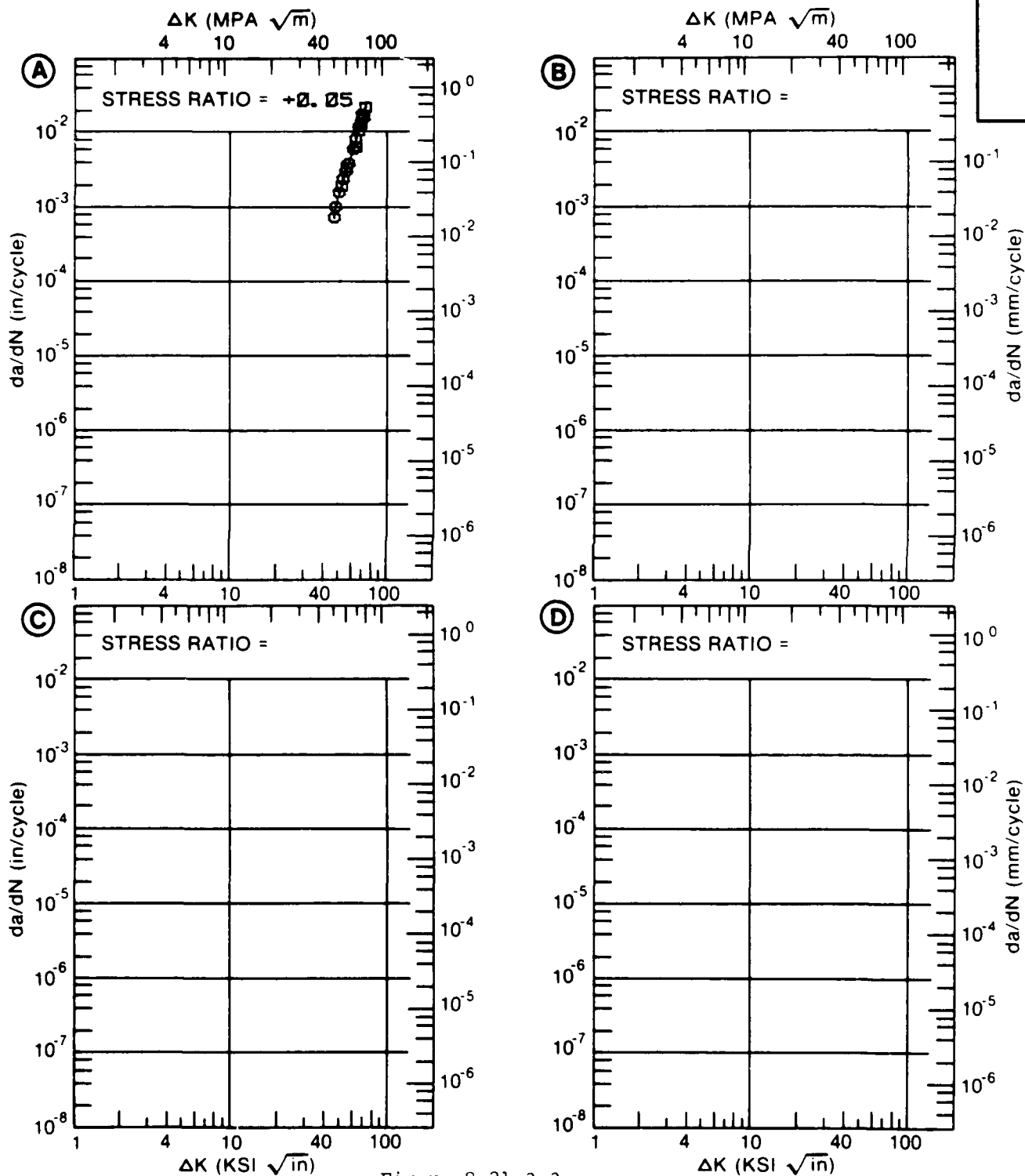


Figure 8.21.3.3

TABLE 8.21.3.4

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.21.3.4 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7475 (ALCLAD)
 CONDITION: T61
 ENVIRONMENT: R. T. , H. H. A.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		R=+0.05	R=+0.25		
DELTA K MIN	A: 15.82	29.5			
	B: 9.46		9.39		
	C:				
	D:				
	10.00		10.8		
	13.00		19.3		
	16.00	29.9	30.3		
	20.00	43.8	56.1		
	25.00	80.2			
DELTA K MAX	A: 27.02	104.			
	B: 22.36		83.8		
	C:				
	D:				
ROOT MEAN SQUARE		4.35	3.15		
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1	1		
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T61
 FORM: 0.04" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: T-L
 FREQUENCY: 2.00 HZ
 ENVIRONMENT: R. T., H. H. A.

YIELD STRENGTH: 68.6 KSI
 ULT. STRENGTH: 74.5 KSI
 SPECIMEN THK: 0.040"
 SPECIMEN WIDTH: 23.920- 24.010"
 REFERENCES: 86212

ALUM.
 ALLOY

7475
 (ALCLAD)

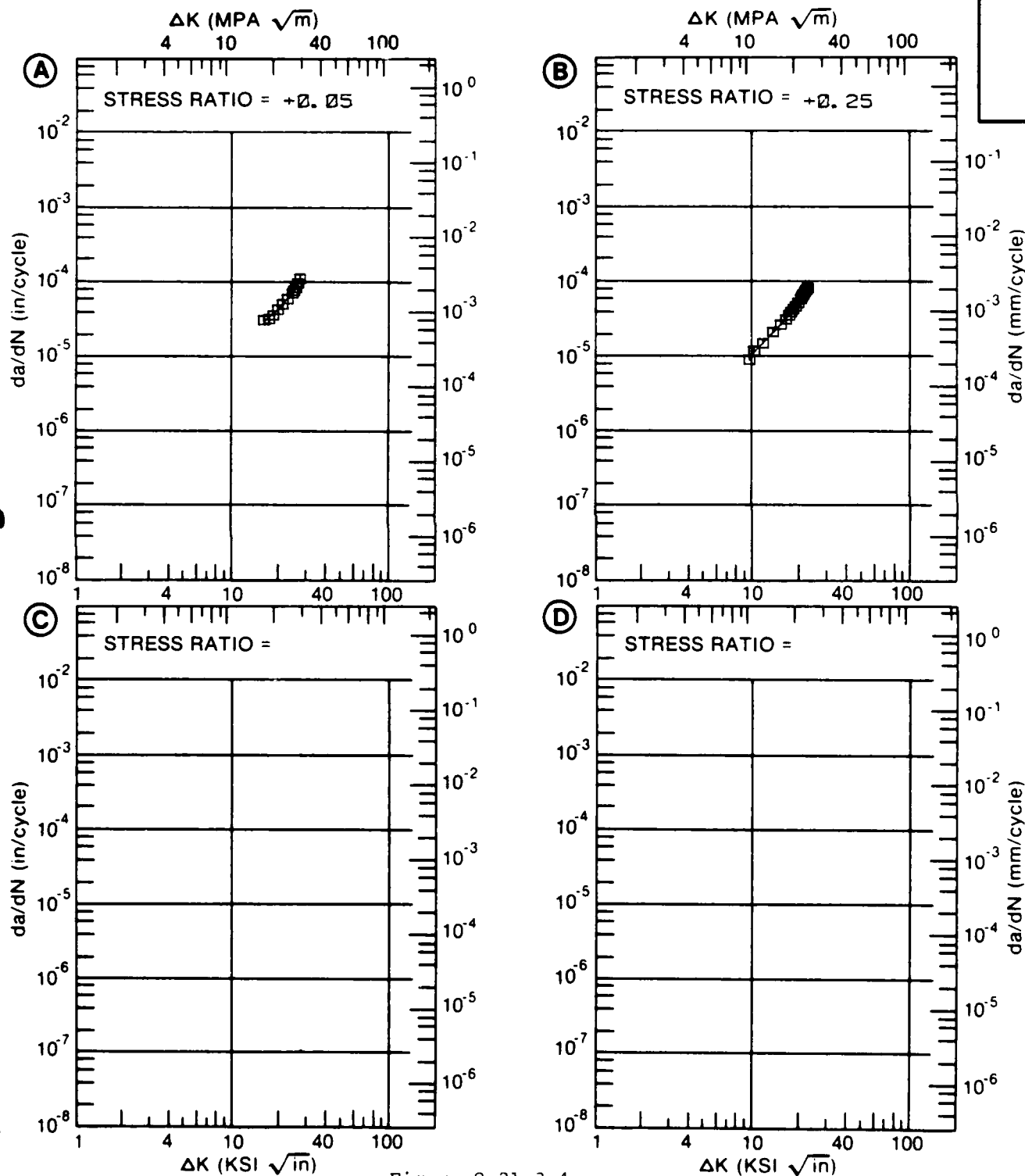


Figure 8.21.3.4

TABLE 8.21.3.5

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.21.3.5 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7475 (ALCLAD)
 CONDITION: T61
 ENVIRONMENT: R.T., H.H.A.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.05	R=+0.25		
DELTA K MIN	A:	11.39	10.8		
	B:	8.44	5.01		
	C:				
	D:				
		9.00	6.15		
		10.00	8.45		
		13.00	14.7	17.5	
		16.00	23.3	31.0	
		20.00	39.7	60.9	
		25.00	76.6	135.	
DELTA K MAX	A:	41.52	843.		
	B:	32.55	447.		
	C:				
	D:				
ROOT MEAN SQUARE		15.75	20.59		
PERCENT ERROR					

LIFE 0.0-0.5
 PREDICTION 0.5-0.8
 RATIO 0.8-1.25
 SUMMARY 1.25-2.0
 (NP/NA) >2.0

2

2

CONDITION/HT: T61
 FORM: 0.04" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: T-L
 FREQUENCY: 2.00 HZ
 ENVIRONMENT: R. T., H. H. A.

YIELD STRENGTH: 85.7- 88.6 KSI
 ULT. STRENGTH: 73.6- 74.5 KSI
 SPECIMEN THK: 0.040"
 SPECIMEN WIDTH: 35.980- 36.020"
 REFERENCES: 86212

ALUM.
 ALLOY

7475
 (ALCLAD)

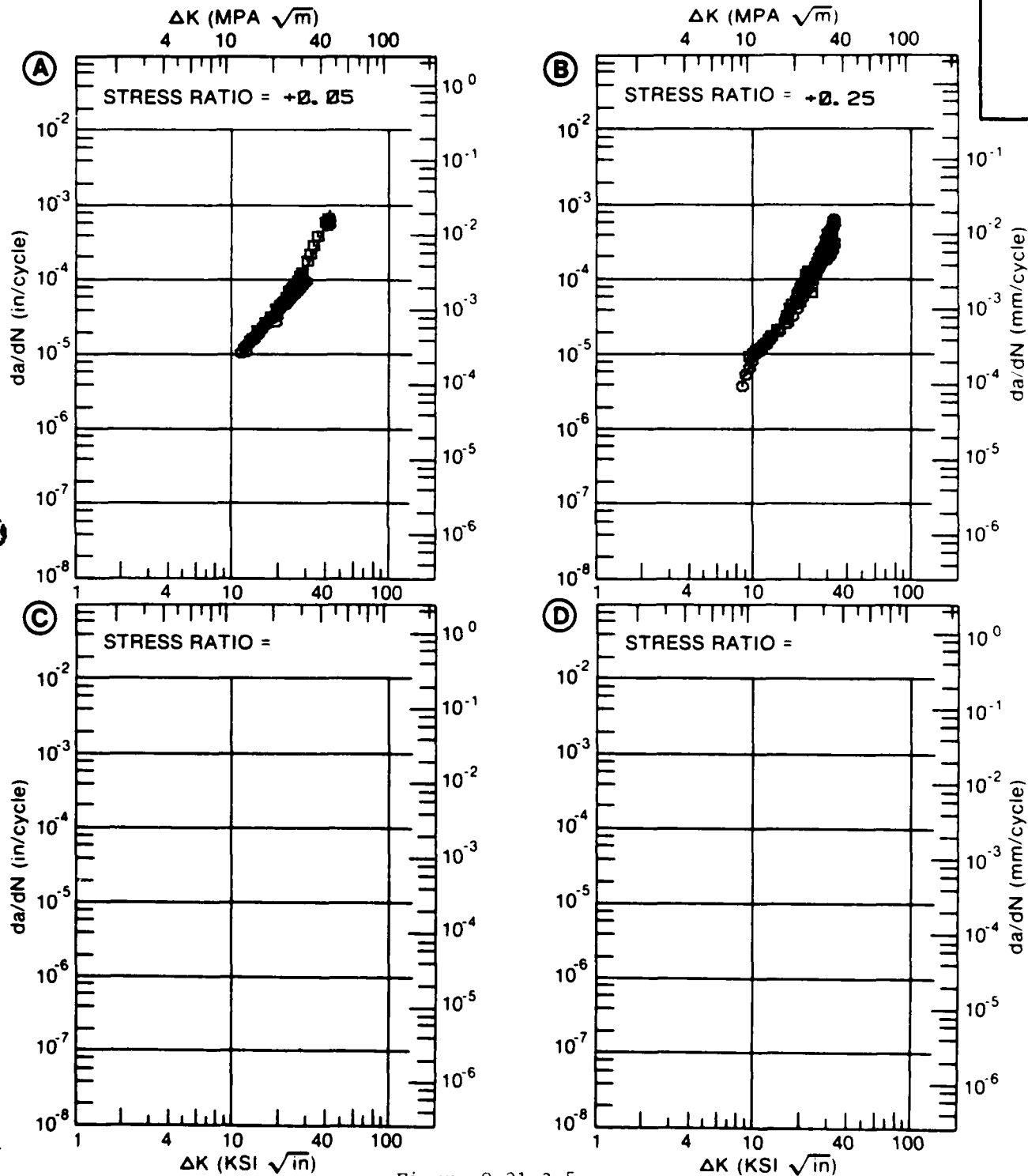


Figure 8.21.3.5

TABLE 8.21.3.6

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.21.3.6 INDICATING EFFECT
OF ENVIRONMENTMATERIAL: ALUMINUM
CONDITION: T61

7475 (ALCLAD)

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		E= R. T. 3.5% NaCl			
DELTA K MIN	A:	15.18	69.1		
	B:				
	C:				
	D:				
		16.00	73.7		
		20.00	104.		
		25.00	154.		
		30.00	212.		
DELTA K MAX	A:	33.11	248.		
	B:				
	C:				
	D:				
ROOT MEAN SQUARE PERCENT ERROR		2.21			
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1			
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T81
 FORM: 0.04" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: T-L
 STRESS RATIO: +0.05
 FREQUENCY: 2.00 HZ

YIELD STRENGTH: 65.7 KSI
 ULT. STRENGTH: 73.6 KSI
 SPECIMEN THK: 0.040"
 SPECIMEN WIDTH: 35.800"
 REFERENCES: 86212

ALUM.
 ALLOY

7475
 (ALCLAD)

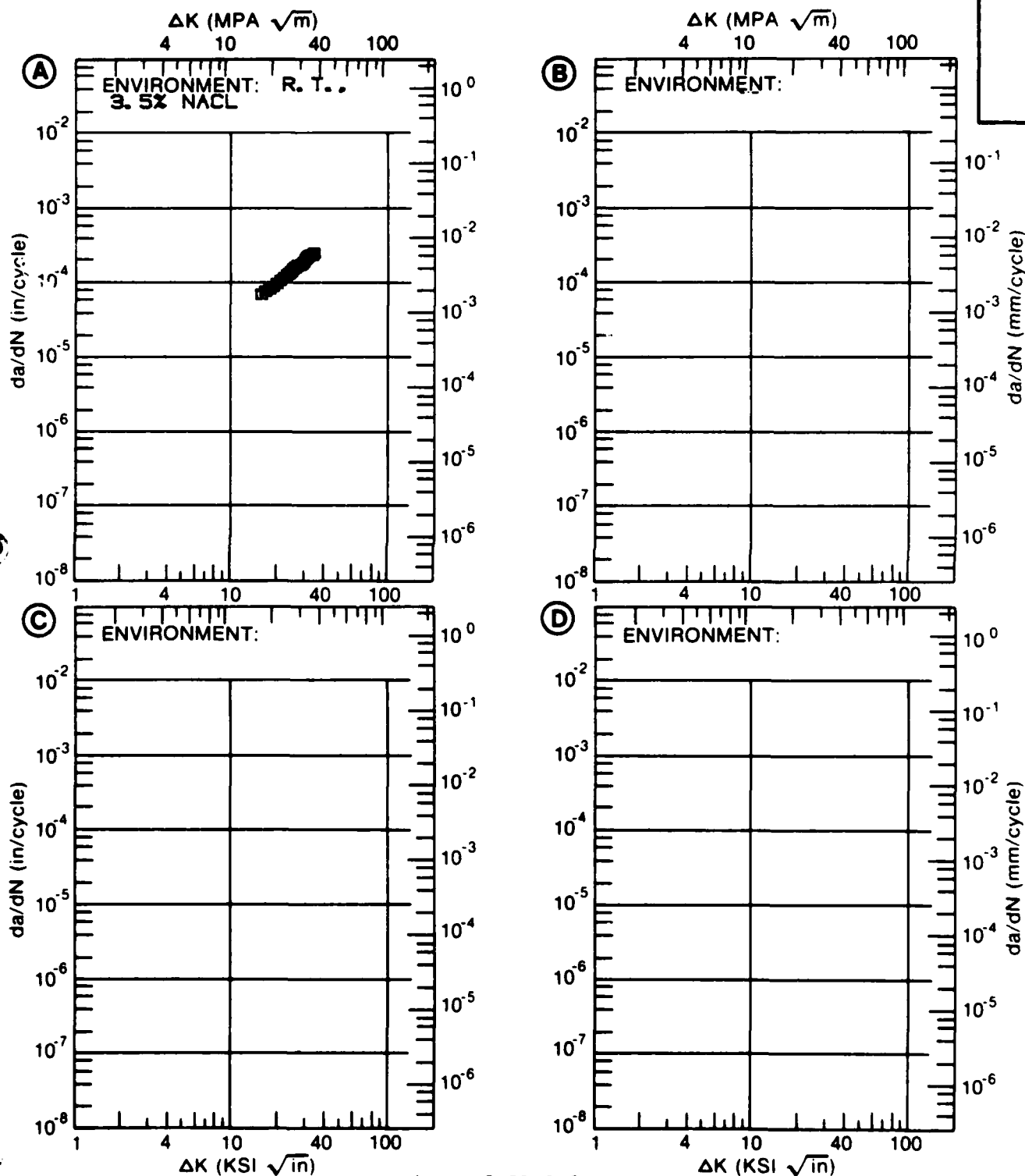


Figure 8.21.3.6

TABLE 8.21.3.7

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.21.3.7 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM 7475 (ALCLAD)
 CONDITION: T61
 ENVIRONMENT: R T , LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		R=+0.00	R=+0.33		
DELTA K MIN	A:	9.44	5.53		
	B:	5.91	2.96		
	C:				
	D:				
	6.00		3.13		
	7.00		5.16		
	8.00		7.39		
	9.00		9.75		
	10.00	6.62	12.2		
	13.00	13.0	21.0		
	16.00	20.4	34.0		
	20.00	33.1	65.4		
	25.00	58.9	159.		
	30.00	108.			
	35.00	207.			
	40.00	411.			
DELTA K MAX	A:	45.47	905.		
	B:	27.65	261.		
	C:				
	D:				
ROOT MEAN SQUARE		7.65	17.71		
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	2	5		
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T61
 FORM: 0.09" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 13.30 HZ
 ENVIRONMENT: R. T., LAB AIR

YIELD STRENGTH: 73.8 KSI
 ULT. STRENGTH: 79.8 KSI
 SPECIMEN THK: 0.087- 0.088"
 SPECIMEN WIDTH: 4.000"
 REFERENCES: 88213

ALUM.
 ALLOY

7475
 (ALCLAD)

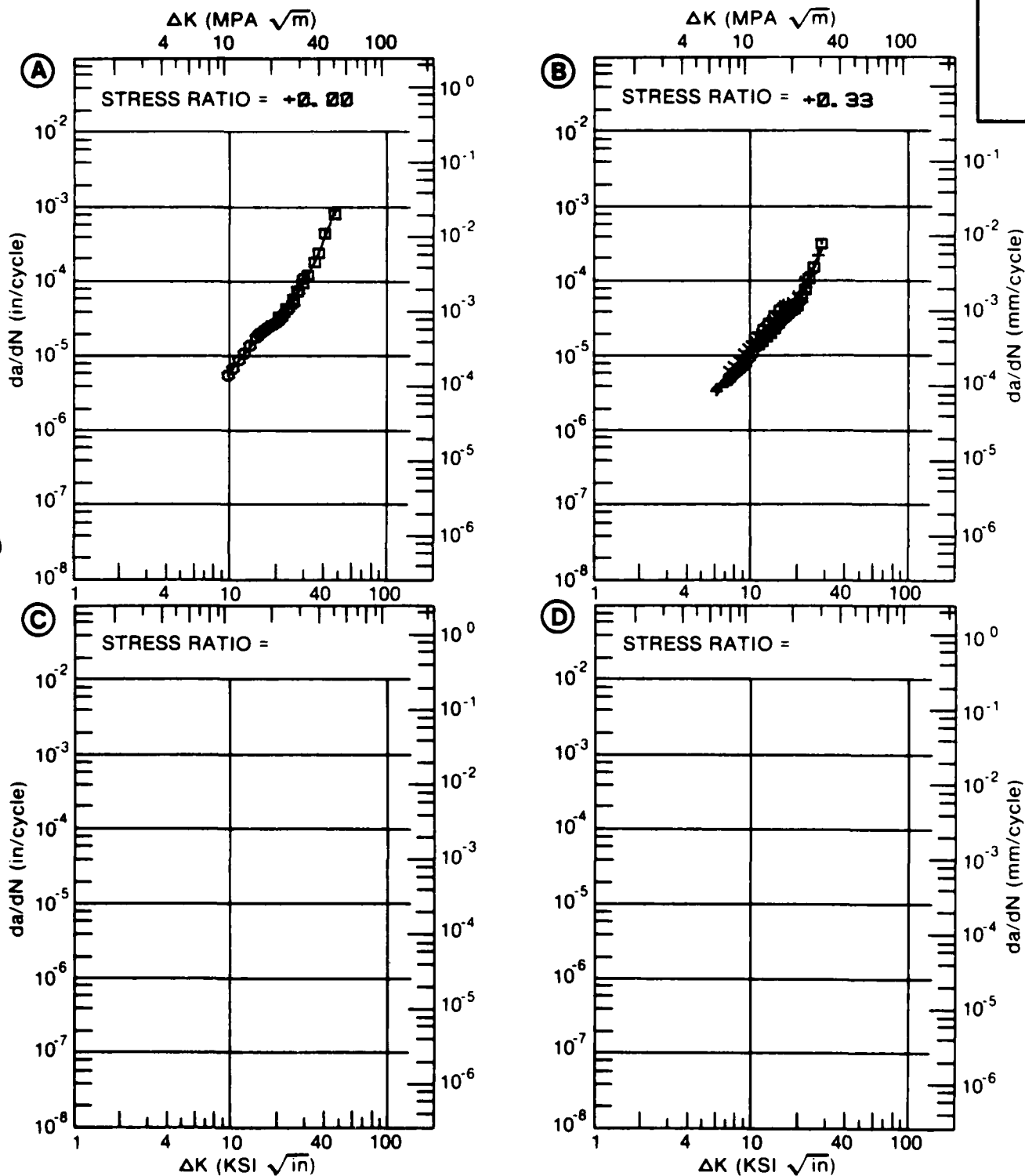


Figure 8.21.3.7

TABLE 8.21.3.8

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTORDATA ASSOCIATED WITH FIGURE 8.21.3.8 INDICATING EFFECT
OF STRESS RATIO

MATERIAL: ALUMINUM 7475 (ALCLAD)
 CONDITION: T61
 ENVIRONMENT: R. T. , LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		R=+0.00	R=+0.33		
DELTA K MIN	A:	8.89	5.55		
	B:	6.05	2.97		
	C:				
	D:				
	7.00		4.76		
	8.00		6.74		
	9.00	5.85	8.71		
	10.00	8.56	10.6		
	13.00	14.2	16.4		
	16.00	16.6	23.2		
	20.00	19.9	37.3		
	25.00	30.9	71.9		
	30.00	63.5			
	35.00	168.			
DELTA K MAX	A:	38.72	396.		
	B:	27.65	105.		
	C:				
	D:				
ROOT MEAN SQUARE		10.46	12.30		
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	2	5		
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T61
 FORM: 0.09" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: T-L
 FREQUENCY: 13.30 HZ
 ENVIRONMENT: R. T., LAB AIR

YIELD STRENGTH: 68.2 KSI
 ULT. STRENGTH: 78.6 KSI
 SPECIMEN THK: 0.089- 0.090"
 SPECIMEN WIDTH: 4.000"
 REFERENCES: 86213

ALUM.
 ALLOY

7475
 (ALCLAD)

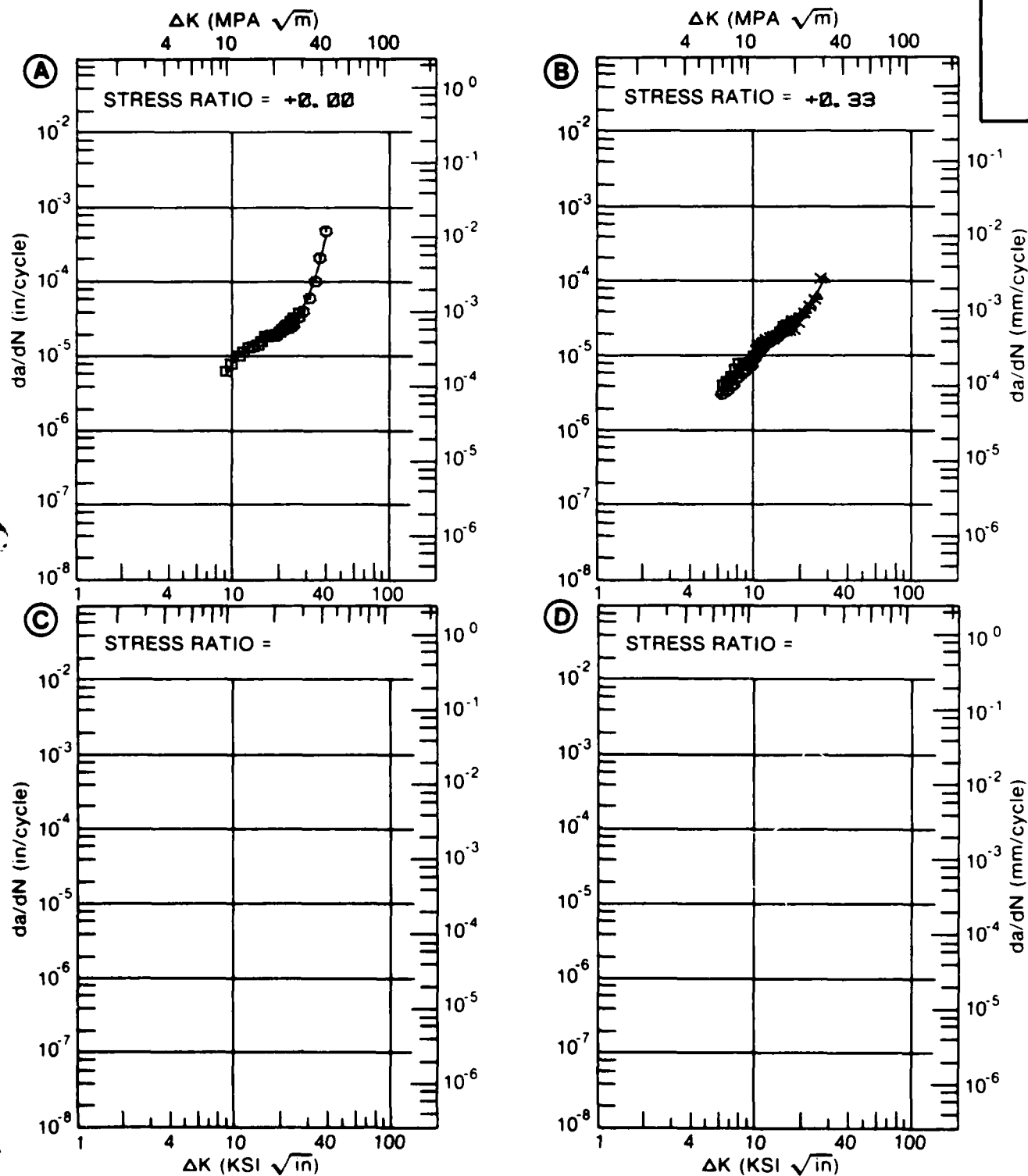


Figure 8.21.3.8

TABLE 8.21.3.9

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.21.3.9 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7475 (ALCLAD)
 CONDITION: T61
 ENVIRONMENT: R. T., LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.00	R=+0.33		
DELTA K MIN	A:	8.88	3.20		
	B:	5.54	1.99		
	C:				
	D:				
	6.00		2.65		
	7.00		4.34		
	8.00		6.29		
	9.00	3.44	8.46		
	10.00	5.71	10.8		
	13.00	13.6	19.4		
	16.00	21.2	31.4		
	20.00	32.7	56.9		
	25.00	57.5	119.		
	30.00	115.			
	35.00	250.			
	40.00	420.			
DELTA K MAX	A:	43.48	664.		
	B:	29.02	216.		
	C:				
	D:				
ROOT MEAN SQUARE		7.63	6.62		
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	2	2		
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T61
 FORM: 0.10" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 13.30
 ENVIRONMENT: R. T., LAB AIR

YIELD STRENGTH: 71.0 KSI
 ULT. STRENGTH: 78.8 KSI
 SPECIMEN THK: 0.101 - 0.102"
 SPECIMEN WIDTH: 4.000"
 REFERENCES: 86213

ALUM.
 ALLOY

7475
 (ALCLAD)

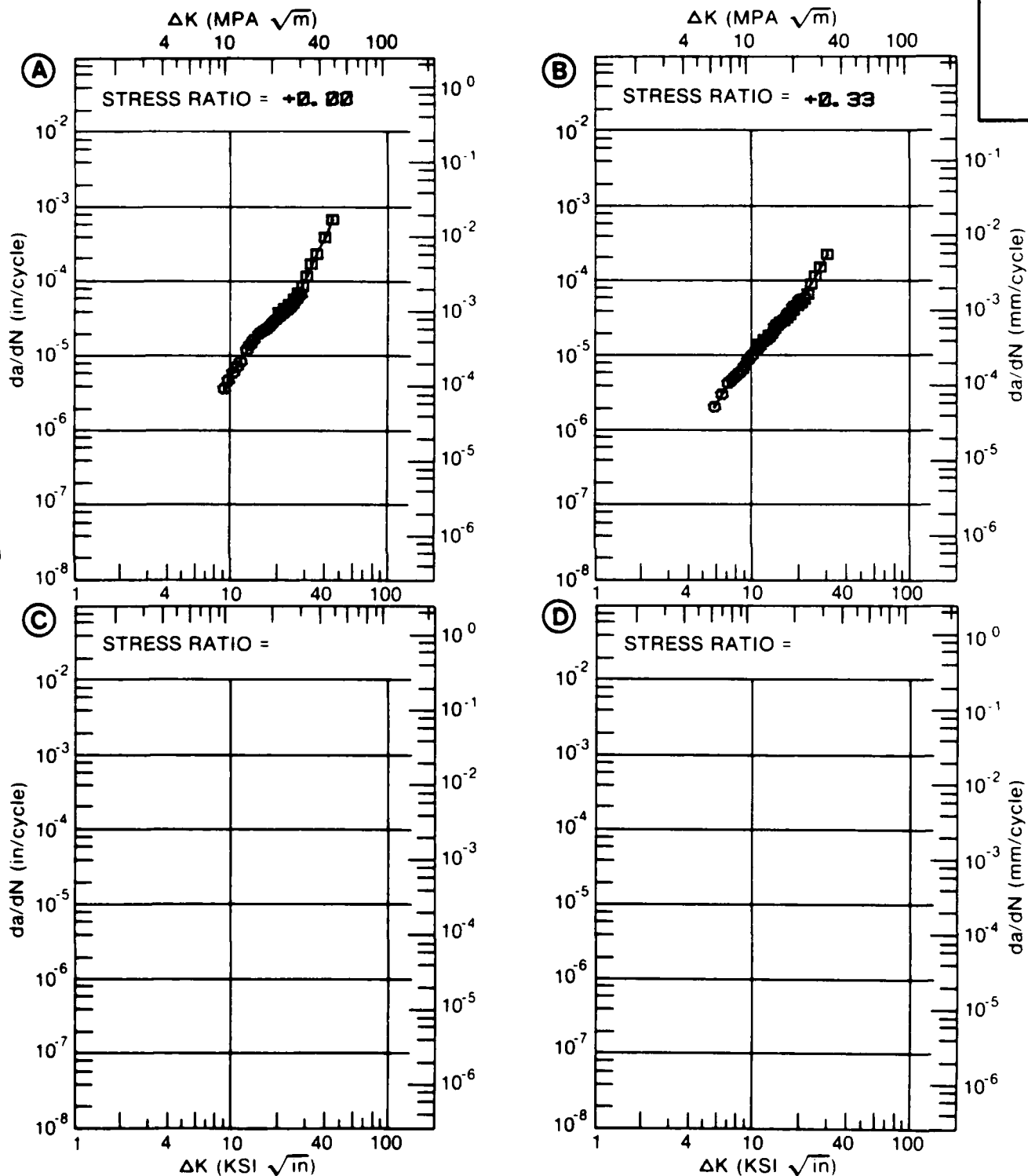


Figure 8.21.3.9

TABLE 8.21.3.10

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.21.3.10 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7475 (ALCLAD)
 CONDITION: T761
 ENVIRONMENT: R.T., H.H.A.

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.05	R=+0.25		
DELTA K A:	10.65	6.87			
MIN B:	8.57		7.22		
C:					
D:					
	9.00		7.74		
	10.00		9.15		
	13.00	11.7	15.2		
	16.00	18.6	24.9		
	20.00	29.7	47.0		
	25.00	50.5	99.0		
	30.00	87.0	198.		
	35.00	155.			
	40.00	285.			
DELTA K A:	40.71	311.			
MAX B:	31.95		257.		
C:					
D:					
ROOT MEAN SQUARE		10.30	8.78		
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	2	2		
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T761
 FORM: 0.04" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: L-T
 FREQUENCY: 2.00 HZ
 ENVIRONMENT: R. T., H. H. A.

YIELD STRENGTH: 59.8 KSI
 ULT. STRENGTH: 68.7 KSI
 SPECIMEN THK: 0.040"
 SPECIMEN WIDTH: 23.980- 36.000"
 REFERENCES: 86212

ALUM.
 ALLOY

7475
 (ALCLAD)

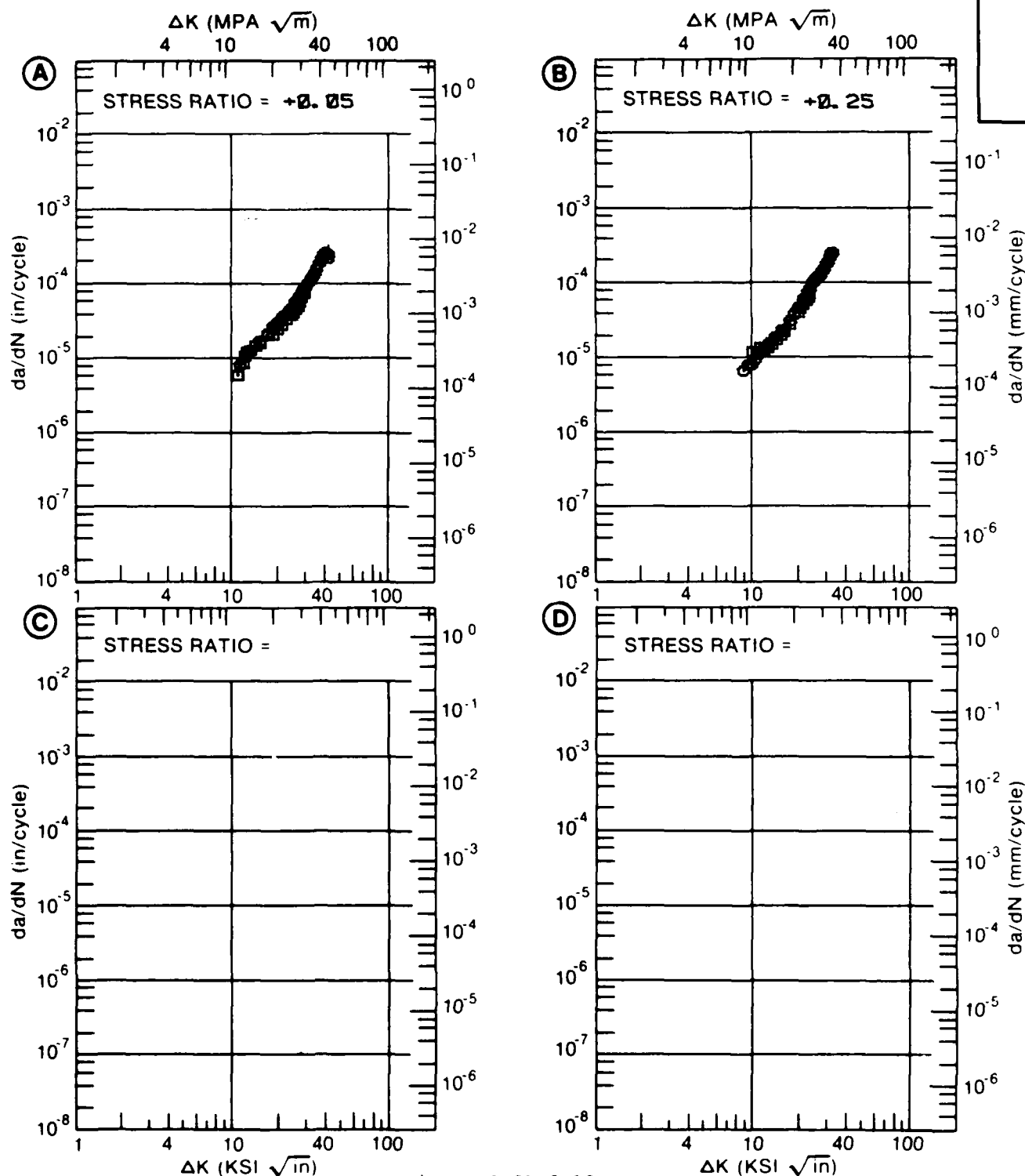


Figure 8.21.3.10

TABLE 8.21.3.11

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.21.3.11 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7475 (ALCLAD)
CONDITION: T761
ENVIRONMENT: R.T., 3.5% NaCl

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.05	R=+0.25		
DELTA K MIN	A: 13.39	42.6			
	B: 11.95		51.8		
	C:				
	D:				
	13.00		59.4		
	16.00	59.0	84.5		
	20.00	86.1	126.		
	25.00	124.	194.		
	30.00	170.			
DELTA K MAX	A: 33.27	205.			
	B: 25.66		204.		
	C:				
	D:				
ROOT MEAN SQUARE		2.14	1.22		
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1	1		
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T761

FORM: 0.04" TH SHEET

SPECIMEN TYPE: CCP

ORIENTATION: L-T

FREQUENCY: 2.00 HZ

ENVIRONMENT: R. T., 3.5% NaCl

YIELD STRENGTH: 59.8 KSI

ULT. STRENGTH: 89.7 KSI

SPECIMEN THK: 0.040"

SPECIMEN WIDTH: 35.960- 36.000"

REFERENCES: 86212

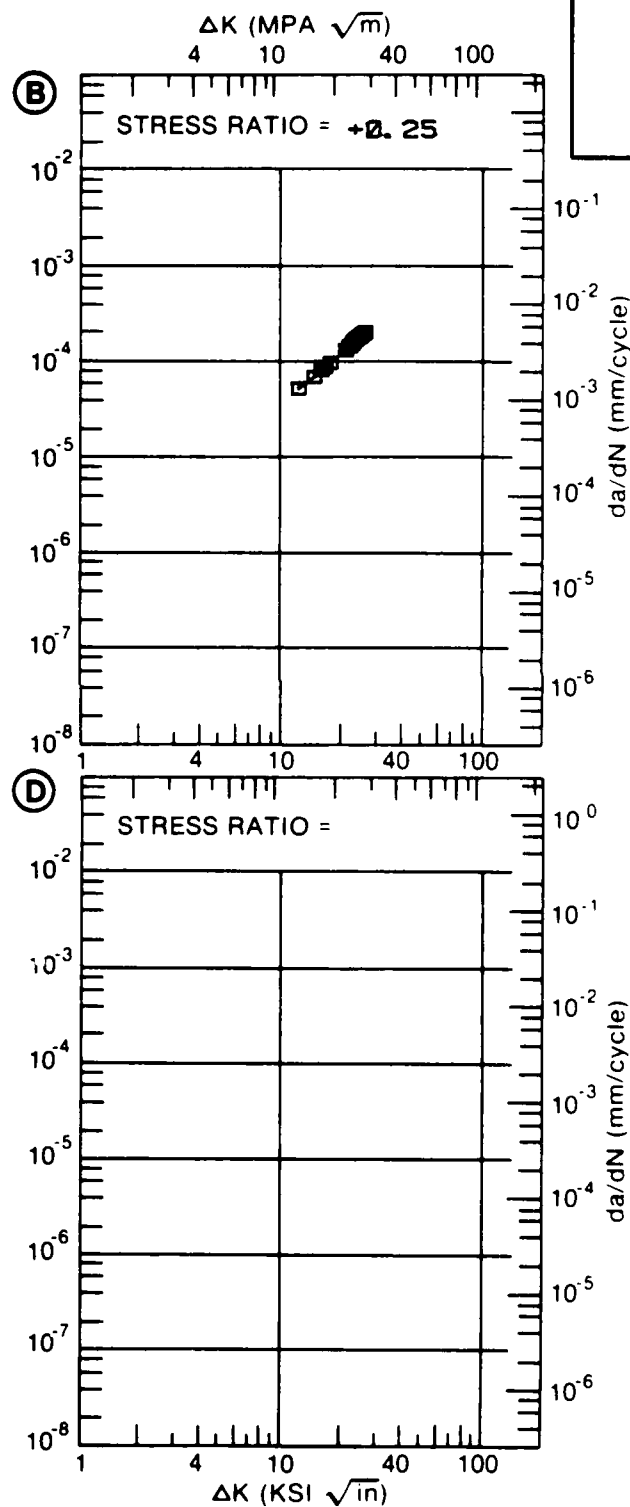
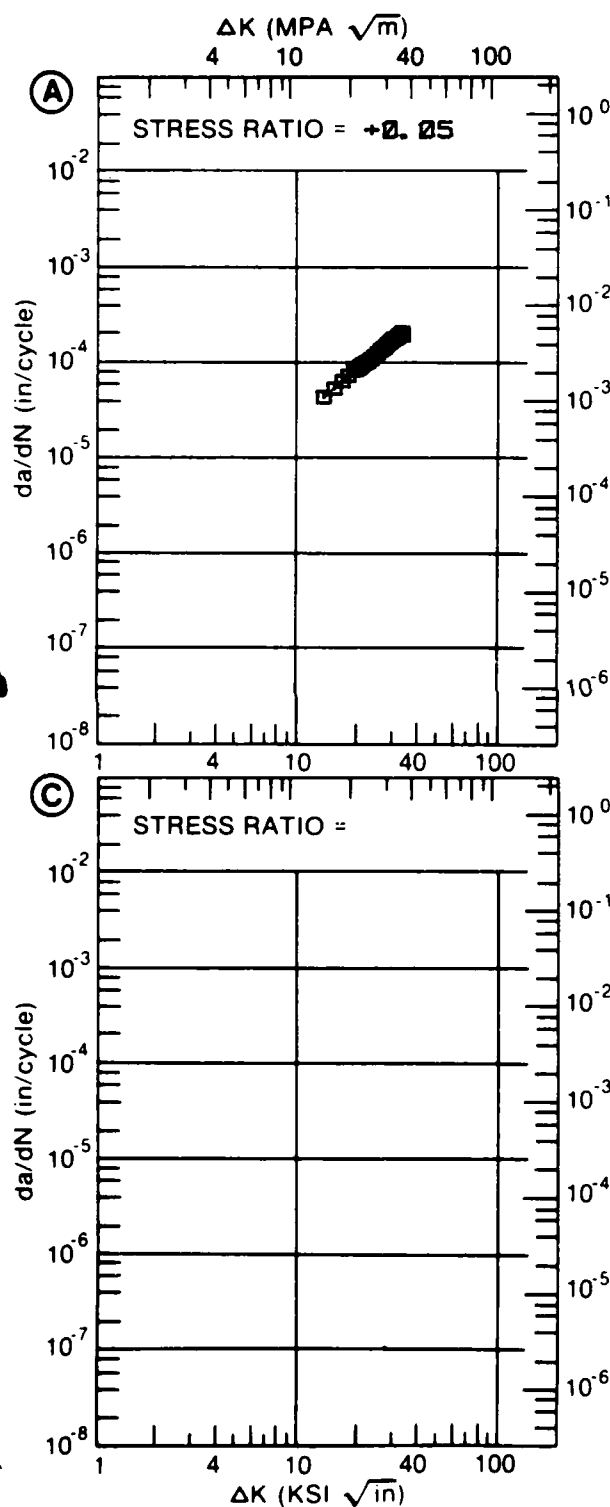
ALUM.
ALLOY7475
(ALCLAD)

Figure 8.21.3.11

TABLE 8.21.3.12

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.21.3.12 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM		7475 (ALCLAD)			
CONDITION: T761					
ENVIRONMENT: R. T. , H. H. A.					
DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN. /CYCLE)			
		A	B	C	D
		R=+0.05	R=+0.25		
DELTA K MIN	A: 26.64	67.6			
	B: 9.01		7.60		
	C:				
	D:				
	10.00		9.89		
	13.00		18.6		
	16.00		30.8		
	20.00		55.9		
	25.00		113.		
	30.00	106.	225.		
	35.00	172.			
DELTA K MAX	A: 37.33	218.			
	B: 32.68		324.		
	C:				
	D:				
ROOT MEAN SQUARE		1.83	8.21		
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	1	1		
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T7S1
 FORM: 0.04" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: T-L
 FREQUENCY: 2.00 HZ
 ENVIRONMENT: R. T., H. H. A.

YIELD STRENGTH: 59.9 KSI
 ULT. STRENGTH: 67.3 KSI
 SPECIMEN THK: 0.040- 0.041"
 SPECIMEN WIDTH: 23.940- 36.020"
 REFERENCES: 86212

ALUM.
 ALLOY

7475
 (ALCLAD)

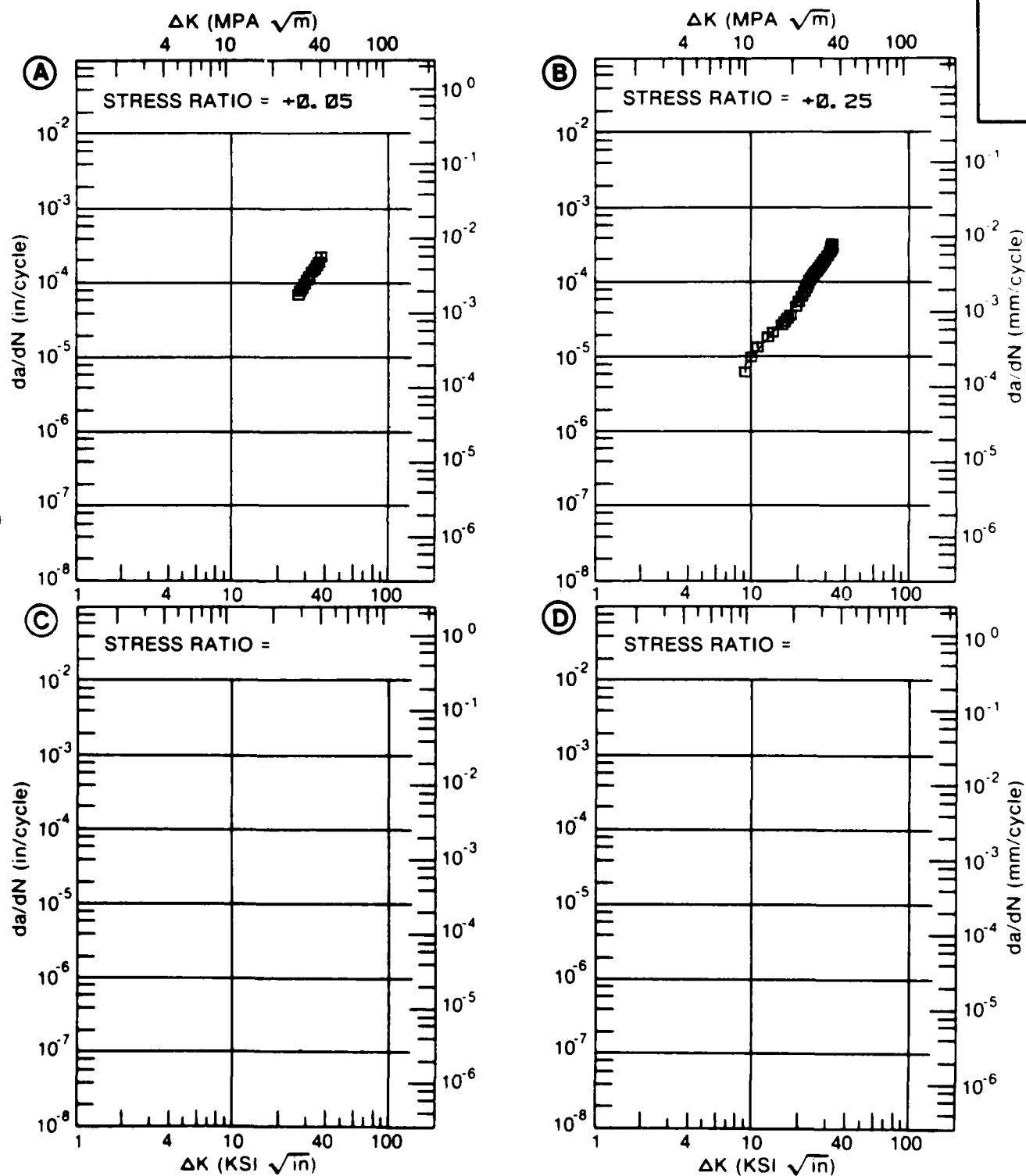


Figure 8.21.3.12

TABLE 8.21.3.13

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.21.3.13 INDICATING EFFECT

OF ENVIRONMENT

MATERIAL: ALUMINUM
CONDITION: T761

7475 (ALCLAD)

DELTA K
(KSI*IN**1/2)

DA/DN (10**-6 IN./CYCLE)

A

B

C

D

E= R. T.

H. H. A.

DELTA K	A:	49.02	:	496.
MIN	B:		:	
	C:		:	
	D:		:	

	50.00	:	605.
	60.00	:	2503.
	70.00	:	6032.

DELTA K	A:	77.48	:	10735.
MAX	B:		:	
	C:		:	
	D:		:	

ROOT MEAN SQUARE	6.24
PERCENT ERROR	

LIFE	0.0-0.5	
PREDICTION	0.5-0.8	
RATIO	0.8-1.25	1
SUMMARY	1.25-2.0	
(NP/NA)	>2.0	

CONDITION/HT: T761
 FORM: 0.04" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: T-L
 STRESS RATIO: +0.05
 FREQUENCY: 2.00 HZ

YIELD STRENGTH: 59.9 KSI
 ULT. STRENGTH: 87.3 KSI
 SPECIMEN THK: 0.040"
 SPECIMEN WIDTH: 12.000"
 REFERENCES: 86212

ALUM.
 ALLOY

7475
 (ALCLAD)

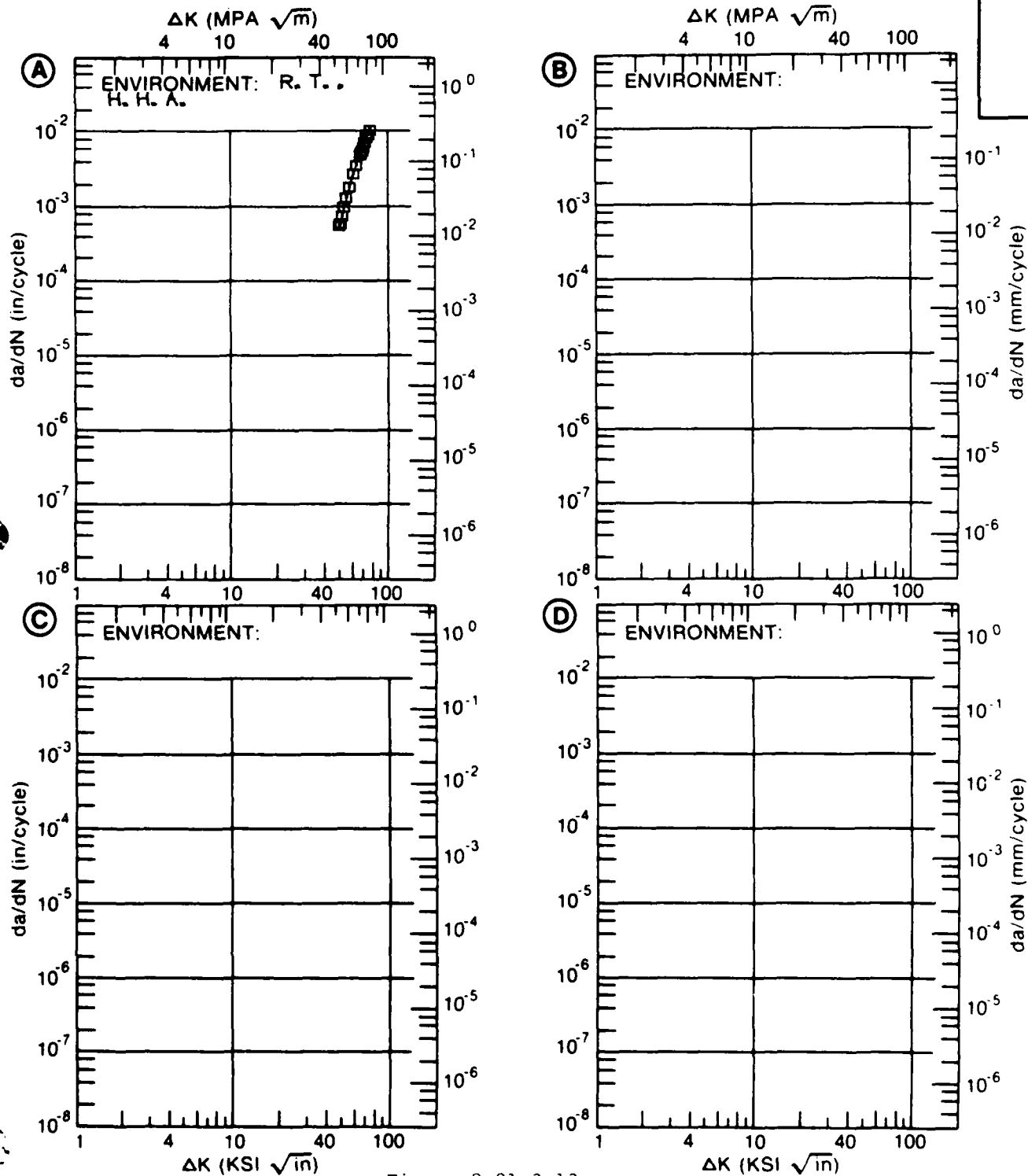


Figure 8.21.3.13

TABLE 8.21.3.14

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.21.3.14 INDICATING EFFECT
OF ENVIRONMENT

MATERIAL: ALUMINUM		7475 (ALCLAD)			
CONDITION: T761					
DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		E= R. T. H. H. A.	E= R. T. 3. 5% NACL		
DELTA K MIN	A:	11. 47	10. 3		
	B:	14. 79	52. 5		
	C:				
	D:				
		13. 00	13. 1		
		16. 00	20. 2	61. 2	
		20. 00	34. 5	89. 1	
		25. 00	63. 5	128.	
DELTA K MAX	A:	40. 45	309.		
	B:	32. 79	227.		
	C:				
	D:				
ROOT MEAN SQUARE		4. 52	1. 94		
PERCENT ERROR					
LIFE	0. 0-0. 5				
PREDICTION	0. 5-0. 8				
RATIO	0. 8-1. 25	1	1		
SUMMARY	1. 25-2. 0				
(NP/NA)	>2. 0				

CONDITION/HT: T761
 FORM: 0.04" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: T-L
 STRESS RATIO: +0.05
 FREQUENCY: 2.00 HZ

YIELD STRENGTH: 59.9 KSI
 ULT. STRENGTH: 67.3 KSI
 SPECIMEN THK: 0.040- 0.041"
 SPECIMEN WIDTH: 35.990- 36.000"
 REFERENCES: 86212

ALUM.
 ALLOY

7475
 (ALCLAD)

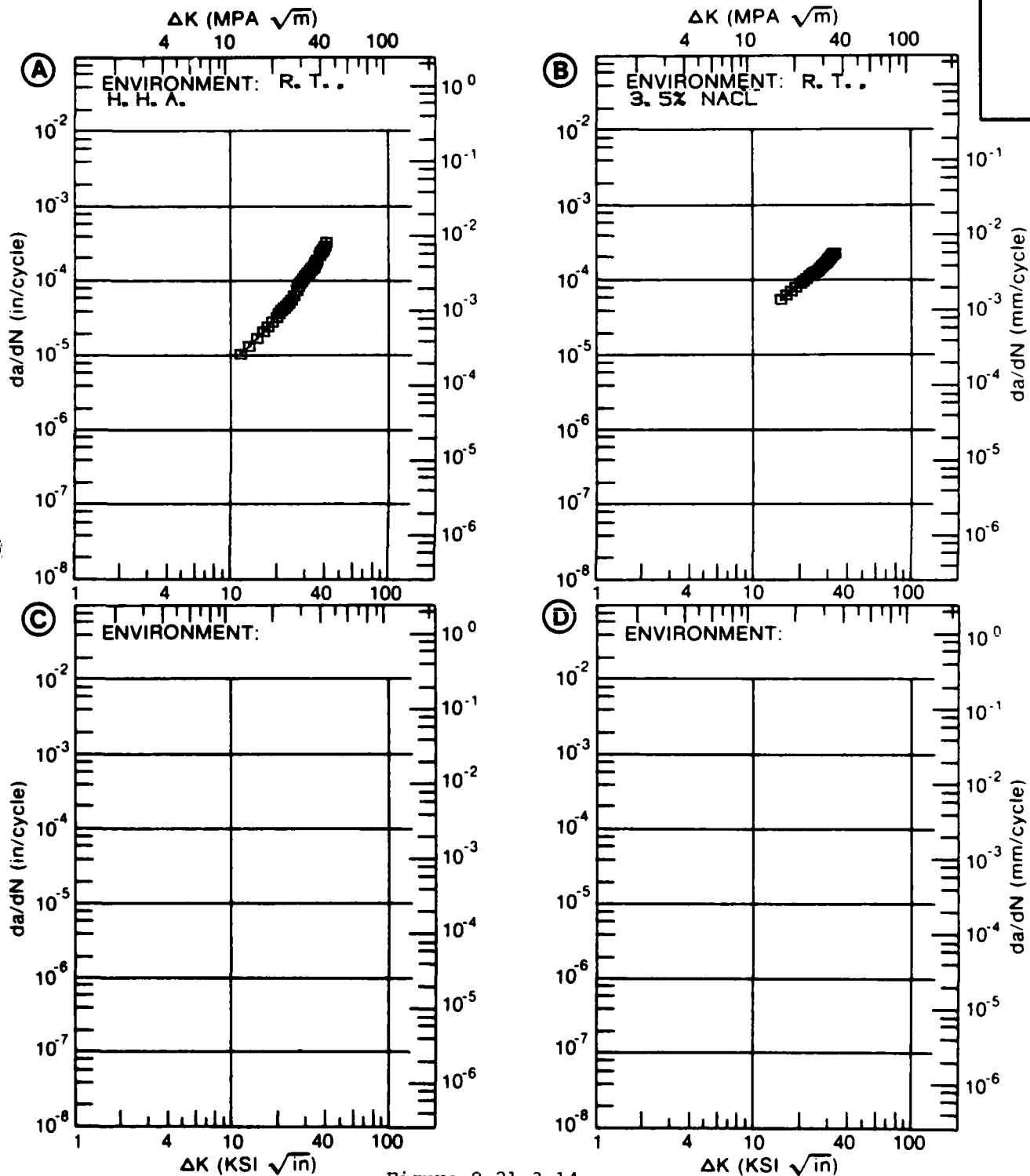


Figure 8.21.3.14

TABLE 8.2..3.15

FATIGUE CRACK GROWTH RATES AT DEFINED LEVELS
OF STRESS INTENSITY FACTOR

DATA ASSOCIATED WITH FIGURE 8.21.3.15 INDICATING EFFECT

OF STRESS RATIO

MATERIAL: ALUMINUM 7475 (ALCLAD)
CONDITION: T761
ENVIRONMENT: R.T., LAB AIR

DELTA K (KSI*IN**1/2)		DA/DN (10**-6 IN./CYCLE)			
		A	B	C	D
		R=+0.00	R=+0.33		
DELTA K MIN	A: 7.75	1.47			
	B: 5.67		2.02		
	C:				
	D:				
	6.00		2.53		
	7.00		4.29		
	8.00	1.79	6.27		
	9.00	3.43	8.36		
	10.00	5.53	10.5		
	13.00	13.0	18.0		
DELTA K MAX	16.00	20.6	28.3		
	20.00	31.0	52.0		
	25.00	49.0	118.		
	A: 27.14	60.3			
	B: 28.65		223.		
	C:				
	D:				
ROOT MEAN SQUARE		10.96	6.84		
PERCENT ERROR					
LIFE	0.0-0.5				
PREDICTION	0.5-0.8				
RATIO	0.8-1.25	2	2		
SUMMARY	1.25-2.0				
(NP/NA)	>2.0				

CONDITION/HT: T761
 FORM: 0.00" TH SHEET
 SPECIMEN TYPE: CCP
 ORIENTATION: T-L
 FREQUENCY: 13.30 HZ
 ENVIRONMENT: R. T., LAB AIR

YIELD STRENGTH: 86.0 KSI
 ULT. STRENGTH: 74.5 KSI
 SPECIMEN THK: 0.000"
 SPECIMEN WIDTH: 4.000"
 REFERENCES: 86213

ALUM.
 ALLOY

7475
 (ALCLAD)

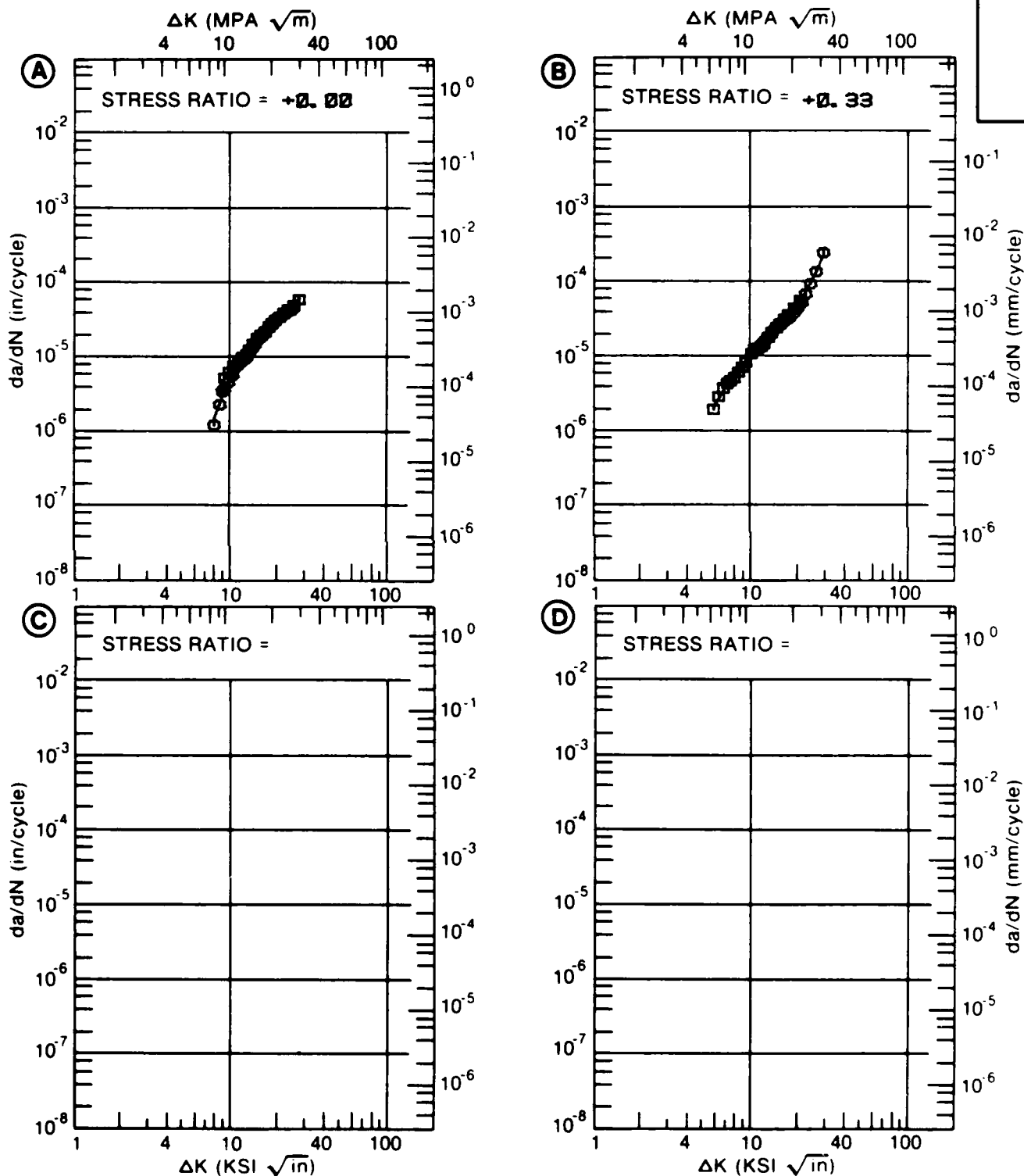


Figure 8.21.3.15

TABLE 8.22

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- 57210 7075-T7351 K_C
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- 62306 2219-T87 K_C
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- 62308 2024-T3 K_C
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- 65697 7075(ALCLAD)-T6 K_C
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- 66103 2219-T87 K_C
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67821	2024-T3 K_C	Walker, E. K., "A Study of the Influence of Geometry on the Strength of Fatigue Cracked Panels", AFFDL-TR-66-92, Northrop Norair (June 1966).
68908	2014-T6 K_C	Orange, T. W., "Fracture Toughness of Wide 2014-T6 Aluminum Sheet at -320 F", NASA TN D-4017, Lewis Research Center (June 1967).
69759	2219-T87 K_C	Eitman, D. A., and Rowe, R. A., "Plane Stress Cyclic Flaw Growth of 2219-T87 Aluminum and SA1-2.5Sn ELI Titanium Alloys at Room and Cryogenic Temperatures", NASA CR-54956, Douglas Aircraft Company, Inc. (September 1966).
70485	2024(ALCLAD)-T3 K_C 7075(ALCLAD)-T6 K_C	Broek, D., "The Effect of Finite Specimen Width on the Residual Strength of Light Alloy Sheet", TR M.2152, National Aero- and Astronautical Research Institute, Amsterdam (September 1965).
70519	2024(ALCLAD)-T3 K_C	Broek, D., "The Effect of the Sheet Thickness on the Fracture Toughness of Cracked Sheet", NRL-TR M.2160, National Aerospace Laboratory, Amsterdam (January 1966).
75599	7075-T6 K_C	Hudson, C. M., "Effect of Stress Ratios on Fatigue-Crack Growth in 7075-T6 and 2024-T3 Aluminum-Alloy Specimens", NASA TN D-5390, Langley Research Center (August 1969).
75787	7075-T651 K_{Isc}	Procter, R. P. M., and Paxton, H. W., "Stress Corrosion of Aluminum Alloy 7075-T651 in Organic Liquids", Journal of Materials, <u>4</u> (3) 729-760 (September 1969).
76411	7079-T6 K_{Ic}	Wessel, E. T., et al., "Engineering Methods for the Design and Selection of Materials Against Fracture", Final Technical Report, Westinghouse Research Laboratories, Pittsburgh, PA, Contract DA-30-069-AMC-602 (T) (June 24, 1966).
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TABLE 8.22 (con't)

77720 2014-T652 K_{Ic}
 2024-T852 K_{Ic} , da/dN
 7075-T7352 K_{Ic} , da/dN
 7079-T652 K_{Ic} , da/dN

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78313 2024-T351 da/dt, K_{Isc}
 2024-T4 da/dt
 2219-T37 da/dt
 7075-T651 da/dt
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 7175-T66 da/dt, K_{Isc}

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78982 2024-T3 K_c

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79089 7075-T7351 K_c

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80073 2021-T81 K_{Ic} , K_{Isc}
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TABLE 8.22 (con't)

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82879	2014-T6 K_{Ic} 7075-T6 K_{Ic} 7075-T73 K_{Ic} 7079-T6 K_{Ic} 7080-T7 K_{Ic}
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82880	2024-T851 K_{Ic} 2219-T851 K_{Ic} 6061-T651 K_{Ic} 7075-T7351 K_{Ic} 7079-T651 K_{Ic}
	Nelson, F. G., et al., "The Effect of Specimen Size on the Results of Plane-Strain Fracture-Toughness Tests", Engineering Fracture Mechanics, <u>4</u> (1) 33-50 (March 1972).
33058	7175-T736 K_{Ic}
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83061	7049-T73 K_{Ic} , K_{Iscc} 7049-T76 K_{Ic}
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84284	2024-T351 da/dt 7039-T64 da/dt 7049-T73 da/dt 7075-T651 da/dt 7075-T7351 da/dt 7079-T651 da/dt 7175-T736 da/dt
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TABLE 8.22 (con't)

84286	7075 da/dt 7075-T7351 da/dt
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84288	2014-T651 K _{Ic} 2024-T851 K _{Ic} 6061-T651 K _{Ic} 7075-T651 K _{Ic} 7079-T651 K _{Ic}
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84306	2024-T851 K _{Ic} 2124-T851 K _{Ic} 2219-T851 K _{Ic} 7049-T73 K _{Ic} 7075-T651 K _{Ic} 7075-T7351 K _{Ic} 7075-T7651 K _{Ic}
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84319	2219-T87 K _{Ic}
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84329	7079-T6 K _{Isc}
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84331	2020-T651 K _{Isc} 2219-T851 K _{Isc} 7005-T63 K _{Isc} 7075-T6 K _{Isc} 7075-T651 K _{Isc} 7075-T7351 K _{Isc} 7079-T6 K _{Isc}
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84340	7075-T651 K _c 7075-T7351 K _c
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84363	2021-T81 K_{Ic} 7050-T73651 K_{Ic} 7075-T7351 K_{Ic} , da/dN	Rich, D. L., "MCAIR IRAD Data for Fracture Mechanics Engineering and Design Data Handbook", with enclosures (1) Materials Definition, (2) Mechanical Properties Test Data, (3) Plane Strain Fracture Toughness Test Data, and (4) Plane Strain Constant Amplitude Crack Growth Test Data, McDonnell Aircraft Company, McDonnell Douglas Corporation, St. Louis, MO (June 14, 1972).
84366	2024(ALCLAD)-T3 K_c	Broek, D., "Static Tests on Cracked Panels of 2024-T3 Alclad Sheet Materials From Different Manufacturers", NLR-TN M.2164, National Aerospace Laboratory, The Netherlands (November 1966).
84367	2024-T3 K_c 7075-T6 K_c	McEvily, A. J., Illg, W., and Hardrath, H. F., "Static Strength of Aluminum-Alloy Specimens Containing Fatigue Cracks", NACA TN 3816, Langley Aeronautical Laboratories (October 1956).
84368	2124-T851 K_{Ic} 7049-T73 K_{Ic} 7175-T736 K_{Ic} 7475-T61 K_c 7475-T761 K_c 7475(ALCLAD)-T61 K_c	Babylon, C. F., et al., "Mechanical Properties, Fracture Toughness, Fatigue, Environmental Fatigue Crack Growth Rates, and Corrosion Characteristics of High-Toughness Aluminum Alloy Forgings, Sheet and Plate", Fifth Technical Management Report, Aluminum Company of America, Alcoa Research Laboratories, New Kensington, PA, Contract F33615-71-C-1571 (August 1972).
85291	7050-T7E56 K_{Ic}	Deel, O. L., and Mindlin, H., "Engineering Data on New Aerospace Structural Materials", Report AFML-TR-72-196, Volume 1, Battelle, Columbus Laboratories, Columbus, OH, Contract F33615-71-C-1262 (September 1972).
85363	7475-T61 da/dN 7475-T6151 da/dN 7475-T7351 da/dN 7475-T761 da/dN	Cervay, R. R., "Engineering Design Data for Aluminum Alloy 7475 in the T761 and T61 Condition", Report AFML-TR-72-173, University of Dayton Research Institute, Dayton, OH, Contract F33615-71-C-1054, (September 1972).

TABLE 8.22 (con't)

85543	7075-T651	da/dt	
	7079-T651	da/dt	
	7079-T651(+50 HR at 320F)	da/dt	
	7178-T651	da/dt	
	7178-T7651	da/dt	
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85631	2219-T87	K_{Ic}	
	2219-T87 (-300F 100HR)	K_{Ic}	
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85836	2024-T851	K_{Ic}	7075-T73651 K_{Ic}
	2024-T852	K_{Ic}	7075-T73511 K_{Ic}
	2219-T851	K_{Ic}	7075-T73652 K_{Ic}
	2219-T852	K_{Ic}	7075-T7651 K_{Ic}
	7049-T7352	K_{Ic}	
	"B-1 Fracture Toughness Data ($K(sub I_c)$) - Rockwell International", Rockwell International Corporation, Los Angeles, CA, (April 24, 1973).		
85837	2024-T851	da/dN	7050-T7351 da/dN
	2024-T852	da/dN	7050-T7351 da/dN
	2219-T851	da/dN	7075-T7651 da/dN
	2219-T8511	da/dN	7175-T73652 da/dN
	2219-T852	da/dN	
	"Fracture Toughness Data Collection, Rockwell International Corporation, from B-1 Program", Rockwell International Corporation, Los Angeles, CA (April 1973).		
85880	7050-T736	K_{Ic}	
	7175-T736	K_{Ic} , da/dN	
	Garland, K., "Evaluation of X7050-T736 Die Forgings", Report 514-131.10, McDonnell Aircraft Company, McDonnell Douglas Corporation, St. Louis, MO, (February 20, 1973).		
86088	7075-T6	da/dN	
	7178-T6	da/dN	
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86210	2024-T852	K_{Ic}	
	7075-T73511	K_{Ic}	
	7075-T7651	K_{Ic}	
	7075-T76511	K_{Ic}	
	"Rockwell International, B-1 Fracture Toughness Data on Titanium and Aluminum Alloys of June 4, 1973", Rockwell International, Los Angeles, CA, (June 4, 1973).		

TABLE 8.22 (con't)

86212	2024-T3	da/dN		
	7050-T736	K _{IC} , K _{ISCC}		
	7075-T76511	K _{IC} , K _{ISCC}		
	7475-T61	da/dN		
	7475-T761	da/dN, da/dt		
	7475(ALCLAD)-T61	da/dN		
	7475(ALCLAD)-T761	da/dN		
McCarty, J. E., et al., "Materials Fracture Data From the Advanced Metallic Structures: Cargo Fuselage Design for Improved Cost, Weight and Integrity", The Boeing Company, Seattle, Washington, Contract F33615-72-C-1893 (June 15, 1973).				
86213	2014-T6	K _{IC} , K _C , da/dN	7075-T6510	K _{IC}
	2014-T61	K _{IC}	7075-T6511	K _{IC}
	2014-T611	K _{IC}	7075-T73	K _{IC} , K _C
	2014-T651	K _{IC} , K _C	7075-T7351	K _{IC} , K _C
	2020-T6	K _{IC} , K _C	7075-T73510	K _{IC}
	2020-T651	K _{IC} , K _C , da/dN	7075-T73511	K _{IC}
	2020(ALCLAD)-T6	K _C	7075-T7352	K _{IC}
	2021-T8151	K _{IC}	7075-T76	K _{IC} , K _C
	2024-T3	K _C , da/dN	7075-T7651	K _{IC} , K _C
	2024-T351	K _{IC} , K _C	7075-T7651 (SP)	K _{IC}
	2024-T36	K _C	7075-T76511	K _{IC}
	2024-T6	K _C	7075(ALCLAD)-T6	da/dN
	2024-T81	K _C	7075(ALCLAD)-T7651	K _{IC}
	2024-T851	K _{IC} , K _C	7079-T6	K _{IC} , K _C
	2024-T852	K _{IC}	7079-T651	K _{IC} , K _C
	2024-T86	K _C	7079-T652	K _{IC}
	2024(ALCLAD)-T3	K _C , da/dN	7079(ALCLAD)-T6	K _C
	2024(ALCLAD)-T86	K _C	7080-T7	K _{IC}
	2124-T351(417)	K _{IC}	7175-T66	K _{IC}
	2124-T851	K _C	7175-T73	K _{IC}
	2124-T851 (SP)	K _{IC}	7175-T7352	K _{IC}
	2124-T851 (417)	K _{IC}	7175-T736	K _{IC}
	2214-T651	K _{IC}	7175-T73652	K _{IC}
	2214-T651 (417)	K _{IC}	7178-T6	K _C
	2219-T81	K _C	7178-T651	K _{IC} , K _C
	2219-T851	K _{IC} , K _C	7178-T7651	K _{IC} , K _C , da,
	2219-T852	K _{IC}	7178-T76510	K _{IC} , da/dN
	2219-T87	K _{IC} , K _C	7178-T76511	K _{IC}
	2618-T61	K _C	7178(ALCLAD)-T6	K _C
	2618-T651	K _{IC}	7178(ALCLAD)-T76	K _C
	6061-T6	K _C	7475-T6	K _{IC}
	6061-T651	K _{IC} , K _C	7475-T61	K _C
	7001-T75	K _{IC} , K _C	7475-T651	K _{IC} , da/dN
	7005-T6	K _C	7475-T651 (SP)	K _{IC}
	7005-T6351	K _{IC} , K _C	7475-T73	K _{IC}
	7049-T73	K _{IC}	7475-T7351	K _{IC}
	7049-T7351	K _{IC}	7475-T7351 (SP)	K _{IC}
	7049-T7352	K _{IC}	7475-T736	K _{IC}
	7050-T6	da/dN	7475-T76	da/dN
	7050-T7352	K _{IC}	7475-T761	K _C
	7050-T736	K _{IC}	7475-T7651	K _{IC}
	7050-T73651	K _{IC}	7475-T7651 (SP)	K _{IC}
	7050-T73652	K _{IC}	7475(ALCLAD)-T73	K _C
	7050-T76	da/dN	7475(ALCLAD)-T731	K _C
	7050-T76511	K _{IC}	7475(ALCLAD)-T761	K _C , da/dN
	7075-T6	K _C , da/dN	7475(ALCLAD)-T761	K _C , da/dN
	7075-T651	K _{IC} , K _C		

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86429	2024-T851 K_{Ic} 7050-T73651 K_{Ic}	<p>"Fracture Toughness Data", Progress Report on Materials Test Program, General Dynamics Corporation, Fort Worth Division, Fort Worth, TX, Contract F33615-72-C-2149 (Received July 6, 1973).</p>	
86493	7050-T73651	<p>Deel, O. L., Ruff, P. E., and Mindlin, H., "Engineering Data on New Aerospace Structural Materials", Report AFML-TR-73-114, Battelle-Columbus Laboratories, Columbus, OH, Contract F33615-72-C-1280 (June 1973).</p>	
86574	7050-T73651 K_{Ic} 7050-T7651 K_{Ic} 7475-T7651 K_{Ic}	<p>Figge, F. A., and Wells, R. R., "Advanced Metallic Structure: Air Superiority Fighter-Wing Design for Improved Cost, Weight and Integrity", Report No. AFFDL-TR-73-52, Volume III, Northrop Corporation, Aircraft Division, Hawthorne, CA, Contract F33615-72-C-1891 (June 1973), with original data for da/dN tests.</p>	
86575	2024-T81 da/dN 7075-T76 da/dN	<p>"Rockwell International, B-1 Program, da/dN Data, Center-Cracked Tension Specimens", Lockheed California Company, Burbank, CA, Report LR25152 (Received July 1973) (Memo from E. W. Cawthorne dated July 10, 1973).</p>	
86688	2014-T651 K_{Isc} 2021-T81 K_{Isc} 2024-T351 K_{Isc} 2024-T851 K_{Isc} 2219-T37 K_{Isc}	2219-T87 K_{Ic}, K_{Isc} 6061-T651 K_{Ic}, K_{Isc} 7075-T651 K_{Isc} 7075-T7351 K_{Isc} 7079-T651 K_{Isc}	
<p>Sprowls, D. O., et al., "Evaluation of Stress-Corrosion Cracking Susceptibility Using Fracture Mechanics Techniques", Final Report, Part I, Aluminum Company of America, Alcoa Technical Center, Alcoa Center, PA, Contract NAS8-21487 (May 31, 1973).</p>			
86734	2014-T6 da/dN 2024-T3 K_c 2024-T351 K_c 2024-T4 K_c 2024-T81 $K_c, da/dN$ 2024(ALCLAD)-T3 K_c	2618-T81 da/dN 7075-T6 K_c 7075(ALCLAD)-T6 K_c 7079-T6 da/dN 7079-T651 da/dN	
<p>Smith, S. H., "Fracture Mechanics Application to Materials Evaluation and Selection for Aircraft Structure and Fracture Analysis", Report No. D6-17756, The Boeing Company, Commercial Airplane Division, Renton, Washington (July 19, 1966).</p>			

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86842	2124-T851 da/dN
	7049-T73 da/dN
	7175-T736 da/dN
	7475-T61 K_{IC} , da/dN
	7475-T761 K_{IC} , da/dN
	7475(ALCLAD)-T61 K_{IC}
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86844	7050-T7351 da/dN
	7050-T73651 da/dN
	7050-T7651 da/dN
	"Crack Growth Rate Data Generated Under USAF Contract F33615-72-C-2165", Lockheed Aircraft Corporation, Lockheed-Georgia Company, Marietta, GA, Contract F33615-72-C-2165, Data sheets received from AFFDL August 13, 1973.
87398	2024-T3 da/dN
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88140	7075-T651 K_{IC} , da/dN
	7475-T651 da/dN
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88174	7050-T73651 K_{IC} , da/dN
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88186	7050-T7351 K_{IC}
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88468	2219-T851 da/dN
	Bell, P. D., "Data Sheets for Constant Amplitude Crack Growth Data Generated by Grumman Aerospace Corporation for 2219-T851 Aluminum and Mill Annealed 6Al-4V Titanium Alloy Plate", in letter to J. E. Campbell from Grumman Aerospace Corporation, Bethpage, NJ, Contract F33615-72-C-1744 (March 15, 1974).

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88578	2024-T861	da/dN		
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88579	2024-T851	da/dN	7075-T73511	da/dN
	2024-T852	da/dN	7075-T7352	da/dN
	2219-T851	da/dN	7075-T7651	da/dN
	7050-T73	da/dN	7075-T76511	da/dN
	7050-T73651	da/dN	7175-T73652	da/dN
	7075-T7351	da/dN		
	"B-1 Program da/dN Data for Aluminum Alloys", Rockwell International Corporation, memorandum to H. D. Moran from E. W. Cawthorne, Battelle's Columbus Laboratories (April 3, 1974).			
88700	6061-T6	K _{Isc}		
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88742	2124-T851	K _{Ic}		
	Fudge, K. A., and Jones, R. E., "Engineering Design Data for Aluminum Alloy 2124-T851 Thick Plate", Report AFML-TR-73-310, University of Dayton Research Institute, Dayton, OH, Contract F33615-72-C-1282 (January 1974).			
90011	2024-T351	K _{Ic}		
	2024-T851	K _{Ic}		
	2024-T852	K _{Ic}		
	2219-T851	K _{Ic}		
	7075-T7651	K _{Ic}		
	"Rockwell International, B-1 Program Fracture Toughness Data of August 5, 1974", with memorandum from E. W. Cawthorne to H. D. Moran of Battelle's Columbus Laboratories, (August 5, 1974).			
90981	2024-T851	K _{Ic} , da/dN		
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91123	7050-T736	K _{Ic}		
	7075-T76511	K _{Ic}		
	McCarty, J. E., et al., "Advanced Metallic Structure: Cargo Fuselage Design for Improved Cost, Weight, and Integrity", Report AFFDL-TR-73-53, Boeing Commercial Airplane Company, Seattle, WA, Contract F33615-72-C-1893 (June 1973).			
91332	7050-T736	da/dN		
	7050-T73651	da/dN		
	7050-T7651	da/dN		
	7475-T651	da/dN		
	7475-T7651	da/dN		
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AL001 2048-T851 K_{Ic} , da/dN
 2219-T852 K_{Ic} , da/dN
 7050-T7351 K_{Ic} , da/dN
 7475-T7351 da/dN

Brownhill, D. G., et al., "Exploratory Development for Design Data on Structural Aluminum Alloys in Representative Aircraft Environments", Alcoa Laboratories, Alcoa Center, PA, Contract No. F33615-74-C-5089, Report No. AFML-TR-77-102, July 1977.

AL002 2020-T651 da/dN
 7075-T6510 da/dN
 7075-T73510 da/dN
 7475-T651 da/dN

Data Sheets Containing Fatigue-Crack Growth Rate Data Near the Threshold on Aluminum Alloys 2020, 2024, and 7475, sent from R. J. Bucci, Aluminum Company of America, ATC, February 1982.

AL003 7475-T651 da/dN

FCGR Data Sheets for Aluminum Alloy 7475-T651 Plate, Received from R. J. Bucci, Aluminum Company of America, Alcoa Laboratories, August 1982.

AL004 7050-T76511 da/dN

FCGR Data Sheets on Aluminum Alloy 7050-T76511 and T73511, Received from R. J. Bucci, Aluminum Company of America, Alcoa Laboratories, August 1982.

AL005 7075-T651 da/dN
 7075-T6510 da/dN
 7075-T7351 da/dN
 7075-T73510 da/dN

FCGR Data Sheets on Aluminum Alloy 7075- Conditions T651, T6510, T7351, T73510, Plates, Bars, and Extrusions; Received from R. J. Bucci, Aluminum Company of America, Alcoa Laboratories, August 1982.

AL006 7050-T73511 da/dN

FCGR Data Sheets on Aluminum Alloy 7050-T73511 Extrusions, Received from R. J. Bucci, Aluminum Company of America, Alcoa Laboratories, August 1982.

AL007 7050-T7351X da/dN

FCGR Data Sheets on Aluminum Alloy 7050-T7351X Extrusions, Received from R. J. Bucci, Aluminum Company of America, Alcoa Laboratories, August 1982.

AL008 7050-T7651X da/dN

FCGR Data Sheets on Aluminum Alloy 7050-T7651X Extrusions, Received from R. J. Bucci, Aluminum Company of America, Alcoa Laboratories, August 1982.

TABLE 8.22 (con't)

AL009	7475-T7351 da/dN
	FCGR Data Sheets on Aluminum Alloy 7475-T7351 Plate, Received from R. J. Bucci, Aluminum Company of America, Alcoa Laboratories, August 1982.
AL010	2024-T351 da/dN
	FCGR Data Sheets on Aluminum Alloy 2024-T351 Plate, Received from R. J. Bucci, Aluminum Company of America, Alcoa Laboratories, August 1982.
AL011	2324-T39 da/dN
	FCGR Data Sheets on Aluminum Alloy 2324-T39 Plate, Received From R. J. Bucci, Aluminum Company of America, Alcoa Laboratories, August 1982.
AL012	7050(ALCLAD)-T76 da/dN
	FCGR Data Sheets on Aluminum Alloy 7050-T76 (ALCLAD), Received from R. J. Bucci, Aluminum Company of America, Alcoa Laboratories, August 1982.
AL013	7050-T73651 da/dN
	FCGR Data Sheets on Aluminum Alloy 7050-T73651 Plate, Received from R. J. Bucci, Aluminum Company of America, Alcoa Laboratories, August 1982.
AL014	7150-T651 da/dN
	FCGR Data Sheets on Aluminum Alloy 7150-T651 Plate, Received from R. J. Bucci, Aluminum Company of America, Alcoa Laboratories, August 1982.
AL015	7050-T73651 K_{Ic} 7050-T73652 K_{Ic} , da/dN 7050-T76 da/dN
	FCGR Data Sheets on Aluminum Alloy 7050-T73651 Plate and 7050-T73652 Forging, Received from R. J. Bucci, Aluminum Company of America, Alcoa Laboratories, August 1982.
BL001	7010-T73651 K_{Ic} , K_{Isc}
	Deel, O., "Engineering Data for New Aerospace Materials", Battelle's Columbus Laboratories, Columbus, OH, Contract No. F33615-78-C-5040, Report No. AFWAL-TR-80-4103, July 1980.
BL002	2124-T851 da/dN 7075-T7351 da/dN 7475-T7351 da/dN
	Ruff, P. E., and Smith, S. H., "Development of Mil-Hdbk-5 Design Allowable Properties and Fatigue Crack-Propagation Data for Several Aerospace Materials", Battelle's Columbus Laboratories, Columbus, OH, Contract No. F33615-75-C-5063, Report No. AFML-TR-77-162, October 1977.

TABLE 8.22 (con't)

BW001	2014-T6	da/dN
	2024-T3511	da/dN
	7075-T6	da/dN
	7075-T6511	da/dN
	7079-T6	da/dN
	7178-T6	da/dN
	Horsley, J. J., and Harris, C. E., "Durability and Damage Tolerance Assessment (DADTA) of B-52 G/H Structures, Task II, Damage Tolerance Assessment Final Report", Boeing Company, Wichita, KS, Contract No. F34601079-C-1515, Document No. D3-11560-3 June 1980.	
BW002	2024-T351	da/dN
	7075-T6	da/dN
	7178-T6	da/dN
	Lambert, G., Mecham, P., and Mah, T., "Durability and Damage Tolerance Assessment (DADTA) of B-52 G/H Structures, Task III, Individual Airplane Crack Growth Tracking Program", Boeing Company, Wichita, KS, Contract No. F34601-79-C-2258, Document No. D3-11560-6, November 1981.	
BW005	2024-T3511	da/dN
	Watson, K. R., "Weapons Bay Durability and Damage Tolerance Analysis", The Boeing Company, Wichita, KS, Contract No. F33657-78-C-0108-PZ0036, Document No. D361-40041-1, September 1980.	
BW007	2024-T3511	K _{IC}
	Hananel, A., Watson, K., Knoff, K., and Sherrick, G., "Fracture Mechanics Testing of B-52/CMI Materials", Final Test Report, The Boeing Company, Wichita, KS, Contract No. F33657-78-C-0108-PZ0036, Document No. D361-11197-1, December 1978.	
DA001	2024-T351	R-curve, da/dN
	7075-T6511	R-curve, da/dN
	7475-T7651	R-curve, da/dN
	Fatigue Crack Growth Rate Data Sheets on Aluminum Alloys 2024, 7010, 7050, 7075 and 7475, Stainless Steel Alloys 17-4PH and 17-7PH, and Alloy Steels 4340, A286, H-11, H7-180 and 12-9-2, Sent from Paul Abelkis, Douglas Aircraft Company, McDonnell Douglas Corporation, Long Beach, CA, March 1982.	
EFM01	2024-T3	da/dN
	7075(ALCLAD)-T6	da/dN
	Mackay, T. L., "Fatigue Crack Propagation Rate at Low Delta K of Two Aluminum Sheet Alloys - 2024-T3 and 7075-T6", Engineering Fracture Mechanics, Volume II, p 753-761, 1979.	
FR001	2024-T3	da/dN
	2024-T351	da/dN
	Fatigue Crack Growth Rate Data on 2024 Aluminum Sheet and Plate, Data sent from J. Arrighi, Fairchild Republic Company, Farmingdale, NY, March 4, 1982.	
JD001	Kaarlela, W. T., and Nordquist, F. C., "Precision Aluminum Forgings Test Program for the F-16 Airplane", General Dynamics, Fort Worth Division, Report No. 16 PR678, April 1978.	

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GD002	7175-T7354 da/dN	Kaarlela, W. T., and Nordquist, F. C., "Crack Growth Rate (da/dN) Characteristics of 7175-T7354 Bulkhead Forgings", General Dynamics, Fort Worth Division, Report No. 16 PR721, June 1977.
GD003	2124-T851 K_{Ic} , da/dN	Kaarlela, W. T., "2124-T851 Metals Allowables Testing", General Dynamics, Fort Worth Division, Report 16 PR850, October 1978.
GD004	2024-T62 da/dN 2024-T81 da/dN	Wolnaski, Z. R., "2024-T81 and -T62 0.125-Inch Sheet Metal Allowables", General Dynamics, Fort Worth Division, Report No. 16 PR853, October 1978.
GD005	2024-T62 K_C , R-curve 2024-T81 K_C , R-curve 7475-T7351 K_C , R-curve 7475-T7651 K_C , R-curve	Margolis, W. S., and Nordquist, F. C., "Plane Stress Fracture Toughness (K_C) of Aluminum Alloy 7475- One Half Inch Plate Tempers -T7651 and -T7351 and of Aluminum Alloy 2024 - One Eighth Inch Sheet -T81 and -T62 Temper", General Dynamics, Fort Worth Division, TX, Report No. 16 PR889, February 1978.
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