

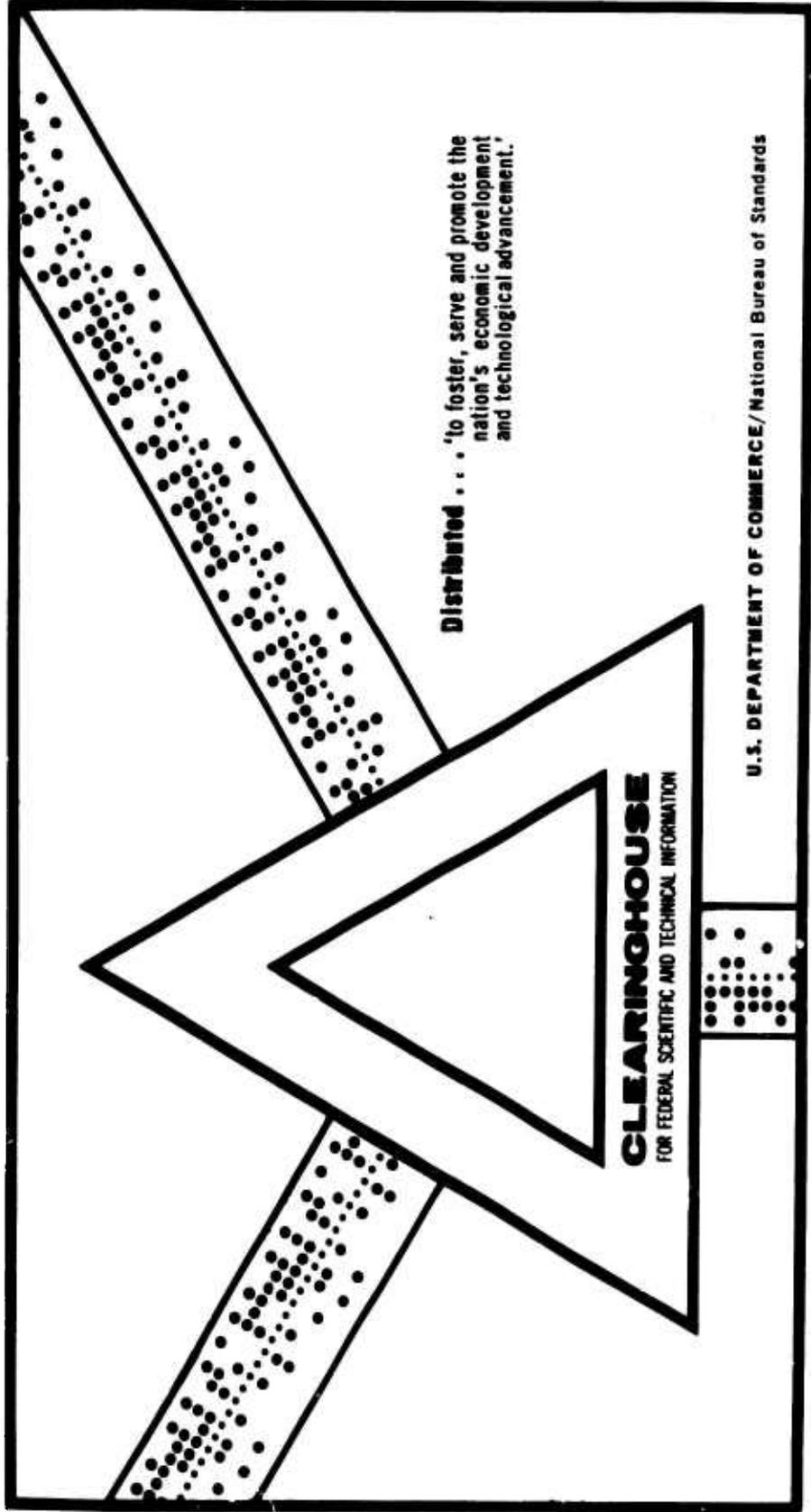
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**DETERMINATION OF PRINCIPAL PROPERTIES OF E FIBER-GLASS HIGH
TEMPERATURE EPOXY LAMINATES FOR AIRCRAFT**

S. J. Dastin, et al

Grumman Aerospace Corporation
Bethpage, New York

August 1969



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DETERMINATION OF PRINCIPAL PROPERTIES
OF "E" FIBER-GLASS HIGH TEMPERATURE
EPOXY LAMINATES FOR AIRCRAFT

Final Report

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DETERMINATION OF PRINCIPAL PROPERTIES
OF "E" FIBER-GLASS HIGH TEMPERATURE EPOXY LAMINATES FOR AIRCRAFT

FINAL REPORT

August 1969

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Grumman Aerospace Corporation

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DOVER, NEW JERSEY 07801

Under Contract DAAA21-68-C-0404

Grumman Aerospace Corporation
Bethpage, New York 11741

FOREWORD

The work reported herein was performed under the sponsorship of Plastics Technical Evaluation Center - Picatinny Arsenal, Dover, New Jersey 07801 for the U.S. Army under contract DAAA21-68-C-0404. Mr. A. Slobodzinski, Picatinny Arsenal, is the U.S. Army Project Officer.

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ABSTRACT

A test program was conducted to develop mechanical strength data on ECDE 7581 glass fabric impregnated with F161 resin. This data is to be used in the new revision of MIL-HDBK-17. The properties determined were tensile, compressive and shear strengths and stiffnesses and Poisson's ratios over the temperature range of -65°F to 450°F. The results are presented in graphical, tabular, and summary forms.

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LIST OF SYMBOLS

$\dot{\sigma}_u$ - Ultimate stress in tension, compression, or flexure.

ϵ_u - Strain at ultimate stress in tension or compression.

E - Initial modulus of elasticity (Young's modulus) in tension or compression.

E' - Secondary modulus of elasticity in tension.

τ_{12} - Shear stress in the X-Y plane of the laminate.

τ_{13} - Shear stress in the X-Z plane of the laminate.

SECTION 1

INTRODUCTION

This document is submitted to the U.S. Army under contract DAAA21-68-C-0404 "Determination of Principal Properties of "E" Fiberglass - Epoxy Laminates For Aircraft".

The data contained herein was obtained on temperature resistant laminates, intended for continuous service up to 400°F (short time to 500°F), consisting of F161-505 epoxy-novolac resin reinforced with ECDE 7581 glass fabric (8 Harness satin using 75- 1/0 yarn), also designated 7781. Mechanical properties of these laminates were measured for the range from -65°F to 450°F in the dry state, and -65°F to 220°F in the wet state.

The developed data is intended for incorporation in revised MIL-HDBK-17, Plastics for Aerospace Vehicles.

SECTION 2

PHYSICAL PROPERTIES

2.1 PREPREG MATERIAL

The physical properties of the prepreg used in this program were subdivided into three groups, each group corresponded to a different resin content. The prepreg material was manufactured by HEXCEL - COAST MANUFACTURING DIVISION (formerly Coast Manufacturing and Supply). Two sets of physical property values for the uncured prepreg are listed for comparative purposes i.e., those furnished by the supplier and those measured by Grumman Aerospace Corporation. These values are summarized in Table 2-1.

TABLE 2-1 Physical Properties of Prepreg Material

GROUP NO.	I		II		III	
	HEXCEL	GRUMMAN	HEXCEL	GRUMMAN	HEXCEL	GRUMMAN
Average devolatilized Resin Content, %	26.78	26.25	33.15	33.18	36.57	36.63
Range of Resin Content, %	24.8-28.4	24.7-28.1	32.55-34.25	32.8-33.61	36.00-37.42	36.40-36.98
Average Volatiles, %	.69	.48	.55	.53	.55	.56
Range of Volatiles, %	.59-.81	.47-.49	.50-.57	.50-.56	.51-.57	.51-.60
Average Flow, %	2.7	1.5	7.9	6.2	12.9	10.1
Range of Flow, %	2.3-3.1	.6-2.7	7.3-9.0	5.6-7.4	12.2-14.0	9.3-11.3

NOTE: - Values from 4" squares, 4 ply laminates at 325°F and 15 psi for 8 minutes as per Society of Plastics Industry (SPI) Procedures PREPREG-1 and PREPREG-2.

- All values are weight percentages.

2.2 LAMINATES

The laminated panels used for mechanical testing, were constructed as shown in Reference 1, i.e., using parallel, alternately inverted, eight (8) and ten(10) ply layups - see Section 4.

2.2.1 RESIN CONTENT DERIVED FROM PER PLY THICKNESS

The average resin content of the laminates in each group was determined as follows:

- 1) The average per ply thickness of the laminates in each group was obtained and 2) these values were converted to average resin content using Figure 2-1, (the data used to generate this relationship were resin content tests on actual laminates by resin pyrolysis at $1050 \pm 50^{\circ}\text{F}$ in accordance with FTMS 406 Method 7061). The results are summarized below:

TABLE 2-2 Resin Contents from Per Ply Thickness Data for Laminated Plastic Panels

GROUP NUMBER	I	II	III
Average Resin Content*, %	26.0	31.0	35.6
Range Resin Content*, %	22.2-30.0	26.0 - 35.7	26.0 - 39.8
Average Per Ply Thickness, in.	.0080	.0090	.0101
Range Per Ply Thickness, in.	.0072-.0088	.0080-.0100	.0080-.0113

*NOTE: - All values are weight percentages

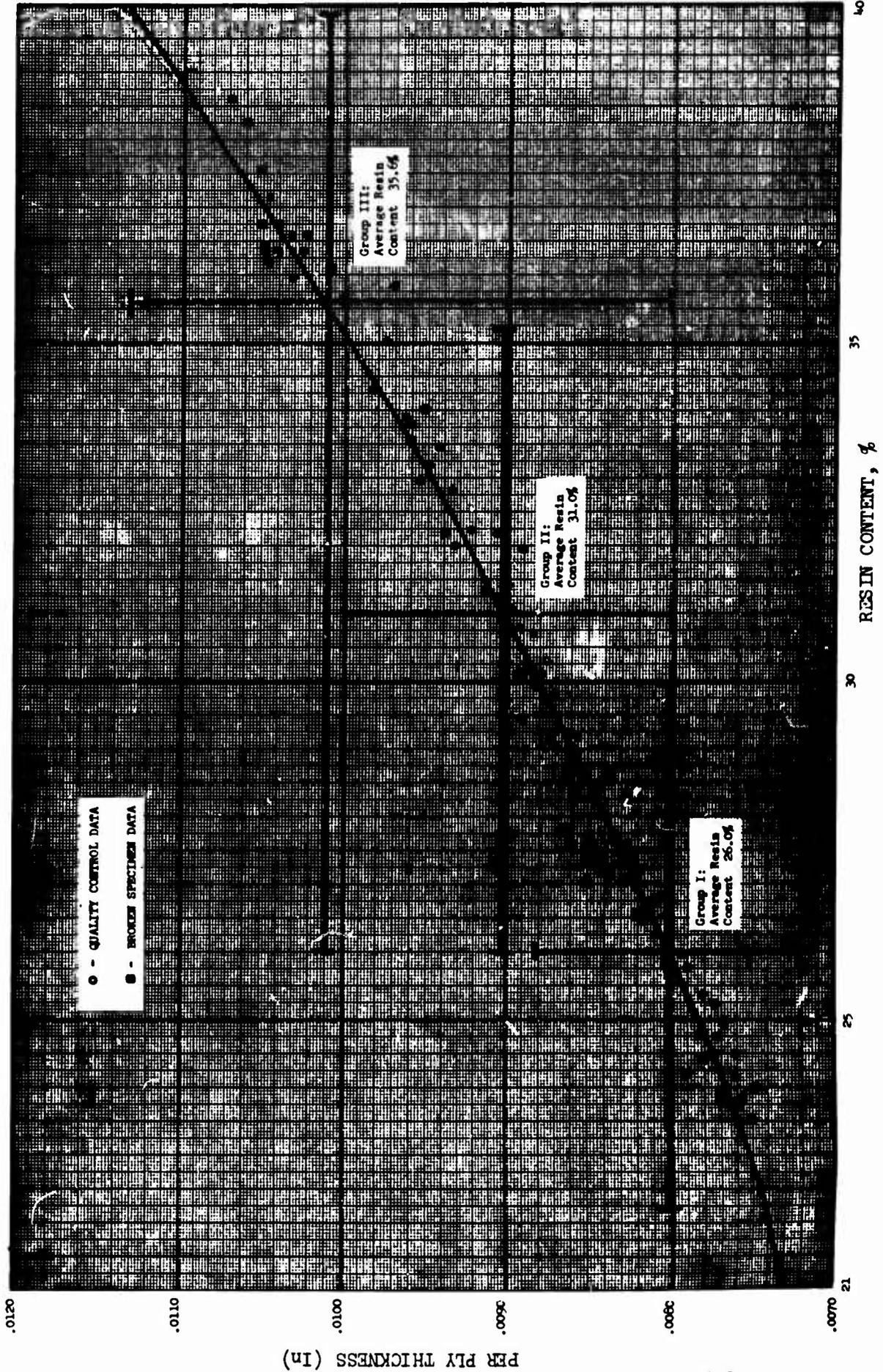


Figure 2-1. Gravimetric Resin Content versus Per Ply Thickness for F161/7581 Fiberglass Epoxy

2.2.2 RESIN CONTENT DERIVED FROM SPECIFIC GRAVITY

To obtain additional information, the average resin content of the laminated plastic panels in each group was obtained in another manner as follows:

- 1) The average specific gravity for each group was obtained (on actual laminates by water displacement, FTMS 406 Method 5011) and 2) these values were converted to average resin content using Figure 2-2. The relationships of Figure 2-2 were established by relating specific gravity to actual resin contents by pyrolysis (FTMS 406, Method 7061). These values are listed in Table 2-3 below:

TABLE 2-3 Resin Contents from Specific Gravity Data for Laminated Panels

GROUP NUMBER	I	II	III
Average Resin Content, %	25.9	31.6	35.8
Range of Resin Content, %	22.6 - 28.5	29.7 - 32.5	32.5 - 38.0
Average Specific Gravity	2.01	1.92	1.86
Range of Specific Gravity	1.97-2.06	1.89-1.95	1.82-1.91

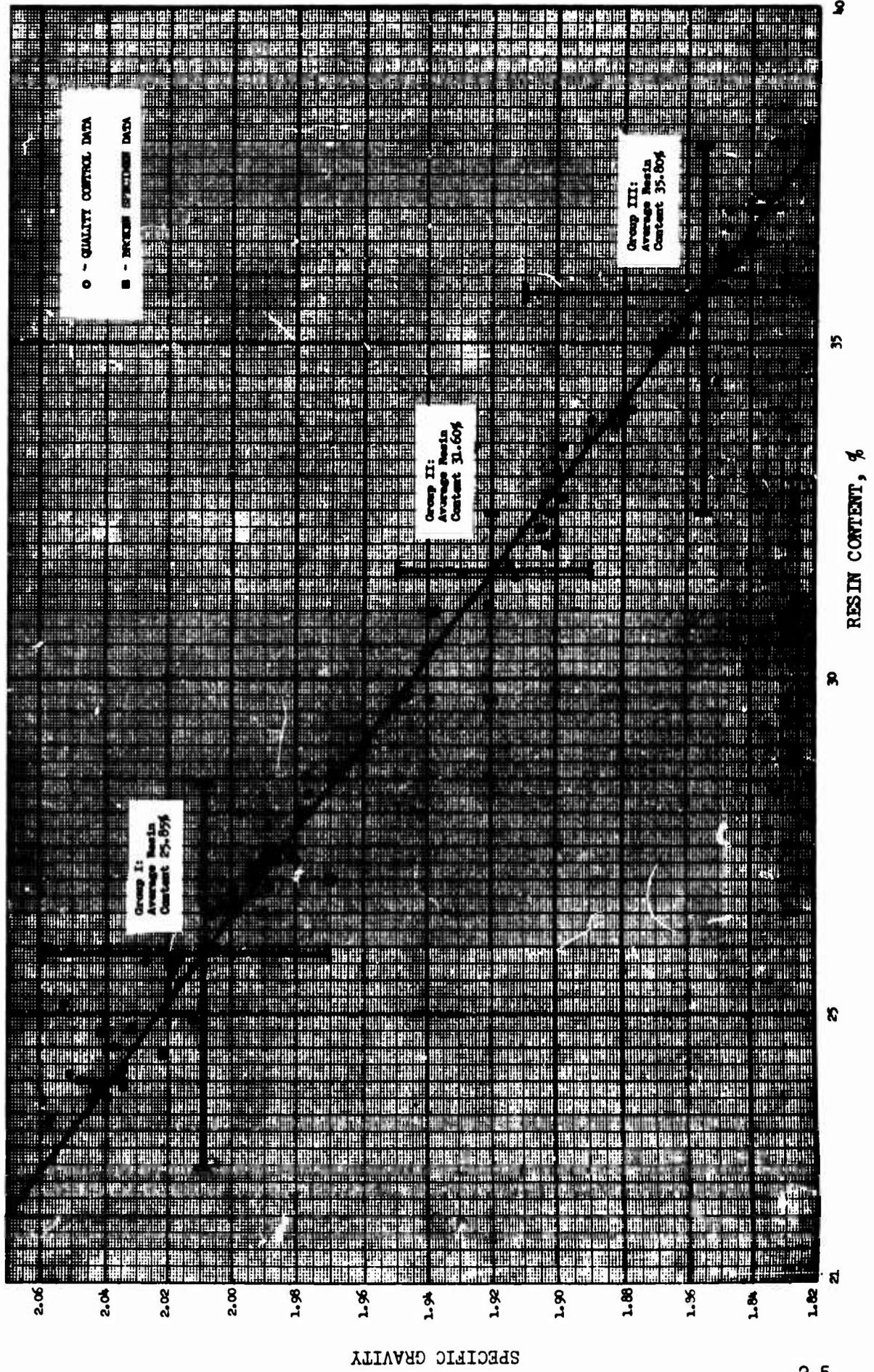


Figure 2-2. Gravimetric Resin Content versus Specific Gravity for F161/7581 Fiberglass Epoxy

2.2.3 VOID CONTENT

To determine void content of the laminated panels, theoretical curves of voids versus specific gravity and resin content are presented in Figure 2.3. These curves were generated as follows:

At resin contents of 26.5%, 33.75% and 36.5% (which correspond to dense data points on Figure 2.2), and assuming 7 void contents of 0 to 6 percent, the relationship between laminate resin content and specific gravity was established in accordance with the relationships specified in ASTM D-2734. These theoretical curves assumed a 7581 glass reinforcement specific gravity of 2.56. The specific gravity of the resin was obtained by taking several 1/8 inch thick, 1 inch square pure resin castings, exposing them to the same cure cycle as that of the laminates, and measuring the specific gravity by water displacement (FTMS 406 Method 5011). The specific gravity was found to be 1.260 average, with a range of 1.259 to 1.263.

To verify the accuracy of these curves, the methods specified in MIL-P-17549C (SHIPS) were used to find the void content, using measured values of resin content and specific gravity. The results are:

<u>RESIN CONTENT (%)</u>	<u>SPECIFIC GRAVITY</u>	<u>VOID CONTENT (%)</u>
26.50	2.00	0.4%
33.75	1.887	0.6%
36.50	1.884	0.9%

The dotted curve shown in Figure 2.3, is the plot of the actual specific gravity of the fabricated laminates used in obtaining data presented herein. All had measured void contents less than 1% by volume, which verifies the 0 and 1% void curves. Higher void content curves could not be verified under this program.

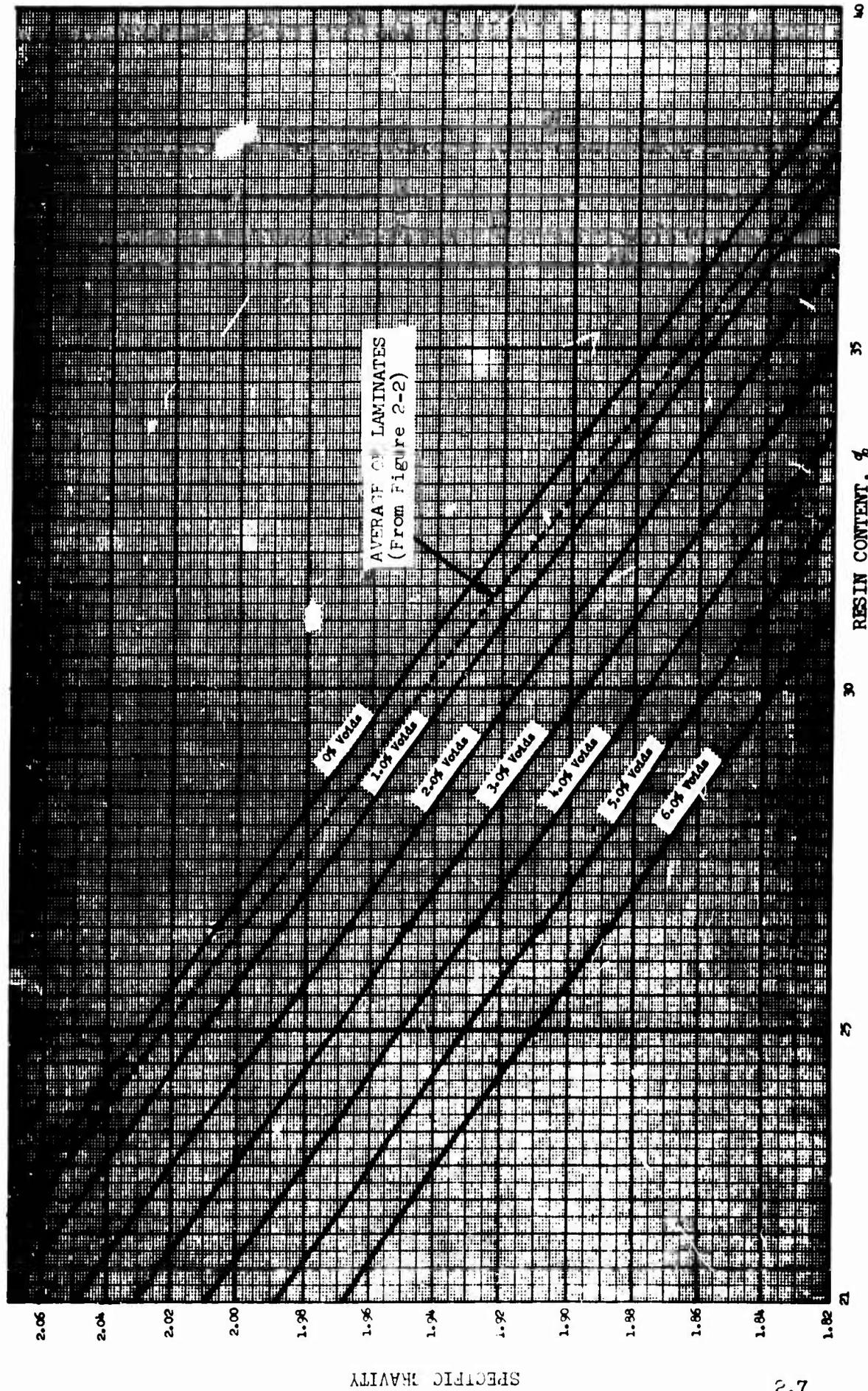


Figure 2-3. Gravimetric Resin Content versus Specific Gravity for F161/7581 Fiberglass Epoxy of Various Theoretical Void Contents.

SPECIFIC GRAVITY

2.7

SECTION 3

MECHANICAL PROPERTIES

3.1 GENERAL INFORMATION

The data reported in this section were generated from specially selected specimen shapes, considering the following:

TENSION SPECIMEN - An elongated, $11\frac{1}{2}$ inch long, bow-tie tensile specimen was selected for use in this program (see Figure 3-1). It provided realistic data indicated by terminal failures in the test gage section with minimum scatter. In addition, this specimen was easily fabricated and provided reproducible data. Other tensile specimen configurations which were evaluated for possible use in this program were tab ended $\frac{1}{2}$ inch wide straight sided specimens, other elongated bow-tie specimen, and ASTM D638 Type I specimens of 3, 8, and 18 inch neck down radii (see Reference 2).

COMPRESSION SPECIMEN - The standard ASTM D695 method is generally employed when compressive strength of laminated plastics is desired. This test requires the use of a short, straight sided specimen. Typical failure modes included crushed fibers, delaminations and brooming (failure of the ends of the specimen in contact with the pressure plates). A specimen configuration that avoided these failures and enabled shear plane type fracture was selected (see Figure 3-2). The specimen and fixture provided a central unsupported area of slenderness ratio of 6.5:1 (0.1 thickness) to 8.1:1 (0.08 thickness).

PICTURE FRAME SHEAR SPECIMEN - A series of tests to evaluate the suitability of using the picture frame shear test specimen to generate data on fiberglass laminates was conducted. The specimen configuration shown in Figure 3-3 was found adequate for this program.

POISSON'S RATIO SPECIMEN - By relating test data developed in compression and tensile testing a straight-sided tensile specimen was selected. An extensometer was centrally located to measure longitudinal extensions, and strain gages were centrally loaded to measure lateral contraction (See Figure 3-4).

The specimen configurations described above were used with the following test methods:

TENSION TEST METHOD - Testing was performed with grips which were self-aligning, both transversely and axially (modified Templin grips). The speed of testing (head travel) was held constant at 0.050 inch per minute. The specimen was aligned such that its longitudinal axis was parallel to the direction of load application.

COMPRESSION TEST METHOD - A jig which completely stabilized the ends of the specimen was used. The jig surfaces which contacted the specimen were Teflon faced and the ends of the specimen were clamped (sliding fit). This fixture provided an unsupported free space of 3/16 inch. Figure 3-5 shows the jig with the test specimen inserted. Compressometers were installed at the sides of the specimen. The test was conducted to fracture at a speed of 0.050 inch per minute.

PICTURE FRAME SHEAR TEST METHOD - The specimen was loaded at alternate corners in tension at a loading head rate of 0.050 inch per minute, with compressometers positioned to measure the lateral contraction as shown in Figure 3-3.

POISSON'S RATIO TEST METHOD - Standard Templin grips were used to induce a tensile stress. Values were reported at several strains. The loading rate to a given strain was 0.05 inch per minute.

Test temperature, condition, and number of specimens is given in Table 3-1. The wet condition indicates exposure to $95 \pm 5\%$ relative humidity for 42 days at a temperature of 125°F. In addition, for wet

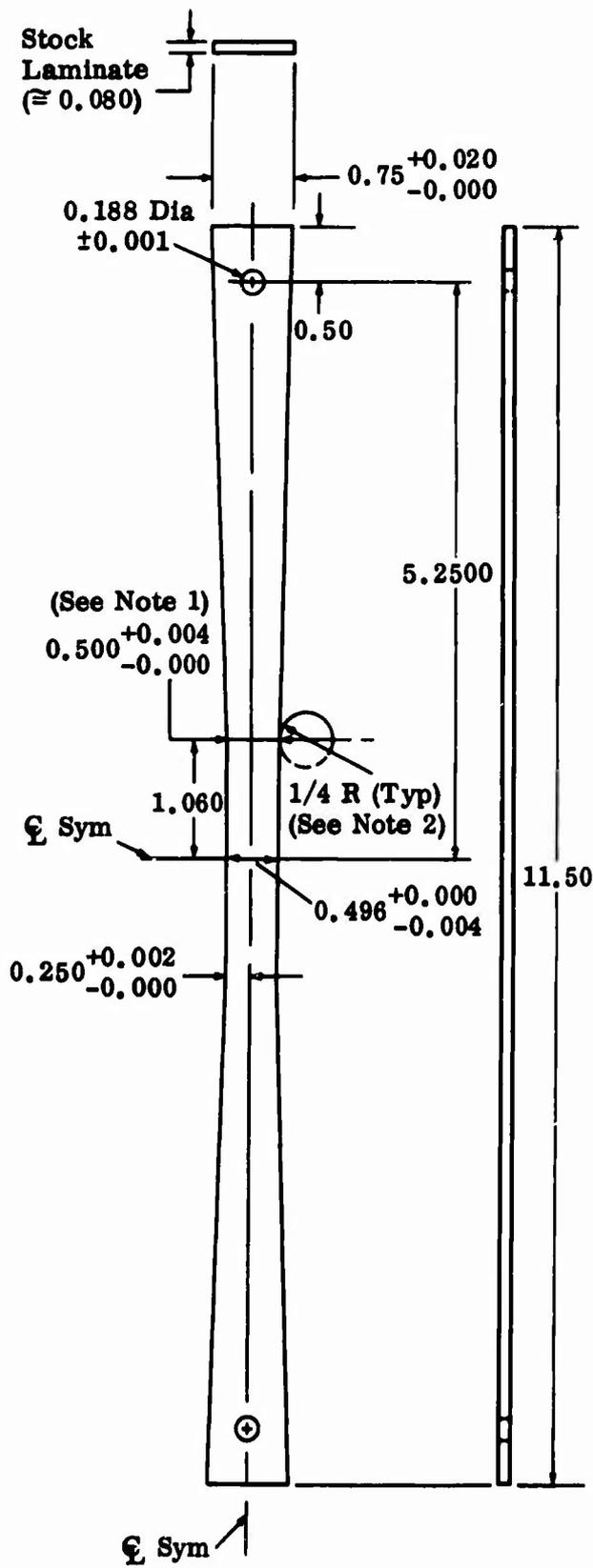
tests at 25°F and -65°F the samples were cycled four times between 25°F and 125°F (wet) with $\frac{1}{2}$ hour exposure at each temperature condition. The dry condition indicates that the specimens were exposed to 50 ± 5% relative humidity at 70-75°F for 14 days. The elevated temperature condition (400°F and 450°F) indicates that the specimens were exposed to 400°F and 450°F respectively for 100 hours prior to test at these elevated temperatures. All data pertaining to each test condition are recorded on the top of the appropriate table in the appendices.

TABLE 3-1 Regrouped Test Schedule and Test Environment

GRAVIMETRIC RESIN CONTENT, %	NUMBER OF TESTS FOR EACH PROPERTY					
	26		31		36	
CONDITION	WET	DRY	WET	DRY	WET	DRY
TEMPERATURE °F						
450* (1), (2)	-	5	-	-	-	5
400 (1), (2)	-	10	-	20	-	10
220 (1), (2)	5	-	-	-	5	-
160 (2)	10	-	20	-	10	-
75 (RT)	10	-	20	-	10	-
25 (2)	5	-	10	-	5	-
-65 (2)	10	20	20	10	10	10

* This temperature is 50°F in excess of the maximum temperature recommended for continuous use of this material (400°F). This test was performed to obtain additional data.

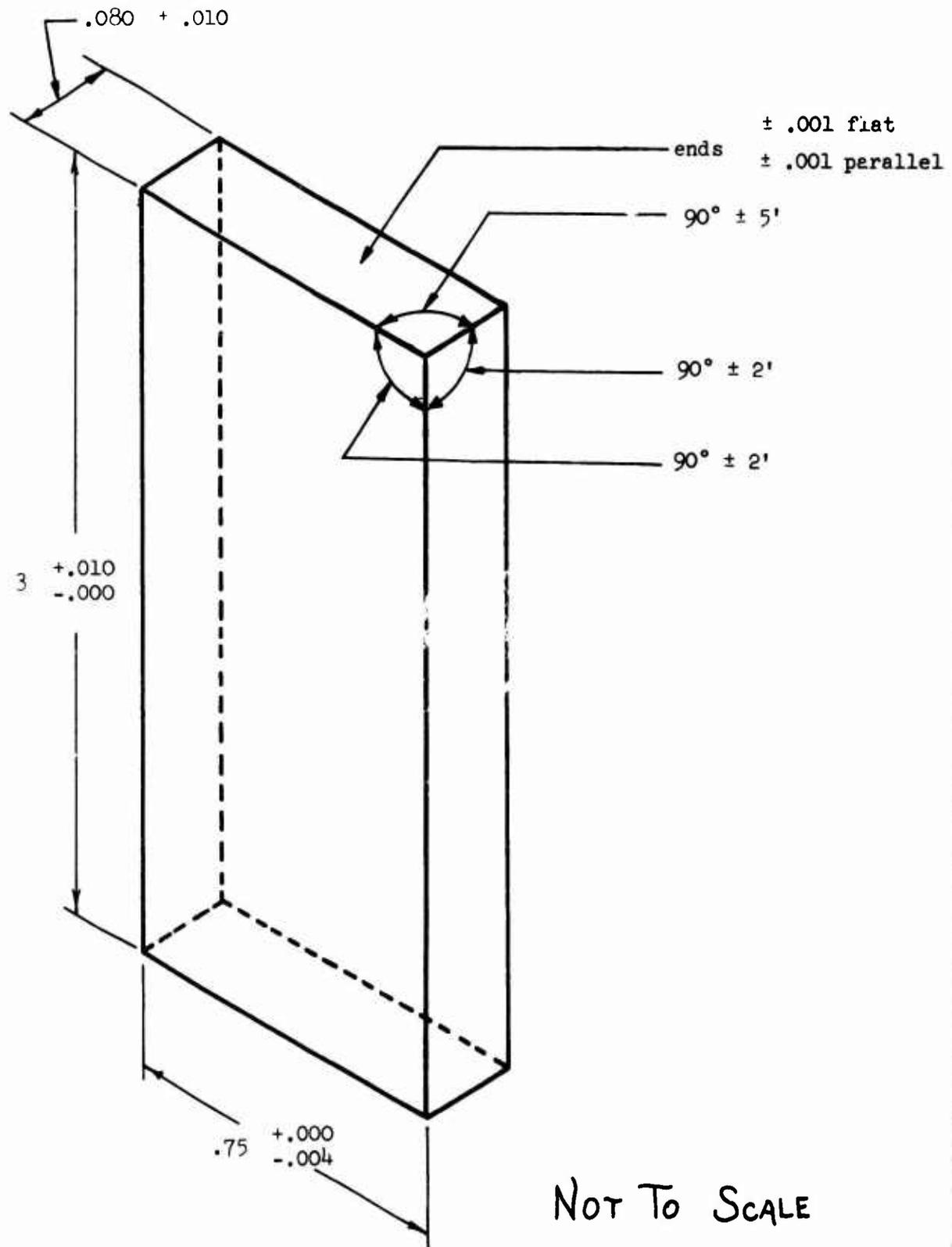
- (1) Picture-frame shear tests were not performed at these temperatures.
- (2) Poisson's ratios were not determined at these temperatures.



Notes:

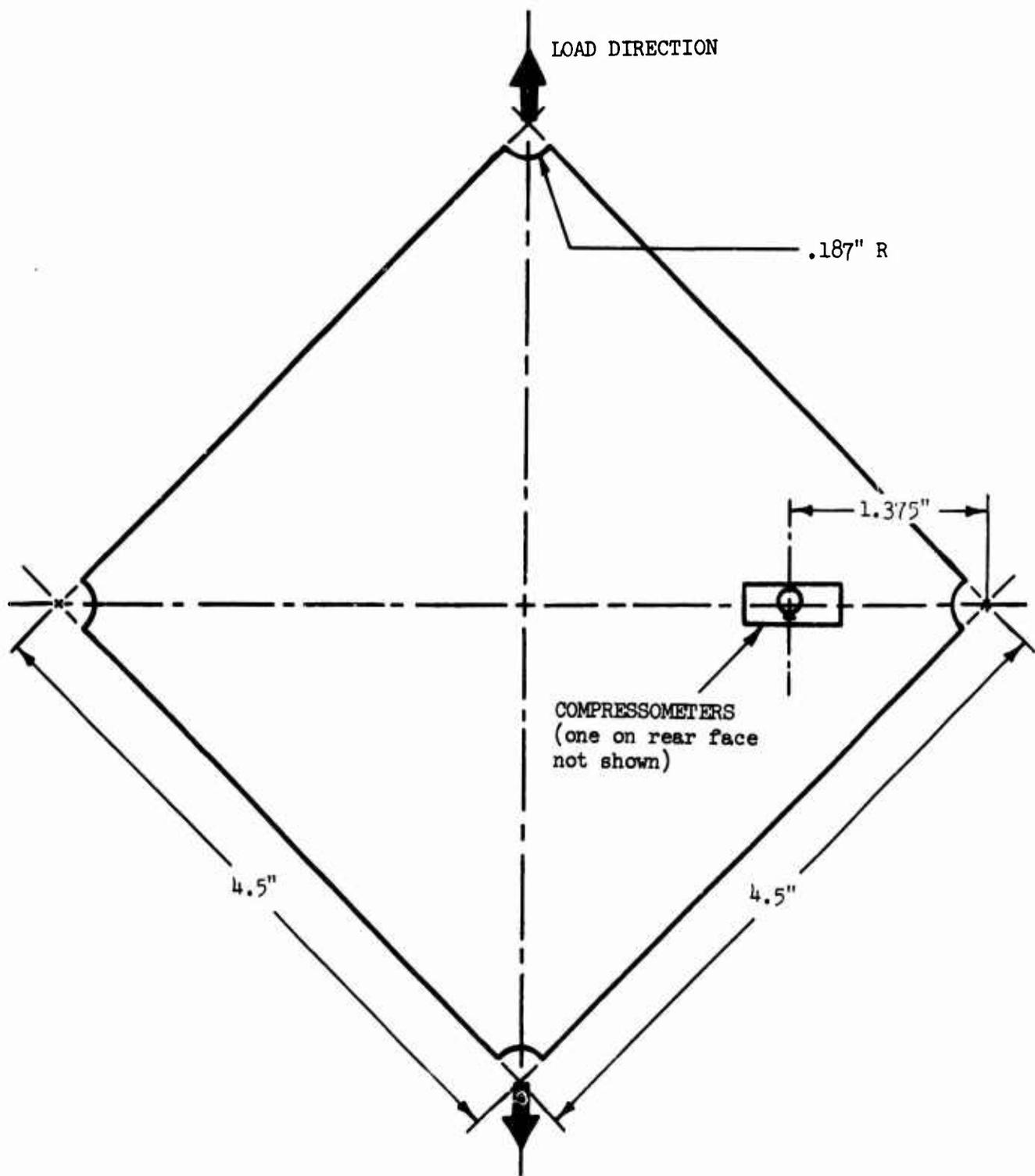
1. The width outward from 0.496 shall be increased gradually and equally on each side up to 0.500 so that no abrupt changes in dimensions result.
2. Transition from straight-sided center section to tapered section shall be smoothly joined in the area of the 1/4 rad.
3. All dimensions in inches

Figure 3-1. Selected Tensile Specimen



Note: All Dimensions In Inches

Figure 3-2. Selected Compression Specimen



NOTE: ONLY EXPOSED AREA INSIDE FRAME IS SHOWN.
 FOR COMPLETE SPECIMEN
 DESCRIPTION SEE
 REFERENCE 1.

Figure 3-3 Schematic of Picture Frame Shear Specimen
 Showing Location of Compressometers

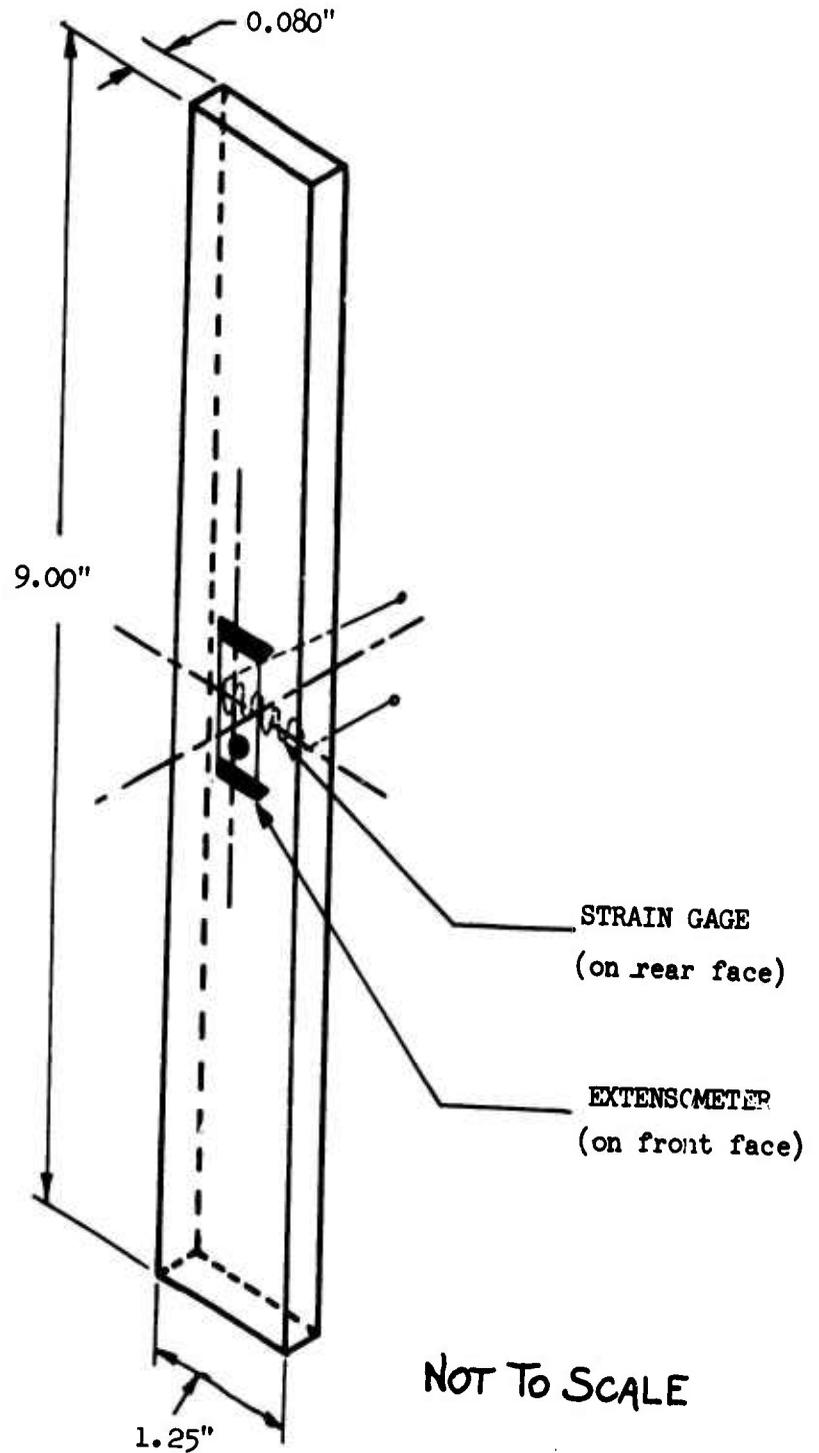


Figure 3-4. Specimen Selected to Determine Poisson's Ratio

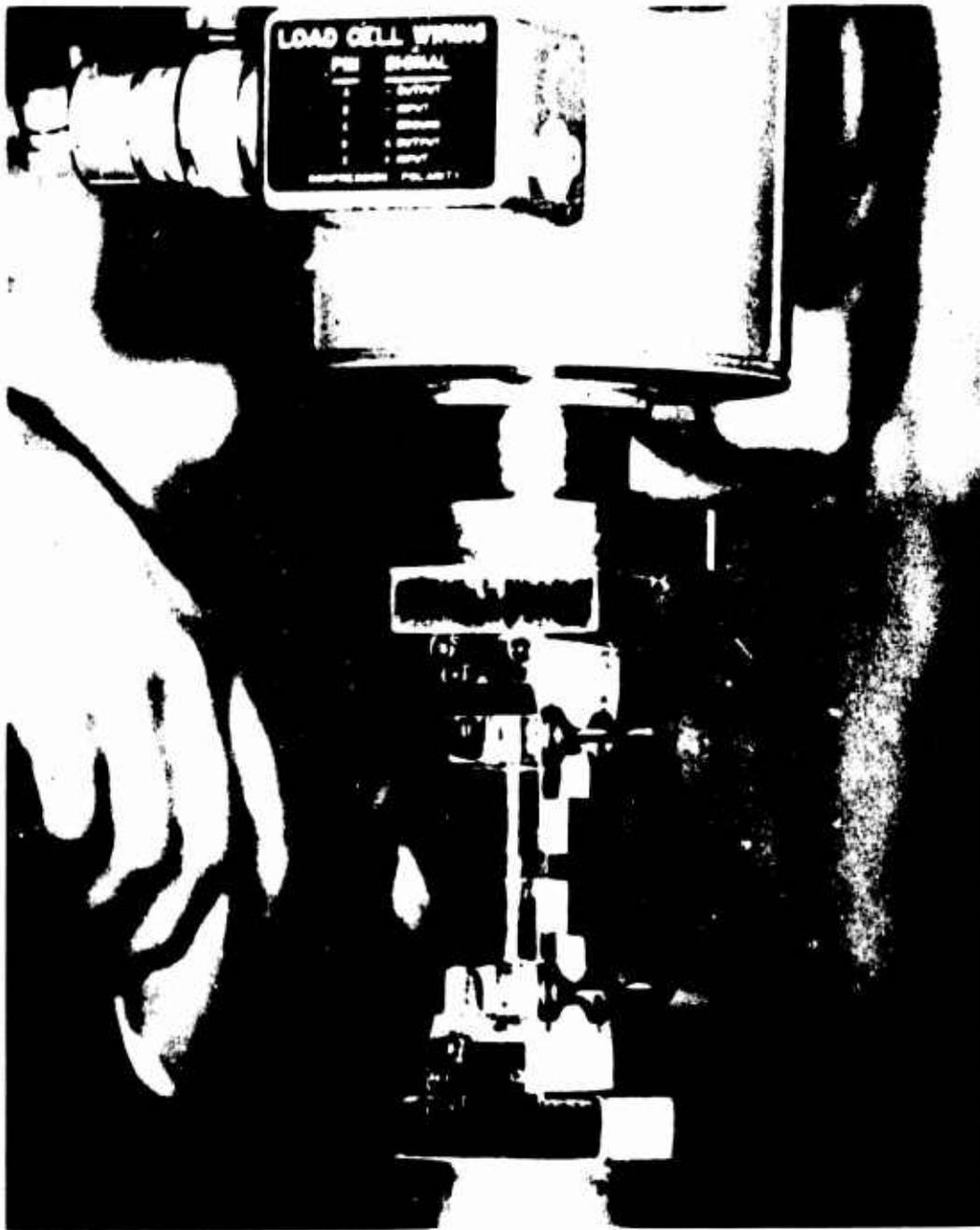


Figure 3-5. Compression Test Jig with Test Specimen Inserted

3.2 GROUP I (26.0% Resin Content) Laminates

The specific data in tabular form for laminates of this resin content are reported in Appendix I in the following manner:

Tension - Tables AI-1 to AI-18

Compression - Tables AI-19 to AI-36

Picture Frame Shear - Tables AI-37 to AI-40

Poisson's Ratio - Tables AI-41 to AI-43

3.2.1 SUMMARY DATA

Table 3-2 summarizes the primary mechanical properties of 26% average resin content laminates. All values, except flexural strength and interlaminar shear, are from either Appendix I data or from the graphs of para. 3.3.2 (on laminates of 0.08 inch nominal thickness). The flexural strength data are from Quality Control Testing (see para. 3.5) of .125 inch nominal thickness laminates and the interlaminar shear values are from separately molded 0.250 inch thick panels tested by short span bending in accordance with ASTM D 2344.

3.2.2 GRAPHICAL DATA

Figures, 4.5.1, 4.5.2, 4.5.3, and 4.5.4 (to be in revised MIL-HBKB-17) are graphical representations of the data given in Table 3-2 and Appendix I. Note that the arrowheads of the stress-strain curve of average minus 3 times the standard deviation (AVG. -3 S.D.) indicate the highest strain level for which stress readings for all specimens in the sample were recorded.

TABLE 3-2 SUMMARY OF MECHANICAL PROPERTIES - GROUP I LAMINATES

THICKNESS	PLIES: 8 AND 10		INCHES: .0080 (AVERAGE PER PLY)		BLEEDOUT:		CURE:		POSTCURE:										
	LAY UP:		VACUUM:		PRESSURE:		VERT. & STEPPED EDGE		1 HR @ 360F		2 HR @ 300F & 2.5 HR @ 400F								
	BALANCED, PARALLEL		NONE		60 ± 5 PSI														
PHYSICAL PROPERTIES		WEIGHT PERCENT RESIN:		SPECIFIC GRAVITY:		PERCENT VOIDS (BY VOLUME):		BARCOL HARDNESS:		75 (AVERAGE)									
TEMPERATURE CONDITION		26.0 (AVERAGE)		2.01 (AVERAGE)		0.4 (APPROX)													
TEMPERATURE CONDITION		-65F		25F		RT		160F		220F		400F		450F					
		DRY		WET		WET		DRY		WET		DRY		DRY					
		AVG	SD	AVG	SD	AVG	SD	AVG	SD	AVG	SD	AVG	SD	AVG	SD				
TENSION: σ_u , KSI	0°	92.4	5.16	80.5	10.87	69.5	-	61.4	3.20	65.7	3.03	50.7	5.72	51.3	59.8	3.81	47.5	-	
	90°	67.8	10.85	62.3	5.01	57.4	-	50.3	2.61	53.6	5.19	46.2	2.69	38.8	35.2	5.16	27.3	-	
ϵ_u , %	0°	2.86	.211	2.37	.311	2.02	-	1.78	.133	1.97	.144	1.58	.191	1.49	1.96	.075	1.59	-	
	90°	2.42	.314	1.97	.244	1.85	-	1.65	.075	1.88	.173	1.55	.101	1.30	1.38	.133	1.19	-	
$E \times 10^6$ psi	0°	4.42		4.49		4.28		4.10		3.92		3.72		3.53	3.27		3.12		
	90°	4.22		4.21		4.08		3.76		3.17		3.38		3.08	2.86		2.56		
$E' \times 10^6$ psi	0°	3.32		3.14		3.11		3.06		3.24		3.07		3.14	2.94		2.80		
	90°	2.70		2.74		2.65		2.62		2.72		2.55		2.65	2.46		2.22		
COMPRESSION σ_u , KSI	0°	73.2	6.83	74.0	5.02	52.9	-	57.3	4.0	48.9	3.50	44.7	3.25	40.5	28.8	3.03	14.7	-	
	90°	64.2	3.19	55.8	4.40	43.7	-	47.5	2.28	42.0	2.64	40.1	1.90	23.6	18.9	0.69	11.9	-	
ϵ_u , %	0°	1.70	.419	1.65	.277	1.16	-	1.09	.170	1.12	.153	0.84	.143	1.19	.75	.031	.34	-	
	90°	1.40	.138	1.42	.273	0.97	-	1.26	.413	1.14	.231	1.22	.177	0.98	.71	.272	.42	-	
σ_y , KSI	0°	39		46		22		42		41		24		29	15		-	-	
	90°	28		41		17		24		36		21		18	11		-	-	
$E \times 10^6$ psi	0°	4.42		4.47		4.33		4.27		4.05		3.94		3.60	3.73		3.89		
	90°	4.02		4.19		4.31		4.12		3.68		3.40		3.46	3.07		2.88		
SHEAR τ , KSI	0°/90°	20.1	2.3	-	-	-	-	16.0	1.64	13.4	1.28	-	-	-	-	-	-	-	
TEMP CONDITION		75F		DRY		MIN		MAX		MIN		MAX		MIN		MAX		MIN	
FLEXURE σ_u , KSI	0°	94.10		96.86		89.64													
INTERLAMINAR SHEAR: 13' KSI	0°	5.56		5.65		5.50													

TEST METHODS:
 TENSION MIL-HDBK-17
 COMPRESSION MIL-HDBK-17
 INTERLAMINAR SHEAR ASTM D2346

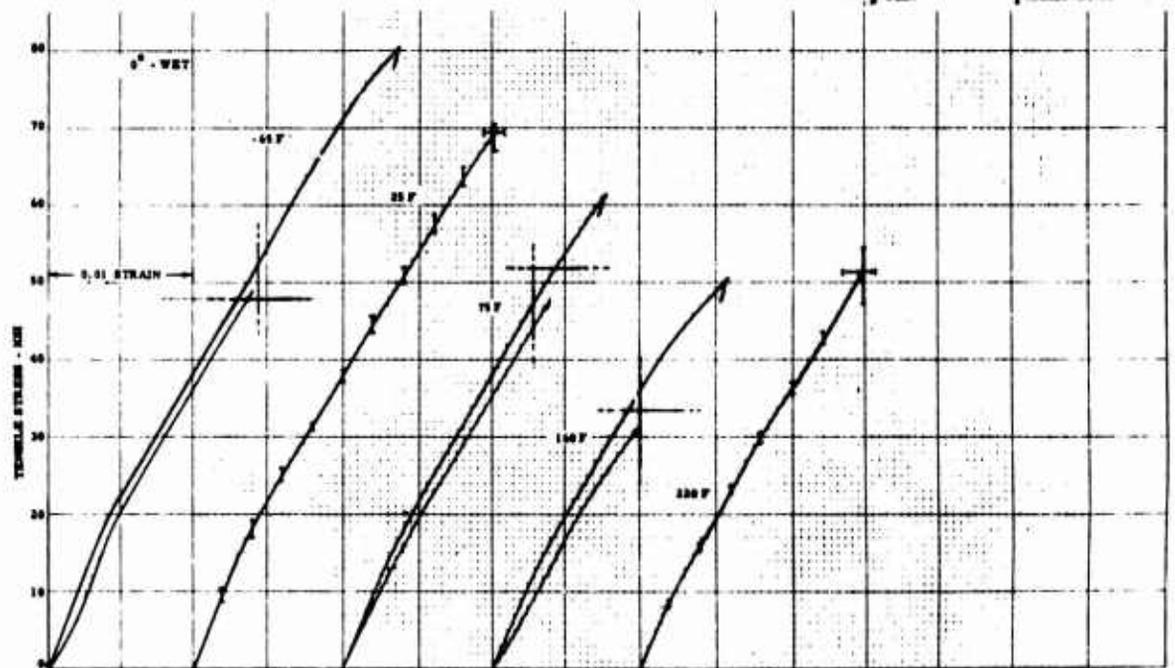
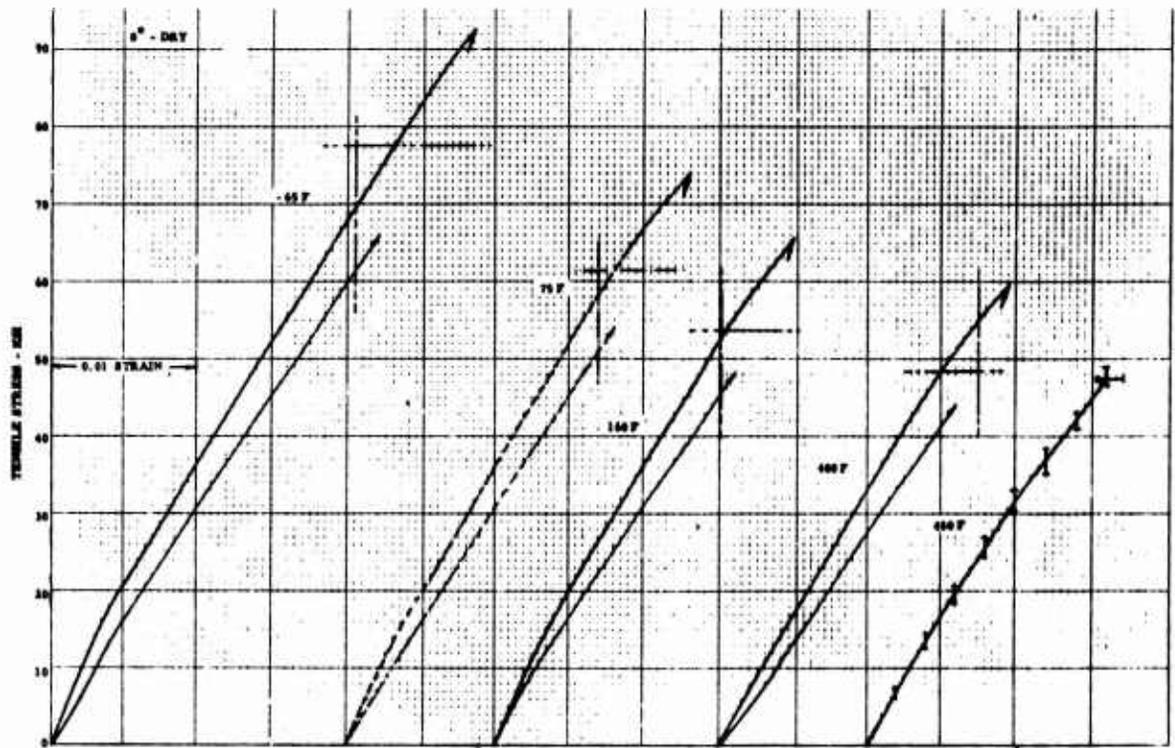


FIGURE 4.5.1 (a) TENSILE STRESS-STRAIN FOR F161/7961 FIBERGLASS EPOXY LOADED IN 0° DIRECTION (265 REBH)

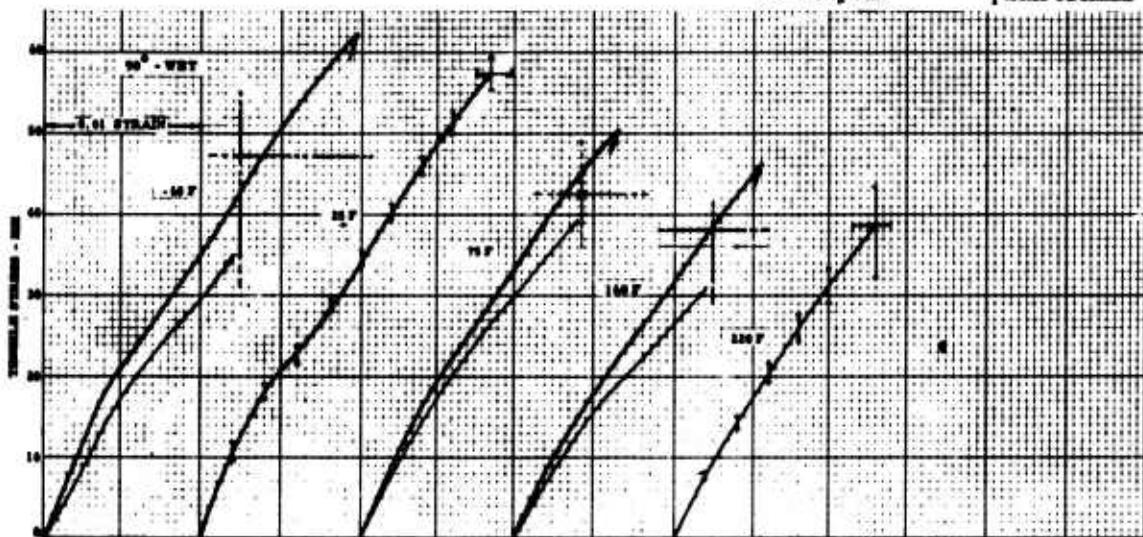
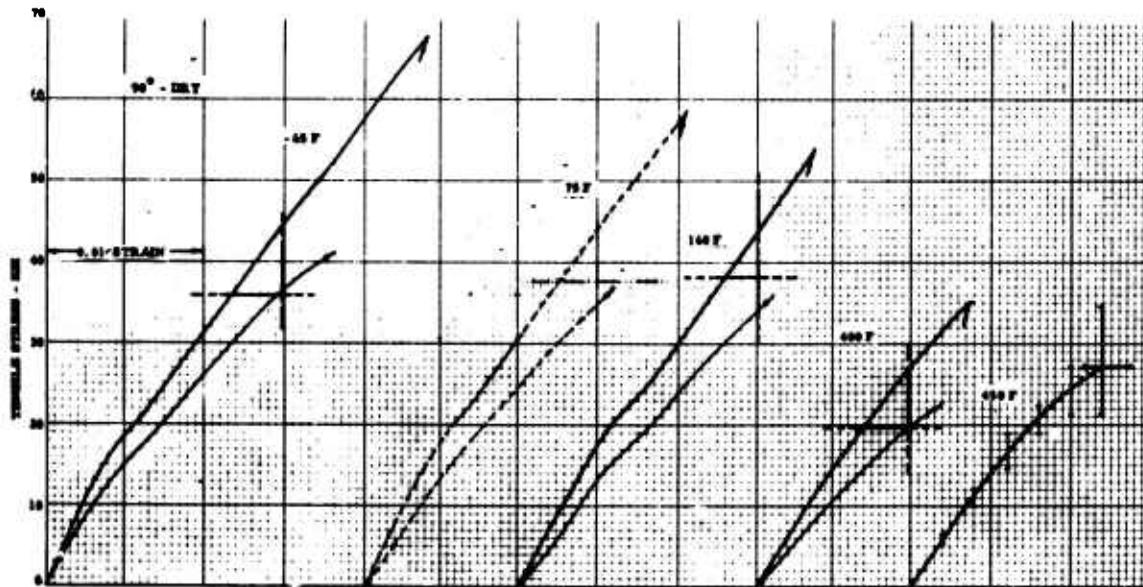


FIGURE 4.5.1 (b) TENSILE STRESS-STRAIN FOR F1617981 FIBERGLASS EPOXY LOADED IN 90° DIRECTION (25° BSEED)

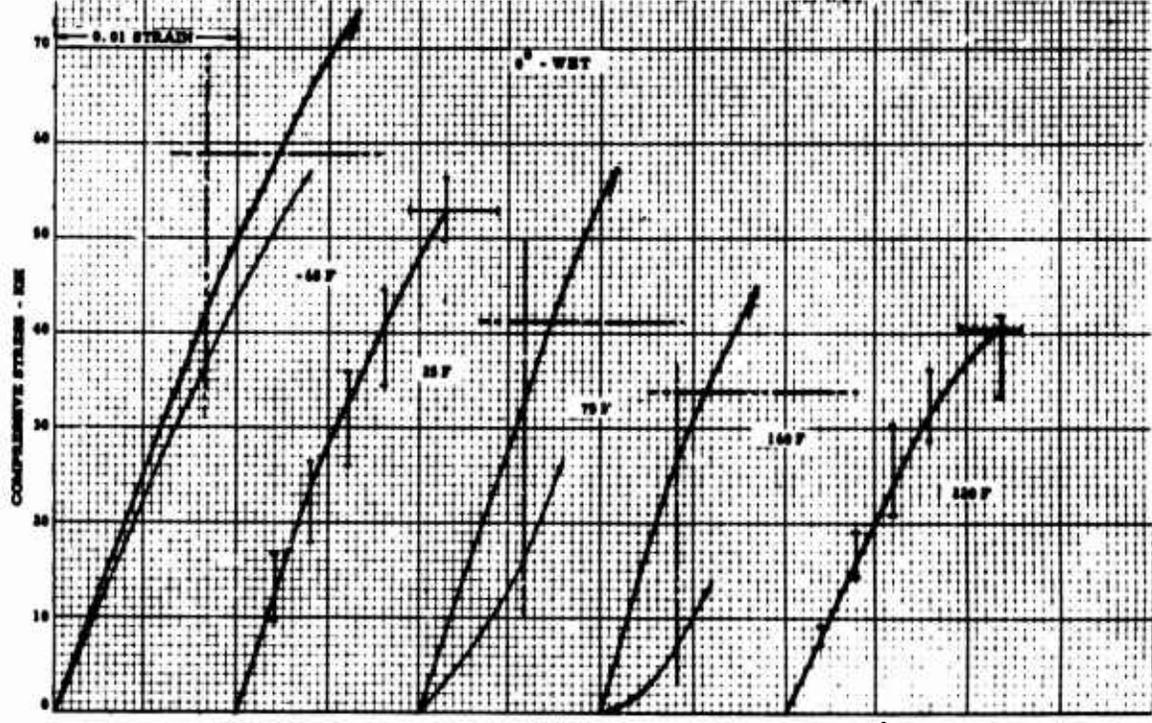
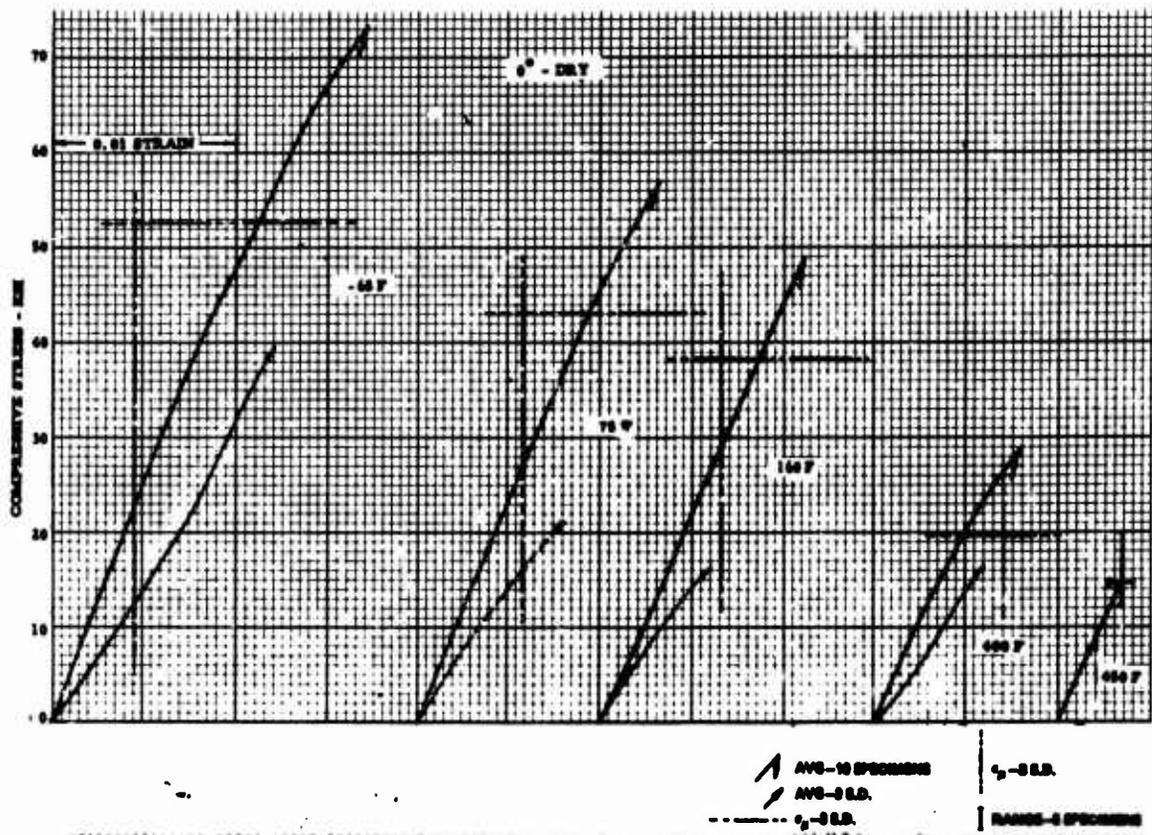


FIGURE 4.9.2(a) COMPRESSIVE STRESS-STRAIN FOR F141/761 FIBERGLASS EPOXY LOADED IN 0° DIRECT TW (863 RESIN)

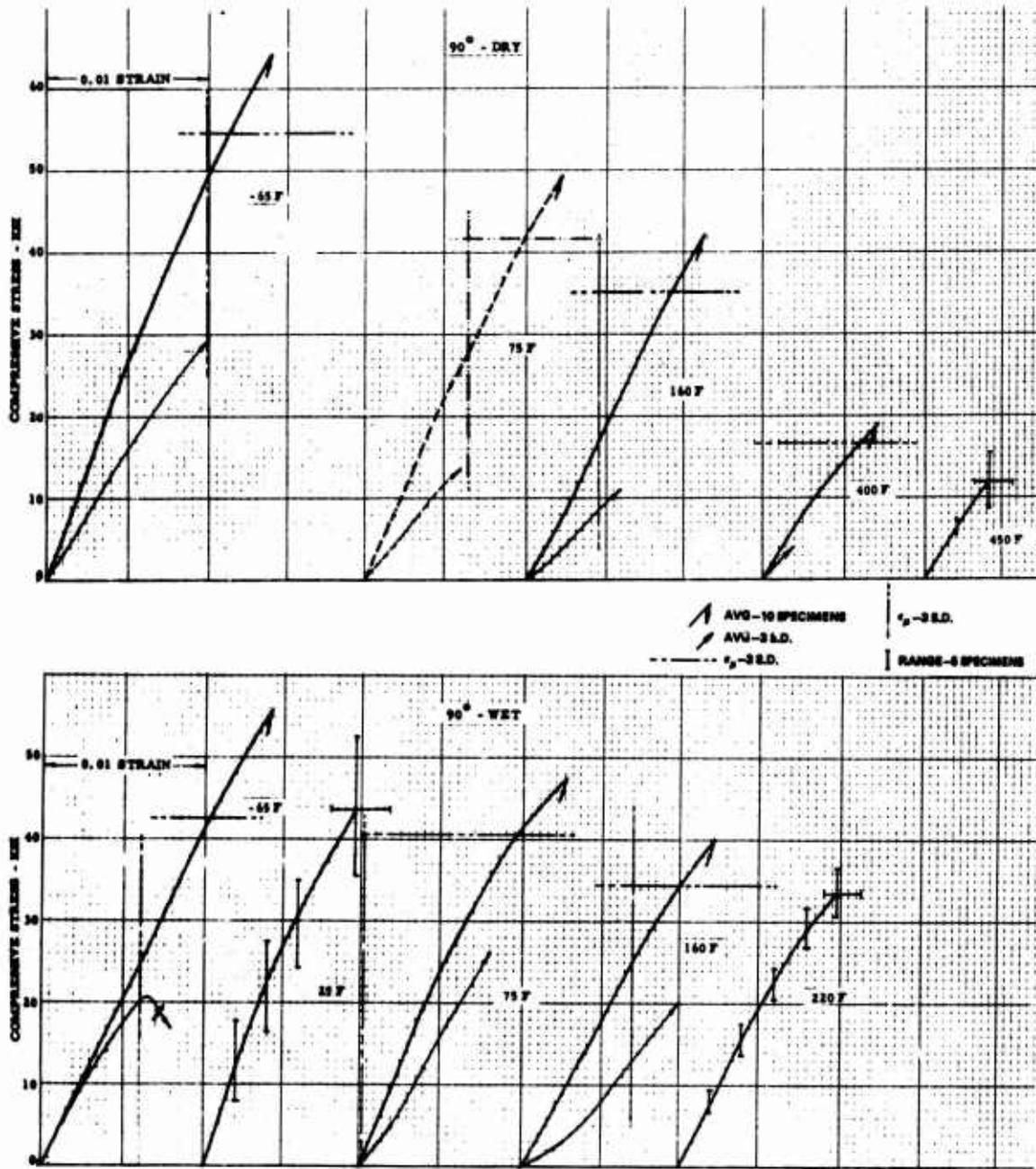


FIGURE 4.5.2(b) COMPRESSIVE STRESS-STRAIN FOR F161/7581 FIBERGLASS EPOXY LOADED IN 90° DIRECTION (26% RESIN)

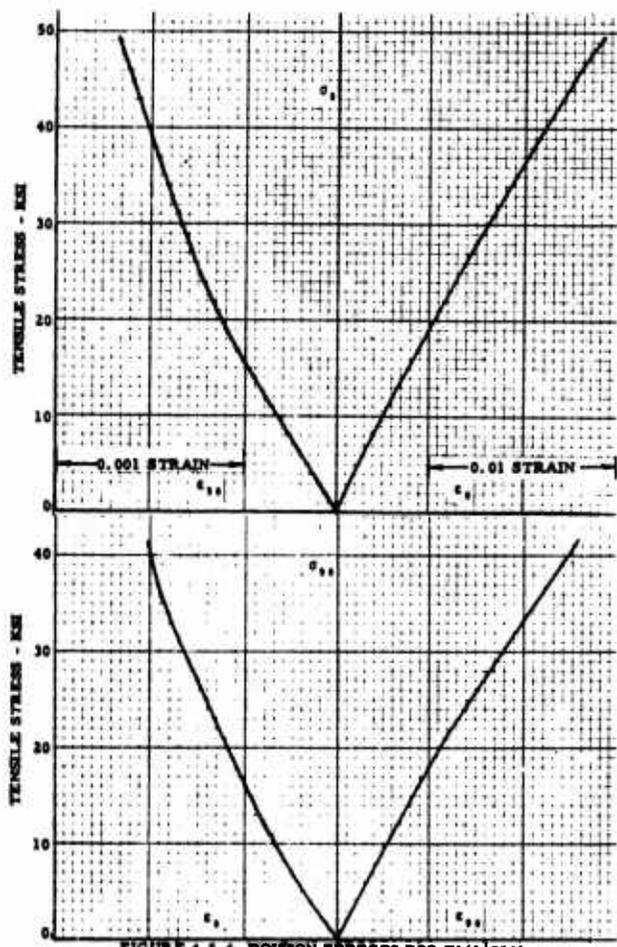


FIGURE 4.5.4 POISSON EFFECTS FOR F161/7581 FIBERGLASS EPOXY (26% RESIN)

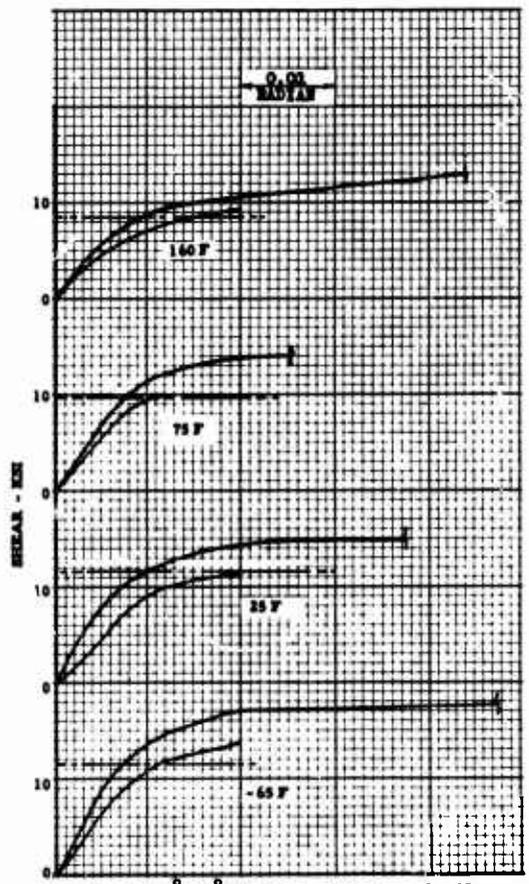


FIGURE 4.5.3 0°-90° PICTURE FRAME SHEAR FOR F161/7581 FIBERGLASS EPOXY (26% RESIN)

3.3 GROUP II (31.0% Resin Content) Laminates

The specific data in tabular form for laminates of this resin contents are reported in Appendix II in the following manner:

Tension - Tables AII-1 to AII-14

Compression - Tables AII-15 to AII-28

Picture Frame Shear - Tables AII-29 to AII-34

Poisson's Ratio - Tables AII-35 to AII-38

3.3.1 SUMMARY DATA

Table 3-3 summarizes the primary mechanical properties of 31% average resin content laminates. All values, except flexural strength, are from either Appendix II data or the graph of para. 3.3.2. (on laminates of 0.08 inch nominal thickness). The flexural strength data is from Quality Control Testing (see para. 3.5) of .125 inch nominal thickness laminates.

3.3.2 GRAPHICAL DATA

Figure numbers 4.6.1, 4.6.2, 4.6.3, and 4.6.4 (to be in revised MIL-HDBK-17) are graphical representations of the data given in Table 3-3 and Appendix II. Note that the arrow-heads of the stress-strain curve of average minus 3 times the standard deviation (AVG. -3 S.D.) indicate the highest strain level for which stress readings for all specimens in the sample were recorded.

TABLE 3-3 SUMMARY OF MECHANICAL PROPERTIES - GROUP II LAMINATES

THICKNESS	PLIES:		8 AND 10		INCHES: .0080 (AVERAGE PER PLY)													
	LAY UP:		VACUUM:		PRESSURE:		BLEEDOUT:		CURE:		POSTCURE:		400F DRY		450F DRY			
	BALANCED, PARALLEL		NONE		60 + 5 PSI		VERT. & STEPPED EDGE		1 HR @ 350F		2 HR @ 300F & 2.5 HR @ 400F		AVG		SD			
PHYSICAL PROPERTIES		WEIGHT PERCENT RESIN:		SPECIFIC GRAVITY:		PERCENT VOIDS (BY VOLUME):		BARCOL HARDNESS:		75 (AVERAGE)		75 (AVERAGE)		75 (AVERAGE)		75 (AVERAGE)		
TEMPERATURE CONDITION	-65F		25F		RT		160F		220F		400F		450F		450F		450F	
	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET
	AVG	SD	AVG	SD	AVG	SD	AVG	SD	AVG	SD	AVG	SD	AVG	SD	AVG	SD	AVG	SD
TENSION: σ_u , KSI	86.2	4.68	82.3	4.97	66.4	3.87	64.0	2.04	60.1	3.75	51.4	4.23	47.3	4.87	-	-	-	-
ϵ_u , %	70.0	5.24	67.9	2.98	56.3	3.45	53.5	2.91	49.3	0.95	39.8	3.50	31.0	1.95	-	-	-	-
$E \times 10^6$ psi	2.93	.139	2.53	.182	2.14	.122	2.10	.084	2.02	.102	1.86	.170	1.66	.181	-	-	-	-
$E' \times 10^6$ psi	2.50	.210	2.41	.224	2.09	.102	1.90	.106	1.86	.056	1.47	.092	1.25	.085	-	-	-	-
	4.22		4.30		4.12		3.84		3.69		3.65		3.09		-	-	-	-
	3.97		4.15		3.81		3.68		3.37		3.30		2.75		-	-	-	-
	3.13		3.01		2.94		3.03		2.97		2.88		2.94		-	-	-	-
	2.62		2.86		2.48		2.62		2.55		2.46		2.47		-	-	-	-
COMPRESSION:																		
σ_u , KSI	73.1	5.18	66.0	10.75	50.9	10.28	54.4	7.04	50.6	3.72	45.9	5.39	32.8	6.04	-	-	-	-
ϵ_u , %	58.4	3.17	57.5	11.56	46.4	5.09	47.3	4.73	42.2	3.34	38.7	4.19	25.8	8.27	-	-	-	-
σ_v , KSI	1.86	.208	1.72	.324	1.38	.623	1.33	.279	1.52	.044	1.04	.229	0.95	.236	-	-	-	-
$E \times 10^6$ psi	1.61	.285	1.44	.362	1.19	.194	1.10	.213	1.30	.250	0.99	.221	0.87	.278	-	-	-	-
	44		38		30		33		32		26		16		-	-	-	-
	33		33		30		30		-		21		15		-	-	-	-
	3.90		4.04		4.21		4.03		3.42		4.08		3.50		-	-	-	-
	3.56		3.84		4.03		3.96		3.23		4.01		3.07		-	-	-	-
SHEAR: τ , KSI	20.5	2.23	-	-	-	-	15.9	0.72	13.7	0.82	-	-	-	-	-	-	-	-
TEMP. CONDITION	75F		DRY		DRY		DRY		DRY		DRY		DRY		DRY		DRY	
	AVG	MAX	MIN	MIN	AVG	MAX	MIN	MIN	AVG	MAX	MIN	MIN	AVG	MAX	MIN	MIN	AVG	MAX
FLEXURE: σ_u , KSI	80.23	93.74	87.28	87.28	80.23	93.74	87.28	87.28	80.23	93.74	87.28	87.28	80.23	93.74	87.28	87.28	80.23	93.74

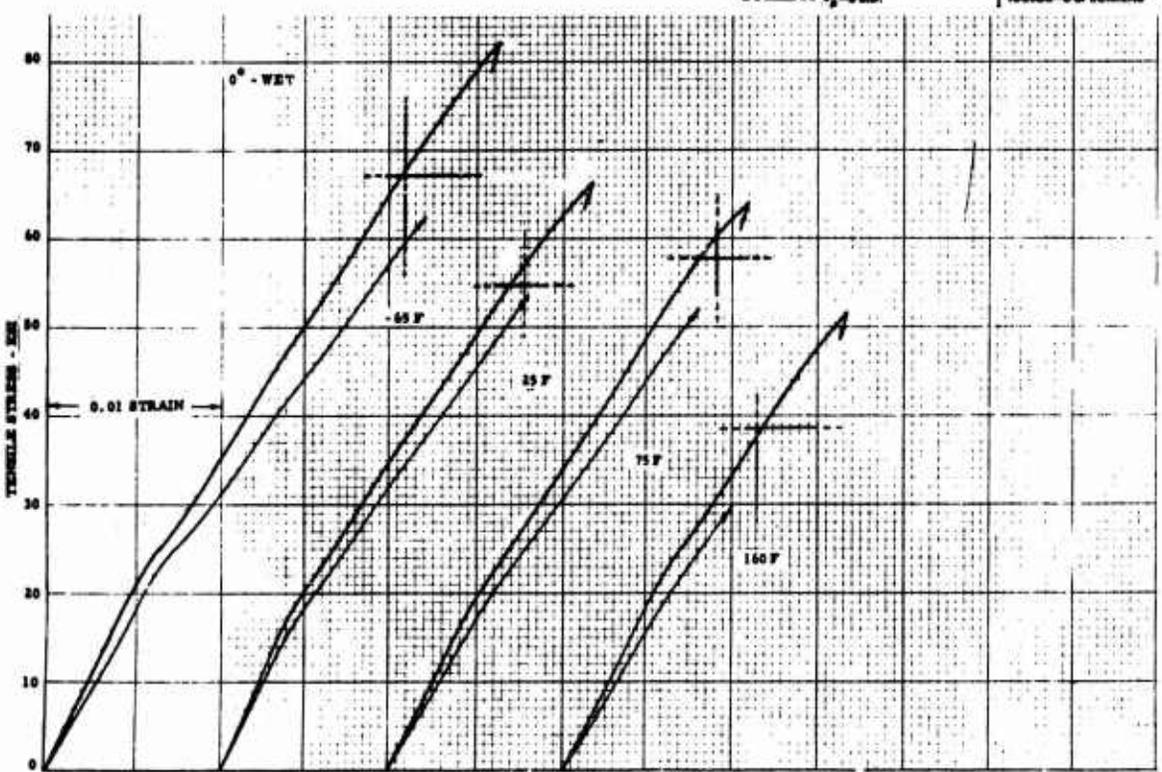
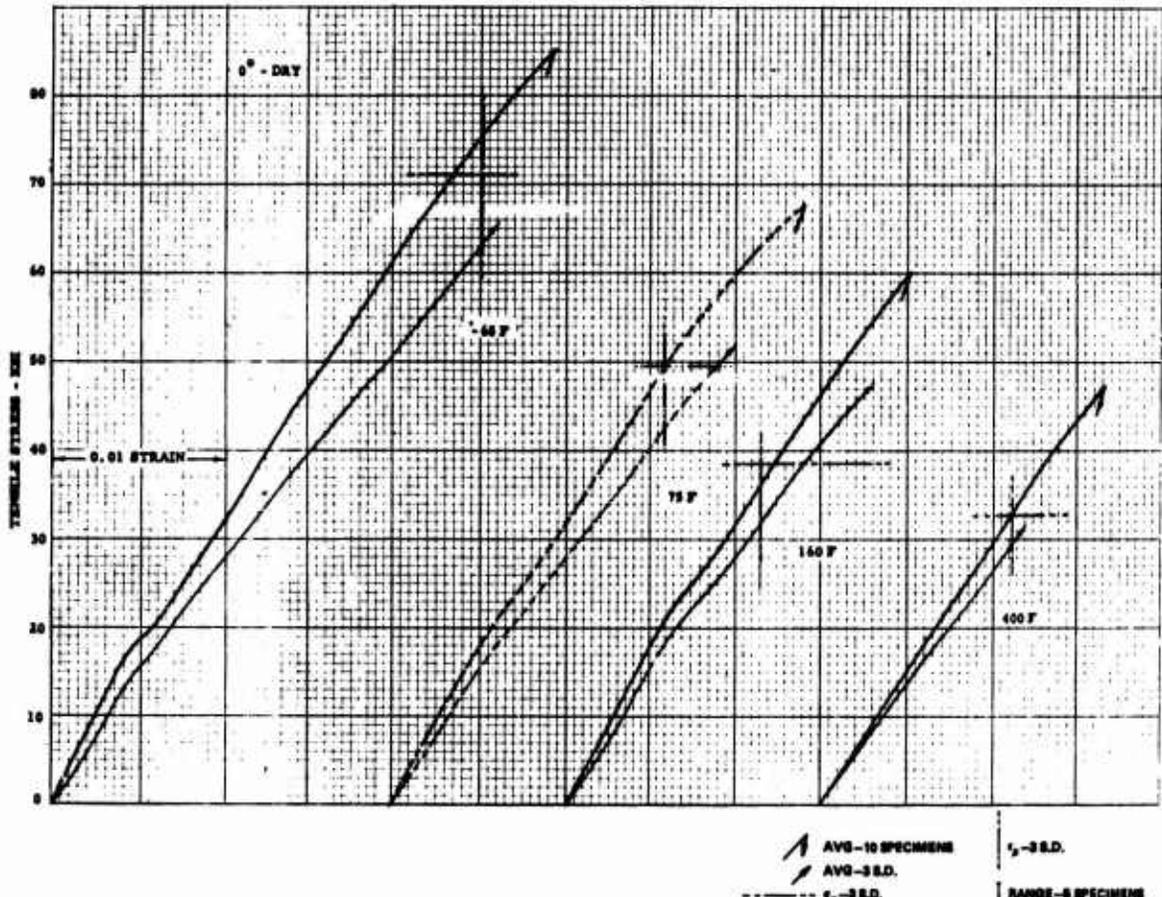


FIGURE 4.6.1(a) TENSILE STRESS-STRAIN FOR F161/7581 FIBERGLASS EPOXY LOADED IN 0° DIRECTION (313 RESIN)

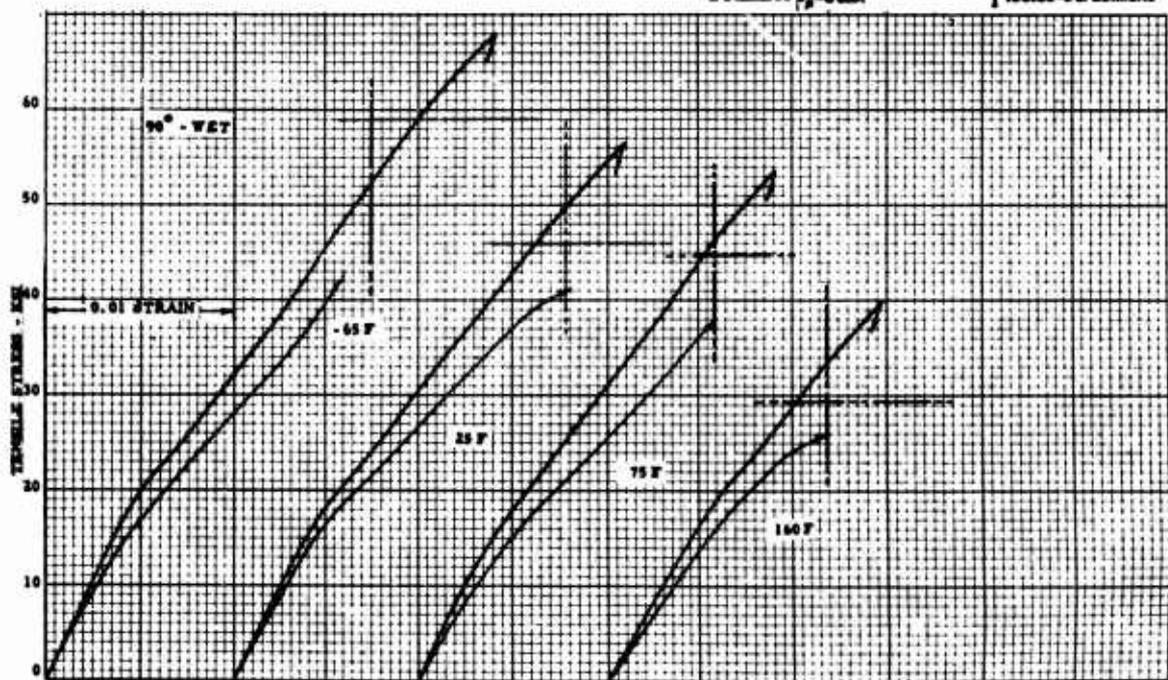
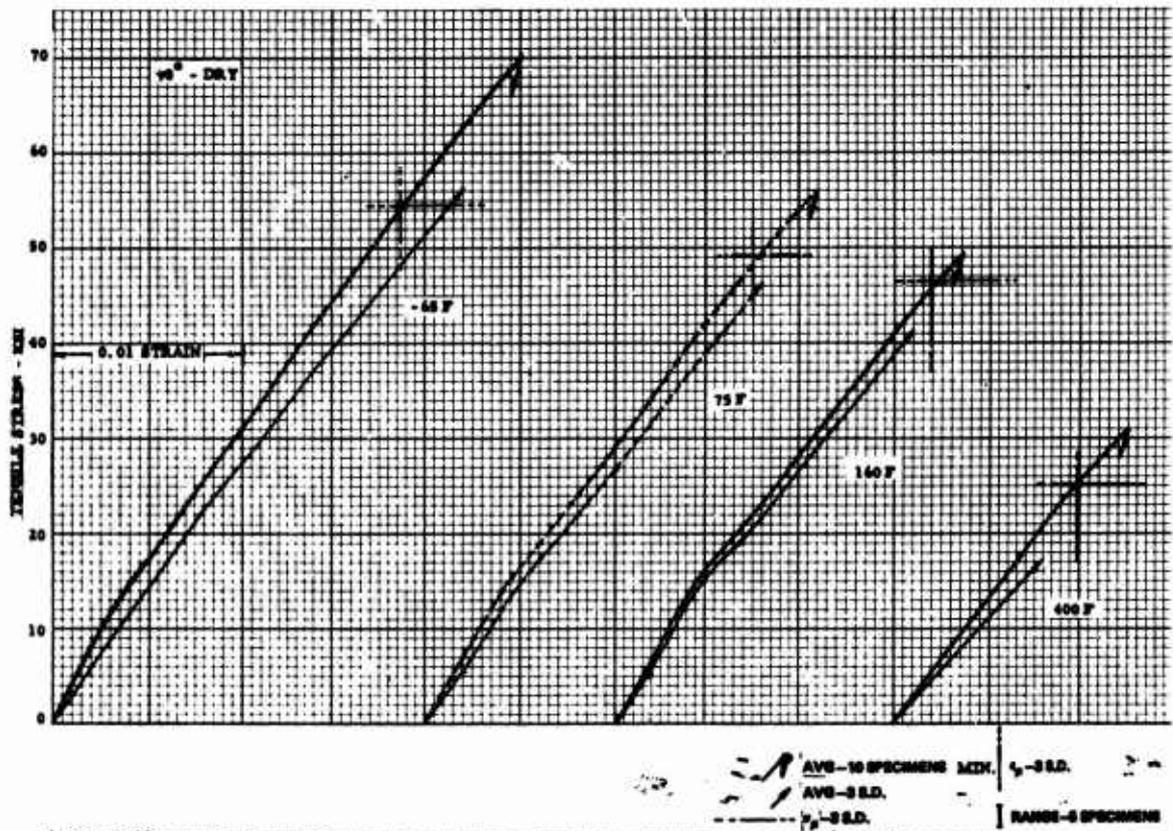


FIGURE 4.4.1 (b) TENSILE STRESS-STRAIN FOR F161/7501 FIBERGLASS EPOXY LOADED IN 90° DIRECTION (31% RESIN)

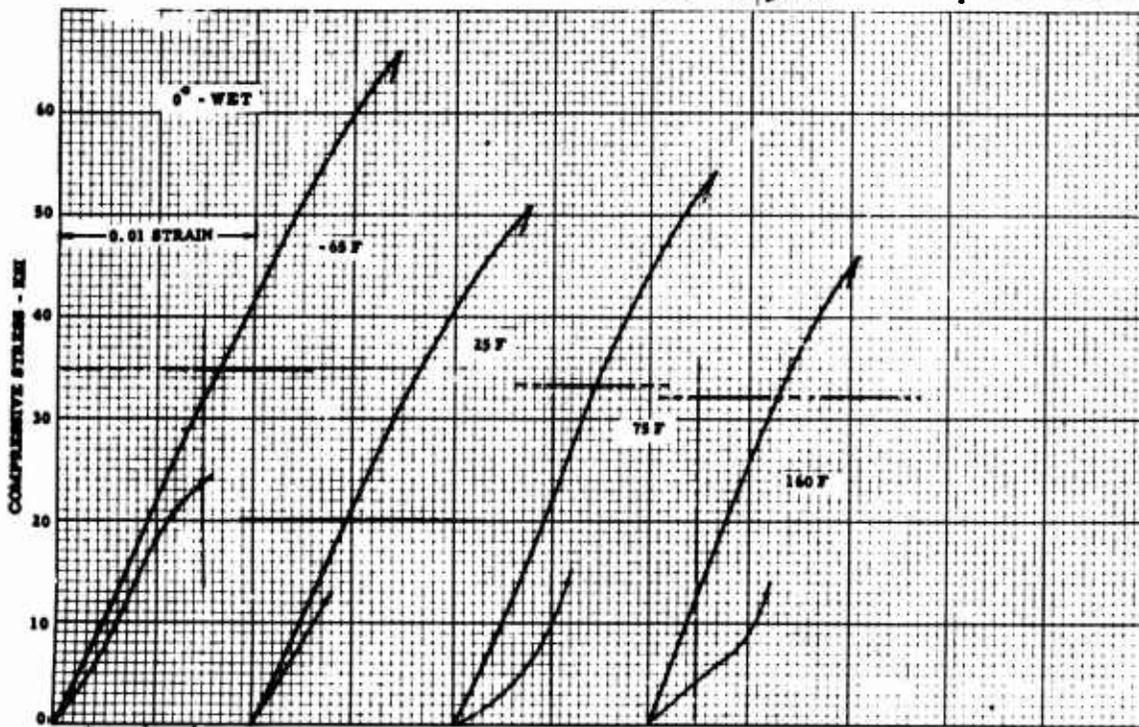
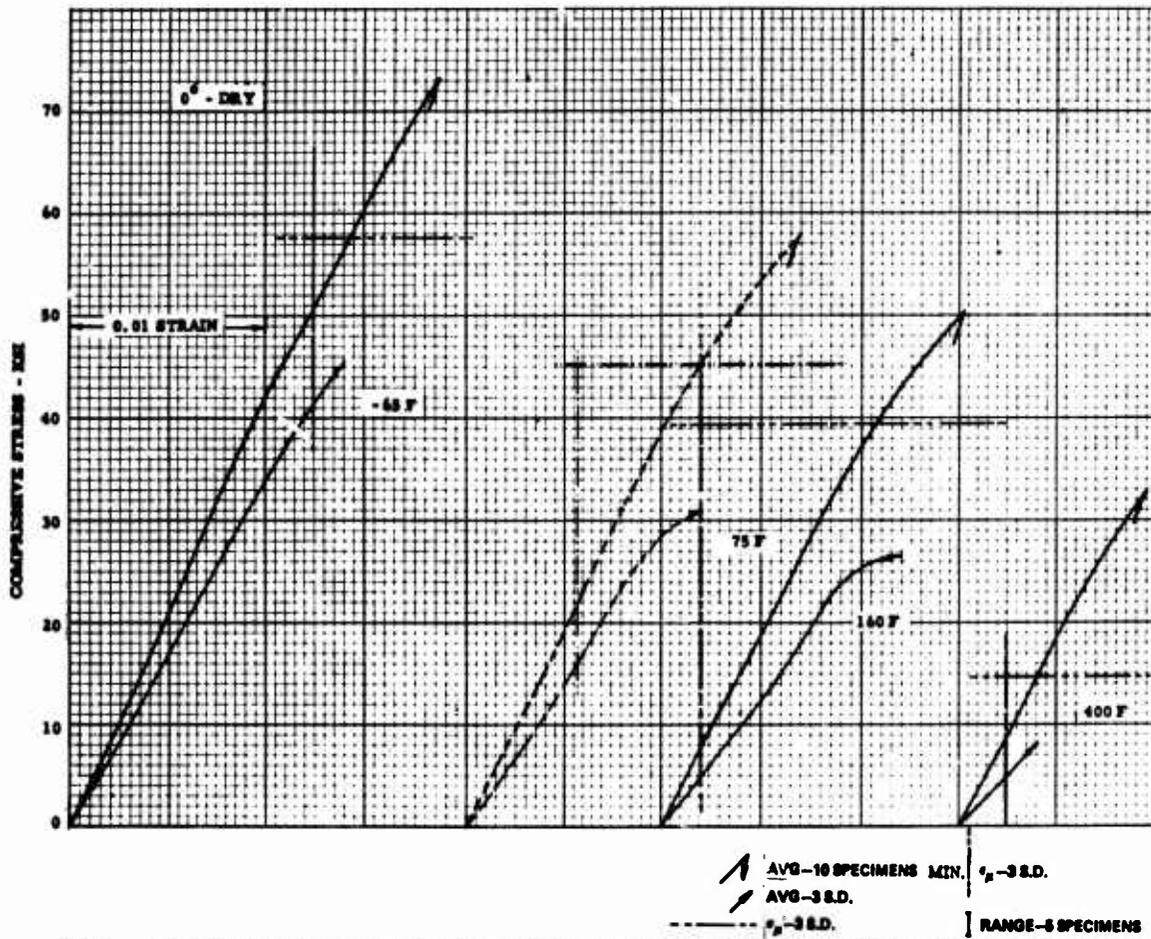


FIGURE 4.6.2(a) COMPRESSIVE STRESS-STRAIN FOR F161/7581 FIBERGLASS EPOXY LOADED IN 0° DIRECTION (31% RESIN)

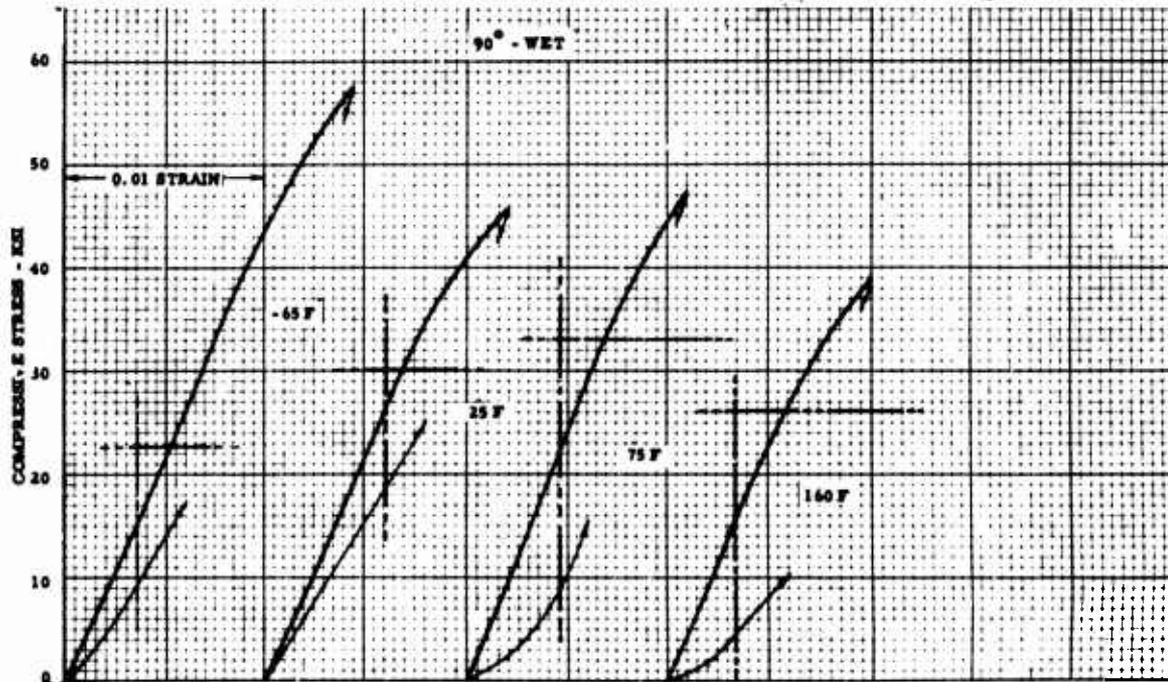
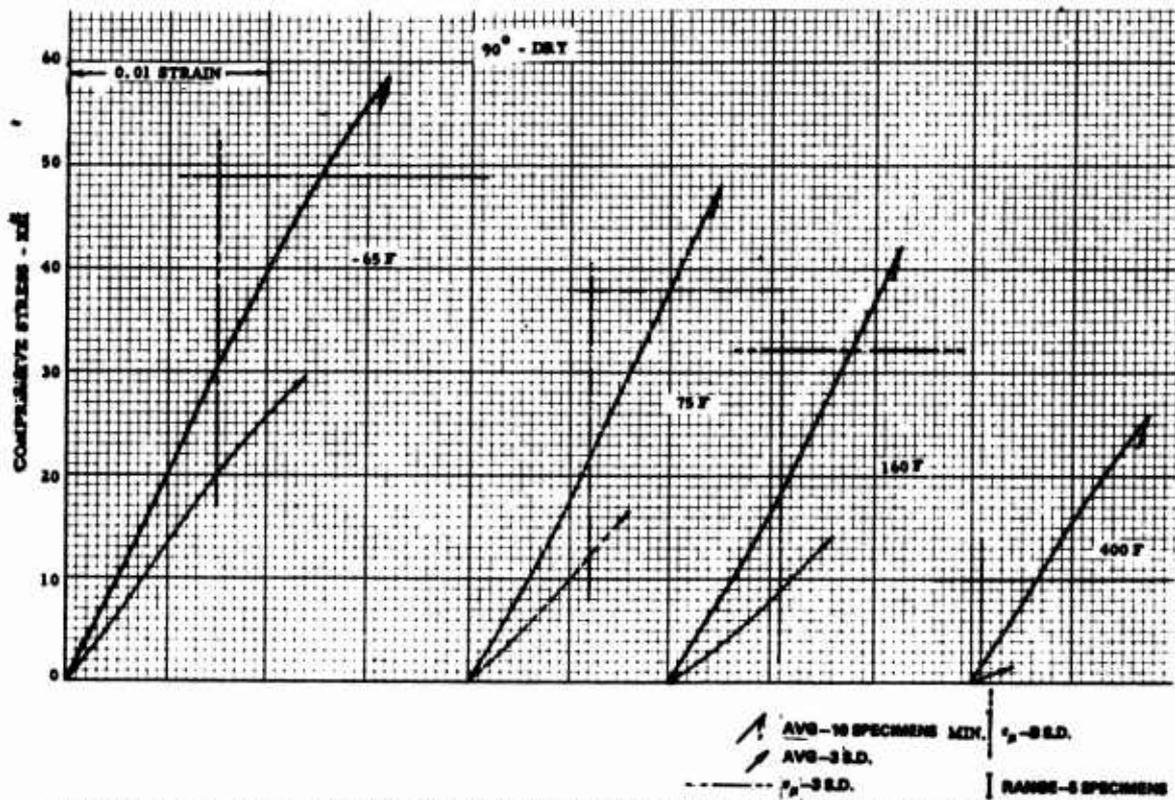


FIGURE 4.6.2 (b) COMPRESSIVE STRESS-STRAIN FOR F161/7581 FIBERGLASS EPOXY LOADED IN 90° DIRECTION (313 RESIN)

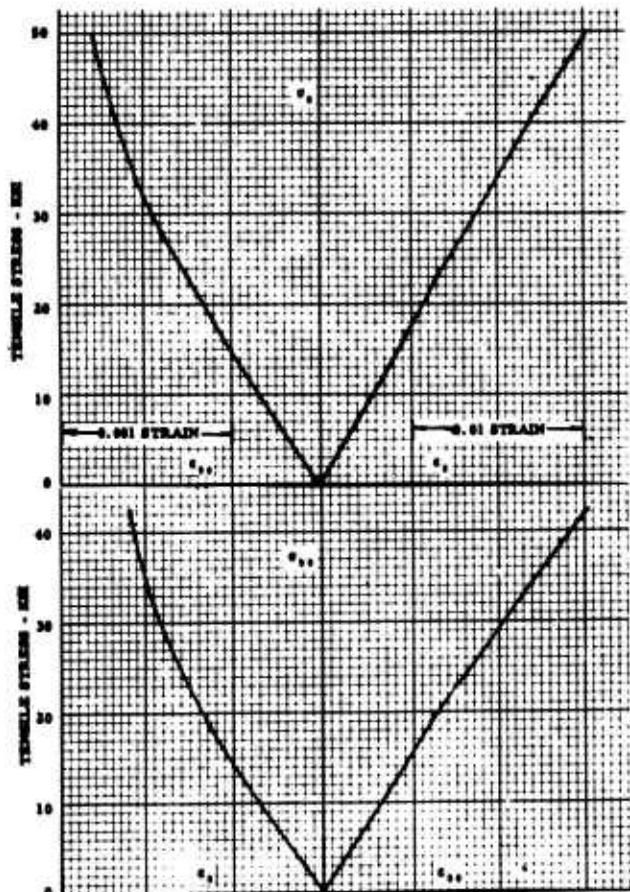


FIGURE 4.6.4 POISSON EFFECTS FOR F161(7501) FIBERGLASS EPOXY (31% RESIN)

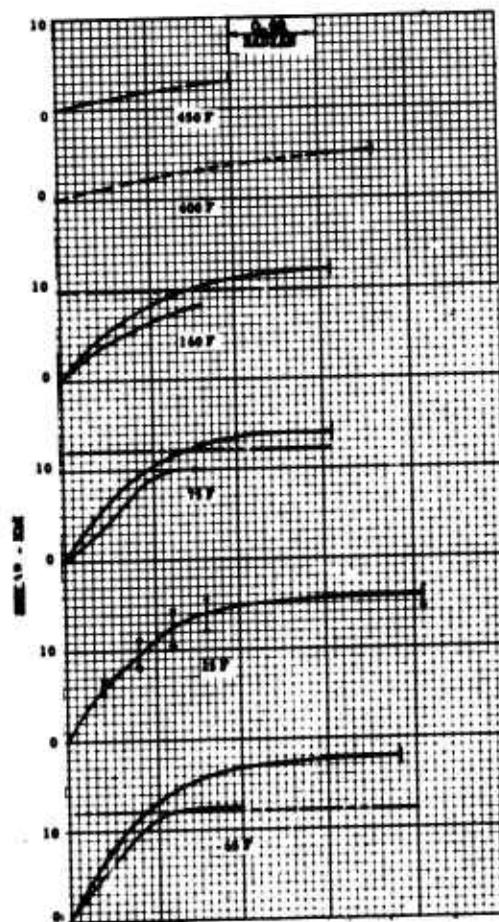


FIGURE 4.6.3 0°-90° PICTURE FRAME SHEAR FOR F161(7501) FIBERGLASS EPOXY (31% RESIN)

3.4 GROUP III (35.6% Resin Content) Laminates

The specific data in tabular form for laminates of this resin content are reported in Appendix III in the following manner:

Tension - Tables AIII-1 to AIII-18

Compression - Tables AIII-19 to AIII-36

Picture Frame Shear - Tables AIII-37 to AIII-42

Poisson's Ratio - Tables AIII-43 to AIII-44

3.4.1 SUMMARY DATA

Table 3-4 summarizes the primary mechanical properties of 36% average resin content laminates. All values, except flexural strength, are from either Appendix III data or the graph of para. 3.4.2 (on laminates of 0.08 inch nominal thickness). The flexural strength data is from Quality Control Testing (see para. 3.5) of .125 inch nominal thickness laminates.

3.4.2 GRAPHICAL DATA

Figure numbers 4.7.1, 4.7.2, 4.7.3, and 4.7.4 (to be in revised MIL-HDBK-17) are graphical representations of the data given in Table 3-4 and Appendix III. Note that the arrow-heads of the stress-strain curve of average minus 3 times the standard deviation (AVG. -3 S.D.) indicate the highest strain level for which stress readings for all specimens in the sample were recorded.

TABLE 4 SUMMARY OF MECHANICAL PROPERTIES - GROUP III LAMINATES

THICKNESS	PLIES: 8		INCHES: .0101 (AVERAGE - PER PLY)											
	LAY UP: BALANCED, PARALLEL	VACUUM: NONE	PRESSURE: 60 + 5 PSI	BLEEDOUT: VERT. & STEPPED EDGE			CURE: 1 HR @ 350F			POSTCURE: 2 HR @ 300F & 2.5 HR @ 400F				
PHYSICAL PROPERTIES		WEIGHT PERCENT RESIN: 35.6 (AVERAGE)		SPECIFIC GRAVITY: 1.856 (AVERAGE)		PERCENT VOIDS (BY VOLUME): 0.9 (APPROX)			BARCOL HARDNESS: 75 (AVERAGE)					
TEMPERATURE CONDITION	-65F		25F		RT		160F		220F		400F		450F	
	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET
	AVG	SD	AVG	SD	AVG	SD	AVG	SD	AVG	SD	AVG	SD	AVG	SD
TENSION: σ_u , KSI	83.9	2.85	73.0	2.89	64.4	-	55.5	2.57	61.9	2.24	46.0	1.85	40.9	39.2
	0°		0°		0°		0°		0°		0°		0°	0°
	90°		90°		90°		90°		90°		90°		90°	90°
ϵ_u , %	68.7	4.19	63.9	1.61	53.7	-	48.9	2.67	51.9	3.25	37.6	0.99	33.2	32.0
	0°		0°		0°		0°		0°		0°		0°	0°
	90°		90°		90°		90°		90°		90°		90°	90°
$E \times 10^6$ psi	3.30	.184	2.79	.023	2.38	-	2.12	.135	2.61	.079	1.59	.069	1.42	1.45
	0°		0°		0°		0°		0°		0°		0°	0°
	90°		90°		90°		90°		90°		90°		90°	90°
$E' \times 10^6$ psi	2.80	.177	2.61	.045	2.15	-	1.95	.086	2.18	.186	1.50	.047	1.35	1.35
	0°		0°		0°		0°		0°		0°		0°	0°
	90°		90°		90°		90°		90°		90°		90°	90°
COMPRESSION:														
σ_u , KSI	76.2	5.88	68.8	4.36	59.5	-	55.1	2.53	54.7	5.49	46.0	5.66	42.4	31.0
	0°		0°		0°		0°		0°		0°		0°	0°
	90°		90°		90°		90°		90°		90°		90°	90°
ϵ_u , %	56.0	4.56	52.9	6.32	50.7	-	47.0	6.78	36.9	1.47	35.3	3.30	29.0	23.2
	0°		0°		0°		0°		0°		0°		0°	0°
	90°		90°		90°		90°		90°		90°		90°	90°
σ_v , KSI	2.13	.282	1.84	.233	1.80	-	1.36	.323	1.90	.575	1.32	.241	1.25	1.02
	0°		0°		0°		0°		0°		0°		0°	0°
	90°		90°		90°		90°		90°		90°		90°	90°
$E \times 10^6$ psi	1.75	.476	1.58	.577	1.32	-	2.00	.886	1.29	.089	1.27	.240	1.09	0.91
	0°		0°		0°		0°		0°		0°		0°	0°
	90°		90°		90°		90°		90°		90°		90°	90°
SHEAR: τ , KSI	19.6	1.04	-	-	-	-	15.0	0.70	12.7	0.62	-	-	-	-
	0°/90°													
TEMP. CONDITION	75F		75F		75F		75F		75F		75F		75F	
	AVG	MAX	AVG	MAX	AVG	MAX	AVG	MAX	AVG	MAX	AVG	MAX	AVG	MAX
FLEXURE: $\sigma_{1/2}$, KSI	86.31	92.16	86.31	92.16	86.31	92.16	86.31	92.16	86.31	92.16	86.31	92.16	86.31	92.16
	0°		0°		0°		0°		0°		0°		0°	0°

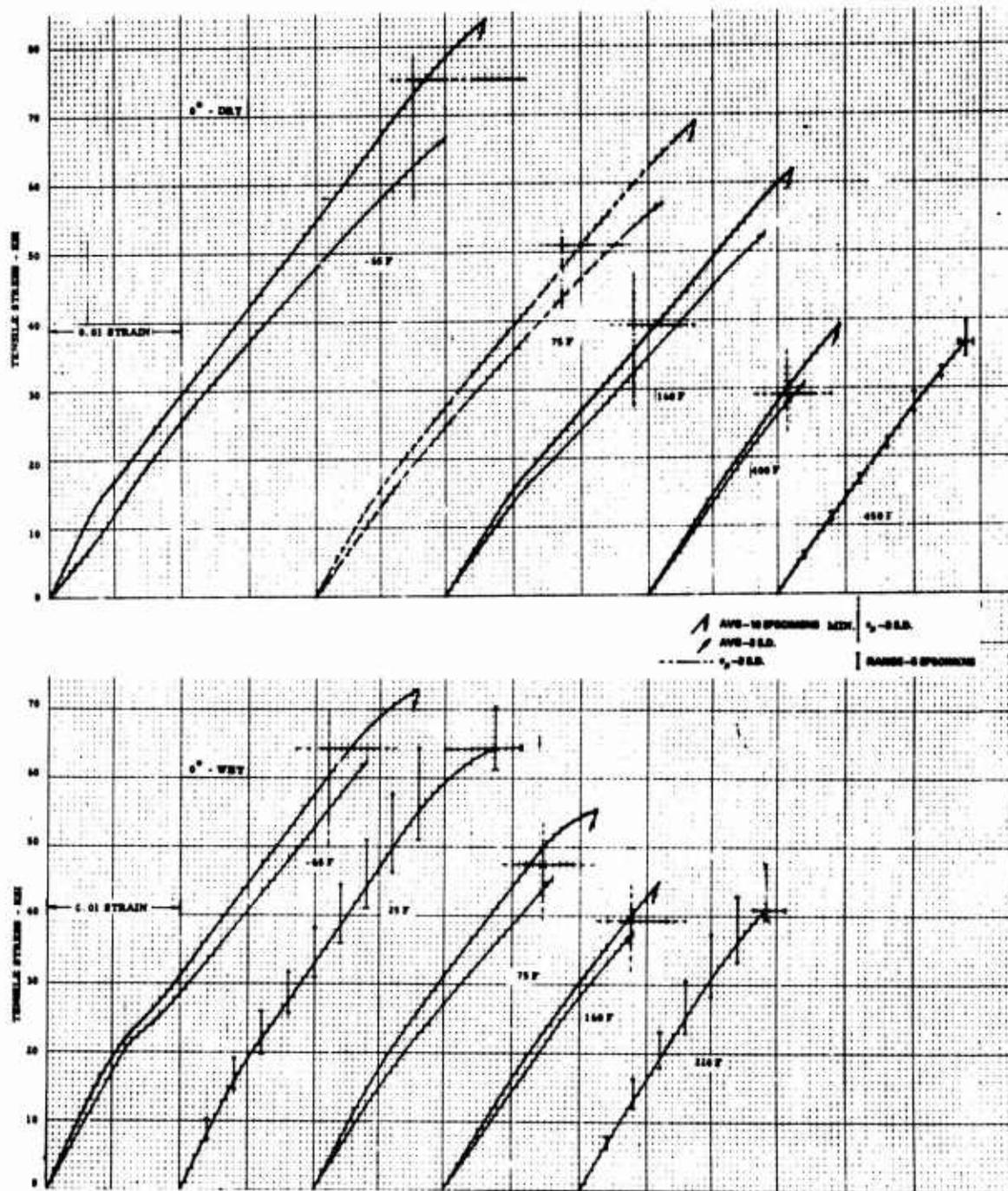


FIGURE 4.7.1 (a) TENSILE STRESS-STRAIN FOR F1517561 FIBERGLASS EPOXY LOADED IN 0° DIRECTION (363 REIN)

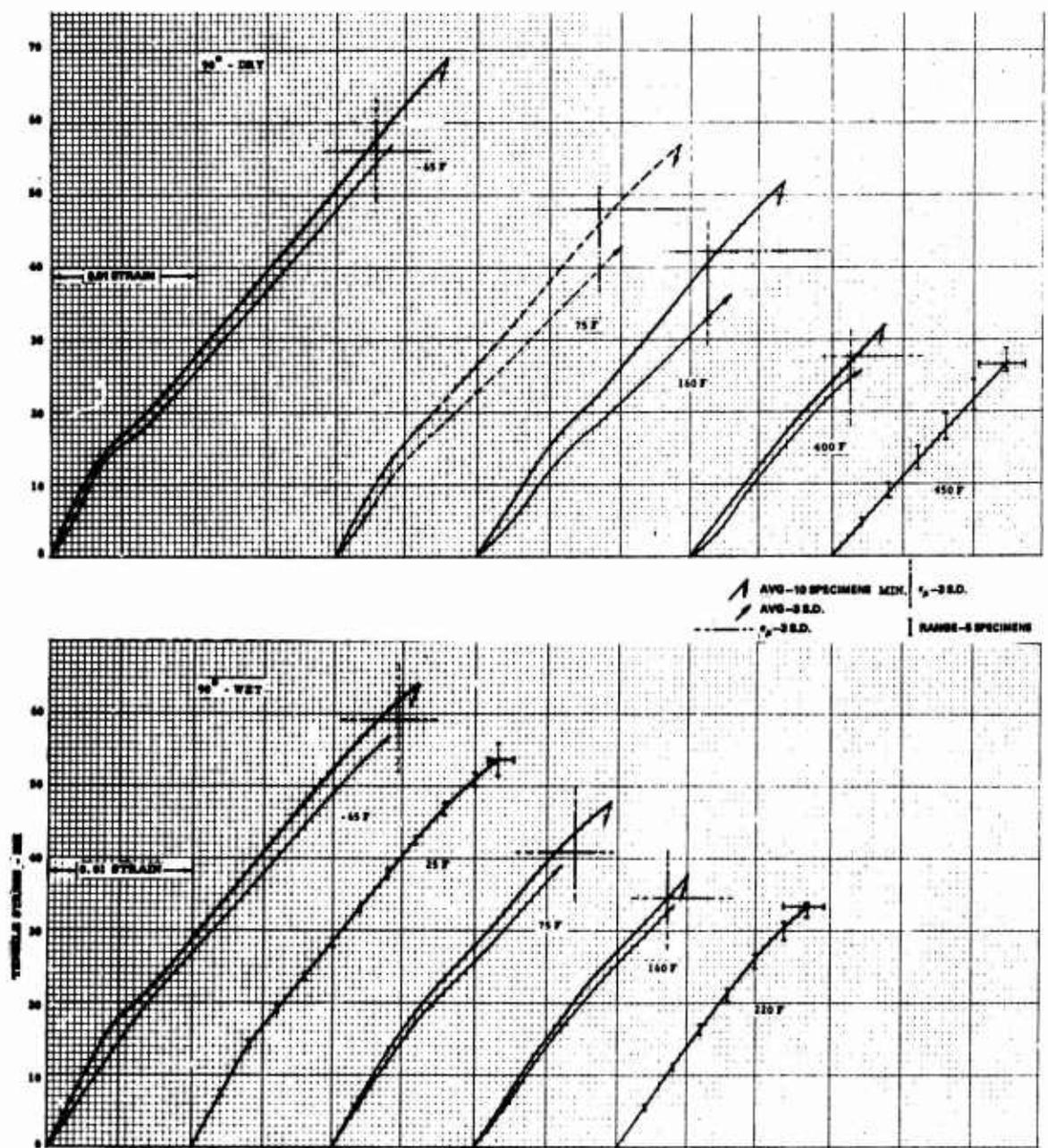


FIGURE 4.7.1 (b) TENSILE STRESS-STRAIN FOR F161/7581 FIBERGLASS EPOXY LOADED IN 90° DIRECTION (36% RESIN)

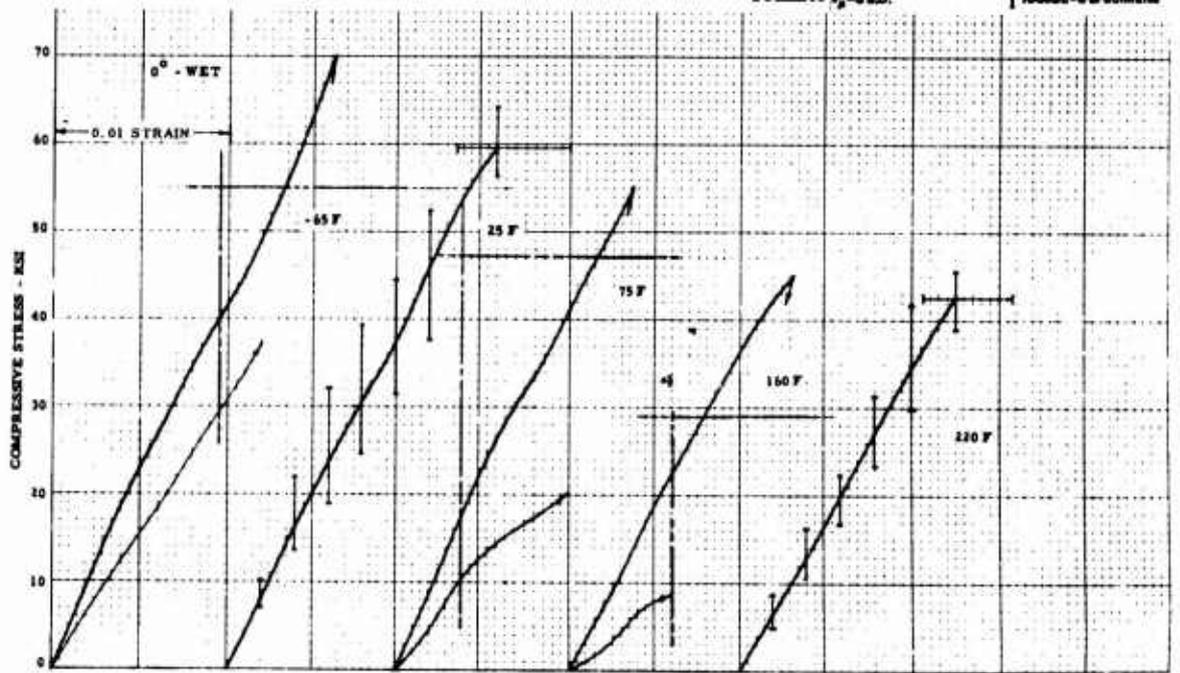
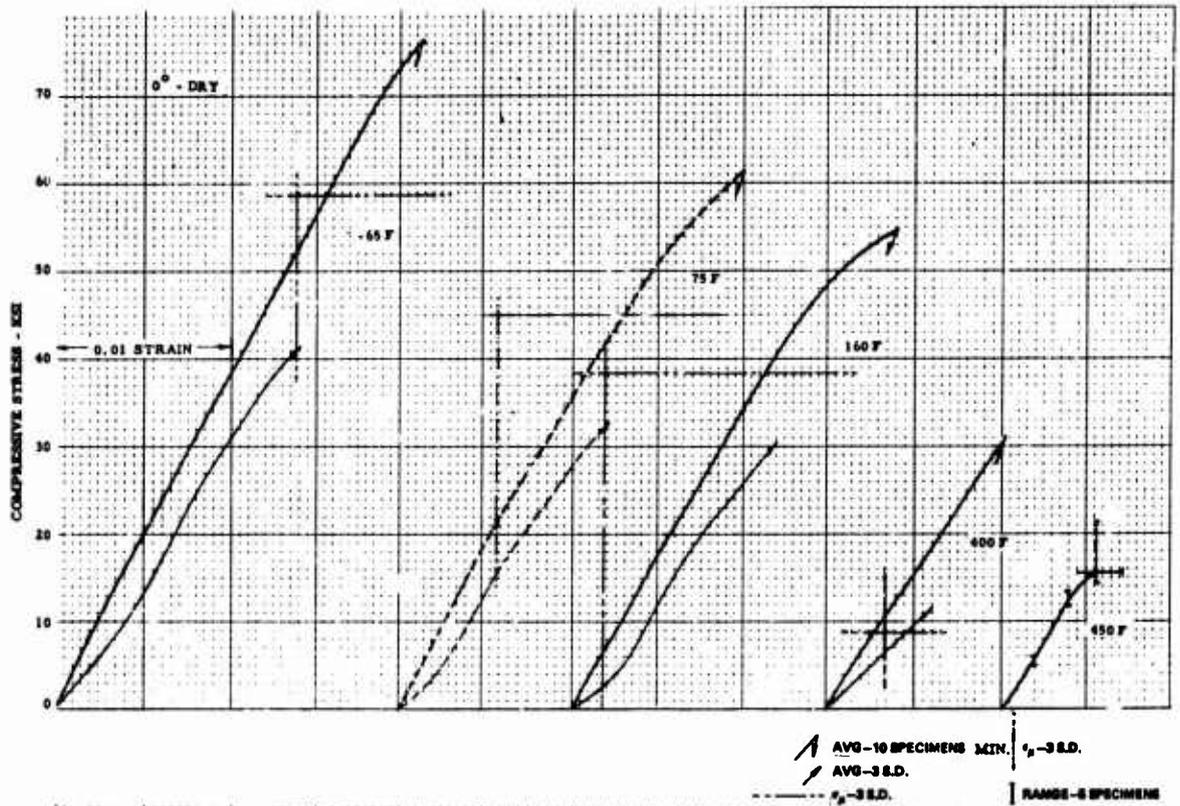


FIGURE 4.7.2 (a) COMPRESSIVE STRESS-STRAIN FOR F161/7581 FIBERGLASS EPOXY LOADED IN 0° DIRECTION (36% RESIN)

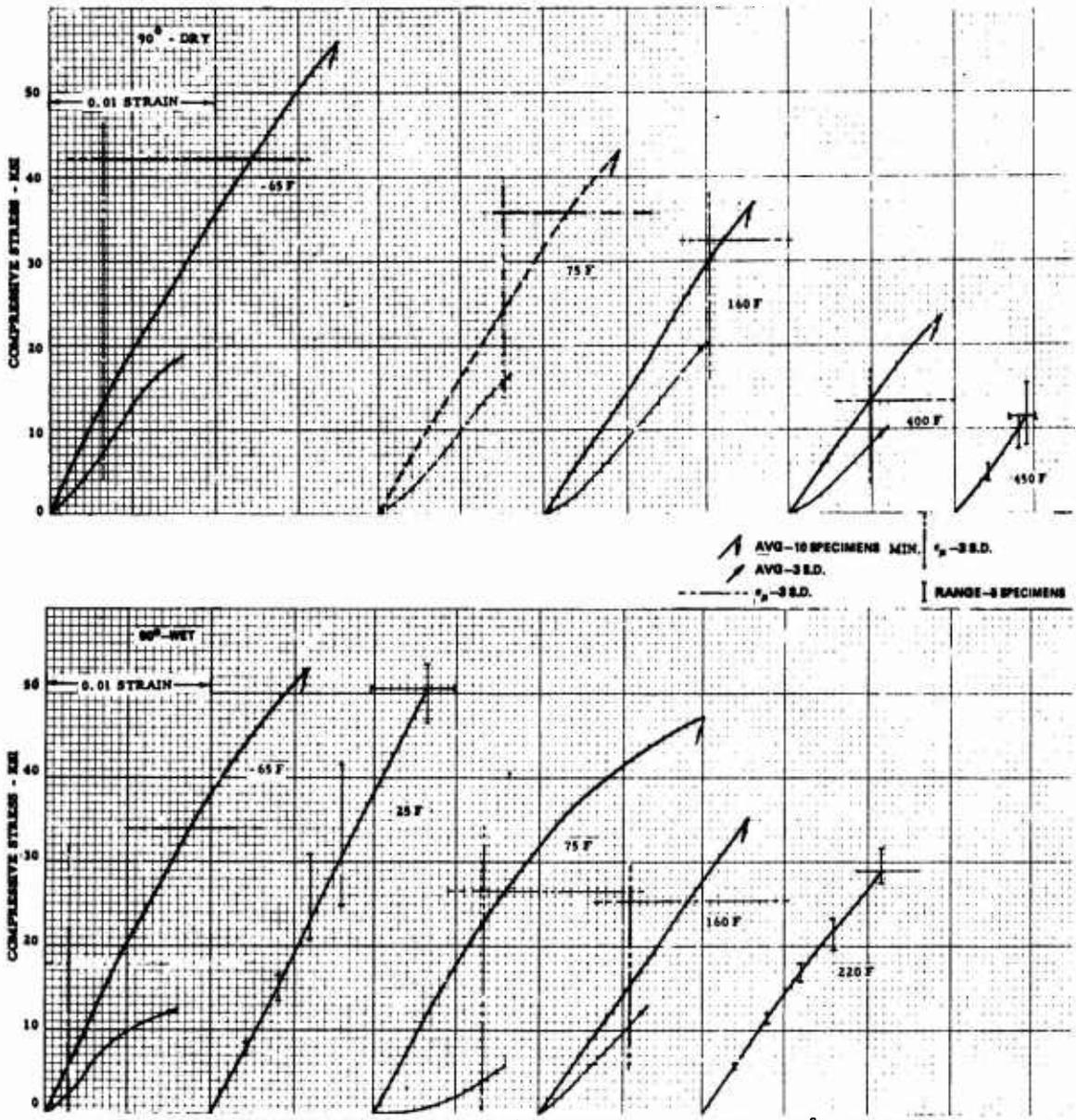


FIGURE 4.7.2(b) COMPRESSIVE STRESS-STRAIN FOR F161/7581 FIBERGLASS EPOXY LOADED IN 90° DIRECTION (36% RESIN)

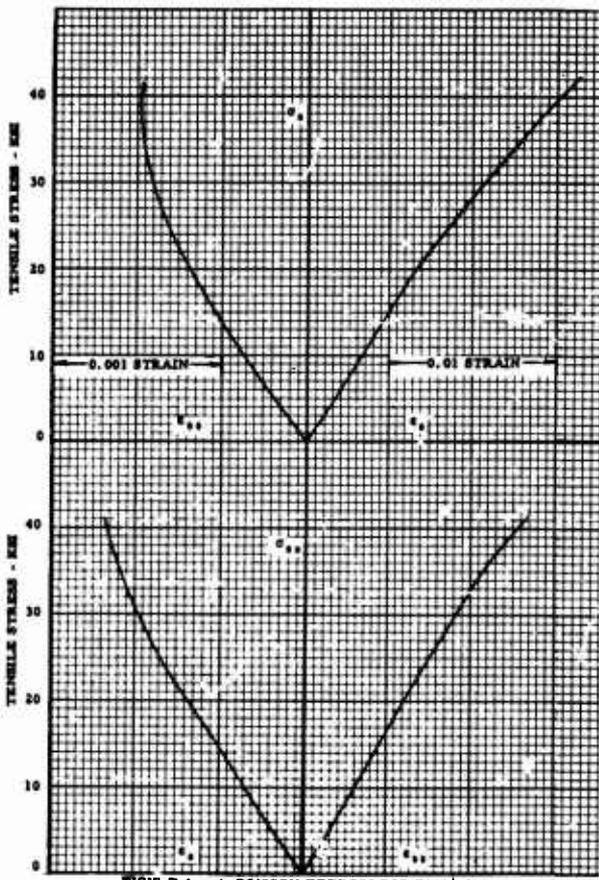


FIGURE 4.7.4 POISSON EFFECTS FOR F161/7501 FIBERGLASS EPOXY (36% RESIN)

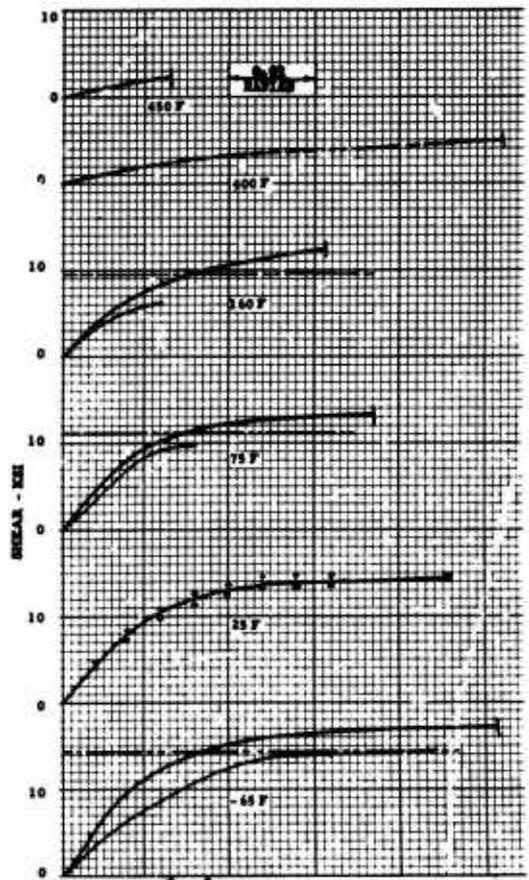


FIGURE 4.7.3 0°-90° PICTURE FRAME SHEAR FOR F161/7501 FIBERGLASS EPOXY (36% RESIN)

3.5 QUALITY CONTROL TESTS AND DATA

To insure complete reliability and reproducibility of the material used in this program, Quality Control Testing was undertaken. The prepreg materials were tested for resin content, flow, and percent volatiles. The results of these tests were reported in para. 2.1. Mechanical testing was also conducted on parallel ply lay-up 12 inch by 15 inch by 14 ply thick panels made of each of the four (4) rolls of prepreg used to fabricate laminates (see Reference 1).

The mechanical tests performed were in accordance with the following ASTM methods:

ASTM D638-68	Tensile Properties of Plastic
ASTM D695-68T	Compressive Properties of Rigid Plastic
ASTM D790-66	Flexural Properties of Plastic
ASTM D2345-65T	Interlaminar Shear Strength of Plastic Structures at Subnormal and Supernormal Temperatures (notched tensile loading using side support plates)

The results of the tests run at room temperature follow:

	<u>PREPREG 7581/F161-505</u>			
	ROLL A*	ROLL B*	ROLL C*	ROLL D*
Laminate group(s) in which Prepreg was used	III	II	II & I	I
Tensile Strength, KSI **	65.45	69.11	69.05	73.92
Compressive Strength, KSI **	61.00	63.16	57.69	63.89
Flexural Strength, KSI **	88.37	92.14	90.80	97.41
Interlaminar Shear Strength, KSI ***	2.23	2.40	2.20	2.14

* The A, B, C, and D designations correspond to different prepreg resin content, flow, and volatiles to provide the three major resin content laminates (see Section 4 and Table 2-1)

** Average of 10 tests.

*** Average of 5 tests.

SECTION 4

DESCRIPTION OF SERIAL NUMBERED LAMINATES

4.1 FABRICATION FROM PREPREG MATERIAL

As noted in para. 2.2, the laminates tested were constructed of eight (8) and ten (10) ply layups. There were four (4) rolls of 7581/F161-505 prepreg material (identified by: A, B, C, and D) used in this program. The mechanical properties of these rolls are given in para. 3.5. These prepreg materials were distributed in the various serial numbered laminates in the following manner:

S/N 1 and S/N 2 - preliminary panels made for program guidance and not used to generate data

S/N 3	8 plies of roll A prepreg
S/N 4	8 plies of roll A prepreg
S/N 5	8 plies of roll C prepreg
S/N 6	8 plies of roll A prepreg
S/N 7	4 plies of roll A + 4 plies of roll B prepreg
S/N 8	10 plies of roll D prepreg
S/N 9	10 plies of roll C prepreg
S/N 10	6 plies of roll A + 4 plies of roll B prepreg
S/N 11	5 plies of roll A + 5 plies of roll B prepreg
S/N 12	10 plies of roll D prepreg
S/N 13	5 plies of roll C + 5 plies of roll B prepreg
S/N 14	1 ply of roll B + 7 plies of roll A* prepreg
S/N 15	1 ply of roll B + 4 plies of roll C* + 5 plies of roll A* prepreg
S/N 16	1 ply of roll B + 7 plies of roll A* prepreg

* These plies were from a second shipment of prepreg required to complete the contract.

4.2 DISTRIBUTION OF LAMINATES INTO GROUPS

To meet the requirement of generating mechanical property data for material of various resin contents, the serially numbered laminate panels were collected in groups, as follows:

GROUP I - (26% average resin content)

S/N 5, S/N 8, S/N 9, S/N 12, and S/N 13

GROUP II - (31% average resin content)

S/N 7, S/N 10, S/N 11, and S/N 15

GROUP III - (35.6% average resin content)

S/N 3, S/N 4, S/N 6, S/N 14, and S/N 16

SECTION 5

REFERENCES

1. Dastin, S.J., Lubin, G., and Munyak, J.A., Determination of Principal Properties of Fiberglass - Epoxy Laminates for Aircraft - First Quarterly Report, February 1968.
2. op. cit. - Second Quarterly Report, May 1968

SECTION 6

APPENDICES

APPENDIX I - Tabular Test Data-Group I (26% Resin Content) Laminates

Tension: Tables AI-1 to AI-18

Compression: Tables AI-19 to AI-36

Picture Frame Shear: Tables AI-37 to AI-40

Poisson's Ratio: Tables AI-41 to AI-43

APPENDIX II - Tabular Test Data-Group II (31% Resin Content) Laminates

Tension: Tables AII-1 to AII-14

Compression: Tables AII-15 to AII-28

Picture Frame Shear: Tables AII-29 to AII-34

Poisson's Ratio: Tables AII-35 to AII-38

APPENDIX III - Tabular Test Data-Group III (35.6% Resin Content) Laminates

Tension: Tables AIII-1 to AIII-18

Compression: Tables AIII-19 to AIII-36

Picture Frame Shear: Tables AIII-37 to AIII-42

Poisson's Ratio: Tables AIII-43 to AIII-44

TABLE - AI-1 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING					TEST COND.					RESIN CONT.			NOMINAL PER PLY THICKNESS		
		0°			-66° F FOR 1 HR					-66° F FOR 30 MIN					2.6.0%			.0082		
S/N 13, S/N 9, S/N 5	TENSION	.002	.004	.006	.008	.010	.017	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2	
STRAIN IN./IN.	T(1)	W(1)	STRESS - KSI																	
S/N 9 - 111	.082 .498	07.3	14.7	22.0	29.4	36.8	42.5	49.0	55.0	61.0	67.1	73.0	78.0				80.6	.0247	.0409	
118	.082 .497	08.6	16.5	22.2	27.5	33.9	40.6	46.7	52.9	59.0	65.5	71.3	77.5	82.5	88.3		90.4	.0290	.0407	
127	.085 .499	08.7	17.0	22.2	27.7	33.8	40.0	46.0	51.9	57.8	64.1	69.6	75.5	80.5	83.7		86.0	.0282	.0424	
130	.083 .498	08.5	16.4	21.8	27.8	33.9	40.6	46.6	52.5	58.5	64.5	70.6	76.7	82.5	87.8	93.0	96.2	.0310	.0414	
132	.081 .496	09.5	17.4	22.9	28.9	35.1	42.4	48.5	54.5	60.5	66.7	72.3	78.5	84.6	90.0		94.0	.0286	.0402	
133	.081 .498	09.9	17.3	23.3	29.5	36.0	42.1	48.3	54.5	60.7	66.9	73.0	79.3	84.6	89.4		93.2	.0294	.0404	
136	.082 .495	09.9	17.3	22.9	29.3	36.8	42.1	48.5	54.7	60.3	66.5	72.6	78.9	84.9	90.6		93.0	.0290	.0406	
149	.080 .497	08.5	17.3	22.6	28.9	35.4	41.9	47.7	54.3	60.3	66.5	72.9	78.6	84.4	90.3	90.3	99.4	.0318	.0388	
S/N 5 - 88A	.088 .498	08.9	17.1	22.4	28.0	33.9	40.2	46.3	52.8	59.0	63.6	69.3	75.3	81.0	87.4		93.3	.0300	.0339	
100A	.067 .497	09.0	16.8	22.6	28.2	34.6	40.5	46.5	52.5	58.5	64.6	70.5	76.5	82.5	87.4		92.5	.0295	.0333	
AVERAGE STRESS																				
STANDARD DEVIATION STRESS																				
AVERAGE STRESS-3σ																				

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

DATA CONTINUED ON NEXT PAGE

TABLE - AI-1 REDUCED TEST DATA
DATA CONTINUED FROM PREVIOUS PAGE

PANEL NO.	TYPE TEST	TEST DIRECTION	SPEC. CONDITIONING			TEST COND.			RESIN CONT.			NOMINAL PER PLY THICKNESS							
			-65°F For 1 HR			-65°F For 30 Min			26.0%			.0082							
S/N13/S19/S15	TENSION	0°	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030		
STRAIN - IN./IN.	T(1)	W(1)	STRESS - KSI																
S/N 13 - 126	.083 .496	08.8	17.0	24.6	32.6	40.1	46.7	54.3	60.8	67.0	73.7	79.7					84.5	.0233	.0411
128	.079 .497	07.7	14.5	21.7	29.1	36.4	43.4	50.8	58.0	64.5	71.6	78.0	82.2				85.8	.0256	.0392
130	.083 .494	08.8	17.6	23.2	29.3	35.4	42.2	47.3	54.9	61.1	67.3	73.6	80.0	86.5	93.2		96.2	.0290	.0410
134	.081 .496	10.7	19.4	24.8	31.1	38.6	44.8	51.8	58.5	64.6	71.0	77.4	84.0	89.9			93.0	.0270	.0402
143	.082 .496	11.1	18.9	24.6	31.2	37.8	44.2	50.9	57.2	63.4	70.0	76.1	82.5	89.0	94.5		98.3	.0295	.0407
145	.082 .496	11.1	19.4	24.6	30.7	37.0	43.8	50.4	56.7	63.0	69.0	75.0	81.0	87.8	93.8	97.7	98.0	.0301	.0407
147	.062 .497	11.1	19.7	25.8	32.0	38.5	45.4	52.0	58.2	64.9	71.2	77.4	83.5	89.5	95.8		98.2	.0292	.0407
148	.062 .497	10.3	19.2	24.6	31.0	37.3	44.3	50.4	56.7	62.9	67.0	75.0	81.0	87.1	93.3		96.5	.0293	.0407
149	.082 .498	10.1	18.4	23.8	30.0	36.8	43.2	50.0	56.4	62.4	68.7	75.0	81.0	87.1			91.0	.0272	.0408
150	.081 .491	11.1	20.1	25.2	31.7	38.4	45.7	52.7	59.0	65.0	71.5	77.9	84.1	90.0			93.9	.0277	.0398
AVERAGE STRESS		9.3	17.6	23.4	29.7	36.2	42.8	48.8	55.4	61.7	67.8	74.0					92.4	.0286	
STANDARD DEVIATION STRESS		1.10	1.53	1.45	1.52	1.86	1.69	2.20	2.48	2.59	2.65	3.03					5.16	.00211	
AVERAGE STRESS-σ'		6.0	13.0	19.0	25.1	30.8	37.7	42.2	49.0	53.9	59.9	65.9					77.0	.0205	

FOOTNOTES: (1) TO NEAREST .001"

- (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
- (C) CURVE EXCEEDED THE GRAPH PAPER
- (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
- (II) CURVE IDEALIZED

TABLE - A1-2 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION				SPEC. CONDITIONING				TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS			
		90°				-65° F FOR 1 HR				-65° F FOR 30 MIN				26.0%				.0082			
S/N 12	S/N 9,																				
S/N 5	TENSION																				
STRAIN · IN./IN.		.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030					
SPEC. NO.	T ⁽¹⁾	STRESS - KSI																			
	W ⁽¹⁾																				
S/N 9 - 119	.084 .495	08.4	15.9	20.4	25.8	31.2	37.3	42.1	48.1	53.5	59.0	64.3	69.8	74.5	79.4	-	81.5	.0890	.0416		
121	.085 .494	08.4	15.0	20.2	25.7	31.0	37.0	42.6	47.6	53.5	59.4	64.4	69.4	74.9	79.9	-	82.6	.0294	.0420		
123	.078 .494	10.4	15.9	22.6	28.6	33.8	40.3	45.7	51.7	57.6	63.7	69.0	75.4	80.5	85.7	-	87.4	.0886	.0385		
125	.083 .497	08.7	15.7	21.3	26.6	32.3	38.6	43.8	48.5	54.6	60.3	65.5	70.9	76.0	80.6	-	83.0	.0286	.0413		
136	.082 .494	08.7	15.6	21.0	26.0	31.6	37.4	43.3	48.7	54.1	59.3	64.7	70.3	-	-	-	72.9	.0256	.0405		
139	.083 .498	08.9	15.7	20.6	25.9	32.0	37.5	43.5	48.4	54.5	59.5	65.5	71.0	76.0	-	-	78.3	.0291	.0414		
141	.083 .493	08.6	15.1	20.0	25.6	30.5	36.6	42.0	47.5	52.5	57.4	62.3	67.0	-	-	-	70.2	.0288	.0410		
S/N 5 - 5	.067 .496	08.4	15.1	19.6	25.3	30.2	35.6	40.7	46.5	51.2	55.7	60.2	-	-	-	-	60.9	.0222	.0332		
16	.067 .489	08.7	15.8	20.8	25.9	31.4	36.6	42.1	48.9	51.9	57.5	62.3	67.0	-	-	-	69.0	.0248	.0328		
111	.067 .498	09.6	16.3	21.3	26.8	32.2	37.8	42.8	48.0	52.9	57.7	-	-	-	-	-	62.3	.0218	.0329		
AVERAGE STRESS		DATA CONTINUED ON NEXT PAGE																			
STANDARD DEVIATION STRESS																					
AVERAGE STRESS-3σ																					

FOOTNOTES: (1) TO NEAREST .001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (I) CURVE IDEALIZED

TABLE - A1-2 REDUCED TEST DATA
DATA CONTINUED FROM PREVIOUS PAGE

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING						TEST COND.						RESIN CONT.				NOMINAL PER PLY THICKNESS		
		90°		-65° F FOR 1 HR						-66° FOR 30 MIN						26.0%				.0092		
S/N 9, S/N 5 S/N 12	TENSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²			
STRAIN IN./IN.		STRESS - KSI																				
SPEC. NO.	T (1)	W (1)																				
S/N 12 - 139	.085	.489	07.7	14.9	18.7	23.2	27.9	32.4	37.2	42.1	46.4	50.5	54.7				56.0	.0226	.0416			
178	.083	.498	08.7	15.8	19.5	24.2	29.1	33.6	38.5	43.0	47.6	52.0	56.4				57.3	.0228	.0405			
184	.081	.489	08.3	15.8	20.2	24.5	29.8	34.1	39.2	44.2	48.5	53.0					57.0	.0216	.0396			
192	.083	.488	08.9	16.0	19.7	24.6	29.8	34.4	39.4	43.8	48.8	53.0	57.1				58.5	.0228	.0406			
197	.087	.487	08.7	15.4	19.4	23.6	28.1	33.1	37.8	42.5	47.3	51.3					54.5	.0220	.0424			
199	.083	.495	08.8	16.4	20.0	25.4	30.2	34.6	39.8	44.4	48.8						52.0	.0194	.0410			
203	.077	.497	08.1	17.0	21.2	27.4	32.6	38.8	44.6	50.4	56.1	61.4					66.5	.0216	.0383			
205	.077	.495	10.0	17.2	22.8	28.9	34.2	40.2	46.0	51.2	57.8	62.5	67.5				68.8	.0224	.0381			
208	.077	.495	08.5	17.3	22.3	27.8	34.2	40.2	46.0	52.0	57.5	63.0	68.4				68.3	.0224	.0381			
211	.076	.486	08.3	17.3	22.3	28.1	34.2	39.8	45.9	51.2	57.0	63.1	67.6				68.0	.0226	.0377			
AVERAGE STRESS		9.0	16.0	20.7	26.0	31.4	36.8	42.2	47.4	52.2							67.8	.0242				
STANDARD DEVIATION STRESS		0.64	1.24	1.15	1.54	1.81	2.47	2.74	2.86	3.68							10.65	.00314				
AVERAGE STRESS-3σ		7.1	12.3	17.2	21.4	26.0	30.5	34.0	38.8	41.2							36.9	.0148				

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AI-3 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION				SPEC. CONDITIONING				TEST COND.				RESIN CONT.			NOMINAL PER PLY THICKNESS		
		0°				95% RH @ 125° F FOR 42 DAYS				-65° F FOR 30 Min.				26.0%			.0083		
S/N 5, S/N 9	TENSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2
STRAIN IN./IN.		STRESS - KSI																	
SPEC. NO.	T(1) W(1)																		
S/N 5-94	.067 .497	09.3	18.6	25.5	31.6	37.8	46.1	50.5	57.7	63.6	68.4	75.9	81.0				87.5	.0260	.0333
87	.066 .497	09.2	18.3	25.6	31.1	37.8	44.3	50.3	56.7	64.0	69.5	78.4					79.6	.0240	.0328
98	.067 .487	09.2	19.0	26.8	31.3	37.4	44.1	50.7	57.0	63.5	70.0	78.5					79.0	.0234	.0326
115	.066 .498	11.9	21.0	27.4	32.8	39.1	46.0	51.1									56.4	.0158	.0329
92A	.067 .495	09.1	18.1	25.4	31.6	37.7	43.4	49.8	56.4	62.4	68.6	74.1					75.0	.0224	.0332
S/N 9 - 131	.064 .496	10.2	19.2	26.2	31.2	37.2	43.8	50.4	57.0	63.5	69.6	75.5	81.0				85.1	.0256	.0417
134	.082 .497	09.8	18.4	26.0	31.4	38.2	44.6	51.5	57.5	63.8	69.9	76.1					78.5	.0226	.0408
145	.081 .498	09.9	19.2	26.3	31.7	38.4	45.4	52.0	58.1	64.9	70.9	77.5	82.7	89.6			87.3	.0262	.0404
147	.082 .495	11.1	19.7	26.6	31.8	38.2	44.4	51.2	57.9	64.0	70.2	76.4	82.5				88.0	.0238	.0406
148	.081 .498	09.3	18.6	25.0	31.2	38.4	44.6	51.0	58.1	64.4	70.5	77.3	83.0				88.4	.0256	.0404
AVERAGE STRESS		2.8	19.0	25.6	31.6	38.0	44.5	50.8									80.5	.0237	
STANDARD DEVIATION STRESS		1.10	0.83	0.69	0.49	0.58	0.61	0.64									10.87	.0311	
AVERAGE STRESS-3σ		6.5	16.5	23.5	30.2	36.3	42.7	48.9									47.9	.0144	

FOOTNOTES: (1) TO NEAREST .001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (I) CURVE IDEALIZED

TABLE - AI-4 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING					TEST COND.					NOMINAL PER PLY THICKNESS				
		90°			96% RH @ 125°F FOR 42 DAYS					-65° F for 30 MIN.					.0382				
S/N 5	TENSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²
SPEC. NO.	T ⁽¹⁾ W ⁽¹⁾	STRESS - KSI																	
S/N 5 - 29	.069 .406	08.8	16.7	22.2	27.2	31.6	36.6	43.9	49.1	54.4	58.9						50.7	.0201	.0342
33	.069 .409	09.6	18.3	23.2	28.8	34.0	39.6	44.5	49.7	55.0							59.5	.0196	.0344
38	.067 .408	08.1	16.8	22.2	27.9	31.6	39.6	45.0	50.3	56.7	61.1						65.9	.0211	.0334
42	.067 .408	08.9	17.1	22.9	28.3	33.2	40.2	46.5	50.7	56.3							59.2	.0191	.0334
47	.068 .408	10.8	18.6	23.7	29.6	35.6	42.0	47.5									51.0	.0165	.0329
53	.064 .408	10.4	18.2	24.8	30.1	36.4	42.4	48.3	54.0								56.0	.0168	.0319
54	.063 .409	11.5	20.0	25.8	32.0	37.8	44.0	50.4	56.4	62.1	67.9						71.0	.0212	.0314
55	.063 .409	11.5	20.0	25.5	31.8	37.3	43.6	49.7	55.5								59.0	.0174	.0314
56	.063 .408	09.6	18.3	24.1	29.8	36.2	42.4	48.7	54.5	60.5	66.4	71.9					75.5	.0233	.0312
50	.066 .408	09.1	17.0	24.0	30.4	36.6	40.7	46.2	58.3	57.5	62.6						66.0	.0216	.0329
AVERAGE STRESS		9.8	18.2	23.8	29.6	35.1	41.3	47.0									62.3	.0197	
STANDARD DEVIATION STRESS		1.16	1.24	1.29	1.57	1.94	1.83	3.27									5.01	.00244	
AVERAGE STRESS-3σ		6.3	14.2	19.9	24.9	29.3	36.8	37.2									47.3	.0124	

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AI-7 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING							TEST COND.				NOMINAL PER PLY THICKNESS				
		0°		125° F @ 95% RH FOR 42 DAYS							RT				MAX STRESS	STRAIN AT MAX STRESS	AREA IN ²		
SN 5	TENSION	002	004	006	008	010	012	014	016	018	020	022	024	026				028	030
STRAI IN./IN.	T ⁽¹⁾ W ⁽¹⁾	STRESS - KSI																	
S/N 5-86	.067 .406	03.0	17.4	25.1	30.9	37.3	44.0	49.9	53.5								59.3	.0170	.0332
96	.064 .406	09.0	17.6	24.9	31.2	37.4	44.3	50.7	56.9	62.8							64.0	.0192	.0318
113	.066 .406	09.8	17.4	24.8	31.2	37.2	44.1	50.3									54.1	.0154	.0327
88A	.068 .497	09.4	17.4	24.1	30.4	36.6	43.0	48.8	55.5	60.6							61.1	.0182	.0338
93A	.068 .496	09.8	17.3	24.2	30.4	36.6	42.8	49.0	55.0								60.0	.0180	.0338
90	.063 .497	10.1	18.6	26.2	32.0	39.1	45.8	52.6	59.3	64.4							64.9	.0185	.0313
91	.063 .406	09.8	18.1	25.4	31.8	38.4	45.2	51.0	57.4								61.0	.0172	.0313
93	.063 .405	08.6	16.7	24.7	31.2	37.7	44.2	50.9	57.0	61.7							62.0	.0184	.0312
94	.063 .406	09.6	18.2	25.8	32.6	39.5	45.2	51.4	58.0								62.9	.0180	.0313
96	.064 .406	09.4	17.9	26.0	32.5	39.2	45.5	51.9	58.5	63.8							64.5	.0185	.0318
AVERAGE STRESS		09.5	17.7	25.3	31.4	37.8	44.4	50.6									61.4	.0178	
STANDARD DEVIATION STRESS		0.47	0.55	0.75	0.84	0.95	1.02	0.96									3.20	.00133	
AVERAGE STRESS-σ'		06.0	16.0	23.1	28.9	34.9	41.4	47.8									51.9	.0138	

FOOTNOTES (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AI-8 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING							TEST COND.				RESIN CONT.			NOMINAL PER PLY THICKNESS		
		90°		125° F @ 95% RH FOR 42 DAYS							RT				26.0%			MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2
S/N 5	TENSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	STRESS - KSI			
	STRAIN IN./IN.																			
SPEC. NO.	T ⁽¹⁾																			
S/N 5 - 28	.008	.488	08.0	15.4	21.2	26.5	32.0	37.3	42.7	47.6							49.9	.0170	.0339	
28	.008	.496	08.9	16.4	22.2	27.4	32.6	38.2	43.8	48.5							49.1	.0163	.0339	
31	.008	.489	08.9	16.9	22.2	27.4	32.8	38.5	43.9								45.9	.0147	.0339	
34	.008	.497	09.2	16.8	22.2	27.2	32.6	38.4	43.4	48.6							49.9	.0167	.0338	
37	.008	.500	08.3	15.4	21.5	27.0	32.2	37.5	43.2	47.8							49.3	.0170	.0340	
40	.008	.497	09.1	16.3	22.2	27.7	32.8	38.7	44.2								48.2	.0157	.0338	
43	.008	.498	08.8	16.8	22.8	28.0	33.8	40.0	46.7	51.2							53.0	.0168	.0328	
46	.008	.502	08.1	15.4	21.4	26.8	32.1	38.0	43.3	48.4							50.0	.0168	.0336	
49	.008	.500	09.3	16.5	22.7	28.0	33.8	39.8	46.0	50.9							53.2	.0170	.0330	
57	.003	.497	09.8	17.5	23.8	29.3	35.4	42.0	48.4	53.9							54.8	.0169	.0313	
AVERAGE STRESS			8.7	16.2	22.2	27.7	33.0	38.8	44.5								50.3	.0166		
STANDARD DEVIATION STRESS			.48	.70	.77	.81	1.05	1.41	1.78								2.61	.00076		
AVERAGE STRESS-3σ			7.3	14.1	19.9	25.3	29.9	34.8	39.2								42.5	.01426		

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - A1-9 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION				SPEC. CONDITIONING				TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS		
		°				NONE				160°F FOR 30 MIN				28.0%				.0080		
S/N 8	TENSION	.002	.004	.005	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²
	STRAIN IN./IN.	STRESS - KSI																		
SPEC. NO.	T ⁽¹⁾	W ⁽¹⁾																		
S/N 8 - 87	.086	.404	07.5	15.3	21.2	27.1	33.0	38.8	44.7	50.6	56.5	62.4	-	-	-	-	-	64.6	.0214	.0425
89	.083	.489	08.3	15.4	21.8	28.0	33.8	40.5	46.3	52.2	58.1	64.0	-	-	-	-	-	66.5	.0216	.0421
90	.082	.487	08.8	16.8	22.8	29.5	36.5	42.5	49.0	55.5	61.2	66.2	-	-	-	-	-	68.5	.0208	.0400
91	.079	.488	08.4	16.6	22.8	29.0	35.0	42.0	48.5	54.4	60.6	66.5	-	-	-	-	-	70.0	.0214	.0386
92	.079	.483	08.9	16.8	23.1	29.1	35.4	42.1	48.5	55.5	61.5	66.8	-	-	-	-	-	69.4	.0206	.0382
100	.072	.494	09.3	17.5	24.0	31.0	38.0	46.0	53.0	59.7	66.2	-	-	-	-	-	-	70.3	.0194	.0355
105	.077	.489	08.8	17.0	23.1	29.2	35.6	42.2	48.5	54.4	60.5	-	-	-	-	-	-	85.0	.0198	.0377
104	.077	.487	08.5	16.3	22.6	28.8	35.2	42.1	48.5	54.6	60.8	-	-	-	-	-	-	64.3	.0196	.0376
106	.078	.489	08.4	15.7	22.3	28.3	34.6	41.4	48.0	53.6	60.0	-	-	-	-	-	-	64.0	.0196	.0382
108	.077	.485	08.0	16.1	22.2	28.2	35.3	41.7	48.1	54.9	-	-	-	-	-	-	-	59.9	.0180	.0374
AVERAGE STRESS		DATA CONTINUED ON NEXT PAGE																		
STANDARD DEVIATION STRESS																				
AVERAGE STRESS-3σ																				

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AI-10 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION				SPEC. CONDITIONING				TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS			
		90°				NONE				160° FOR 30 MIN.				28.0%				.008:			
S/N 12, S/N 5, S/N 6, S/N 9	TENSION	002	004	006	008	010	012	014	016	018	020	022	024	026	028	030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²		
STRAIN IN./IN.	T (1) W (1)	STRESS - KSI																			
S/N 8 - 55	.076 .489	08.1	15.3	20.7	26.1	31.8	37.6	43.3	49.0	54.0							59.1	.0198	.0372		
56	.077 .490	05.6	16.4	21.8	27.9	33.5	39.8	46.4	50.5	56.3							58.4	.0190	.0377		
57	.076 .490	08.1	15.2	20.4	26.6	32.0	38.2	44.4	49.8	55.1							57.5	.0190	.0372		
S/N 5 - 1	.067 .488	06.9	13.5	18.3	23.6	28.8	33.8	38.9	44.6								49.7	.0180	.0334		
8	.067 .488	06.0	12.3	18.6	24.8	30.2	36.0	41.0	45.8								49.8	.0174	.0334		
19	.067 .500	06.6	13.2	20.0	25.7	31.4	37	42.5	47.8	52.6							56.8	.0190	.0335		
S/N 9 - 120	.065 .486	07.6	15.2	20.4	25.7	31.4	36.8	42.3	47.0	52.2							56.8	.0194	.0421		
124	.083 .494	06.6	13.2	19.2	24.4	30.2	36.1	41.7	47.3	52.2	57.6						62.7	.0219	.0410		
140	.083 .497	07.3	14.0	19.7	25.2	31.2	36.8	42.6	48.0	53.3	58.5						62.1	.0213	.0413		
142	.083 .497	06.9	13.5	18.4	23.8	29.6	35.0	40.3	46.0	50.9							55.0	.0196	.0413		
AVERAGE STRESS		DATA CONTINUED ON NEXT PAGE																			
STANDARD DEVIATION STRESS																					
AVERAGE STRESS-3σ																					

FOOTNOTES (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(II) CURVE IDEALIZED

TABLE - AI-11 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION	SPEC. CONDITIONING						TEST COND.						RESIN CONT.			NOMINAL PER PLY THICKNESS		
			95% RH @ 125° F FOR 48 DAYS						160° F FOR 10 MIN						28.0%			.0083		
S/N 5, S/N 9	TENSION	0°	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²
STRAIN IN./IN.	T(1) W(1)	STRESS - KSI																		
S/N 5 - 86	.086 .497	08.6	16.9	23.8	30.8	37.5	43.6	49.4										52.1	.0160	.0328
112	.087 .488	08.9	17.4	24.2	31.2	37.5												43.5	.0120	.0328
90A	.088 .486	08.9	16.5	23.6	30.6	36.5												40.8	.0114	.0337
96A	.087 .481	08.1	16.7	22.1	30.1	36.4	40.6	47.9										51.6	.0152	.0329
98A	.088 .490	07.8	15.0	22.0	28.6	34.5	40.5											44.4	.0131	.0333
S/N 9 - 126	.084 .497	07.2	14.0	21.1	27.8	34.8	42.0	49.1	55.1									56.7	.0168	.0417
128	.082 .485	07.6	15.3	22.6	28.8	35.0	41.4	47.5	53.5									54.2	.0164	.0406
129	.082 .494	08.2	16.1	22.7	28.9	35.8	42.0	48.1	54.4									55.0	.0164	.0405
143	.082 .494	08.2	15.8	22.5	29.2	35.6	42.0	48.4										53.9	.0160	.0405
144	.081 .490	08.8	16.4	23.1	27.8	35.5	42.9	49.5										54.6	.0158	.0397
AVERAGE STRESS		08.5	16.0	22.9	29.4	35.9												50.7	.0158	
STANDARD DEVIATION STRESS		.88	1.01	.91	1.23	1.48												5.72	.00191	
AVERAGE STRESS-3σ		5.9	13.0	20.2	26.7	31.4												33.5	10.1	

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AI-12 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION				SPEC. CONDITIONING				TEST COND.				RESIN CONT.			NOMINAL PER PLY THICKNESS		
		90°				95% RH @ 125° F FOR 42 DAYS				160° F FOR 10 MIN.				26.0%			.0078		
S/N S	TENSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2
STRAIN IN./IN.	T(1) W(1)	STRESS - KSI																	
S/N 8-31	.079 .402	07.7	14.4	19.7	24.7	29.6	34.4	39.4									41.9	.0151	.0380
33	.079 .402	08.0	14.7	20.1	25.2	30.4	35.5	40.2									44.6	.0158	.0389
35	.079 .402	07.6	14.4	20.1	24.7	29.8	35.0	39.6									44.4	.0160	.0389
37	.078 .403	07.3	14.5	20.2	25.4	30.6	36.4	41.5	46.3								48.2	.0166	.0385
39	.079 .402	07.7	14.4	20.6	25.7	30.8	36.0	41.1									44.7	.0158	.0389
46	.077 .407	07.3	14.9	21.4	27.2	32.4	38.6	43.9									48.2	.0158	.0383
48	.076 .407	07.9	15.4	21.7	27.0	32.8	38.6	44.0									49.3	.0158	.0378
60	.076 .406	08.0	16.0	22.4	28.3	33.7	40.0	46.8									48.8	.0151	.0375
62	.076 .406	09.2	16.2	22.6	28.4	34.0	39.9										43.5	.0130	.0371
111	.077 .403	07.6	14.8	21.0	26.4	31.7	37.3	42.6	47.6								48.5	.0162	.0380
AVERAGE STRESS		7.8	15.0	21.0	26.3	32.6	37.2										43.2	.0155	
STANDARD DEVIATION STRESS		0.53	0.71	1.02	1.39	1.92	2.02										2.69	.00101	
AVERAGE STRESS-σ		6.2	12.9	17.9	22.1	28.8	31.1										36.1	.0126	

FOOTNOTES: (1) TO NEAREST .001"

- (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
- (C) CURVE EXCEEDED THE GRAPH PAPER
- (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
- (II) CURVE IDEALIZED

TABLE - AI-13 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING							TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS				
		STRAIN IN./IN.	T	W ⁽¹⁾	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²		
S/N 8	TENSION	0°			95% RH @ 125°F FOR 42 DAYS							220°F FOR 10 MIN				28.0%				.0077				
SPEC. NO.		STRESS - KSI																						
94	.077	.492	08.5	15.9	22.8	30.2	36.5	43.4	49.3	-									53.0	.0158	.0378			
96	.077	.494	08.0	16.4	22.8	30.5	37.1	43.6	50.0										54.5	.0157	.0380			
98	.078	.493	08.3	15.6	22.8	29.2	35.6	42.1	-										47.2	.0134	.0385			
102	.076	.493	08.5	16.0	23.0	30.1	36.5	43.0	48.0	-									50.5	.0145	.0375			
108	.077	.493	08.7	16.3	23.4	30.3	36.3	42.6	48.5	-									51.2	.0153	.0380			
AVERAGE STRESS		8.6	16.0	23.1	30.0	36.4	42.9															51.3	.C149	
STANDARD DEVIATION STRESS																								
AVERAGE STRESS-3σ																								

FOOTNOTES (1) TO NEAREST .001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (I) CURVE IDEALIZED

TABLE - AI-14 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION	SPEC. CONDITIONING						TEST COND.						RESIN CONT.			NOMINAL PER PLY THICKNESS			
			95% RH 125°F FOR 48 DAYS						220°F FOR 10 MINS						26.0°F			.0078			
S/N 8	TENSION	90°	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²	
STRAIN IN./IN.	W ⁽¹⁾	STRESS - KSI																			
34	.080	.492	07.6	13.7	19.3	24.4	29.0	-	-	-	-	-	-	-	-	-	-	32.3	.0115	.0394	
36	.078	.493	08.1	14.6	20.0	25.8	30.8	-	-	-	-	-	-	-	-	-	-	36.3	.0120	.0385	
38	.078	.492	07.3	13.6	19.6	25.0	30.2	34.9	-	-	-	-	-	-	-	-	-	39.6	.0140	.0384	
47	.076	.497	08.0	14.9	21.4	27.5	32.8	38.6	-	-	-	-	-	-	-	-	-	43.4	.0140	.0378	
49	.076	.493	08.0	15.1	21.6	27.7	33.3	38.3	-	-	-	-	-	-	-	-	-	42.5	.0137	.0376	
AVERAGE STRESS			7.8	14.4	20.4	26.1	31.2											38.8	.0130		
STANDARD DEVIATION STRESS																					
AVERAGE STRESS-90°																					

FOOTNOTES: (1) TO NEAREST .001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (E) CURVE IDEALIZED

TABLE - AI-15 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING						TEST COND.			RESIN CONT.			NOMINAL PER PLY THICKNESS			
		0°		400°F FOR 100 HRS						400°F FOR 30 MINS			28.0%			.0079			
S/N 8	TENSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN ²
STRAIN - IN./IN.		STRESS - KSI																	
SPEC. NO.	T(1)	W(1)	07.5	14.7	21.3	27.8	34.2	40.5	45.4	51.0	56.5	-	-	-	-	-	60.3	.0194	.0375
58	.076	.404	07.5	14.7	21.3	27.8	34.2	40.5	45.4	51.0	56.5	-	-	-	-	-	60.3	.0194	.0375
88	.085	.488	08.8	13.0	19.3	25.3	30.8	36.9	42.6	48.1	53.0	-	-	-	-	-	55.7	.0196	.0415
95	.077	.493	07.4	14.7	21.8	27.9	34.2	41.1	48.8	52.6	57.9	62.4	-	-	-	-	63.0	.0272	.0390
97	.077	.495	08.8	14.2	20.5	27.3	33.6	40.2	46.8	52.8	60.0	62.5	-	-	-	-	62.9	.0205	.0381
99	.077	.495	07.9	15.5	22.5	28.9	36.0	41.5	47.8	53.5	58.8	62.9	-	-	-	-	63.0	.0202	.0381
101	.076	.494	07.2	14.1	20.6	27.2	33.1	39.2	45.4	50.7	56.5	-	-	-	-	-	62.0	.0200	.0375
103	.078	.493	08.5	15.5	22.2	28.8	35.2	41.6	48.0	53.4	59.3	-	-	-	-	-	63.5	.0198	.0375
110	.078	.491	08.1	15.2	22.0	28.2	34.5	40.6	46.5	52.3	57.0	-	-	-	-	-	58.2	.0188	.0383
115	.088	.493	08.4	13.0	18.9	24.8	30.6	36.5	42.4	47.6	52.3	-	-	-	-	-	53.1	.0184	.0424
116	.085	.495	05.9	12.8	18.5	25.0	30.4	36.8	42.3	47.8	53.5	-	-	-	-	-	56.5	.0196	.0421
AVERAGE STRESS		7.2	14.3	20.7	27.1	33.3	39.5	46.5	51.0	56.5	-	-	-	-	-	-	59.8	.0196	-
STANDARD DEVIATION STRESS		1.02	1.04	1.33	1.56	2.00	2.02	2.24	2.36	2.72	-	-	-	-	-	-	3.81	.00075	-
AVERAGE STRESS-3σ		4.1	11.2	16.7	22.4	27.3	33.4	38.8	44.0	48.3	-	-	-	-	-	-	48.4	.0175	-

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM

AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AI-16 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING					TEST COND.				RESIN CONT.			NOMINAL PER PLY THICKNESS			
		90°			400° F FOR 100 HRS.					400° F FOR 30 MIN				26.0%			.0078			
S/N 8, S/N 12	TENSION	.002	.004	.005	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²	
STRAIN IN./IN.	T ⁽¹⁾	STRESS - KSI																		
SPEC. NO.	W ⁽¹⁾																			
S/N 8 - 28	.079	.080	11.3	16.4	21.0	26.0	28.7	-	-	-	-	-	-	-	-	-	29.5	.0128	.0391	
41	.082	.059	11.8	17.3	22.4	27.3	32.2	-	-	-	-	-	-	-	-	-	37.6	.0139	.0406	
42	.077	.083	12.7	18.5	23.8	29.0	34.4	-	-	-	-	-	-	-	-	-	37.9	.0138	.0379	
43	.077	.083	12.2	17.9	23.2	28.4	33.7	37.9	-	-	-	-	-	-	-	-	38.6	.0144	.0380	
44	.077	.083	13.1	18.7	24.0	29.0	34.2	-	-	-	-	-	-	-	-	-	36.8	.0131	.0390	
45	.077	.083	12.9	18.7	24.2	29.4	34.7	-	-	-	-	-	-	-	-	-	38.4	.0136	.0381	
53	.076	.082	12.3	17.7	23.2	28.4	33.7	38.0	40.7	-	-	-	-	-	-	-	42.4	.0168	.0374	
32	.079	.082	11.8	16.9	21.4	25.8	28.4	-	-	-	-	-	-	-	-	-	30.5	.0124	.0388	
40	.078	.087	11.8	16.5	21.2	26.0	30.7	34.0	-	-	-	-	-	-	-	-	34.4	.0142	.0388	
51	.075	.084	14.1	19.8	25.4	31.1	36.2	41.1	44.0	-	-	-	-	-	-	-	44.8	.0164	.0370	
AVERAGE STRESS																				
STANDARD DEVIATION STRESS																				
AVERAGE STRESS-3σ																				

FOOTNOTES: (1) TO NEAREST .001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (E) CURVE IDEALIZED

DATA CONTINUED ON NEXT PAGE

TABLE - AI-16 REDUCED TEST DATA
DATA CONTINUED FROM PREVIOUS PAGE

PANEL NO.	TYPE TEST	TEST DIRECTION				SPEC. CONDITIONING						TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS				
		90°				400°F FOR 100 HRS.						400°F FOR 30 MIN				26.0%				.0078				
S/N 8, S/N 12	STRAIN IN./IN.	T ⁽¹⁾	W ⁽¹⁾	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2			
				STRESS - KSI																				
S/N 12	121	.077	.400	06.7	10.9	16.1	21.0	25.4	29.6	—	—	—	—	—	—	—	—	—	31.2	.0130	.0385			
	140	.083	.400	05.3	10.1	14.9	19.3	23.6	27.0	—	—	—	—	—	—	—	—	—	27.5	.0124	.0415			
	194	.082	.406	04.9	09.5	14.5	18.9	23.1	27.0	—	—	—	—	—	—	—	—	—	29.1	.0136	.0407			
	201	.076	.407	08.4	12.2	17.5	23.0	28.0	33.4	—	—	—	—	—	—	—	—	—	35.7	.0130	.0378			
AVERAGE STRESS				0.62	11.9	17.2	22.3	27.1	31.8													36.2	.0138	
STANDARD DEVIATION STRESS				0.66	1.14	1.49	1.89	2.34	3.01													5.16	.00133	
AVERAGE STRESS-3σ				4.2	8.5	12.7	16.6	20.1	22.8													19.7	.0098	

FOOTNOTES (1) TO NEAREST .001

- (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
- (C) CURVE EXCEEDED THE GRAPH PAPER
- (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
- (I) CURVE IDEALIZED

TABLE - AI-17 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION	SPEC. CONDITIONING						TEST COND.						RESIN CONT.			NOMINAL PER PLY THICKNESS		
			460° F FOR 100 HRS.						460° F FOR 30 MIN.						26.0%			.0080		
S/N 5	TENSION	0°	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2
SPEC. NO.	T(1) W(1)	STRESS - KSI																		
S/N 5 - 80	.082 .497	07.2	13.2	20.3	26.4	32.4	37.6	40.0										47.3	.0155	.0308
82	.082 .486	07.5	14.5	20.8	27.0	33.1	38.4	42.5										48.0	.0157	.0307
96A	.086 .482	08.2	12.7	18.5	24.5	30.6	35.4	41.0										46.2	.0159	.0324
97A	.067 .491	08.5	13.1	19.2	24.6	30.4	35.2	41.0	46.2									48.0	.0168	.0329
116	.083 .497	07.0	13.7	20.0	26.0	31.8	37.7	43.1										48.8	.0163	.0313
AVERAGE STRESS		6.9	13.4	19.8	25.2	31.7	36.9	41.5										47.5	.0169	
STANDARD DEVIATION STRESS																				
AVERAGE STRESS-90																				

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AI-18 REDUCED TEST DATA

PANEL NO	TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING				TEST COND.				RESIN CONT.			NOMINAL PER PLY THICKNESS				
		90°			460°F FOR 100 HRS				460°F FOR 30 MINS				26.0%			.0084				
S/N 5	TENSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2	
STRAIN IN./IN.	T (1) W (1)	STRESS - KSI																		
30	.068	.407	05.9	10.8	15.0	21.2	24.2	-									24.8	.0108	.0338	
35	.068	.406	05.5	10.0	14.5	18.9	21.3	-									21.4	.0109	.0380	
39	.067	.404	05.5	10.9	16.1	20.8	24.7	-									26.1	.0116	.0330	
44	.066	.406	06.1	12.1	18.0	22.0	26.6	29.0	-								29.2	.0125	.0327	
48	.066	.406	06.5	11.8	17.1	22.4	27.3	31.0	-								34.8	.0138	.0322	
AVERAGE STRESS		5.9	11.1	16.3	21.4	24.8											27.3	.0119		
STANDARD DEVIATION STRESS																				
AVERAGE STRESS-3σ																				

FOOTNOTES (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AI-19 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING					TEST COND.					RESIN CONT.			NOMINAL PER PLY THICKNESS		
		0°		1Hr @ -65°F					-65°F For 30 Min					26.0%			.0082/ply x 3:4		
S/N9, S/N13	COMPRESSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²
SPEC. NO.	T ⁽¹⁾ W ⁽¹⁾	STRESS - KSI																	
S/N9 210	.080	.750	.083	17.5	26.3	36.4	44.2	52.5	62.1	-	-	-	-	-	-	-	70.3	.0160	.0600
221	.077	.750	12.3	23.4	33.0	42.5	51.1	60.4	-	-	-	-	-	-	-	-	70.7	.0139	.0677
224	.081	.750	.082	16.5	26.6	33.8	42.0	50.0	57.6	66.4	75.8	-	-	-	-	-	80.0	.0196	.0607
231	.083	.750	.084	18.6	31.4	44.0	56.6	67.6	-	-	-	-	-	-	-	-	73.5	.0133	.0623
236	.086	.750	.086	17.1	26.8	37.6	50.1	63.5	74.5	-	-	-	-	-	-	-	81.4	.0156	.0637
263	.081	.749	.089	19.8	29.2	37.4	46.7	54.0	61.0	69.2	-	-	-	-	-	-	70.9	.0167	.0607
266	.081	.750	.091	19.0	28.8	37.8	47.8	56.9	67.5	76.9	-	-	-	-	-	-	78.0	.0166	.0607
268	.080	.748	.092	17.4	26.9	34.3	42.8	51.0	60.0	68.8	-	-	-	-	-	-	71.7	.0178	.0698
267	.081	.748	.091	17.5	26.4	34.4	42.9	51.1	60.3	68.7	-	-	-	-	-	-	72.2	.0176	.0606
269	.082	.749	.090	17.1	26.8	34.2	42.8	51.3	60.5	67.6	76.4	-	-	-	-	-	76.5	.0184	.0614
AVERAGE STRESS		DATA CONTINUED ON NEXT PAGE																	
STANDARD DEVIATION STRESS																			
AVERAGE STRESS-3σ																			

FOOTNOTES: (1) TO NEAREST .001"

- (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
- (C) CURVE EXCEEDED THE GRAPH PAPER
- (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
- (I) CURVE IDEALIZED

TABLE - AI-19 REDUCED TEST DATA
DATA CONTINUED FROM PREVIOUS PAGE

PANEL NO.	TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING			TEST COND.				RESIN CONT.			NOMINAL PER PLY THICKNESS				
		0°			1 Hr @ -65°F			-65°F For 30 Min				26.0%			.0082/ply x 3/4				
S/NO, S/N13	COMPRESSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²
SPEC. NO.	T (1) W (1)	STRESS - KSI																	
S/N13 210	.083 .750	(1) 13.0	26.0	39.2	52.0	59.0	64.9	-	-	-	-	-	-	-	-	-	65.6	.0123	.0623
220	.078 .750	(1) 11.6	18.8	26.4	34.2	43.1	51.6	-	-	-	-	-	-	-	-	-	58.0	(1) .0134	.0685
223	.082 .750	11.6	22.0	30.8	39.2	47.7	56.2	64.5	-	-	-	-	-	-	-	-	68.0	.0148	.0615
237	.082 .749	11.6	22.5	32.6	42.0	51.0	58.7	-	-	-	-	-	-	-	-	-	61.5	.0128	.0614
253	.082 .749	(1) 07.8	16.0	24.5	33.0	41.1	54.1	67.1	80.0	(1) (1)	(1) (1)	(1) (1)	(1) (1)	(1) (1)	(1) (1)	(1) (1)	80.5	(1) .0162	.0614
265	.082 .749	12.6	25.0	36.2	42.1	51.8	60.1	67.6	-	-	-	-	-	-	-	-	72.7	.0154	.0614
267	.082 .749	10.6	19.9	28.7	36.7	41.1	45.6	49.7	53.7	57.9	61.3	65.3	68.8	72.4	-	-	72.5	.0262	.0614
267	.084 .750	10.6	20.6	31.8	42.8	53.1	59.2	64.3	69.0	74.0	-	-	-	-	-	-	77.5	.0199	.0630
270	.082 .749	13.0	26.0	37.5	46.8	52.5	56.2	61.0	65.2	69.0	76.3	79.8	83.5	86.4	-	-	87.0	.0286	.0614
275	.083 .750	09.6	20.9	34.2	43.3	52.4	60.3	68.2	-	-	-	-	-	-	-	-	76.1	.0158	.0623
AVERAGE STRESS		10.2	20.1	30.0	39.7	47.9	56.3										73.2	.0170	
STANDARD DEVIATION STRESS		1.73	3.16	4.38	4.66	5.28	5.52										6.83	.00419	
AVERAGE STRESS-3σ		5.0	10.6	16.9	22.7	32.1	39.7										52.7	.0046	

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AI-20 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION	SPEC. CONDITIONING										TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS		
			1 Hr @ -66°F										-66°F For 30 Min				26.0%				.0078		
S/NB	COMPRESSION	90°	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN.²			
			STRESS - KSI																				
SPEC. NO.	T(1) W(1)																						
192	.075 .750	10.6	27.4	40.8	53.9	66.6	-											70.6	.0108	.0563			
193	.076 .750	10.5	22.8	32.1	41.0	50.0	59.4	66.0	-									63.9	.0142	.0570			
196	.077 .750	12.6	23.0	32.2	40.7	48.7	56.7	64.1	-									65.6	.0144	.0577			
197	.079 .749	11.4	20.3	28.7	36.5	44.8	58.4	59.5	-									65.0	.0158	.0592			
200	.079 .750	08.4	17.7	26.2	35.4	44.7	52.4	59.0	-									61.4	.0149	.0593			
201	.082 .751	11.4	22.3	30.9	38.2	46.6	53.5	61.0	-									61.3	.0142	.0615			
203	.078 .749	08.5	17.8	27.7	37.1	46.2	54.6	-										58.6	.0130	.0585			
206	.078 .748	10.3	19.7	29.2	37.7	46.9	54.8	61.7	-									65.5	.0154	.0584			
X17	.076 .750	10.5	21.1	31.8	40.4	49.1	57.2	-										63.5	.0136	.0570			
X19	.077 .749	12.3	23.4	33.8	42.5	51.2	59.1	-										63.3	.0139	.0576			
AVERAGE STRESS		10.6	21.6	31.3	40.3	49.3	-											64.2	.0140				
STANDARD DEVIATION STRESS		1.40	2.90	4.06	5.28	6.50												3.19	.00139				
AVERAGE STRESS-3σ		6.4	12.3	19.1	24.5	29.8												54.5	.0099				

FOOTNOTES: (1) TO NEAREST .001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (E) CURVE IDEALIZED

TABLE - AI-21 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING				TEST COND.				RESIN CONT.			NOMINAL PER PLY THICKNESS			
		0°			95% RH @ 125°F For 42 Days				-65°F For 36 Min				26.0%			.0078			
S/N 8	COMPRESSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN.²
STRAIN IN./IN.		STRESS - KSI																	
SPEC NO.	T (1) W (1)																		
175	.003	19.9	30.0	40.2	50.0	55.1	59.7	64.3	68.2	72.5	76.3	-	-	-	-	-	77.8	.0232	.0623
178	.079	21.4	32.2	43.3	53.0	62.4	70.8	-	-	-	-	-	-	-	-	-	71.0	.0142	.0694
182	.077	08.8	19.1	28.2	37.6	55.4	64.0	-	-	-	-	-	-	-	-	-	67.3	.0151	.0578
185	.076	09.5	19.8	31.2	42.1	61.0	68.7	-	-	-	-	-	-	-	-	-	71.0	.0149	.0570
189	.077	10.4	20.8	31.0	40.6	58.5	67.3	-	-	-	-	-	-	-	-	-	70.8	.0150	.0576
X1	.076	09.7	18.8	28.3	37.8	55.5	64.1	-	-	-	-	-	-	-	-	-	72.3	.0152	.0569
X3	.075	09.8	20.1	30.0	40.7	58.0	66.6	74.5	-	-	-	-	-	-	-	-	78.6	.0174	.0663
X6	.076	09.7	19.9	31.0	41.1	58.6	67.2	75.3	-	-	-	-	-	-	-	-	80.4	.0174	.0571
X9	.076	09.6	20.2	29.8	39.4	57.3	65.5	73.6	81.8	-	-	-	-	-	-	-	81.5	.0183	.0571
X13	.076	09.7	20.2	31.2	40.3	59.4	67.5	-	-	-	-	-	-	-	-	-	69.1	.0141	.0571
AVERAGE STRESS		9.8	20.0	30.3	40.3	49.6	58.1	66.1									74.0	.0166	
STANDARD DEVIATION STRESS		.49	.75	1.21	1.75	2.42	3.04										5.02	.00277	
AVERAGE STRESS-3σ		8.3	17.8	26.7	35.1	43.9	50.8	57.0									58.9	.0083	

FOOTNOTES (1) TO NEAREST .001"

(A) COMPRESSOR WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOR SLIPPAGE

(E) CURVE IDEALIZED

TABLE - AI-22 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING					TEST COND.					RESIN CONT.				NOMINAL PER PLY THICKNESS		
		90°			95% RH @ 125°F For 42 Days					-65°F For 30 Min					26.0%				.0080		
S/N 8	COMPRESSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2		
	STRAIN IN/IN.	STRESS - KSI																			
SPEC NO.	T ⁽¹⁾	W ⁽¹⁾																			
2	.077	.749	.082	.192	.286	.374	48.5	-									52.6	.0104	.0576		
4	.078	.750	.077	.154	.226	.277	33.4	37.8	42.0	46.1	50.3	-					52.8	.0198	.0585		
17	.078	.749	.068	.144	.218	.291	36.4	44.5	-								48.5	.0130	.0584		
14	.084	.749	.065	.127	.196	.245	27.7	38.2	46.8	-							53.3	.0158	.0625		
26	.084	.749	.067	.132	.196	.264	33.0	39.6	46.1	52.5	-						55.6	.0170	.0629		
31	.081	.750	.087	.164	.250	.335	41.5	49.9	-								54.8	.0130	.0603		
33	.080	.748	.072	.144	.212	.301	39.2	47.5	57.7	--							59.1	.0144	.0698		
37	.081	.749	.081	.188	.288	.386	46.7	56.0	-								57.3	.0123	.0606		
47	.079	.749	.091	.169	.255	.335	43.1	50.7	57.7	-							59.0	.0143	.0582		
50	.079	.749	.091	.193	.344	.488	56.8	63.9	-								65.0	.0173	.0692		
AVERAGE STRESS		8.0	16.1	24.7	33.0	40.6											55.8	.0142			
STANDARD DEVIATION STRESS		.39	.71	1.51	7.27	8.6											4.4	.00273			
AVERAGE STRESS-3σ		7.8	14.0	20.2	11.2	14.8											42.6	.0080			

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AI-23 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION	SPEC. CONDITIONING								TEST COND.				RESIN CONT.			NOMINAL PER PLY THICKNESS		
S/N B	COMPRESSION	0°	95% RH @ 125°F For 42 Days								25°F For 30 Min				26.0%			.0078		
STRAIN IN./IN	T ⁽¹⁾	W ⁽¹⁾	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2
SPEC NO	STRESS - KSI																			
71	.077	.748	13.9	25.6	34.9	43.6	—										49.8	.0094	.0677	
72	.078	.748	16.8	26.5	36.9	44.6	52.6	—									59.0	.0102	.0585	
73	.083	.750	13.1	23.6	32.7	42.0	49.2	—									50.9	.0104	.0623	
74	.076	.750	12.6	22.6	32.2	37.9	47.9	52.6	—								56.3	.0136	.0670	
75	.078	.749	09.6	17.9	26.1	34.4	42.1	47.4	51.5	—							53.6	.0144	.0685	
AVERAGE STRESS			13.2	23.2	32.4	40.5											52.9	.0116		
STANDARD DEVIATION STRESS																				
AVERAGE STRESS-3σ																				

FOOTNOTES (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AI-26 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING								TEST COND.				RESIN CONT.			NOMINAL PER PLY THICKNESS		
		0°			96% RH @ 125°F For 42 Days								RT				23.0%			.0077		
S/NB	COMPRESSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2			
STRAIN IN./IN.		STRESS - KSI																				
SPEC. NO.	T ⁽¹⁾	W ⁽¹⁾																				
176	.082	.751	07.3	15.9	28.9	45.0	—	—	—	—	—	—	—	—	—	—	50.2	.0089	.0615			
179	.078	.750	10.6	23.2	37.2	50.3	—	—	—	—	—	—	—	—	—	—	57.3	.0086	.0585			
180	.077	.750	14.7	30.2	44.0	56.4	—	—	—	—	—	—	—	—	—	—	66.1	.0086	.0576			
186	.077	.750	09.0	18.8	28.2	37.0	46.3	54.0	—	—	—	—	—	—	—	—	57.1	.0123	.0576			
187	.077	.750	08.5	18.1	27.3	36.4	44.7	53.0	—	—	—	—	—	—	—	—	59.8	.0139	.0576			
191	.078	.748	11.5	25.2	36.2	45.3	53.8	—	—	—	—	—	—	—	—	—	54.1	.0104	.0580			
X4	.076	.750	.05	20.8	31.6	41.2	49.5	57.9	—	—	—	—	—	—	—	—	57.9	.0126	.0670			
X7	.077	.751	10.8	22.1	32.0	41.5	49.6	—	—	—	—	—	—	—	—	—	56.8	.0118	.0579			
X10	.076	.748	10.7	21.6	34.1	46.5	57.5	—	—	—	—	—	—	—	—	—	58.9	.0106	.0568			
X14	.076	.752	10.7	24.0	34.1	45.7	54.0	—	—	—	—	—	—	—	—	—	54.8	.0106	.0571			
AVERAGE STRESS		10.4	22.0	33.3	44.5	—	—	—	—	—	—	—	—	—	—	—	57.3	.0109	—			
STANDARD DEVIATION STRESS		1.96	4.04	4.98	6.26	—	—	—	—	—	—	—	—	—	—	—	4.0	.00170	—			
AVERAGE STRESS-3σ		4.5	9.9	16.4	26.7	—	—	—	—	—	—	—	—	—	—	—	41.3	.0168	—			

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AI-26 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING							TEST COND.				RESIN CONT.			NOMINAL PER PLY THICKNESS		
		90°			96% RH @ 126°F For 42 Days							RT				26.0%			.0078		
S/NB	COMPRESSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2		
STRAIN - IN./IN.		STRESS - KSI																			
SPEC. NO.	T(1)	W(1)																			
22	.084	.749	08.2	16.4	24.5	31.2	34.5	35.2	38.8	40.5	42.5	44.1	46.8	-	-	-	47.0	.0235	.0629		
36	.081	.749	09.5	18.5	27.1	34.4	41.5	47.4	-	-	-	-	-	-	-	-	50.0	.0128	.0810		
44	.080	.750	08.6	18.0	26.6	34.2	42.0	47.0	-	-	-	-	-	-	-	-	43.8	.0122	.0600		
88	.076	.749	13.8	24.8	34.2	42.8	-	-	-	-	-	-	-	-	-	-	46.3	.0089	.0567		
90	.076	.750	10.2	21.0	30.3	38.5	-	-	-	-	-	-	-	-	-	-	44.2	.0084	.0670		
96	.076	.750	08.4	17.9	26.3	35.0	42.6	-	-	-	-	-	-	-	-	-	48.5	.0117	.0570		
98	.077	.751	10.5	19.2	28.2	37.4	46.8	-	-	-	-	-	-	-	-	-	48.0	.0106	.0579		
100	.076	.751	09.5	19.3	28.8	37.6	46.1	-	-	-	-	-	-	-	-	-	47.0	.0106	.0671		
101	.077	.750	09.0	17.3	25.2	33.1	41.4	47.5	-	-	-	-	-	-	-	-	49.3	.0135	.0578		
103	.076	.751	09.0	18.9	27.6	36.3	43.0	49.9	-	-	-	-	-	-	-	-	50.6	.0123	.0671		
AVERAGE STRESS		9.7	19.2	27.9	36.0												47.5	.0126			
STANDARD DEVIATION STRESS		1.63	2.37	2.79	3.26												2.22	.00413			
AVERAGE STRESS-3σ		4.8	12.1	19.5	26.2												40.7	.0002			

FOOTNOTES: (1) TO NEAREST .001"

- (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
- (C) CURVE EXCEEDED THE GRAPH PAPER
- (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
- (I) CURVE IDEALIZED

TABLE - AI-27 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING					TEST COND.				RESIN CONT.			NOMINAL PER PLY THICKNESS				
		0°		None					160°F For 30 Min				26.0%			.0079				
S/N8-S/N13	COMPRESSION	0°		None					160°F For 30 Min				26.0%			.0079				
STRAIN IN./IN.	T ⁽¹⁾	W ⁽¹⁾	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2
SPEC. NO.	STRESS - KSI																			
S/N8- 70	.077	.751	08.5	17.1	24.9	32.3	42.0	—	—	—	—	—	—	—	—	—	—	46.4	.0120	.0679
76	.077	.750	09.2	17.6	25.4	33.8	41.5	47.4	—	—	—	—	—	—	—	—	—	49.6	.0130	.0678
77	.076	.751	09.8	20.0	29.0	37.8	—	—	—	—	—	—	—	—	—	—	—	40.6	.0085	.0571
78	.076	.749	09.3	19.2	28.8	38.5	—	—	—	—	—	—	—	—	—	—	—	44.6	.0093	.0569
79	.076	.749	08.4	17.4	24.2	34.4	42.8	—	—	—	—	—	—	—	—	—	—	48.2	.0102	.0569
80	.076	.749	08.8	17.9	27.4	36.8	44.8	52.4	—	—	—	—	—	—	—	—	—	52.8	.0122	.0569
81	.076	.749	10.0	19.5	30.1	43.2	—	—	—	—	—	—	—	—	—	—	—	50.0	.0092	.0569
82	.076	.749	08.4	17.6	26.9	36.7	46.5	—	—	—	—	—	—	—	—	—	—	47.0	.0102	.0569
83	.077	.751	09.3	18.3	26.4	34.8	46.1	—	—	—	—	—	—	—	—	—	—	49.3	.0107	.0579
84	.076	.752	07.9	15.8	24.2	33.6	43.1	—	—	—	—	—	—	—	—	—	—	47.2	.0106	.0671
AVERAGE STRESS	DATA CONTINUED ON NEXT PAGE																			
STANDARD DEVIATION STRESS																				
AVERAGE STRESS-3σ																				

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - A1-27 REDUCED TEST DATA
DATA CONTINUED FROM PREVIOUS PAGE

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC CONDITIONING					TEST COND.					RESIN CONT.			NOMINAL PER PLY THICKNESS				
		0°		None					160°F For 30 Min					26.0%			.0079				
S/N6,S/N13	COMPRESSION	STRAIN IN / IN.		STRESS - KSI															MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2
		T ⁽¹⁾	W ⁽¹⁾	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030			
S/N13-221	.750	.079	.750	08.1	15.9	24.0	32.1	40.5	-	-	-	-	-	-	-	-	-	-	51.0	.0118	.0593
224	.750	.079	.750	08.0	15.7	24.3	32.4	40.2	46.5	-	-	-	-	-	-	-	-	-	55.8	.0139	.0593
233	.750	.084	.750	07.9	16.2	27.0	40.8	-	-	-	-	-	-	-	-	-	-	-	50.0	.0096	.0630
236	.750	.085	.750	07.9	14.6	22.6	31.1	37.7	42.4	46.7	-	-	-	-	-	-	-	-	48.3	.0152	.0637
236	.750	.084	.750	08.1	15.7	23.4	31.1	38.9	46.7	52.6	-	-	-	-	-	-	-	-	54.9	.0146	.0630
241	.749	.080	.749	09.2	21.0	36.0	-	-	-	-	-	-	-	-	-	-	-	-	45.5	.0075	.0599
244	.750	.079	.750	08.1	20.2	32.4	44.0	-	-	-	-	-	-	-	-	-	-	-	52.2	.0098	.0593
268	.750	.081	.750	08.6	16.8	23.9	31.6	39.4	46.5	-	-	-	-	-	-	-	-	-	48.1	.0131	.0607
266	.750	.085	.750	08.6	20.2	30.6	41.2	-	-	-	-	-	-	-	-	-	-	-	48.0	.0094	.0637
268	.750	.084	.750	07.6	15.9	22.2	30.2	37.6	43.8	-	-	-	-	-	-	-	-	-	48.4	.0130	.0630
AVERAGE STRESS				8.6	17.6	26.7													48.9	.0112	
STANDARD DEVIATION STRESS				.68	1.29	3.44													3.5	.00153	
AVERAGE STRESS-90°				6.6	11.9	16.4													38.4	.0066	

FOOTNOTES: (1) TO NEAREST .001"

- (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
- (C) CURVE EXCEEDED THE GRAPH PAPER
- (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
- (I) CURVE IDEALIZED

TABLE - AI-28 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING					TEST COND.				RESIN CONT.			NOMINAL PER PLY THICKNESS				
		90°		None					160° F For 30 Min				26.0%			.0082				
SYMBOLS/113	COMPRESSION	STRAIN IN / IN		STRESS - KSI										MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2				
		T (1)	W (1)	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020				.022	.024	.026	.028
20A-B 1		.076	.750	08.1	15.6	23.2	33.7	-										39.3	.0092	.0670
9		.094	.751	07.0	14.4	22.5	29.4	35.2	39.0	-								40.2	.0123	.0631
13		.083	.749	06.8	13.5	19.3	24.8	30.4	36.4	40.5	-							42.1	.0146	.0622
16		.083	.749	07.2	15.0	22.2	29.0	36.4	40.5	-								46.0	.0138	.0622
17		.083	.751	06.4	12.5	17.8	23.6	28.9	34.4	-								40.7	.0140	.0624
20		.083	.751	06.4	12.5	20.0	29.3	-										38.1	.0100	.0624
28		.083	.749	06.3	12.6	19.6	26.0	32.8	38.1	-								40.0	.0126	.0622
41		.080	.753	06.0	12.0	17.9	24.9	30.8	36.2	41.3	-							41.9	.0146	.0603
42		.082	.748	07.2	13.7	21.5	30.3	38.7	-									40.1	.0110	.0614
46		.082	.749	07.0	14.3	20.5	27.3	33.2	39.2	-								43.4	.0134	.0615
AVERAGE STRESS																				
STANDARD DEVIATION STRESS																				
AVERAGE STRESS-3σ																				

FOOTNOTES (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRE'S REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(1) CURVE IDEALIZED

DATA CONTINUED ON NEXT PAGE

TABLE - AI-28 REDUCED TEST DATA
DATA CONTINUED FROM PREVIOUS PAGE

PANEL NO.	TYPE TEST	TEST DIRECTION			SPEC CONDITIONING				TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS			
		90°			NONE				160°F FOR 30 MIN				26.0%				MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2	
S/N B. S/N 13	IN./IN	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030				.0082
SPEC NO	T (1) W (1)	STRESS - KSI																		
S/N13-211	.078 .748	09.8	18.2	26.4	36.0	-												43.3	.0099	.0683
214	.080 .752	09.0	19.9	29.4	40.3	-												44.5	.0786	.0602
217	.081 .750	12.2	21.8	30.0	-													42.7	.0060	.0607
246	.080 .752	09.0	17.9	32.9	-													36.7	.0084	.0602
249	.081 .750	07.4	14.3	20.7	27.1	36.1	-											42.2	.0107	.0607
250	.081 .752	07.7	16.8	22.8	28.6	36.0	41.1	-										42.5	.0125	.0609
252	.082 .750	07.6	16.6	22.6	29.3	36.8	39.8	-										42.5	(1)	.0615
257	.081 .750	08.9	16.8	24.4	32.0	39.5	-											44.5	.0106	.0607
269	.083 .750	08.4	16.7	26.2	33.7	41.1	-											46.4	.0114	.0623
264	.084 .750	08.6	16.5	24.2	31.7	39.2	-											46.5	.0118	.0630
AVERAGE STRESS		07.8	15.6	23.2														42.0	.0114	
STANDARD DEVIATION STRESS		1.47	2.61	4.04														2.64	.00231	
AVERAGE STRESS-3σ		3.4	7.8	11.1														36.1	.0046	

FOOTNOTES: (1) TO NEAREST .001"

- (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
- (C) CURVE EXCEEDED THE GRAPH PAPER
- (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
- (I) CURVE IDEALIZED

TABLE - AI-20 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING					TEST COND.				RESIN CONT.			NOMINAL PER PLY THICKNESS				
		0°		96% RH @ 125°F For 42 Days					160°F For 10 Min				26.0%			MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2		
S/NB	COMPRESSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028				.030	STRESS - KSI
STRAIN IN./IN.	T (1)	W (1)																		
53	.077	.749	12.5	22.6	32.2	40.7	-	-	-	-	-	-	-	-	-	-	-	46.3	.0096	.0675
174	.076	.750	10.0	22.8	33.9	45.3	-	-	-	-	-	-	-	-	-	-	-	47.3	.0085	.0670
177	.080	.749	13.0	25.2	33.4	-	-	-	-	-	-	-	-	-	-	-	-	37.6	.0370	.0699
181	.078	.749	13.3	23.6	32.3	41.7	-	-	-	-	-	-	-	-	-	-	-	42.3	.0083	.0685
184	.078	.750	15.3	32.3	40.5	-	-	-	-	-	-	-	-	-	-	-	-	47.3	.0072	.0685
188	.078	.750	09.2	17.6	26.1	33.8	41.7	-	-	-	-	-	-	-	-	-	-	44.4	.0110	.0685
X2	.075	.750	10.7	20.3	29.6	38.4	-	-	-	-	-	-	-	-	-	-	-	45.4	.0098	.0663
X5	.077	.749	17.8	32.6	45.1	-	-	-	-	-	-	-	-	-	-	-	-	48.7	.0062	.0677
X8	.076	.750	18.4	29.5	36.8	41.5	-	-	-	-	-	-	-	-	-	-	-	42.3	.0085	.0670
X11	.077	.750	22.0	36.7	41.1	45.0	-	-	-	-	-	-	-	-	-	-	-	45.4	.0082	.0673
AVERAGE STRESS			14.2	26.3	36.0													44.7	.0084	
STANDARD DEVIATION STRESS			4.11	6.22	7.00													3.25	.00143	
AVERAGE STRESS-3σ			1.9	7.7	14.0													34.9	.0041	

FOOTNOTES: (1) TO NEAREST .001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (I) CURVE IDEALIZED

TABLE - AI-30 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING				TEST COND.				RESIN CONT.			NOMINAL PER PLY THICKNESS			
		90°			95% RH @ 125°F For 42 Days				160°F For 10 Min				26.0%			.0082			
S/NB	COMPRESSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²
	STRAIN IN./IN.	STRESS - KSI																	
SPEC NO.	T ⁽¹⁾	W ⁽¹⁾																	
10	.084	.749	09.5	17.2	23.9	29.9	35.8	-									36.2	.0104	.0629
12	.084	.750	06.7	14.3	20.2	26.6	34.0	38.0	-								40.2	.0134	.0630
18	.084	.749	04.0	08.3	12.9	18.1	22.6	28.3	34.0	-							38.3	.0160	.0629
21	.084	.749	07.0	12.7	19.6	26.8	33.4	39.2	-								41.5	.0130	.0629
24	.084	.750	07.6	15.3	22.8	29.6	36.2	40.6	-								41.3	.0123	.0630
27	.084	.749	05.2	11.9	19.1	25.5	31.8	37.7	-								39.4	.0130	.0629
34	.080	.750	07.3	14.0	22.3	31.0	38.7	-									39.8	.0107	.0600
38	.080	.749	08.3	17.3	24.0	30.0	37.0	42.5	-								43.2	.0124	.0800
39	.080	.749	08.7	17.5	25.6	33.6	40.0	-									40.7	.0102	.0600
49	.079	.749	07.4	15.2	23.0	30.4	37.8	-									40.3	.0108	.0632
AVERAGE STRESS		07.2	14.4	21.3	28.2	34.6											40.1	.0122	
STANDARD DEVIATION STRESS		1.63	2.86	3.63	4.26	4.86											1.90	.00177	
AVERAGE STRESS-3σ		2.3	5.8	10.4	15.4	20.0											54.4	.0070	

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOR WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOR SLIPPAGE CURVE IDEALIZED

TABLE -AI-31 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING					TEST COND.				RESIN CONT.			NOMINAL PER PLY THICKNESS		
		0°			96% RH @ 125°F For 42 Days					220°F For 10 Min.				26.0%			.0080		
S/N 8, S/N 9	COMPRESSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2
STRAIN IN./IN.	T ⁽¹⁾ W ⁽¹⁾	STRESS - KSI																	
S/N 8 - 183	.078 .749	07.5	14.4	21.7	28.7	36.9											40.0	.0116	.0685
190	.077 .749	07.3	14.3	22.5	32.9	--											41.9	.0089	.0675
X12	.077 .748	07.8	14.4	20.8	29.2	36.5											38.4	.0107	.0676
S/N 9 - 222	.084 .750	07.5	15.2	23.8	28.3												33.4	(1) .0096	3630
234	.084 .750	09.2	19.1	30.4	36.2	39.0	41.9	44.8	47.2	--							49.0	.0179	.0630
AVERAGE STRESS		07.9	15.5	23.8	31.1												40.5	.0119	
STANDARD DEVIATION STRESS																			
AVERAGE STRESS-3σ																			

FOOTNOTES: (1) TO NEAREST .001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (I) CURVE IDEALIZED

TABLE - AI-32 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING					TEST COND.				RESIN CONT.			NOMINAL PER PLY THICKNESS		
		90°			95% RH @ 125°F For 43 Days					220°F For 10 Min.				7.6.0%			.008		
S/NB	COMPRESSION	002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN.²
	STRAIN - IN./IN.																		
	SPEC. NO.	T ⁽¹⁾	W ⁽¹⁾	STRESS - KSI															
87	.078	.750	06.7	13.7	20.4	26.8	33.4										34.5	.0105	.0585
89	.076	.749	09.3	17.4	23.8	29.8	-										31.5	.0090	.0570
91	.076	.751	07.2	24.2	21.0	27.4	-										30.7	.0091	.0570
99	.076	.749	08.8	17.4	24.2	31.6	-										34.6	.0090	.0570
102	.076	.750	07.7	15.1	21.9	28.4	34.2	-									36.6	.0114	.0570
AVERAGE STRESS		07.9	15.6	22.3	28.8												33.6	.0088	
STANDARD DEVIATION STRESS																			
AVERAGE STRESS-3σ																			

FOOTNOTES: (1) TO NEAREST .001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (I) CURVE IDEALIZED

TABLE - AI-33 REDUCED TEST DATA
DATA CONTINUED FROM PREVIOUS PAGE

PANEL NO.	TYPE TEST	TEST DIRECTION	SPEC. CONDITIONING										TEST COND.					RESIN CONT.			NOMINAL PER PLY THICKNESS		
			100 HRS @ 400°F										400°F FOR 30 MINS					26.0%			.0082		
S/N 9, S/N 13	COMPRESSION	0°	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²			
STRAIN IN./IN.		STRESS - KSI																					
SPEC. NO.	T ⁽¹⁾	W ⁽¹⁾																					
S/N13-209	.080	.750	09.5	15.5	22.2	-												27.4	.0077	.0600			
219	.079	.751	08.8	16.4	23.4	-												26.8	.0072	.0600			
227	.080	.750	06.8	15.5	21.0	27.2	-											30.8	.0080	.0600			
231	.083	.749	(1) 08.0	(1) 15.8	(1) 23.2	(1) 30.2	-											31.6	(1) .0084	.0620			
234	.086	.750	07.5	14.0	21.0	-												26.4	.0077	.0645			
243	.078	.750	10.5	19.9	27.7	-												30.4	.0067	.0585			
254	.083	.750	09.7	19.2	27.0	-												31.9	.0070	.0621			
260	.084	.749	7.2	14.3	21.4	29.2	-											33.6	.0093	.0629			
266	.084	.750	(1) 12.4	(1) 16.7	(1) 22.4	(1) 27.7	-											32.7	(1) .0089	.0630			
276	.043	.749	07.3	14.5	21.8	-												25.0	.0088	.0620			
AVERAGE STRESS			8.4	16.4	23.4													28.8	.0079	.0620			
STANDARD DEVIATION STRESS			1.44	1.86	2.39													3.03	.00031				
AVERAGE STRESS-30'			4.1	11.0	16.5													19.7	.0070				

FOOTNOTES: (1) TO NEAREST .001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (II) CURVE IDEALIZED

TABLE - AI-34 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION	SPEC. CONDITIONING							TEST COND.				RESIN CONT.			NOMINAL PER PLY THICKNESS				
			100 Hrs @ 400°F							400°F For 30 Min				26.0%							
S/N8	COMPRESSION	90°	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²	
	STRAIN IN./IN.																				
SPEC. NO.	T ⁽¹⁾ W ⁽¹⁾		STRESS - KSI																		
3	.077 .748	11.1	04.9	11.1	-													17.2	.0060	.0676	
6	.075 .750	-	12.6	-														18.9	.0034	.0663	
8	.084 .750	15.1	06.1	15.1	-													18.9	.0063	.0630	
11	.084 .750	11.4	05.5	11.4	17.3	-												19.1	.0067	.0630	
16	.083 .750	11.6	05.8	11.6	17.7	-												19.3	.0066	.0623	
19	.083 .748	09.8	04.4	09.8	15.1	-												18.5	.0076	.0621	
25	.083 .750	04.2	04.2	06.2	09.7	13.5	15.9	19.1	-									19.2	.0138	.0623	
30	.083 .750	10.2	05.5	10.2	14.9	18.7	-											19.3	.0084	.0623	
40	.081 .751	10.8	04.9	10.8	15.5	-												19.7	.0069	.0609	
43	.080 .749	11.8	07.3	11.8	-													18.9	.0060	.0599	
AVERAGE STRESS			04.9															18.9	.0071		
STANDARD DEVIATION STRESS			3.1															.69	.00272		
AVERAGE STRESS-3σ																		16.8			

FOOTNOTES: (1) TO NEAREST .001"

- (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
- (C) CURVE EXCEEDED THE GRAPH PAPER
- (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
- (I) CURVE IDEALIZED

TABLE - AJ-36 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING						TEST COND.				RESIN CONT.			NOMINAL PER PLY THICKNESS			
		90°		100 HRS. @ 450°F						450° F For 30 Min.				25.0%			MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2	
S/NS	COMPRESSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030				.0078
STRAIN IN/IN		STRESS - KSI																		
SPEC NO.	T (1) W (1)																			
194	.81 740	05.3	-														08.8	.0032	.0806	
198	.079 750	08.1	11.3														11.4	.0042	.0583	
202	.076 740	08.1	11.9														15.4	.0058	.0588	
X-16	.077 750	07.2	-														11.3	.0036	.0577	
X-18	.075 750	05.6	11.7														12.6	.0046	.0563	
AVERAGE STRESS																		11.9	.0042	
STANDARD DEVIATION STRESS																				
AVERAGE STRESS-3σ																				

FOOTNOTES (1) TO NEAREST .001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (I) CURVE IDEALIZED

TABLE - AI-37 REDUCED TEST DATA

PANEL NO	TYPE TEST	TEST DIRECTION	SPEC. CONDITIONING						TEST COND.						RESIN CONT.				NOMINAL PER PLY THICKNESS			
			NONE						65° F FOR 30 MIN.						26.0%						.0080	
S/N 9, S/N 13	PANEL SHEAR	0/90	.004	.008	.012	.016	.020	.024	.028	.032	.036	.040	.044	.048	.052	.056	.060	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2		
STRAIN IN./IN.	T ⁽¹⁾ W ⁽¹⁾	STRESS - KSI																				
S/N 9-9	.078 3.875	08.5	13.7	16.1	A												19.3	A	0.302			
12	.080 3.875	08.2	14.3	16.7	A												19.9	A	0.310			
13	.078 3.875	08.3	13.9	16.2	17.0	A											18.7	A	0.306			
15	.077 3.875	08.3	15.4	16.1	A												16.1	A	0.298			
40	.080 3.875	08.7	15.1	18.4	19.6	A											20.5	A	0.310			
34	.082 3.875	08.0	14.2	18.1	20.4	21.6	22.5	A									24.2	A	0.318			
18	.077 3.875	09.1	15.0	17.5	18.6	19.1	19.4	19.5	19.6	19.8							20.0	0.396	0.298			
20	.078 3.875	08.7	15.2	17.6	18.5	19.0	19.2	19.3	19.4	19.7	19.9	19.8	19.8	19.9	19.9	19.9	19.9	.0608	0.302			
22	.083 3.875	07.2	12.9	16.2	17.6	18.5	19.0	19.4	19.5	19.7	19.9	.044 TO .076 - STRAIN				20.9	.0816	0.322				
29	.083 3.875	07.4	12.9	15.9	17.3	17.9	18.3	18.4	18.6	18.7	18.8	18.8	18.9	19.0	19.1	19.1	19.1	.0624	0.322			
AVERAGE APPARENT STRESS		DATA CONTINUED ON NEXT PAGE																				
STANDARD DEVIATION APPARENT STRESS																						
AVERAGE APPARENT STRESS -3σ																						
*(.088) x (AVERAGE APPARENT STRESS)																						
*(.088) x (AVERAGE APPARENT STRESS - 3σ)																						

FOOTNOTES: (1) TO NEAREST .001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (I) CURVE IDEALIZED
 * THERE WAS AN ASSUMED FRICTION OF 12% IN PINS

TABLE - AI-38 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION	SPEC. CONDITIONING	TEST COND.	RESIN CONT.	NOMINAL PER PLY THICKNESS												
S/N 9, S/N 13	PANEL SHEAR	0/90	NONE	25° F FOR 30 MIN.	26.0%	.0080												
STRAIN IN./IN.		.004	.012	.016	.020	.024	.028	.032	.036	.040	.044	.048	.052	.056	.060	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²
SPEC. NO.	T ⁽¹⁾	W ⁽¹⁾	STRESS - KSI															
S/N 9 - 17	.082	3.875	07.1	11.0	14.1	15.1	15.6									15.7	.0204	.318
19	.078	3.875	07.2	11.5	13.8	14.9	15.4	15.7	15.9	16.1	16.3	16.5				16.6	.0560	.0302
21	.083	3.875	04.8	09.9	14.2	15.4	16.5									16.5	.0204	.322
26	.082	3.875	06.9	11.6	14.0	14.8	15.3	15.7	15.9	16.0	16.0	16.2	16.3	16.3	16.3	16.4	.0648	.318
36	.082	3.875	07.3	13.1	16.2	17.7	18.4	18.9	19.2							19.3	.0294	.318
S/N 13 - 12	.079	3.875	07.5	12.6	14.7	15.5	16.0									17.2	.0600	.306
13	.079	3.875	07.7	12.7	14.4	15.1	15.4	15.7	16.0							17.2	.0442	.306
20	.079	3.875	07.6	12.7	14.3	15.0	15.6									16.0	.0320	.306
22	.082	3.875	08.5	13.1	14.7	15.9	16.4									16.4	.0200	.318
7	.074	3.875	07.4	12.6	16.2	17.8	18.4	18.7	18.9							19.0	.0292	.297
AVERAGE APPARENT STRESS			7.2	12.1	14.3	15.7	16.3									17.0	.0397	
STANDARD DEVIATION APPARENT STRESS			.96	1.06	.96	1.12	1.18									1.24		
AVERAGE APPARENT STRESS - 3σ			4.4	9.0	11.4	12.3	12.8									13.3		
*(.98) x (AVERAGE APPARENT STRESS)			6.3	10.6	12.6	13.8	14.3									16.0		
*(.98) x (AVERAGE APPARENT STRESS - 3σ)			3.5	7.8	10.0	10.8	11.3									11.7		

FOOTNOTES: (1) TO NEAREST .001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (I) CURVE IDEALIZED
 * THERE WAS AN ASSUMED FRICTION OF 12% IN PINS

TABLE - AI-39 REDUCED TEST DATA
DATA CONTINUED FROM PREVIOUS PAGE

PANEL NO.	TYPE TEST	TEST DIRECTION				SPEC. CONDITIONING				TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS			
		0/90				NONE				RT				26.0%				.0082			
S/N 5, S/N 8 S/N 13, S/N 9	PANEL SHEAR	.004	.006	.012	.016	.020	.024	.028	.032	.036	.040	.044	.048	.052	.056	.060	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2		
STRAIN IN./IN.		STRESS - KSI																			
SPEC. NO.	T(1) W(1)																				
S/N 5 - 4	.067 3.875	06.2	10.6	12.8	13.5												14.0	.0218	0.260		
7	.062 3.875	08.1	12.2	13.4	14.0	14.2	14.3	14.4									14.5	.0308	0.240		
7A	.067 3.875	06.4	10.9	13.2	14.4	15.2	15.3	15.5									15.5	.0320	0.260		
8A	.066 3.875	06.6	11.7	13.8	14.6	15.2	15.5	15.8									15.9	.0298	0.256		
2	.066 3.875	07.9	12.3	13.8	14.6	14.9											15.1	.0214	0.256		
S/N 9 - 36	.082 3.875	06.4	11.4	14.1	15.6	16.7	17.2	17.5									18.0	.0300	0.318		
37	.084 3.875	07.7	12.6	15.2	16.3												17.4	.0172	0.326		
38	.080 3.875	06.6	12.5	14.4	15.3	15.5											15.5	.0200	0.310		
39	.082 3.875	06.6	11.0	12.9	14.4	15.0											15.3	.0240	0.318		
S/N 8 - 7	.078 3.875	06.8	12.1	15.6	17.4	18.6											19.2	.0250	0.306		
AVERAGE APPARENT STRESS		06.9	11.7	13.9	15.0												16.0	.0252			
STANDARD DEVIATION APPARENT STRESS		0.52	0.69	0.90	1.18												1.64	.00516			
AVERAGE APPARENT STRESS - 3 σ		4.3	9.6	11.2	11.5												11.1	.0087			
*(.88) x (AVERAGE APPARENT STRESS)		5.5	10.3	12.2	13.2												14.1	.972			
*(.88) x (AVERAGE APPARENT STRESS - 3 σ)		3.7	8.4	9.9	10.1												9.7	.972			

FOOTNOTES: (1) TO NEAREST .001"

- (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
- (C) CURVE EXCEEDED THE GRAPH PAPER
- (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
- (I) CURVE IDEALIZED
- * THERE WAS AN ASSUMED FRICTION OF 12% IN PINS

TABLE - AI-40 REDUCED TEST DATA
DATA CONTINUED FROM PREVIOUS PAGE

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING				TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS				
		0/90		NONE				160°F FOR 30 MIN				26.0%				MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2		
S/N S. S/N 13	PANEL SHEAR	.004	.008	.012	.016	.020	.024	.028	.032	.036	.040	.044	.048	.052	.056	.060	.0081			
STRAIN IN./IN.		STRESS - KSI																		
SPEC. NO.	T(1)	V(1)																		
S/N 9-31	.081	3.875	05.4	08.8	10.5	11.4	12.1	A										12.7	A	.314
32	.081	3.875	06.2	10.1	12.5	A												16.1	A	.314
41	.080	3.875	06.3	08.7	10.7	11.9	12.7	12.9	13.2	A								13.8	A	.310
42	.081	3.875	06.9	09.4	11.4	A												12.6	A	.314
10	.080	3.875	05.7	08.9	10.5	11.4	11.9	A										12.6	A	.310
16	.077	3.875	06.6	09.1	11.0	11.9	12.6	12.9	A									13.1	A	.298
27	.081	3.875	05.2	08.4	10.2	11.1	11.8	12.1	A									12.5	A	.314
28	.082	3.875	06.0	07.9	09.5	10.4	11.0	A										12.9	A	.318
30	.081	3.875	05.0	08.5	10.4	11.6	12.3	A										12.8	A	.314
33	.082	3.875	05.6	10.2	12.4	C												15.4	C	.318
AVERAGE APPARENT STRESS			5.5	9.0	11.91	11.44	12.1	12.6										13.4		
STANDARD DEVIATION APPARENT STRESS			.35	.56	.68	.66												1.28		
AVERAGE APPARENT STRESS - 3σ			4.4	7.3	8.9	9.1												9.6		
* .88 x AVERAGE			4.8	7.9	9.6	10.1	10.6	11.1										11.8		
* .88 x 3 σ			3.9	6.4	7.8	8.8												8.6		

FOOTNOTES: (1) TO NEAREST .001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (I) CURVE IDEALIZED
 * THERE WAS AN ASSUMED FRICTION OF 12% IN PINS

TABLE AI-41 POISSONS RATIO FROM TENSION TESTS

DATE: 11-17-68

MATERIAL IDENTIFICATION:

STRAIN GAGE FACTOR: 2.10/2.08
 STRAIN GAGE RESISTANCE: 350 /120
 EXTENSOMETER: S-400-2AB

PANEL RESIN CONT. FILA. ORIENT.

S/N9 26.0% 0°

SPEC IDEN.	TEST COND.	WIDTH (IN.)	THICK (IN.)	AREA (SQ. IN.)	LOAD (LBS.)	STRESS (KSI)	STRAIN TRANS. (IN./IN.)	STRAIN LONG. (IN./IN.)	POISSON'S RATIO (μ)	MODULUS $E \times 10$ (PSI)	REMARKS
S/N9 - 45	RT	1.252	.082	.1021	0	0	-	-	-	-	
					1021	10	.000300	.0027	.1110		5140 LBS CUTOFF
					2042	20	.000594	.0055	.1060		
					3063	30	.000832	.0183	.1000		
					4084	40	.001024	.0113	.0907		
					4920	48.2	.001138	.0140	.0813		
S/N9 - 46	RT	1.251	.083	.1039	0	0	-	-	-	-	4970 LBS CUTOFF
					1039	10	.000306	.0030	.1020		
					2078	20	.000600	.0058	.1034		
					3117	30	.000860	.0087	.1010		
					4156	40	.001056	.0118	.0895		
					4680	45.2	.001140	.0137	.0832		

TABLE - AI-43 POISSONS RATIO FROM TENSION TESTS

DATE: 11-14-68

MATERIAL IDENTIFICATION:

PANEL	RESIN CONT.	FILA. ORIENT.
S/N9	26.0%	90°

STRAIN GAGE FACTOR: 2.10
 STRAIN GAGE RESISTANCE: 360
 EXTENSOMETER: S-400-2AB

SPEC IDEN.	TEST COND.	WIDTH (IN.)	THICK (IN.)	AREA (SQ. IN.)	LOAD (LBS.)	STRESS (KSI)	STRAIN TRANS. (IN./IN.)	STRAIN LONG. (IN./IN.)	POISSON'S RATIO (μ)	MODULUS $E \times 10$ (PSI)	REMARKS
S/N9 - 28	RT	1.250	.078	.0975	0	0	-	-	-	-	4450 LBS CUTOFF
					975	10	.000336	.0025	.1360		
					1950	20	.000618	.0050	.1236		
					2925	30	.000796	.0091	.0875		
					3900	40	.000932	.0114	.0817		
					4310	44.3	.000984	.0132	.0745		
S/N9 - 38	RT	1.250	.081	.1011	0	0	-	-	-	-	6250 LBS CUTOFF
					1011	10	.000318	.0032	.0895		
					2022	20	.000602	.0061	.0866		
					3033	30	.000916	.0105	.0873		
					3960	39.1	.001054	.0125	.0844		

TABLE - AII-1 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING				TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS			
		0°		-65° F FOR 1 HR.				-65° F FOR 30 MIN.				31.0%				.0095			
S/N 15	TENSION	0°		-65° F FOR 1 HR.				-65° F FOR 30 MIN.				31.0%				.0095			
STRAIN IN./IN.	T(1)	002	004	006	008	010	012	014	016	018	020	022	024	026	028	030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2
SPEC. NO.	W(1)	STRESS - KSI																	
S/N 15 - 1	.097 .496	09.1	16.6	21.2	27.0	(1) 32.2	(1) 38.5	(1) 43.9	(1) 49.5	(1) 54.7	(1) 60.3	(1) 66.0	(1) 71.5	(1) 77.0			81.0	.0276	.0481
2	.095 .496	08.3	16.6	21.2	26.8	32.7	38.4	44.0	50.0	56.9	61.6	66.9	72.5	77.5	82.7	87.0	86.3	.0314	.0471
4	.098 .496	08.2	15.6	20.4	25.7	30.9	36.8	42.2	47.7	53.5	58.6	63.8	69.0	74.0	79.2		81.6	.0290	.0486
5	.095 .496	08.5	17.0	21.2	26.8	32.5	38.2	43.7	50.0	56.6	63.5	66.5	72.1	77.0	82.8	88.0	89.7	.0310	.0471
6	.096 .496	09.4	18.6	23.2	28.9	35.2	42.3	49.3	56.1	63.1	70.0	76.4	82.3	88.0	94.7		94.3	.0290	.0426
7	.097 .496	08.3	16.2	20.6	26.0	31.6	37.4	43.0	48.8	54.4	59.3	66.0	70.6	76.0	81.0	85.3	85.5	.0303	.0481
8	.096 .496	07.2	15.0	19.9	24.6	30.4	36.0	41.5	46.8	52.5	57.8	62.7	68.0	73.5	78.0		81.2	.0293	.0486
9	.097 .496	07.3	15.2	19.7	25.6	31.2	37.0	42.8	47.8	54.0	59.6	65.0	70.6	76.4			79.5	.0272	.0481
59	.095 .493	07.5	16.0	20.8	26.3	32.0	38.5	43.8	49.6	55.6	61.0	66.4	72.5	77.5	83.2		87.0	.0300	.0468
62	.094 .496	08.9	17.1	21.7	27.3	33.6	39.2	45.5	51.0	56.9	62.6	68.3	73.8	79.0	83.5		84.4	.0282	.0461
AVERAGE STRESS		8.2	16.4	21.0	26.5	32.2	38.2	44.0	49.7	55.6	61.0	66.7	72.2	77.6			85.2	.0293	
STANDARD DEVIATION STRESS		.76	1.06	1.01	1.6	1.42	1.78	2.18	2.57	2.92	3.49	3.99	3.86	4.01			4.68	.00139	
AVERAGE STRESS-30'		5.9	13.2	18.0	23.0	27.9	33.0	37.5	42.0	46.8	50.5	54.0	60.6	66.6			71.2	.0261	

FOOTNOTES: (1) TO NEAREST .001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (I) CURVE IDEALIZED

TABLE - AII-2 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING						TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS		
		90°		-65° F FOR 1 HR.						-65° F FOR 30 MINS.				31.0%				.0088		
S/N 11	TENSION	002	004	006	008	010	012	014	016	018	020	022	024	026	028	030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2	
STRAIN IN./IN.		STRESS - KSI																		
SPEC. NO	T(1) W(1)																			
S/N 11 - 177	.085 .510	08.3	15.3	20.1	25.4	30.6	36.0	41.5	46.5	51.9	C						77.7	C	.0434	
185	.086 .490	08.1	15.7	19.7	25.2	30.9	36.2	41.5	46.3	52.0	57.0	62.2	67.7	72.5			77.0	.0278	.0421	
189	.089 .512	08.6	14.7	19.1	24.2	29.2	34.1	39.6	44.0	49.0	54.0	59.5	63.9	69.0			73.5	.0278	.0455	
M-2	.088 .496	08.0	15.2	21.8	27.3	32.6	38.1	43.6	49.4	54.0	59.7	64.3					68.8	.0238	.0436	
M-3	.090 .497	07.1	13.6	20.1	27.0	33.1	39.0	45.0	48.7	55.0	59.1	64.5					66.0	.0226	.0423	
M-4	.089 .496	06.8	12.4	18.8	24.8	30.6	36.2	41.9	46.4	51.5	56.1	60.4					63.1	.0234	.0442	
138	.089 .494	09.1	15.9	20.9	26.2	31.8	37.0	42.0	47.7	53.5	58.6	63.6	69.3				70.7	.0249	.0440	
139	.089 .494	08.0	15.9	20.4	25.9	31.4	36.8	42.0	47.7	52.5	57.9	63.6					68.7	.0246	.0440	
140	.090 .490	08.2	14.8	19.3	25.0	29.5	34.5	39.8	45.0	49.7	54.4	59.5					62.4	.0232	.0441	
146	.088 .495	08.9	14.9	20.0	26.1	30.9	36.8	42.4	47.7	53.6	59.0	64.3	69.2				71.6	.0249	.0436	
AVERAGE STRESS		8.1	14.8	20.0	25.7	31.1	36.5	41.9	47.0	52.3	57.3	62.4					70.0	.0250		
STANDARD DEVIATION STRESS		.72	1.06	.89	.98	1.23	1.47	1.59	1.78	1.88	1.97	1.99					5.24	.00210		
AVERAGE STRESS-3σ		5.9	11.6	17.3	22.8	27.4	32.2	37.1	41.8	46.7	51.4	56.4					54.3	.0187		

FOOTNOTES (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(II) CURVE IDEALIZED

TABLE - AII-3 REDUCED TEST DATA

PANEL NO	TYPE TEST	TEST DIRECTION				SPEC. CONDITIONING								TEST COND.				RESIN CONT				NOMINAL PER PLY THICKNESS			
		0°				95% RH @ 125° F FOR 42 DAYS								-65° F FOR 30 MINS.				31.0%				.0096			
S/N 7, S/N 11 S/N 7 IV A	TENSION	002	004	006	008	010	012	014	016	018	020	022	024	026	028	030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN ²						
STRAIN IN IN	T (1) W (1)	STRESS - KSI																							
S/N 11 - 119	.081 .496	08.4	18.7	24.7	31.0	37.4	43.6	50.4	57.5	63.5	69.0	75.5	81.0	87.1			87.5	.0266	.0401						
127	.084 .497	08.0	17.8	23.2	29.0	35.0	41.3	48.0	54.0	60.2	66.0	71.9	77.5				83.0	.0260	.0417						
129	.082 .496	08.9	19.2	24.9	30.8	36.9	43.4	49.7	56.1	62.5	69.0	75.0	80.8	86.2			87.1	.0284	.0406						
131	.088 .496	08.0	18.5	23.0	28.2	33.8	39.6	45.9	51.5	57.4	63.1	68.5					72.5	.0240	.0436						
133	.082 .487	10.5	19.5	25.2	31.3	37.4	43.7	50.0	57.2	63.4	69.3	75.0	81.3	87.3			89.5	.0272	.0400						
135	.086 .481	09.7	18.2	24.2	29.8	36.0	41.8	47.8	53.9	50.2	65.5	71.3	77.0	82.0			83.4	.0266	.0414						
144	.086 .493	04.4	17.7	23.6	29.5	35.4	41.3	47.5	54.0	59.9	65.5	71.1	76.8	82.5			84.7	.0280	.0424						
146	.086 .494	08.4	17.9	23.8	29.4	35.3	41.2	47.9	54.1	60.0	65.8	71.3	76.5				79.5	.0262	.0425						
148	.086 .493	09.0	17.7	23.6	29.5	35.4	41.3	47.5	53.6	59.7	65.2	70.9	75.5	77.5	77.9		78.4	.0288	.0424						
150	.088 .493	09.2	17.3	23.5	28.8	34.5	40.3	46.3	52.1	57.9	63.5	69.2	74.3				76.3	.0247	.0434						
AVERAGE STRESS																									
STANDARD DEVIATION STRESS																									
AVERAGE STRESS-3σ																									
		DATA CONTINUED ON NEXT PAGE																							

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AII-3 REDUCED TEST DATA
DATA CONTINUED FROM PREVIOUS PAGE

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING				TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS			
		0°		90% RH @ 125° F FOR 42 DAYS				-65° F FOR 30 MIN.				31.0%				MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²	
S/N 7 S/N 11 S/N 7 IV A		TENSION																	
STRAIIN IN./IN.		.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030			
SPEC. NO.	T ⁽¹⁾	W ⁽¹⁾	STRESS - KSI																
S/N 7 IV A - 84	.072	.491	08.1	17.0	24.1	29.5	34.8	40.8	46.8	52.7	58.4	64.0	C				87.0	C	.0363
87	.069	.492	08.9	17.7	25.1	29.8	36.0	41.5	47.5	53.7	59.6	66.2	71.4	77.0	82.6	87.4	90.0	.0300	.0339
91	.063	.493	08.7	17.6	24.5	29.8	35.8	41.8	47.8	53.8	60.0	66.7	71.6				74.0	.0230	.0336
96	.068	.494	08.9	17.8	26.3	29.8	36.0	42.3	49.0	55.0	61.0	67.0	72.9	78.9	83.4		84.0	.0268	.0356
98	.069	.498	08.8	17.5	24.8	30.6	36.2	42.3	48.7	54.3	60.5	67.1	72.6	77.4	81.6		84.0	.0280	.0343
106	.076	.496	08.8	16.5	24.0	28.8	33.5	38.4	46.0	50.5	55.9	61.2	66.5	72.1	76.5		79.8	.0280	.0376
107	.077	.495	08.9	16.5	23.6	28.4	33.4	38.2	44.6	49.9	55.4	60.9	66.7	71.6	75.5		76.6	.0368	.0381
114	.069	.497	08.8	17.6	24.9	30.8	36.3	42.2	48.3	54.6	60.5	66.4	71.6	77.5	82.9		84.3	.0268	.0342
S/N 7 - 94	.074	.495	08.2	16.4	23.2	28.7	34.2	40.2	45.9	52.0	57.4	63.1	68.5	73.8	79.3		81.7	.0278	.0366
103	.073	.496	08.3	16.0	24.3	27.6	33.2	38.6	44.3	49.7	55.3	60.7	66.3	71.9	76.0		78.5	.0278	.0362
AVERAGE STRESS			9.0	17.5	24.2	29.5	35.3	41.3	48.5	53.5	59.4	64.6	70.9				82.3	.0263	
STANDARD DEVIATION STRESS			.59	.91	.71	.99	1.28	1.43	1.97	2.36	2.46	2.63	2.71				4.97	.00182	
AVERAGE STRESS-3σ			7.2	14.8	22.1	26.5	31.5	37.0	46.6	45.1	52.0	56.7	62.8				67.4	.0208	

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM
AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AII-4 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING					TEST COND.					RESIN CONT					NOMINAL PER PLY THICKNESS			
		S/N 11, S/N 15	TENSION	90°	002	004	006	008	010	012	014	016	018	020	022	024	026	028	030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²
					95% RH @ 125°F FOR 42 DAYS					-65° F FOR 30 MINS.					31.0%					.0090		
	STRAIN IN./IN.																					
	SPEC. NO.	T ⁽¹⁾	W ⁽¹⁾																			
	S/N 7-29	.076	.491	08.C	16.1	20.6	25.2	29.8	34.3	38.9	44.0	48.3	52.5	56.8	61.0				62.0	.0248	.0373	
	31	.074	.492	08.5	16.4	21.4	25.8	30.8	36.4	40.1	46.1	49.5	54.2	58.5	62.6				65.8	.0254	.0364	
	33	.073	.493	08.5	16.1	21.1	25.6	30.3	35.3	40.0	45.0	49.5	54.3	58.6	63.9				64.8	.0248	.0360	
	37	.074	.495	08.2	15.8	21.0	25.4	30.1	36.0	41.0	44.8	49.3	54.1	58.8	62.9				64.2	.0242	.0366	
	43	.071	.490	09.2	17.2	22.4	27.6	32.8	38.0	43.1	48.3	53.3	58.0	62.6	62.3				69.3	.0248	.0348	
	46	.069	.496	09.4	17.8	23.4	28.4	33.6	39.2	44.2	49.7	55.0	60.0	65.0	69.6				70.9	.0244	.0342	
	51	.071	.490	09.2	17.3	22.2	27.3	32.2	37.7	42.8	48.3	53.7	58.6	63.5	68.1				72.4	.0254	.0348	
	54	.068	.491	08.4	16.5	22.8	27.6	33.0	37.7	43.5	49.1	54.5	60.0	65.5	70.5				72.1	.0250	.0334	
	57	.068	.493	09.3	17.3	23.0	28.0	33.1	38.0	43.6	49.6	54.3	60.0	66.0	70.5				71.0	.0246	.0336	
	111	.074	.492	08.0	15.1	21.4	25.8	30.8	36.7	41.2	46.1	51.4	56.3	61.9	67.0				70.4	.0254	.0384	
	AVERAGE STRESS																					
	STANDARD DEVIATION STRESS																					
	AVERAGE STRESS-3σ																					

DATA CONTINUED ON NEXT PAGE

FOOTNOTES: (1) TO NEAREST .001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (I) CURVE IDEALIZED

TABLE - AII-5 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING						TEST COND.						RESIN CONT.				NOMINAL PER PLY THICKNESS			
		TENSION		0°		95% RH @ 125° F FOR 42 DAYS						25° F FOR 30 MIN.						31.0%				.0091	
S/N 11, S/N7 IVA, S/N7	TENSION	0°		95% RH @ 125° F FOR 42 DAYS						25° F FOR 30 MIN.						31.0%				.0091			
STRAIN IN./IN.	T ⁽¹⁾	W ⁽¹⁾	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2			
SPEC NO.	STRESS - KSI																						
S/N 7 IV A - 86	.071	.492	08.4	16.9	23.4	28.5	34.4	40.4	46.2	51.9	57.5	63.0	67.9					68.8	.0226	.0349			
96	.068	.493	08.8	17.2	24.3	30.2	36.2	42.6	48.6	55.0	60.5	66.4	71.0					71.8	.0223	.0335			
103	.075	.484	08.8	16.5	23.0	28.4	34.0	39.6	45.4	51.2	56.6	61.9	66.4					67.4	.0228	.0370			
113	.070	.497	08.3	16.7	22.7	28.2	34.5	40.2	46.0	52.5	58.0	63.8						67.8	.0219	.0348			
S/N 7 - 98	.073	.495	08.3	15.9	22.6	28.2	34.4	39.8	45.6	51.5	57.0	62.6						66.0	.0215	.0361			
S/N 11 - 153	.092	.497	08.0	15.9	22.6	28.6	34.5	40.5	46.1	52.0	57.5							62.2	.0200	.0452			
161	.098	.499	08.6	16.8	22.5	27.6	33.2	38.7	44.6	50.1	55.4							57.1	.0188	.0489			
163	.092	.505	08.4	16.1	22.6	28.4	34.2	40.5	46.0	52.0	57.8	65.4						68.0	.0212	.0465			
165	.091	.493	08.7	16.7	22.8	28.6	34.6	40.7	46.9	52.6	58.3	63.5						67.3	.0216	.0448			
167	.091	.492	08.7	17.1	23.0	28.4	34.6	40.7	46.8	52.4	57.8	63.1						67.0	.0217	.0447			
AVERAGE STRESS			8.5	16.6	23.0	28.5	34.5	40.4	46.7	52.1	57.6							66.4	.0214				
STANDARD DEVIATION STRESS			.26	.47	.60	.66	.74	1.00	1.07	1.25	1.31							3.87	.00122				
AVERAGE STRESS-3σ			7.7	15.2	21.2	26.5	32.3	37.4	43.0	48.3	53.7							54.8	.0177				

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AII-6 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING								TEST CONC.				RESIN CONT.			NOMINAL PER PLY THICKNESS		
		90°		95% RH @ 125° F FOR 42 DAYS								25° F FOR 30 MIN.				31.0%			.090		
S/N 7, S/N 11	TENSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²		
STRAIN IN./IN.	T (1) IN (1)	STRESS - KSI																			
S/N 7 - 27	.077 .491	07.7	14.8	19.7	24.1	28.6	33.0	37.6	42.1	46.4	50.0						52.2	.0212	.0378		
35	.073 .493	08.1	15.3	20.8	25.6	30.0	34.8	39.8	44.5	49.1	53.1						55.1	.0213	.0360		
41	.071 .490	08.6	16.1	21.6	25.4	31.4	36.4	41.1	46.3	50.8	55.0						57.0	.0210	.0348		
48	.070 .496	08.1	15.9	21.2	26.3	31.3	37.0	41.6	46.8	51.8	56.4	61.0					62.0	.0222	.0748		
56	.068 .496	08.1	15.6	21.0	25.8	30.7	36.0	41.2	46.3	55.9							59.4	.0215	.0347		
S/N 11 - 120	.091 .492	07.8	14.6	19.6	24.0	28.8	33.6	38.2	42.7	47.2	51.5						52.1	.0201	.0447		
124	.091 .493	08.1	15.2	20.1	25.0	31.7	34.8	39.3	43.1	47.0	51.0						53.9	.0214	.0448		
138	.089 .492	08.3	15.5	20.8	25.5	32.4	35.6	40.0	45.5	50.3							55.0	.0200	.0442		
142	.089 .494	08.2	15.5	20.7	25.8	33.3	36.3	41.3	46.4	51.3							60.8	.0219	.0445		
441	.088 .498	08.5	17.0	21.5	26.8	32.0	37.8	43.5	48.5	53.8							55.1	.0188	.0437		
AVERAGE STRESS		8.2	15.5	20.7	25.4	31.0	36.5	40.4	45.2	50.4							56.3	.0209			
STANDARD DEVIATION STRESS		.28	.50	.70	.87	1.38	1.49	1.76	2.06	3.06							3.46	.00102			
AVERAGE STRESS-3σ		.74	14.0	18.6	22.8	26.9	31.0	35.1	39.0	41.2							46.0	.0178			

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AII-7 REDUCED TEST DATA
DATA CONTINUED FROM PREVIOUS PAGE

PANEL NO.	TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING				TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS				
		0°			125°F @ 95% HUM: FCR 42 DAYS				RT				31.0%				.0088				
S/N 11, S/N 7 IV S/N 7	TENSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²		
STRAIN - IN./IN.		STRESS - KS:																			
SPEC. NO.	T(1)	W(1)																			
S/N 11 - 118	.081	.495	08.0	17.5	23.4	29.5	35.5	42.0	48.5	54.7	C						67.0	C	.0400		
118	.091	.495	07.8	15.6	21.8	26.9	32.9	38.9	45.1	50.9	57.4	62.0					64.1	.0212	.0450		
128	.083	.495	08.5	16.6	23.2	28.8	35.1	41.5	47.5	54.1	60.0						64.6	.0200	.0410		
130	.094	.497	07.9	14.9	21.3	26.5	32.0	37.8	43.3	49.0	54.6	59.7					61.3	.0210	.0469		
132	.084	.497	08.4	16.3	22.6	28.3	34.8	41.0	47.0	53.3	59.0	69.6					64.8	.0208	.0417		
134	.089	.479	08.2	15.9	22.1	27.8	33.4	39.5	45.2	51.3	56.5	61.1					61.5	.0204	.0425		
143	.089	.494	08.4	15.7	21.9	27.4	33.0	39.2	45.1	51.1	56.9	61.6					63.4	.0210	.0439		
145	.085	.494	08.3	16.5	22.6	28.6	34.6	41.0	47.1	52.9	59.0	63.7					65.0	.0200	.0420		
147	.089	.494	08.0	15.3	21.6	26.9	32.8	38.8	44.5	50.0	55.4						60.4	.0200	.0439		
149	.088	.493	08.5	16.2	22.4	28.2	34.0	39.8	46.1	51.9	57.1						65.7	.0198	.0434		
AVERAGE STRESS		8.3	16.0	22.1	28.1	33.9	40.0	46.9	51.7	57.1							64.0	.0210			
STANDARD DEVIATION STRESS		0.36	0.68	0.77	0.91	1.10	1.72	1.46	1.67	1.87							2.04	.00064			
AVERAGE STRESS-3σ		07.2	13.0	2.03	26.0	30.6	38.3	41.5	46.7	51.9							57.9	.0191			

FOOTNOTES: (1) TC - FAREST .001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (I) CURVE IDEALIZED

TABLE - AII-8 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING								TEST COND.					RESIN CONT.			NOMINAL PER PLY THICKNESS		
		90°		125° F @ 95% RH FOR 42 DAYS								RT					31.0%			.0088		
S/N 7, S/N 11	TENSION																					
SPEC NO.	IN./IN.	T ⁽¹⁾	W ⁽¹⁾	STRESS - KSI																		
				002	004	006	008	010	012	014	016	018	020	022	024	026	028	030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2	
S/N 7 - 26	.077	.496		07.1	13.5	18.5	22.8	27.5	31.8	36.4	40.5	44.7						48.0	.0195	.0382		
28	.078	.491		07.6	14.0	18.8	23.2	27.4	31.8	36.3	40.6	44.6	48.5					49.6	.0206	.0383		
32	.073	.493		07.5	14.7	20.0	24.7	29.7	33.7	39.4	44.1	48.6	52.6					53.0	.0202	.0360		
34	.074	.493		07.7	14.5	19.7	24.4	29.8	34.2	38.9	43.5	47.8						51.4	.0195	.0365		
40	.074	.494		08.0	14.0	19.5	24.4	29.2	34.0	38.8	43.3	47.4						50.5	.0193	.0365		
42	.070	.490		07.9	14.6	20.4	26.0	30.3	35.6	40.6	45.1	49.5	54.6					54.6	.0200	.0343		
45	.070	.491		08.4	15.7	20.9	25.6	30.5	35.6	40.7	45.6	50.4						54.2	.0196	.0344		
47	.068	.495		08.6	15.7	21.5	25.7	31.6	36.9	42.3	47.2	52.8	57.0					57.5	.0201	.0337		
52	.069	.490		08.6	16.0	21.3	26.6	31.8	37.2	42.6	48.1	53.0						57.5	.0200	.0338		
55	.067	.491		08.5	16.1	21.9	26.9	32.2	37.6	43.2	48.6	53.9	58.8					59.3	.0202	.0329		
AVERAGE STRESS				DATA CONTINUED ON NEXT PAGE																		
STANDARD DEVIATION STRESS																						
AVERAGE STRESS-3σ																						

FOOTNOTES: (1) TO NEAREST .001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (I) CURVE IDEALIZED

TABLE - A11-8 REDUCED TEST DATA
DATA CONTINUED FROM PREVIOUS PAGE

PANEL NO.	TYPE TEST	TEST DIRECTION				SPEC. CONDITIONING						TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS				
		90°				125° F @ 95% HUM. FOR 42 DAYS						R.T.				31.0%				.0088				
S/N 7, S/N 11	TENSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030								
STRAIN - IN./IN.		STRESS - KSI																						
SPEC. NO.	T ⁽¹⁾	W ⁽¹⁾																						
S/N 11 - 171	.085	502	08.5	15.7	21.7	27.9	32.4	38.0	43.3	48.6	53.6	-	-	-	-	-	-	54.2	.0186	.0426				
172	.086	.500	08.3	16.2	21.9	26.9	32.1	37.6	43.1	48.1	53.1	-	-	-	-	-	-	54.8	.0187	.0430				
174	.085	.500	08.3	15.2	20.6	25.5	31.0	36.8	42.0	47.3	52.2	-	-	-	-	-	-	55.3	.0190	.0425				
176	.086	.499	08.4	15.7	21.1	26.6	32.1	37.7	43.4	48.5	-	-	-	-	-	-	-	51.0	.0172	.0430				
178	.084	.513	08.3	16.6	21.9	27.4	33.3	38.6	44.8	50.1	55.6	-	-	-	-	-	-	55.9	.0182	.0431				
184	.084	.505	08.4	17.0	22.6	27.8	33.3	39.0	44.8	50.3	-	-	-	-	-	-	-	54.6	.0177	.0424				
186	.088	.513	08.3	15.5	20.8	25.7	31.0	36.2	41.3	46.4	-	-	-	-	-	-	-	50.4	.0178	.0451				
188	.088	.501	08.9	15.7	21.4	26.7	32.0	37.4	42.9	48.4	-	-	-	-	-	-	-	51.4	.0170	.0441				
190	.091	.511	08.0	15.3	20.6	25.8	31.0	36.1	41.5	46.8	51.6	-	-	-	-	-	-	52.7	.0184	.0465				
192	.089	.505	08.7	15.8	21.3	26.8	31.8	37.0	42.4	47.5	52.8	-	-	-	-	-	-	54.3	.0186	.0449				
AVERAGE STRESS		08.4	15.4	20.8	25.9	31.0	36.1	41.4	46.4											53.5	.0190			
STANDARD DEVIATION STRESS		.62	.88	1.08	1.50	1.56	2.07	2.43	2.81											2.91	.00106			
AVERAGE STRESS-3σ		6.5	12.8	17.8	21.4	26.3	29.9	34.1	38.6											44.8	.0158			

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AII-9 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING							TEST COND.				RESIN CONT.			NOMINAL PER PLY THICKNESS		
		0°			NONE							160° F FOR 30 MIN				31.0%			.0092		
S/N7, S/N 15	TENSION	002	004	006	008	010	012	014	016	018	020	022	024	026	028	030	MAX STRESS	ST. STRAIN AT MAX STRESS	AREA IN.²		
	STRAIN IN./IN	STRESS - KSI																			
SPEC NO.	T(1) W(1)																				
63	.097 .496	36.2	13.3	19.8	24.8	30.2	35.8	41.4	46.8	52.4	57.6	-	-	-	-	-	59.0	.0204	.0481		
64	.096 .495	07.0	14.2	20.4	25.2	30.5	36.4	41.7	47.0	52.2	-	-	-	-	-	-	54.3	.0193	.0475		
65	.095 .496	07.4	14.4	20.8	26.1	31.0	37.0	42.5	48.2	53.4	-	-	-	-	-	-	56.0	.2191	.0471		
66	.097 .495	07.9	15.2	20.8	25.8	31.0	36.9	42.5	47.7	52.7	58.1	-	-	-	-	-	60.6	.0213	.0480		
67	.097 .496	07.5	14.8	20.4	25.8	31.0	35.8	42.2	47.4	52.6	-	-	-	-	-	-	55.5	.0190	.0481		
68	.090 .496	06.7	14.5	20.6	26.0	31.9	37.8	43.8	49.7	55.0	-	-	-	-	-	-	57.7	.0190	.0447		
69	.094 .496	07.5	14.4	20.0	26.0	32.0	37.5	43.4	49.0	54.4	-	-	-	-	-	-	57.7	.0196	.0466		
70	.094 .496	07.1	14.0	20.6	26.0	31.8	37.4	43.0	48.7	54.4	-	-	-	-	-	-	58.3	.0197	.0466		
71	.095 .496	06.7	13.8	20.2	25.4	30.8	36.8	42.9	48.0	53.1	-	-	-	-	-	-	61.0	.0211	.0471		
72	.094 .495	06.9	14.4	20.6	26.0	32.2	38.1	43.8	49.5	55.0	60.3	-	-	-	-	-	62.2	.0210	.0465		
AVERAGE STRESS		DATA CONTINUED ON NEXT PAGE																			
STANDARD DEVIATION STRESS																					
AVERAGE STRESS-3σ																					

FOOTNOTES: (1) TO NEAREST .001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (I) CURVE IDEALIZED

TABLE - AII-10 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING					TEST COND.					RESIN CONT.			NOMINAL PER PLY THICKNESS		
		90°			NONE					160°F FOR 30 MIN.					31.0%			.0094		
S/N 15	TENSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN 2	
SPEC. NO.	T (1) W (1)	STRESS - KSI																		
S/N 15 - 81	.094 .496	06.8	12.9	18.3	22.6	27.3	32.4	37.6	42.6	47.4	-	-	-	-	-	-	49.3	.0192	.0465	
82	.095 .496	06.6	13.6	18.0	22.9	28.5	32.9	38.2	43.3	47.8	-	-	-	-	-	-	49.7	.0188	.0471	
84	.093 .495	06.1	13.1	17.8	22.8	27.8	32.6	38.0	43.5	47.9	-	-	-	-	-	-	50.7	.0190	.0460	
85	.094 .496	07.5	13.8	18.7	23.6	28.8	33.4	38.8	44.1	48.4	-	-	-	-	-	-	50.1	.0188	.0465	
86	.093 .494	07.0	13.5	18.5	23.5	28.7	33.7	39.2	44.4	49.0	-	-	-	-	-	-	49.4	.0181	.0462	
87	.095 .496	06.8	13.4	18.3	22.8	27.6	33.0	37.6	42.5	47.4	-	-	-	-	-	-	49.7	.0192	.0471	
88	.096 .493	06.8	13.7	18.4	23.3	28.2	32.8	38.1	43.1	47.5	-	-	-	-	-	-	49.3	.0190	.0473	
89	.094 .493	06.9	13.8	19.0	23.8	29.0	34.2	39.0	44.3	-	-	-	-	-	-	-	48.0	.0178	.0463	
90	.094 .492	07.6	13.9	18.6	23.8	28.2	33.6	38.8	43.2	-	-	-	-	-	-	-	47.5	.0178	.0462	
92	.095 .493	06.6	13.2	18.2	22.8	27.8	32.9	37.4	42.5	47.0	-	-	-	-	-	-	49.5	.0192	.0468	
AVERAGE STRESS		6.7	13.5	18.4	23.2	28.2	33.2	38.2	43.4								49.3	.0186		
STANDARD DEVIATION STRESS		0.47	0.33	0.35	0.46	0.56	0.58	0.64	0.72								0.95	.00066		
AVERAGE STRESS-3σ		5.3	12.5	17.4	21.8	26.5	31.5	26.4	41.2								46.5	.0169		

FOOTNOTES: (1) TO NEAREST .001"

- (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
- (C) CURVE EXCEEDED THE GRAPH PAPER
- (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
- (I) CURVE IDEALIZED

TABLE - AII-11 REDUCED TEST DATA

PANEL NO.	T/TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING				TEST COND.				RESIN CONT.			NOMINAL PER PLY THICKNESS					
		0°			95% RH @ 125°F FOR 42 DAYS				160° F FOR 10 MIN				31.0%			.0090					
S/N 7, S/N 7 IVA S/N 111		STRAIN - IN./IN.			STRESS - KSI												MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2		
SPEC. NO.	T ⁽¹⁾	W ⁽¹⁾	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028				.030	
S/N - 7	.073	.497	07.8	14.9	21.6	27.6	33.2	39.2	44.5	49.8	-	-	-	-	-	-	-	53.7	.0176	.0362	
S/N 7 IVA - 89	.058	.494	08.3	15.8	22.3	29.2	35.2	41.0	46.5	-	-	-	-	-	-	-	-	49.5	.0150	.0336	
92	.069	.494	07.6 ⁽¹⁾	14.7 ⁽¹⁾	22.0 ⁽¹⁾	28.8	34.9	40.5	46.4	51.5	-	-	-	-	-	-	-	54.4	.0174	.0341	
94	.068	.494	08.0	15.2	22.0	28.6	34.6	40.2	46.2	50.9 ⁽¹⁾	-	-	-	-	-	-	-	55.5	.0179	.0336	
98	.070	.492	07.2	14.4	21.6	28.4	34.5	40.3	46.0	51.2	-	-	-	-	-	-	-	55.3	.0178	.0348	
102	.074	.494	07.1	14.3	20.8	27.2	32.9	38.4	43.6	48.3	53.0	-	-	-	-	-	-	53.4	.0182	.0365	
106	.077	.493	07.4	13.7	20.0	26.0	31.6	36.8	42.2	47.2	51.0	-	-	-	-	-	-	51.4	.0182	.0300	
109	.076	.495	06.9	13.6	19.7	25.8	31.7	36.8	42.0	47.4	-	-	-	-	-	-	-	51.0	.0180	.0376	
112	.070	.497	07.5	15.0	22.2	28.8	35.1	40.8	46.6	51.8	-	-	-	-	-	-	-	54.1	.0172	.0348	
115	.068	.496	08.3	15.7	22.8	29.6	35.7	41.5	47.2	52.3	-	-	-	-	-	-	-	53.4	.0168	.0337	
AVERAGE STRESS																					
STANDARD DEVIATION STRESS																					
AVERAGE STRESS-3σ																					
DATA CONTINUED ON NEXT PAGE																					

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AII-11 REDUCED TEST DATA
DATA CONTINUED FROM PREVIOUS PAGE

PANEL NO.	TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING					TEST COND.					RESIN CONT.					NOMINAL PER PLY THICKNESS		
		0°			95% P.H. @ 125°F FOR 42 DAYS					160°F FOR 10 MIN					31.0%					.0090		
S/N 11 S/N7/S/N7 JVA	TENSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²			
SPEC. NO.	T (1) W (1)	STRESS - KSI																				
S/N 11 - 151	.094 .495	07.8	14.8	21.1	27.1	32.7	-										35.3	.0111	.0465			
152	.094 .495	07.1	14.6	20.8	26.7	31.8	37.9	43.9	-								48.0	.0153	.0465			
154	.091 .490	07.9	14.5	20.9	26.9	33.0	38.8	44.5	-								50.3	.0160	.0454			
159	.087 .497	06.9	14.4	21.2	27.7	33.5	38.2	45.3	50.8	-							54.5	.0174	.0433			
160	.089 .497	08.1	13.6	21.4	27.2	32.8	38.7	44.5	-								49.0	.0153	.0442			
162	.096 .502	08.6	16.6	24.0	30.3	35.9	41.9	48.0	-								52.1	.0154	.0451			
164	.091 .493	07.4	14.0	20.7	27.4	33.1	38.8	42.5	50.1								53.3	.0174	.0449			
166	.091 .492	07.4	14.1	20.8	27.3	33.6	38.8	48.8	-								51.9	.0156	.0447			
168	.090 .498	08.0	15.2	21.9	27.9	34.2	39.8	45.3	50.8	-							52.4	.0168	.0448			
170	.090 .499	07.4	14.9	21.6	27.4	33.0	38.8	44.8	-								49.0	.0160	.0449			
AVERAGE STRESS		7.5	14.7	21.5	27.8	33.6	-										51.4	.0166				
STANDARD DEVIATION STRESS		.55	.77	.97	1.16	1.31											4.23	.00170				
AVERAGE STRESS-3σ		5.9	12.3	18.6	24.3	29.7											38.7	.0115				

FOOTNOTES. (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM
AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AII-12 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING					TEST COND.					RESIN CONT.			NOMINAL PER PLY THICKNESS		
		90°			95% R H @ 125°F FOR 42 DAYS					160°F FOR 10 MIN					31.0%			.0080		
S/N 7, S/N 11	TENSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²	
STRAIN IN./IN.	T ⁽¹⁾	STRESS - KSI																		
	W ⁽¹⁾																			
S/N 7, 11	.073 .495	07.2	13.3	19.4	24.6	28.1	34.1	-	-	-	-	-	-	-	-	-	36.2	.0128	.0361	
12	.073 .495	06.9	13.3	19.4	24.4	29.4	34.4	-	-	-	-	-	-	-	-	-	38.7	.0138	.0361	
13	.073 .495	06.6	13.3	19.4	25.0	29.6	34.6	-	-	-	-	-	-	-	-	-	38.4	.0136	.0361	
14	.072 .495	07.4	13.5	19.4	25.0	29.8	34.8	39.4	-	-	-	-	-	-	-	-	42.6	.0154	.0356	
15	.073 .495	06.9	13.0	18.8	24.1	28.8	33.8	38.8	-	-	-	-	-	-	-	-	39.2	.0142	.0361	
16	.073 .487	07.3	13.5	19.7	25.0	29.8	34.9	39.4	-	-	-	-	-	-	-	-	42.0	.0152	.0356	
17	.072 .488	06.5	13.1	18.8	24.2	29.0	34.1	39.2	-	-	-	-	-	-	-	-	42.6	.0154	.0352	
18	.073 .492	06.7	12.5	17.8	22.6	26.4	30.4	34.3	-	-	-	-	-	-	-	-	35.3	.0142	.0359	
19	.073 .490	06.2	12.3	17.6	22.4	26.6	30.5	-	-	-	-	-	-	-	-	-	34.0	.0138	.0358	
20	.070 .490	06.7	12.8	18.1	23.0	27.1	31.2	35.0	-	-	-	-	-	-	-	-	35.6	.0142	.0343	
AVERAGE STRESS		DATA CONTINUED ON NEXT PAGE																		
STANDARD DEVIATION STRESS																				
AVERAGE STRESS-3σ																				

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AII-12 REDUCED TEST DATA
DATA CONTINUED FROM PREVIOUS PAGE

PANEL NO.	TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING				TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS			
		90°			95% RH @ 125°F FOR 42 DAYS				160°F FOR 10 MIN				31.0%				.0090			
S/N7, S/N11	TENSION	.002			.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2
		STRESS - KSI																		
SPEC. NO.	T ⁽¹⁾	W ⁽¹⁾																		
S/N 11 - 119	.092	.493	06.8	12.6	18.1	22.7	27.4	32.2	-								36.1	.0137	.454	
121	.093	.491	06.1	12.1	17.3	21.7	25.9	30.7	34.9	-							36.1	.0144	.456	
122	.086	.492	06.6	13.7	19.4	24.6	29.8	36.0	40.2	-							44.4	.0156	.423	
123	.085	.492	07.7	14.4	20.6	25.8	31.1	36.6	42.2	-							46.8	.0160	.418	
125	.092	.495	06.6	13.2	18.7	23.8	28.0	32.6	37.2	-							39.4	.0150	.455	
136	.090	.482	07.6	14.2	20.0	24.0	30.0	34.8	39.6	-							41.2	.0146	.434	
137	.089	.497	07.9	14.5	19.9	25.0	29.7	34.8	39.6	-							42.9	.0154	.442	
139	.090	.496	06.7	13.4	18.8	23.6	28.2	33.2	37.9	42.0	-						42.8	.0162	.446	
141	.088	.494	07.6	14.3	20.0	25.3	30.6	35.8	41.0	-							42.2	.0145	.436	
146	.089	.497	06.7	12.8	18.1	23.1	27.6	32.6	37.4	-							40.3	.0152	.442	
AVERAGE STRESS			6.9	13.3	19.0	24.0	28.7	33.5									39.8	.0147		
STANDARD DEVIATION STRESS			.50	.69	.90	1.11	1.48	2.47									3.50	.00082		
AVERAGE STRESS-3σ			5.4	11.2	16.3	20.7	24.3	26.1									29.3	.0119		

FOOTNOTES (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AII-13 REDUCED TEST DATA

PANEL NO	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING							TEST COND.				RESIN CONT				NOMINAL PER PLY THICKNESS		
		0°		400°F FOR 100 HRS							400°F FOR 30 MIN				31.0%				.0080		
S/N 7	TENSION	002	004	006	008	010	012	014	016	016	016	020	022	024	026	028	030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN ²	
	STRAIN IN. IN	STRESS - KSI																			
	SPEC NO																				
	T ⁽¹⁾																				
	W ⁽¹⁾																				
S/N 7 - 85	.066 .496	06.1	12.8	18.9	25.6	31.7	37.8	44.0	49.3	55.0	-	-	-	-	-	-	56.1	.0187	.0328		
86	.066 .496	06.2	13.4	19.8	26.0	31.7	37.5	43.3	48.8	-	-	-	-	-	-	-	51.9	.0170	.0328		
87	.070 .497	06.4	12.1	17.9	24.0	29.4	35.6	40.8	46.3	51.5	-	-	-	-	-	-	53.0	.0186	.0346		
88	.072 .496	06.0	12.1	18.2	23.8	29.4	34.7	40.0	45.6	-	-	-	-	-	-	-	50.3	.0180	.0357		
95	.074 .494	05.7	11.8	17.3	22.7	27.6	33.1	38.4	43.7	48.4	-	-	-	-	-	-	49.4	.0186	.0366		
96	.073 .494	05.8	12.0	17.8	23.1	28.6	34.2	39.8	45.0	50.0	-	-	-	-	-	-	50.5	.0186	.0360		
100	.072 .496	06.2	12.3	17.9	23.6	29.2	34.5	39.8	45.4	50.1	-	-	-	-	-	-	51.1	.0186	.0357		
101	.072 .494	06.2	12.3	17.9	23.6	28.6	34.3	39.6	44.6	-	-	-	-	-	-	-	48.1	.0174	.0356		
109	.071 .492	06.3	12.3	18.4	24.0	29.2	34.7	40.0	45.4	-	-	-	-	-	-	-	47.4	.0167	.0349		
110	.071 .491	06.3	12.3	18.4	24.0	29.7	35.0	40.2	45.7	-	-	-	-	-	-	-	49.4	.0178	.0349		
AVERAGE STRESS		DATA CONTINUED ON NEXT PAGE																			
STANDARD DEVIATION STRESS																					
AVERAGE STRESS-3σ																					

FOOTNOTES (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(B) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AII-13 REDUCED TEST DATA
DATA CONTINUED FROM PREVIOUS PAGE

PANEL NO	TYPE TEST	TEST DIRECTION		SPEC CONDITIONING							TEST COND					RESIN CONT			NOMINAL PLY THICKNESS			
		0°		400°F FOR 100 HRS							400°F FOR 30 MIN					31.0%			.0090			
S/N 15	IN IN	T ⁽¹⁾	W ⁽¹⁾	007	004	006	006	006	010	012	014	016	018	020	022	024	026	028	030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN ²
				STRESS - KSI																		
S/N 15-41	.086	.486		06.1	12.2	17.8	23.2	28.6	34.0	39.3	44.1	-	-	-	-	-	-	-	42.3	.0161	.0476	
42	.084	.486		08.0	12.0	18.0	24.0	29.8	36.4	-	-	-	-	-	-	-	-	-	38.0	.0128	.0466	
46	.087	.486		06.4	11.3	17.5	23.4	29.0	-	-	-	-	-	-	-	-	-	-	36.7	.0130	.0410	
52	.087	.482		06.4	12.4	18.6	24.5	30.5	36.2	41.7	-	-	-	-	-	-	-	-	46.4	.0158	.0413	
53	.083	.481		06.1	12.1	18.3	24.1	30.0	36.9	41.1	-	-	-	-	-	-	-	-	46.4	.0159	.0417	
54	.084	.484		06.4	12.5	18.5	24.5	30.1	36.9	-	-	-	-	-	-	-	-	-	40.8	.0137	.0486	
56	.083	.486		06.5	12.6	18.2	24.3	29.9	36.4	41.3	46.2	-	-	-	-	-	-	-	47.5	.0165	.0461	
56	.083	.486		06.1	11.9	17.8	23.9	29.8	36.6	40.8	-	-	-	-	-	-	-	-	45.5	.0150	.0461	
57	.083	.484		06.5	12.6	18.3	24.4	30.2	36.1	41.3	46.0	-	-	-	-	-	-	-	47.1	.0162	.0460	
58	.081	.484		06.2	12.4	18.7	24.9	30.8	36.4	41.7	47.5	-	-	-	-	-	-	-	48.4	.0164	.0460	
AVERAGE STRESS				6.1	12.3	18.2	24.1	29.7	36.3	-	-	-	-	-	-	-	-	-	47.3	.0166		
STANDARD DEVIATION STRESS				.29	.43	.56	.79	1.01	1.16										4.87	.00181		
AVERAGE STRESS-3σ				5.9	11.0	16.6	21.7	26.7	31.8										32.7	.0112		

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(E) CURVE IDEALIZED

TABLE - AII-14 REDUCED TEST DATA
DATA CONTINUED FROM PREVIOUS PAGE

PANEL NO	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING								TEST COND				RESIN CONT				NOMINAL PER PLY THICKNESS			
		90°		400°F FOR 100 HRS								400°F FOR 30 MIN				31.0%				.0093			
S/N 7, S/N15	TENSION	002	004	006	008	010	012	014	016	018	020	022	024	026	028	030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN 2				
STRAIN IN IN	T ⁽¹⁾ W ⁽¹⁾	STRESS - KSI																					
S/N 7 - 21	.066 .495	05.5	10.7	15.2	19.5	23.4	27.4	-	-	-	-	-	-	-	-	-	28.0	.0124	.0329				
25	.072 .495	05.1	10.1	14.6	18.6	22.5	26.4	-	-	-	-	-	-	-	-	-	28.9	.0135	.0356				
38	.072 .494	06.1	09.6	14.3	19.1	23.6	28.0	-	-	-	-	-	-	-	-	-	29.8	.0128	.0356				
39	.073 .493	06.1	10.0	14.5	18.6	22.8	26.7	-	-	-	-	-	-	-	-	-	29.6	.0136	.0360				
44	.070 .489	06.4	11.7	17.0	21.1	26.4	-	-	-	-	-	-	-	-	-	-	29.1	.0112	.0342				
49	.070 .498	05.7	11.5	16.0	20.6	25.0	29.2	-	-	-	-	-	-	-	-	-	30.9	.0128	.0349				
AVERAGE STRESS		5.6	10.8	15.9	20.7	25.4											31.0	.0125					
STANDARD DEVIATION STRESS		.38	.69	.86	1.16	1.56											1.95	.00085					
AVERAGE STRESS-3σ		4.5	8.7	13.3	17.2	20.8											25.2	.0099					

FOOTNOTES (1) TO NEAREST .001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (I) CURVE IDEALIZED

TABLE - AII-15 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION				SPEC. CONDITIONING				TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS			
		°D				1 Hr @ -65°F				-65°F For 36 Min				31.0%				.0002			
S/N 10	COMPRESSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²		
STRAIN IN./IN.		STRESS - KSI																			
SPEC. NO.	T ⁽¹⁾ W ⁽¹⁾																				
171	.004 .749	09.5	18.9	28.0	37.2	45.0	52.1	59.4	66.4	73.0	-	-	-	-	-	-	76.7	.0191	.0704		
17	.000 .749	08.5	16.8	25.2	33.0	40.7	48.7	55.5	63.0	70.0	-	-	-	-	-	-	74.6	.0194	.0674		
188Y	.000 .749	08.6	17.1	26.0	34.3	41.8	49.0	56.5	63.9	70.8	78.5	-	-	-	-	-	78.9	.0201	.0674		
192Z	.003 .752	08.3	16.1	23.6	31.2	38.2	45.4	52.5	59.1	65.8	72.4	-	-	-	-	-	72.9	.0203	.0699		
212	.003 .751	07.7	16.1	24.0	32.7	40.4	48.0	55.1	62.3	68.9	76.5	-	-	-	-	-	78.5	.0211	.0709		
215	.000 .749	08.6	16.5	24.5	32.1	39.5	46.8	54.0	61.4	68.0 ⁽¹⁾	-	-	-	-	-	-	72.4	.0192 ⁽¹⁾	.0674		
220	.004 .748	08.5	16.7	24.2	32.0	38.4	46.5	53.7	61.5	69.0	-	-	-	-	-	-	73.7	.0194	.0763		
222	.004 .750	07.8	15.9	24.8	34.8	45.4	54.6	62.1	-	-	-	-	-	-	-	-	75.5	.0160	.0705		
225	.002 .748	08.7	15.3	23.2	31.0	42.1	52.3	63.2	-	-	-	-	-	-	-	-	67.3	.0152	.0688		
AVERAGE STRESS		8.5	16.7	24.9	33.2	42.2	49.1	56.6									73.1	.0186			
STANDARD DEVIATION STRESS		.50	.98	1.39	1.87	2.66	2.96	3.68									5.18	.00208			
AVERAGE STRESS-3σ		7.0	13.8	20.7	27.6	34.2	40.2	46.6									67.8	.0124			

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(1) CURVE IDEALIZED

TABLE - AII-16 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING							TEST COND.				RESIN CONT.			NOMINAL PER PLY THICKNESS		
		90°		1 Hr @ -65° F							-65° F For 30 Min				31.0%			.0091		
S/N 7, S/N 10	COMPRESSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2	
STRAIN IN./IN.	T(1)	STRESS - KSI																		
S/N 7 - 7	.072	.750	09.5	17.8	25.8	33.4	40.7	48.9	56.5	-	-	-	-	-	-	-	58.4	.0154	.0540	
28	.075	.748	08.3	15.1	21.4	25.8	29.9	33.8	37.4	41.0	44.4	47.4	51.0	53.6	-	-	55.6	.0251	.0561	
32	.076	.749	08.8	16.0	22.9	29.9	36.9	43.2	50.0	55.4	-	-	-	-	-	-	57.0	.0166	.0569	
36	.074	.749	07.2	16.6	26.2	36.1	46.0	55.1	-	-	-	-	-	-	-	-	58.1	.0130	.0554	
40	.075	.748	07.1	15.1	23.2	33.0	42.7	52.4	57.4	-	-	-	-	-	-	-	57.5	.0142	.0561	
46	.076	.750	07.2	14.0	21.0	28.1	34.8	41.3	47.4	53.0	58.5	-	-	-	-	-	59.9	.0199	.0570	
48	.068	.749	07.9	22.0	32.4	40.5	49.2	56.1	-	-	-	-	-	-	-	-	58.0	.0131	.0509	
49	.068	.749	10.8	16.7	24.6	32.4	39.3	48.1	57.0	-	-	-	-	-	-	-	58.3	.0144	.0509	
54	.068	.749	08.7	16.7	24.6	33.8	43.3	52.5	59.5	-	-	-	-	-	-	-	60.0	.0142	.0509	
58	.067	.750	09.8	18.9	29.8	37.8	46.2	52.7	-	-	-	-	-	-	-	-	56.4	.0136	.0503	
AVERAGE STRESS		DATA CONTINUED ON NEXT PAGE																		
STANDARD DEVIATION STRESS																				
AVERAGE STRESS-3σ																				

FOOTNOTES (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AII-16 REDUCED TEST DATA
DATA CONTINUED FROM PREVIOUS PAGE

PANEL NO.	TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING				TEST COND.				RESIN CONT.			NOMINAL PER PLY THICKNESS			
		90°			1 Hr @ -65°F				-65°F For 30 Min				31.0%			.0091			
S/N 7, S/N 10	COMPRESSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²
SPEC. NO.	IN./IN.	STRESS - KSI																	
S/N 10 - 181Y	.086 .760	08.5	17.1	24.6	32.7	40.3	47.3	54.3	-								69.5	.0167	.0646
183Z	.080 7.49	07.0	14.1	20.8	28.2	35.0	41.6	47.6	54.3	-							56.0	.0170	.0674
185Y	.087 .760	07.6	15.8	22.8	29.4	35.7	41.9	47.4	-								51.6	.0155	.0728
194	.083 .760	08.6	16.5	25.1	34.7	43.7	52.0	59.6	-								59.5	.0142	.0697
196	.082 .742	09.3	16.7	24.4	31.4	39.2	46.0	-									53.0	.0138	.0688
197	.084 .760	08.2	16.0	23.4	32.1	40.0	47.2	54.5	60.3	-							64.0	.0171	.0706
202	.082 .761	06.9	14.3	21.7	29.0	36.2	42.7	49.2	55.7	61.8	-						64.8	.0193	.0891
202Y	.083 .761	09.0	16.5	23.9	30.8	37.9	44.5	51.5	58.6	-							61.8	.0163	.0699
204	.083 .760	07.9	15.9	22.6	29.8	36.4	43.6	50.5	60.0	-							61.8	.0170	.0699
238	.083 .749	08.2	15.8	23.5	30.8	37.8	44.6	51.0	-								56.7	.0159	.0696
AVERAGE STRESS		8.2	16.4	24.4	32.0	39.5	46.8										58.4	.0161	
STANDARD DEVIATION STRESS		1.03	1.79	2.83	3.47	4.53	5.70										3.17	.00286	
AVERAGE STRESS-3σ		5.2	11.1	16.9	21.6	26.9	29.7										48.9	.0076	

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(1) CURVE IDEALIZED

TABLE - AII-17 REDUCED TEST DATA

PANEL NO	TYPE TEST	TEST DIRECTION	SPEC. CONDITIONING						TEST COND				RESIN CONT.				NOMINAL PER PLY THICKNESS			
			95% RH @ 125°F For 47 Days						-66oF For 30 Min				31.0%				0088			
S/N7,S/N10,S/N11	COMPRESSION	0°	002	004	006	008	010	012	014	016	018	020	022	024	026	028	030	MIN STRESS	AT MAX STRESS	AREA IN.²
			STRESS - KSI																	
S/N 7	.071 .750		12.0	19.2	23.9	25.0	29.0	30.8	35.0	39.0	42.0	43.3	46.5	-	-	-	-	53.0	.0232	.0531
72	.072 .750		10.2	18.5	26.6	35.0	42.6	49.1	54.1	(I)	-	-	-	-	-	-	-	55.4	.0144	.0540
73	.078 .750		07.5	15.2	23.6	29.0	34.8	40.0	45.1	47.7	54.5	58.9	63.3	-	-	-	-	64.3	.0226	.0685
75	.070 .749		09.0	18.3	26.4	36.2	44.0	53.4	60.8	-	-	-	-	-	-	-	-	68.5	.0153	.0524
76	.070 .749		09.2	18.5	27.6	36.7	44.7	53.1	60.5	-	-	-	-	-	-	-	-	63.5	.0152	.0624
80	.069 .748		08.9	17.8	26.8	36.4	44.2	52.5	61.6	70.5	-	-	-	-	-	-	-	73.6	.0168	.0616
81	.069 .750		10.4	19.7	29.8	39.4	-	-	-	-	-	-	-	-	-	-	-	44.3	.0084	.0618
82	.070 .750		09.3	18.3	26.3	31.8	37.5	43.3	49.1	-	-	-	-	-	-	-	-	50.1	.0144	.0625
83	.069 .749		08.7	17.4	25.9	34.8	43.1	49.0	55.7	60.5	-	-	-	-	-	-	-	61.4	.0162	.0617
84	.070 .751		08.6	17.1	25.1	32.9	41.0	48.9	-	-	-	-	-	-	-	-	-	51.3	.0128	.0626
AVERAGE STRESS			DATA CONTINUED ON NEXT PAGE																	
STANDARD DEVIATION STRESS																				
AVERAGE STRESS-3σ																				

FOOTNOTES (I) TO NEAREST .001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (I) CURVE IDEALIZED

TABLE - AII-17 REDUCED TEST DATA
DATA CONTINUED FROM PREVIOUS PAGE

PANEL NO.	TYPE TEST	TEST DIRECTION	SPEC. CONDITIONING										TEST COND.					RESIN CONT.			NOMINAL PER PLY THICKNESS
			96% RH @ 126°F For 42 Days										-66°F For 30 Min					31.0%			
S/N 10 28	COMPRESSION	0°	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2		
STRAIN IN./IN.		STRESS - KSI																			
SPEC. NO.	T ⁽¹⁾	W ⁽¹⁾																			
S/N 10 214	.090	.750	10.1	17.8	26.8	33.7	42.5	49.3	57.0	63.8	71.0	—	—	—	—	—	73.8	.0187 ⁽¹⁾	.0675		
169	.086	.751	09.4	18.0	26.5	34.5	42.8	50.7	58.2	66.9	73.4	—	—	—	—	—	80.5	.0197	.0636		
S/N 11 220	.086	.750	09.4	18.8	27.2	36.1	43.9	51.8	59.6	67.4	—	—	—	—	—	—	71.0	.0169	.0637		
222	.090	.750	8.9 ⁽¹⁾	17.4 ⁽¹⁾	26.8	34.1	44.2	50.9	59.4	67.4	—	—	—	—	—	—	71.4	.0170 ⁽¹⁾	.0675		
224	.083	.750	09.0	18.5	27.6	26.8	44.6	53.0	61.0	68.2	75.5	—	—	—	—	—	81.0	.0199	.0623		
232	.089	.751	09.7	17.8	26.4	34.1	41.9	49.7	57.6	67.0	—	—	—	—	—	—	70.8	.0188	.0668		
236	.094	.750	07.8	16.3	24.2	32.1	39.7	47.1	54.1	61.4	67.7	74.5	—	—	—	—	74.7	.0201	.0706		
267	.088	.749	08.4	17.9	26.8	35.1	43.5	51.2	59.0	66.4	73.3	—	—	—	—	—	73.5	.0186	.0669		
271	.089	.749	08.2	15.9	24.0	31.8	39.4	46.9	54.0	63.4	—	—	—	—	—	—	66.7	.0173	.0666		
269	.089	.749	09.8	18.0	25.5	33.3	41.7	49.5	56.5	64.7	71.6	—	—	—	—	—	73.6	.0186	.0666		
AVERAGE STRESS			9.2	17.8	26.0	33.9											66.0	.0177			
STANDARD DEVIATION STRESS			1.00	1.08	1.52	3.11											10.75	.00324			
AVERAGE STRESS-3σ			6.2	14.6	21.4	24.6											34.8	.0075			

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOR WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOR SLIPPAGE

(1) CURVE IDEALIZED

TABLE - AII-18 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC CONDITIONING								TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS	
		90°		95% RH @ 125°F For 42 Days								-65°F For 30 Min				31.0%				.0098	
S/N7,S/N10,S/N11	COMPRESSION	90°		95% RH @ 125°F For 42 Days								-65°F For 30 Min				31.0%				.0098	
STRAIN IN / IN	T(1) W(1)	002	004	006	008	010	012	014	016	018	020	022	024	026	028	030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN ²		
SPEC NO		STRESS - KSI																			
S/N 7 - 87	.074 .750	07.6	16.2	23.8	31.9	40.0	47.6	—	—	—	—	—	—	—	—	—	51.1	.0130	.0555		
89	.069 .750	09.2	18.0	26.7	37.1	46.7	54.5	—	—	—	—	—	—	—	—	—	58.1	.0136	.0518		
90	.069 .750	08.9	17.4	21.5	33.6	41.7	—	—	—	—	—	—	—	—	—	—	44.9	.0106	.0518		
92	.068 .748	08.5	17.1	30.1	41.9	—	—	—	—	—	—	—	—	—	—	—	43.7	.0088	.0509		
94	.069 .750	09.3	19.5	31.7	—	—	—	—	—	—	—	—	—	—	—	—	32.0	.0062	.0518		
98	.068 .750	10.6	18.8	27.0	33.4	—	—	—	—	—	—	—	—	—	—	—	36.8	.0093	.0510		
99	.068 .750	07.3	15.2	24.2	32.4	40.6	49.0	56.0	62.8	68.6	—	—	—	—	—	—	69.0	.0182	.0510		
101	.066 .750	08.9	15.8	24.2	32.3	40.2	47.1	52.5	—	—	—	—	—	—	—	—	53.5	.0147	.0495		
102	.067 .749	07.2	14.7	23.0	30.3	37.9	44.3	51.8	—	—	—	—	—	—	—	—	55.5	.0160	.0502		
103	.068 .750	10.2	21.2	31.4	42.2	47.5	55.0	—	—	—	—	—	—	—	—	—	57.0	.0129	.0510		
AVERAGE STRESS		DATA CONTINUED ON NEXT PAGE																			
STANDARD DEVIATION STRESS																					
AVERAGE STRESS-3σ																					

FOOTNOTES (1) TO NEAREST 001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGE STRESS OF COMPRESSOMETER STIMULUS

(I) CURVE IDEALIZED

TABLE - AII-19 REDUCED TEST DATA

PANEL NO	TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING							TEST COND.				NOMINAL PER PLY THICKNESS			
		0°			95% RH @ 125°F FOR 42 DAYS							25°F FOR 30 MIN				31.0%			
S/N 7, S/N 10, S/N 11	COMPRESSION	002	004	025	008	010	012	014	016	018	020	022	024	026	028	030	MAX STRESS	STRAIN AT MAX STRESS	AREA $\frac{IN^2}{IN}$
	STRAIN IN / IN																		
	SPEC NO	T (1)	W (1)																
S/N 7	70	.068	.751	08.2	14.8	25.0	32.6	41.0	48.9	56.5	-						62.3	.0153 (I)	.0610
	74	.075	.751	07.6	16.4	22.0	27.0	32.6	37.8	43.9	50.2	57.0	-				58.8	.0186	.0564
	77	.069	.750	09.1	17.6	26.4	34.4	43.1	51.6	-							58.0	.0276	.0517
	78	.068	.749	07.9	15.9	23.6	30.2	35.9	44.2	53.1	-						57.5	.0151	.0509
	79	.068	.748	08.0	17.8	28.0	36.3	44.8	52.5	-							58.0	.0136	.0509
S/N 10	211	.095	.750	09.1	19.7	27.8	37.0	-									40.6	.0090	.0712
	226	.094	.750	08.6	17.0	25.3	33.8	42.0	-								49.2	.0118	.0705
S/N 11	209	.090	.750	09.1	18.9	27.8	-										35.2	.0080	.0675
	256	.088	.750	07.5	15.8	25.0	34.2	42.6	51.1	-							56.5	.0132	.0660
	276	.094	.750	08.5	18.1	-											33.1	.0056	.0705
AVERAGE STRESS				8.3	17.1												50.9	.0138	
STANDARD DEVIATION STRESS				.61	1.35												10.28	.00623	
AVERAGE STRESS-3 σ				6.5	13.1												20.1		

FOOTNOTES (1) TO NEAREST .001"

- (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
- (C) CURVE EXCEEDED THE GRAPH PAPER
- (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
- (I) CURVE IDEALIZED

TABLE - AII-20 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION	SPEC. CONDITIONING			TEST COND.				RESIN CONT.			NOMINAL PER PLY THICKNESS							
			90°			95% RH @ 125°F For 42 Days				25°F For 30 Min				31.0			.0088			
S/N7, S/N10, S/N11	COMPRESSION	STRESS - KSI																		
STRAIN - IN./IN.	T ⁽¹⁾	W ⁽¹⁾	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA $\frac{IN.^2}{IN.}$
SN 7	.069	.748	08.3	16.9	24.0	32.0	40.1	—	—	—	—	—	—	—	—	—	—	43.4	.0114	.0615
91	.069	.762	07.6	18.0	24.1	31.8	39.2	46.1	—	—	—	—	—	—	—	—	—	49.3	.0131	.0619
93	.068	.760	08.6	16.2	26.0	33.6	41.1	50.4	—	—	—	—	—	—	—	—	—	50.8	.0122	.0610
96	.067	.751	07.2	18.2	27.4	36.4	39.8	—	—	—	—	—	—	—	—	—	—	41.0	.0130	.0604
100	.068	.751	07.5	16.0	25.0	33.8	42.9	51.5	—	—	—	—	—	—	—	—	—	53.8	.0107	.0611
S/N 11	.066	.749	09.3	18.6	26.4	34.8	41.4	—	—	—	—	—	—	—	—	—	—	42.1	.0104	.0646
269	.068	.749	08.2	19.3	31.1	42.0	—	—	—	—	—	—	—	—	—	—	—	46.5	.0086	.0660
274	.090	.750	08.6	17.4	26.2	36.0	44.5	—	—	—	—	—	—	—	—	—	—	46.2	.0101	.0675
S/N 10	.093	.753	07.4	15.0	22.6	30.9	38.4	46.5	—	—	—	—	—	—	—	—	—	46.5	.0126	.0700
237	.094	.751	07.8	17.0	26.9	36.9	—	—	—	—	—	—	—	—	—	—	—	36.3	.0162	.0705
AVERAGE STRESS			8.0	17.1	25.9	34.6	—	—	—	—	—	—	—	—	—	—	—	46.4	.0119	—
STANDARD DEVIATION STRESS			0.67	1.27	2.36	3.14	—	—	—	—	—	—	—	—	—	—	—	5.09	.00194	—
AVERAGE STRESS-3 σ			6.0	13.3	18.8	25.2	—	—	—	—	—	—	—	—	—	—	—	30.1	.0061	—

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AII-21 REDUCED TEST DATA

PANEL NO	TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING				TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS			
		0°			95% RH @ 125°F For 42 Days				RT				.1.0%				.0090			
S/N7,S/N10,S/N11	COMPRESSION	002	004	006	008	010	012	014	016	018	020	022	024	026	028	030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2	
STRAIN IN./IN	T ⁽¹⁾ W ⁽¹⁾	STRESS - KSI																		
S/N7	.64	.073	.750	07.5	15.6	24.1	30.9	38.4	45.0	50.6	-	-	-	-	-	-	54.4	.0149	.0647	
		.074	.750	07.7	15.1	22.7	27.2	33.2	39.4	45.6	-	-	-	-	-	-	52.1	.0158	.0655	
		.073	.750	07.9	15.5	22.6	30.4	37.5	44.4	51.5	-	-	-	-	-	-	53.0	.0145	.0647	
		.073	.750	08.8	17.6	25.7	33.7	41.5	48.8	56.2	-	-	-	-	-	-	58.5	.0148	.0647	
		.073	.751	07.0	14.2	21.4	29.3	36.8	43.5	50.5	-	-	-	-	-	-	50.1	.0141	.0649	
		.076	.750	08.8	18.7	28.0	36.8	46.5	53.3	60.5	-	-	-	-	-	-	61.3	.0144	.0670	
		.071	.750	08.0	16.2	25.5	39.6	52.0	-	-	-	-	-	-	-	-	59.8	.0120	.0632	
180A		.069	.751	16.7	30.7	41.5	47.6	53.6	59.4	-	-	-	-	-	-	-	59.5	.0126	.0620	
181		.074	.751	09.0	14.6	31.0	41.1	51.5	59.8	-	-	-	-	-	-	-	61.9	.0125	.0656	
186A		.071	.750	09.2	17.6	25.6	33.4	40.4	47.7	56.7	-	-	-	-	-	-	58.0	.0154	.0647	
AVERAGE STRESS		DATA CONTINUED ON NEXT PAGE																		
STANDARD DEVIATION STRESS																				
AVERAGE STRESS-3σ																				

FOOTNOTES (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AII-21 REDUCED TEST DATA
DATA CONTINUED FROM PREVIOUS PAGE

PANEL NO.	TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING				TEST COND.				RESIN CONT.			NOMINAL PER PLY THICKNESS						
		0°			95% RH @125°F For 42 Days				RT				31.0%			.0090						
S/N7,S/N10,S/N11	COMPRESSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2			
STRAIN IN./IN.		STRESS - KSI																				
SPEC NO	T ⁽¹⁾	W ⁽¹⁾																				
S/N11	.085	.751	08.9	22.4	34.9	48.6	-	-	-	-	-	-	-	-	-	-	49.4	.0085	.0639			
	.091	.750	08.6	17.3	26.2	34.5	-	-	-	-	-	-	-	-	-	-	40.0	.0095	.0683			
	.086	.751	08.1	16.4	24.8	33.0	41.6	49.1	57.8	-	-	-	-	-	-	-	59.7	.0152	.0660			
	.088	.750	07.9	15.6	23.4	31.4	39.3	47.0	54.6	-	-	-	-	-	-	-	53.5	.0160	.0660			
	.089	.750	08.9	17.7	27.5	35.7	-	-	-	-	-	-	-	-	-	-	43.1	.0087	.0667			
	.089	.750	10.4	19.4	29.8	37.8	46.3	54.7	-	-	-	-	-	-	-	-	59.8	.0134	.0667			
S/N10	.088	.751	08.2	16.2	23.8	32.0	39.6	46.6	53.6	61.5	-	-	-	-	-	-	63.9	.0192	.0660			
	.087	.751	10.1	19.4	30.8	-	-	-	-	-	-	-	-	-	-	-	39.4	.0078	.0663			
	.091	.749	08.5	13.9	21.7	30.1	38.6	46.6	-	-	-	-	-	-	-	-	51.4	.0136	.0681			
	.083	.750	07.6	15.5	25.8	35.7	45.6	54.0	-	-	-	-	-	-	-	-	54.9	.0126	.0698			
AVERAGE STRESS			8.4	17.5	26.8												54.4	.0133				
STANDARD DEVIATION STRESS			2.6	3.7	3.9												7.04	.00279				
AVERAGE STRESS-3σ			1.9	6.4	15.1												33.3	.0060				

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AII-22 REDUCED TEST DATA

PANEL NO	TYPE TEST	TEST DIRECTION	SPEC. CONDITIONING										TEST COND.	RESIN CONT					NOMINAL PER PLY THICKNESS		
			95% RH @ 125°F For 42 Days											RT	31.0%					MAX STRESS	STRAIN AT MAX STRESS
S/N7,S/N10,S/N11	COMPRESSION	90°	002	004	006	008	010	012	014	016	018	020	022		024	026	028	030	.0090		
SPEC NO	IN/IN	T ⁽¹⁾	W ⁽¹⁾	STRESS - KSI																	
S/N7	3	.073	.750	17.0	31.8	39.0	42.1	44.7	-	-	-	-	-	-	-	-	-	-	48.0	.0120	.0547
	10	.074	.750	11.9	21.0	29.5	36.2	43.0	-	-	-	-	-	-	-	-	-	-	45.0	.0109	.0555
	14	.075	.750	12.0	23.6	33.1	42.1	-	-	-	-	-	-	-	-	-	-	-	47.7	.0097	.0562
	15	.075	.750	11.5	23.2	34.6	45.0	-	-	-	-	-	-	-	-	-	-	-	46.2	.0083	.0562
	19	.071	.750	12.4	20.9	28.1	36.0	42.3	46.5	-	-	-	-	-	-	-	-	-	47.3	.0122	.0532
	21	.073	.747	07.7	15.3	22.9	30.0	38.6	45.7	-	-	-	-	-	-	-	-	-	48.4	.0134	.0546
	22	.073	.751	08.4	19.7	29.0	37.7	46.0	-	-	-	-	-	-	-	-	-	-	47.5	.0106	.0550
	23	.068	.751	08.3	22.1	32.9	44.1	-	-	-	-	-	-	-	-	-	-	-	47.4	.0089	.0510
	25	.075	.751	12.1	23.2	34.0	-	-	-	-	-	-	-	-	-	-	-	-	42.7	.0078	.0564
	29	.076	.751	12.0	24.0	34.2	43.7	-	-	-	-	-	-	-	-	-	-	-	44.2	.0082	.0570
AVERAGE STRESS				DATA CONTINUED ON NEXT PAGE																	
STANDARD DEVIATION STRESS																					
AVERAGE STRESS-3σ																					

FOOTNOTES (1) TO NEAREST .001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (I) CURVE IDEALIZED

TABLE - AII-22 REDUCED TEST DATA
DATA CONTINUED FROM PREVIOUS PAGE

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING				TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS						
		90°		95% RH @ 125°F For 42 Days				RT				31.0%				.0090						
S/N10,S/N11	COMPRESSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN.²			
STRAIN IN./IN.		STRESS - KSI																				
SPEC NO.	T(1)	W(1)																				
S/N 11	.086	.749	7.5	15.3	23.5	31.4	38.5	46.5	-	-	-	-	-	-	-	-	49.9	.0133	.0646			
225	.054	.750	8.9	18.7	32.9	44.3	63.1	-	-	-	-	-	-	-	-	-	55.8	.0108	.0630			
228	.086	.746	08.4	18.3	28.2	38.9	48.6	-	-	-	-	-	-	-	-	-	46.9	.0106	.0642			
238	.089	.749	08.1	16.2	24.2	31.8	39.4	46.7	-	-	-	-	-	-	-	-	51.7	.0146	.0666			
262	.088	.753	08.1	15.2	22.8	30.9	38.4	44.3	-	-	-	-	-	-	-	-	42.3	.0140	.0670			
264	.088	.749	08.2	16.6	24.1	31.1	39.4	-	-	-	-	-	-	-	-	-	54.6	.0137	.0659			
272	.088	.752	07.9	16.4	26.6	33.3	-	-	-	-	-	-	-	-	-	-	38.7	.0100	.0686			
S/N10	.091	.750	08.3	12.0	27.5	36.2	-	-	-	-	-	-	-	-	-	-	42.0	.0097	.0881			
243	.091	.761	07.9	16.9	27.6	38.3	47.3	54.4	-	-	-	-	-	-	-	-	56.1	.0131	.0883			
246	.082	.750	10.9	22.2	32.6	43.0	-	-	-	-	-	-	-	-	-	-	43.9	.0088	.0689			
AVERAGE STRESS		9.9		19.6	28.3															47.3	.0110	
STANDARD DEVIATION STRESS		2.46		4.39	4.62															4.73	.00213	
AVERAGE STRESS-3σ		2.5		6.4	15.4															33.1	.0046	

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AII-23 REDUCED TEST DATA

PANEL NO	TYPE TEST	TEST DIRECTION				SPEC. CONDITIONING				TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS						
		°				None				160°F For 30 Min				31.0%				MAX STRESS	STRA'N AT MAX STRESS	AREA IN. 2				
S/N10	COMPRESSION	002	004	006	008	010	012	014	016	018	020	022	024	026	028	030								
STRAIN IN/IN		STRESS - KSI																						
SPEC NO	T ⁽¹⁾	W ⁽¹⁾																						
172Y	.088	.749	06.8	13.4	19.9	26.4	33.6	39.6	46.5	-	-	-	-	-	-	-	-	-	46.5	.0141	.0659			
176Y	.087	.748	07.4	13.9	20.9	27.7	30.0	31.7	34.2	36.4	37.8	39.7	41.5	43.4	45.3	-	-	-	46.4	.0272	.0650			
177Z	.088	.748	10.3	17.0	24.4	32.4	39.2	46.7	-	-	-	-	-	-	-	-	-	-	52.9	.0136	.0658			
186	.088	.748	07.3	14.1	20.6	27.3	35.8	38.4	44.6	-	-	-	-	-	-	-	-	-	48.3	.0149	.0658			
190Y	.092	.748	06.7	12.7	20.2	28.3	36.6	42.1	-	-	-	-	-	-	-	-	-	-	46.7	.0136	.0688			
194Y	.093	.750	07.7	15.2	22.6	31.0	37.6	44.6	-	-	-	-	-	-	-	-	-	-	48.6	.0134	.0688			
209	.081	.748	08.9	19.1	27.0	35.4	43.6	51.1	-	-	-	-	-	-	-	-	-	-	52.5	.0122	.0606			
218	.094	.748	07.7	15.1	22.8	29.8	36.7	43.5	50.0	-	-	-	-	-	-	-	-	-	54.1	.0151	.0703			
223	.090	.748	08.0	15.5	24.1	31.6	38.8	46.4	52.8	-	-	-	-	-	-	-	-	-	56.5	.0146	.0673			
228	.094	.749	09.4	17.9	25.6	33.3	40.1	46.6	-	-	-	-	-	-	-	-	-	-	53.6	.0139	.0704			
AVERAGE STRESS		8.0	15.4	22.8	30.3	37.2	43.1															50.6	.0152	
STANDARD DEVIATION STRESS		1.04	1.41	2.56	2.94	3.70	5.70															3.72	.000436	
AVERAGE STRESS-3σ		4.9	11.2	15.1	21.5	26.1	26.0															39.4	.0021	

FOOTNOTES (1) TO NEAREST .001"

(A) COMPRESSOR WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOR SLIPPAGE

(II) CURVE IDEALIZED

TABLE - AII-24 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING				TEST COND.				RESIN CONT.			NOMINAL PER PLY THICKNESS				
		90°		None				180°F For 30 Min				31.0%			.0091				
S/N10	COMPRESSION	.002	.004	.006	.006	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2
SPEC NO	T ⁽¹⁾ W ⁽¹⁾	STRESS - KSI																	
180Y	.086 .746	08.9	17.7	25.8	33.0	39.2	-	-	-	-	-	-	-	-	-	-	42.4	.0110	.0644
182Y	.092 .749	07.9	15.7	26.3	36.6	-	-	-	-	-	-	-	-	-	-	-	41.7	.0096	.0689
184Y	.095 .749	05.9	11.1	16.9	22.8	27.9	33.0	-	-	-	-	-	-	-	-	-	37.3	.0140	.0710
195	.090 .74	06.6	11.6	18.7	26.8	32.5	36.8	38.0	-	-	-	-	-	-	-	-	39.0	.0147	.0674
200Z	.091 .750	06.5	11.3	17.8	24.5	31.2	37.0	-	-	-	-	-	-	-	-	-	41.7	.0139	.0683
203	.091 .750	06.8	11.7	19.2	31.4	-	-	-	-	-	-	-	-	-	-	-	38.6	.0096	.0683
206	.090 .748	06.0	12.5	22.3	33.6	39.6	-	-	-	-	-	-	-	-	-	-	44.9	.0115	.0673
249	.094 .748	08.1	12.0	18.4	26.6	33.0	41.0	-	-	-	-	-	-	-	-	-	48.0	.0134	.0703
182Z	.092 .749	07.1	14.4	21.7	29.0	34.5	37.3	40.3	44.6	-	-	-	-	-	-	-	46.4	.0162	.0674
186Z	.091 .748	05.3	11.2	16.9	21.8	24.7	28.6	36.7	41.5	-	-	-	-	-	-	-	43.5	.0164	.0680
AVERAGE STRESS		6.4	12.9	20.4	28.4												42.2	.0130	
STANDARD DEVIATION STRESS		1.18	2.26	3.48	4.83												3.34	.00260	
AVERAGE STRESS-3σ		2.9	6.1	10.0	13.9												32.2	.006	

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE AII-25 REDUCED TEST DATA

PANEL NO	TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING			TEST COND				RESIN CONT			NOMINAL PER PLY THICKNESS																							
		STRAIN IN IN	COMPRESSION	0°	002	004	006	008	010	012	014	016	018	020	022	024	026	028	030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN 2																
S/N 7, 10, 11	COMPRESSION				95% R.H. @ 125°F For 42 Days			160°F For 10 Min				31.0%			.0081																							
SPEC NO	T ⁽¹⁾	W ⁽¹⁾	STRESS - KSI																																			
S/N 7	174A	.075	.750	13.0	22.0	29.7	36A	43.2	-										47.6	.0115	.0563																	
	175	.068	.750	13.0	27.0	29.4	-												48.7	.0075	.0510																	
	177A	.073	.751	08.8	16.8	22.6	29.6	36.7	42.9	-									45.3	.0128	.0548																	
	178	.073	.750	12.6	24.5	35.1	45.1												49.9	.0088	.0547																	
	183A	.071	.749	13.3	28.0	39.6													48.4	.0078	.0532																	
	184	.074	.749	11.7	23.4	33.3	43.4												51.6	.0088	.0540																	
	187	.072	.750	10.0	25.6	38.9	-												48.2	.0078	.0540																	
	189A	.078	.750	12.3	25.2	39.7	48.4	-											49.1	.0082	.0585																	
	190	.072	.749	11.8	25.8	34.3	37.0	40.4	43.4	46.1	48.1	-							48.6	.0163	.0540																	
	191	.069	.749	14.7	25.2	34.7	-												42.0	.0080	.0571																	
AVERAGE STRESS																																						
STANDARD DEVIATION STRESS																																						
AVERAGE STRESS-3σ																																						
DATA CONTINUED ON NEXT PAGE																																						

FOOTNOTES (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AII-26 REDUCED TEST DATA
DATA CONTINUED FROM PREVIOUS PAGE

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING								TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS		
		0°		95% RH @ 125°F For 42 Days								160°F For 10 Min				31.0%				.0081		
S/N 7 10, 11	COMPRESSION	STRAIN IN./IN.		STRESS - KSI																		
		T ⁽¹⁾	W ⁽¹⁾	.002	.004	.005	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²	
S/N10	172	.085	.751	08.7	18.0	27.0	36.1	43.5	-	-	-	-	-	-	-	-	-	43.9	.0106	.0712		
	177	.085	.751	08.7	17.4	27.6	34.4	41.0	45.9	-	-	-	-	-	-	-	-	46.3	.0123	.0698		
	217	.091	.750	09.1	18.3	27.3	-	-	-	-	-	-	-	-	-	-	-	33.6	.0080	.0883		
	229	.093	.749	07.2	14.8	25.2	34.9	-	-	-	-	-	-	-	-	-	-	38.0	.0088	.0696		
S/N11	210	.080	.748	10.4	20.5	30.3	38.6	-	-	-	-	-	-	-	-	-	-	43.3	.0088	.0874		
	223	.085	.751	06.0	17.0	26.8	36.0	46.5	-	-	-	-	-	-	-	-	-	48.9	.0115	.0688		
	234	.092	.750	08.7	17.3	27.0	36.4	42.6	-	-	-	-	-	-	-	-	-	46.5	.0110	.0690		
	236	.095	.750	07.2	14.1	22.5	29.6	36.5	-	-	-	-	-	-	-	-	-	40.7	.0110	.0712		
	257	.087	.750	08.6	16.6	25.4	33.2	39.9	-	-	-	-	-	-	-	-	-	44.6	.0115	.0652		
	266	.088	.748	09.5	18.9	27.0	34.5	41.0	47.4	-	-	-	-	-	-	-	-	50.6	.0134	.0666		
AVERAGE STRESS				10.4	20.8	30.2	-	-	-	-	-	-	-	-	-	-	-	45.9	.0104			
STANDARD DEVIATION STRESS				2.26	4.42	5.40												5.39	.00229			
AVERAGE STRESS-3σ				3.6	6.5	14.0												29.7	.0036			

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS CUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(E) CURVE IDEALIZED

TABLE - AII-26 REDUCED TEST DATA

PANEL NO	TYPE TEST		TEST DIRECTION				SPEC. CONDITIONING				TEST COND.				RESIN CONT				NOMINAL PER PLY THICKNESS		
	S/N7,S/N10,S/N11	COMPRESSION	90°				95% RH @ 125°F For 42 Days				160°F For 10 Min				31.0%				MAX STRESS	STRAIN AT MAX STRESS	AREA IN.²
STRAIN IN./IN	T ⁽¹⁾	W ⁽¹⁾	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030				
	STRESS - KSI																				
S/N7	2	.075	.750	06.6	13.7	20.2	25.6	30.2	34.7	-								36.6	.0126	.0663	
	6	.075	.750	09.6	18.1	25.6	32.4	-										37.2	.0095	.0663	
	8	.074	.750	06.5	13.3	19.6	26.5	33.4	-									37.0	.0114	.0665	
	15	.075	.750	08.5	16.0	23.1	29.2	-										34.2	.0096	.0663	
	18	.074	.751	06.5	12.6	18.6	24.2	28.5	33.0	37.3								38.6	.0144	.0655	
	30	.076	.751	08.4	16.8	22.8	28.4	34.2	-									38.1	.0119	.0670	
	51	.068	.749	14.8	26.6	36.4	-											39.0	.0071	.0609	
	57	.068	.751	15.3	28.6	39.2	-											41.1	.0066	.0611	
	60	.067	.751	07.8	15.7	22.6	28.8	34.2	-									36.2	.0106	.0604	
	62	.066	.749	12.9	8.49	34.0	-											18.0	.0070	.0494	
AVERAGE STRESS			DATA CONTINUED ON NEXT PAGE																		
STANDARD DEVIATION STRESS																					
AVERAGE STRESS-3σ																					

FOOTNOTES (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AII-26 REDUCED TEST DATA
DATA CONTINUED FROM PREVIOUS PAGE

PANEL NO.	TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING				TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS		
		90°			95% RH @ 125°F For 42 Days				160°F For 10 Min				31.0%				MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2
S/N7 S/N10 S/N11	COMPRESSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030			
SPEC NO	IN./IN.	T ⁽¹⁾	W ⁽¹⁾																
S/N10	190	.088	.751	07.7	15.9	23.2	30.3										35.5	.0089	.0860
	232	.089	.751	08.5	17.5	26.0	34.1										39.0	.0098	.0869
	234	.090	.752	10.2	19.9	28.8	-										33.5	.0074	.0676
	236	.089	.748	07.5	16.3	24.8	32.8	-									37.0	.0088	.0867
	341	.091	.749	07.9	16.4	25.0	32.9	44.8	-								46.7	.0137	.0881
	246	.089	.750	08.1	17.9	27.0	36.0	-									42.4	.0096	.0867
S/N11	214	.088	.750	08.7	19.6	29.8	39.6	-									46.5	.0096	.0646
	226	.084	.750	07.3	16.5	25.4	33.0	-									33.3	.0083	.0630
	280	.087	.750	10.6	20.9	31.9	39.9	-									41.3	.0086	.0652
	273	.088	.750	08.6	18.6	27.7	36.8	46.0	-								46.0	.0108	.0680
AVERAGE STRESS				9.1	18.2	26.5											36.7	.0099	
STANDARD DEVIATION STRESS				2.54	18.2	6.40											4.18	.00221	
AVERAGE STRESS-3σ				1.5	6.0	10.3											26.1	.0033	

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM
AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AII-27 REDUCED TEST DATA

PANEL NO	TYPE TEST	TEST DIRECTION				SPEC CONDITIONING				TEST COND.				RESIN CONT				NOMINAL PER PLY THICKNESS			
		0°				100 Hrs @ 400°F				400°F For 30 Min				31.0%							
S/N10	COMPRESSION	002	004	006	008	010	012	014	016	018	020	022	024	026	028	030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN ²		
	STRAIN IN/IN																				
	SPEC NO	T ⁽¹⁾	W ⁽¹⁾																		
S/N 10	171Z	.089	.748	13.1	19.7	26.2	34.0	-									33.6	.0103	.0665		
	176Z	.089	.748	14.0	20.8	27.1	33.2	-									34.3	.0103	.0665		
	179	.086	.749	14.7	22.8	-	-	-									28.0	.0072	.0644		
	182	.088	.748	16.6	22.6	29.2	36.8	-									37.8	.0106	.0658		
	188	.088	.747	19.0	-	-	-	-									25.8	.0064	.0667		
	192Y	.093	.749	14.4	20.8	26.8	33.0	39.1									46.6	.0140	.0696		
	210	.082	.748	14.2	21.0	28.8	-	-									30.6	.0086	.0614		
	213	.093	.748	14.4	21.0	27.2	-	-									29.5	.0087	.0695		
	219	.092	.748	15.3	22.1	28.0	34.4	-									37.1	.0112	.0689		
	224	.090	.748	10.9	17.4	24.7	-	-									26.2	.0085	.0673		
	AVERAGE STRESS		7.3	14.7													32.8	.0085			
	STANDARD DEVIATION STRESS		1.09	2.17													6.04	.00236			
	AVERAGE STRESS-3σ		4.0	8.2													14.7	.0024			

FOOTNOTES (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AII-28 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION				SPEC. CONDITIONING				TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS			
		90°				400 Hrs @ 400°F				400°F For 30 Min				31.0%							
S/N10,S/N7	COMPRESSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN.²		
STRAIN IN./IN.		STRESS - KSI																			
SPEC NO	T ⁽¹⁾ W ⁽¹⁾	05.0	07.2	09.4	11.7	13.7	15.4	-	-	-	-	-	-	-	-	-	15.4	.0123	.0641		
SN/7 5	.072 .752	05.7	11.4	16.8	-	-	-	-	-	-	-	-	-	-	-	-	19.9	.0078	.0656		
11	.074 .750	05.1	11.0	16.1	-	-	-	-	-	-	-	-	-	-	-	-	20.3	.0080	.0647		
24	.073 .750	08.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.1	.0036	.0664		
27	.075 .751	08.6	13.0	-	-	-	-	-	-	-	-	-	-	-	-	-	16.3	.0052	.0570		
31	.076 .750	08.5	13.5	-	-	-	-	-	-	-	-	-	-	-	-	-	19.3	.0059	.0539		
37	.072 .749	05.3	10.9	16.2	-	-	-	-	-	-	-	-	-	-	-	-	19.3	.0071	.0602		
43	.075 .750	03.9	10.2	15.4	-	-	-	-	-	-	-	-	-	-	-	-	19.9	.0080	.0640		
44	.078 .750	04.6	09.8	15.8	20.2	-	-	-	-	-	-	-	-	-	-	-	21.3	.0052	.0602		
47	.075 .750	08.5	12.6	18.3	23.8	-	-	-	-	-	-	-	-	-	-	-	24.6	.0088	.0609		
52	.068 .749	DATA CONTINUED ON NEXT PAGE																			
AVERAGE STRESS																					
STANDARD DEVIATION STRESS																					
AVERAGE STRESS-3σ																					

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AII-29 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING				TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS			
		0/90		NONE				-66° F FOR 30 MIN.				31.0%				MAX STRESS	STRAIN AT MAX STRESS	AREA IN.²	
S/N 7, S/N 13	PANEL SHEAR	.004	.008	.012	.016	.020	.024	.028	.032	.036	.040	.044	.048	.052	.056	.060			
STRAIN IN./IN.		STRESS - KSI																	
SPEC. NO.	T(1) W(1)																		
S/N 7-2	.089 3.875	07.9	14.0	17.2	A												21.6	A	.268
7A	.088 3.875	08.6	14.2	18.6	A												17.9	A	.264
8A	.072 3.875	07.9	13.7	17.3	A												19.0	A	.279
1	.076 3.875	08.0	13.4	17.3	19.4	A											19.7	A	.291
S/N 10-42	.082 3.875	07.7	13.7	16.9	18.2	19.4	20.0	20.8	21.4	22.0	22.8	A					24.4	A	.318
S/N 11-24	.080 3.875	08.5	11.8	15.0	17.0	18.4	19.3	20.0	20.5	20.8	20.9						20.9	.0416	.349
42	.089 3.875	07.6	12.7	15.7	17.2	18.0	18.3	18.6									18.7	.0300	.346
11	.088 3.875	08.1	13.5	16.4	17.6	18.3	18.8	19.1	19.9	20.0	20.0	20.0	2.00				20.0	.0512	.333
31	.086 3.875	0.1 (1)	12.9 (1)	16.1 (1)	17.8 (1)	18.8 (1)	19.4 (1)	19.7 (1)									(1) 20.1	.0304	.333
36	.087 3.875	(1) 07.4	13.6	17.7	20.4	22.1	23.1	23.8									24.0	.0294	.337
AVERAGE APPARENT STRESS		DATA CONTINUED ON NEXT PAGE																	
STANDARD DEVIATION APPARENT STRESS																			
AVERAGE APPARENT STRESS - 3σ																			
*(.08) x (AVERAGE APPARENT STRESS)																			
*(.08) x (AVERAGE APPARENT STRESS - 3σ)																			

FOOTNOTES: (1) TO NEAREST .001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (I) CURVE IDEALIZED
 * THERE WAS AN ASSUMED FRICTION OF 12% IN PINS

TABLE - AII-30 REDUCED TEST DATA

PANEL NO.	TYPE TEST		TEST DIRECTION				SPEC. CONDITIONING				TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS			
	PANEL SHEAR		0°90				NONE				25° F FOR 30 MIN.				31.0%							
STRAIN IN./IN.			.004	.008	.012	.016	.020	.024	.028	.032	.036	.040	.044	.048	.052	.056	.060					
SPEC. NO.	T(1)	W(1)	STRESS - KSI																			
S/N 10 - 13	.086	3.875	08.1	10.7	13.6	15.4	A											17.7	A	.372		
26	.084	3.875	08.9	12.0	14.9	16.3	A											16.9	A	.364		
27	.086	3.875	07.5	12.9	15.9	17.6	A											19.1	A	.329		
29	.086	3.875	08.9	12.9	16.3	A												19.1	A	.329		
38	.082	3.875	08.4	10.4	11.9	12.6	13.1	13.5	A									16.5	A	.366		
AVERAGE APPARENT STRESS			6.8	11.8	14.5	15.9																
STANDARD DEVIATION APPARENT STRESS																						
AVERAGE APPARENT STRESS - 3σ			6.6	11.4	14.3	15.5												16.8				
*(.88) x (AVERAGE APPARENT STRESS)			6.0	9.4	12.8	14.0												15.8				
*(.88) x (AVERAGE APPARENT STRESS - 3σ)			5.3	8.2	10.5	11.1												14.5				

FOOTNOTES: (1) TO NEAREST .001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (I) CURVE IDEALIZED
 * THERE WAS AN ASSUMED FRICTION OF 12% IN PINS

TABLE - AII-31 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING					TEST COND.					RESIN CONT.			NOMINAL PER PLY THICKNESS		
		0/90			RT					31.0%										
S/N 10	PANEL SHEAR	.004	.008	.012	.016	.020	.024	.028	.032	.036	.040	.044	.048	.052	.056	.060	MAX STRESS	STRAIN AT MAX STRESS	AREA $\frac{IN^2}{2}$	
	STRAIN IN./IN.	STRESS - KSI																		
SPEC. NO.	T ⁽¹⁾ % ⁽¹⁾																			
S/N 10 - 11	.006 3.875	05.8	10.1	12.6	14.1	A											16.0	A	.372	
15	.088 3.875	08.2	10.4	12.8	14.0	A											15.6	A	.341	
16	.069 3.875	03.0	10.5	12.8	14.0	A											15.4	A	.344	
24	.087 3.875	06.5	10.7	12.8	13.9	A											15.7	A	.336	
26	.089 3.875	06.2	10.3	12.6	A												15.5	A	.344	
31	.087 3.875	05.5	10.0	13.0	14.6	A											15.6	A	.376	
38	.082 3.875	08.4	10.6	12.9	A												15.6	A	.366	
10	.082 3.875	08.6	11.1	13.7	15.4	A											17.1	A	.366	
17	.081 3.875	08.4	10.6	12.7	A												15.2	A	.362	
30	.087 3.875	08.9	11.8	14.7	16.4	A											17.3	A	.337	
AVERAGE APPARENT STRESS		06.3	10.6	13.1	14.8												15.9			
STANDARD DEVIATION APPARENT STRESS		.41	.5	.53	1.11												.72			
AVERAGE APPARENT STRESS - 3 σ		4.0	9.1	11.5	11.5												13.8			
*.088) x (AVERAGE APPARENT STRESS)		5.6	9.3	11.5	13.0												14.0			
*.088) x (AVERAGE APPARENT STRESS - 3 σ)		3.5	8.0	10.1	10.1												12.1			

FOOTNOTES (1) TO NEAREST .001"

- (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
- (C) CURVE EXCEEDED THE GRAPH PAPER
- (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
- (I) CURVE IDEALIZED

* THERE WAS AN ASSUMED FRICTION OF 12% IN PINS

TABLE -AII-32 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING		TEST COND.		RESIN CONT.		NOMINAL PER PLY THICKNESS									
		0/90		NONE		100° F FOR 30 MIN.		31.0%											
S/N 10, S/N 11	PANEL SHEAR	.004	.008	.012	.016	.020	.024	.028	.032	.036	.040	.044	.048	.052	.056	.060			
STRAIN IN./IN.		STRESS - KSI																	
SPEC NO.	T(1) W(1)																		
S/N 10 - 12	.004 3.875	06.2	08.6	10.5	12.0	13.1	13.8	14.9	A								14.8	A	.364
19	.004 3.875	04.5	07.8	09.5	10.8	11.8	12.2	A									12.7	A	.364
34	.00C 3.875	05.6	09.2	11.6	13.4												13.9	A	.360
37	.004 3.875	05.2	08.5	10.5	11.9	12.1	A										13.3	A	.364
9	.004 3.875	04.9	08.5	10.9	13.4												14.4	C	.364
20	.006 3.875	04.9	08.2	10.2	11.5	12.2											13.7	A	.346
32	.003 3.875	04.8	08.5	11.0	12.8	13.4	A										14.6	A	.360
33	.002 3.875	05.0	08.7	11.0	12.5	13.3	A										14.2	A	.366
S/N 11 - 12	.006 3.875	05.1	08.2	10.1	11.2	11.9	12.5	12.8	12.9	12.9	13.8	15.0					13.1	.0432	.329
18	.006 3.875	05.6	08.5	09.9	11.0	11.3	11.4	11.8	11.8	12.0	12.3						12.4	.0472	.329
AVERAGE APPARENT STRESS		05.1	08.4	10.5	12.0												13.7		
STANDARD DEVIATION APPARENT STRESS		.32	.41	.52	.64												.82		
AVERAGE APPARENT STRESS - 3 σ		4.1	7.2	8.6	9.5												11.2		
*(.88) x (AVERAGE APPARENT STRESS)		4.5	7.4	9.2	11.6												12.1		
*(.88) x (AVERAGE APPARENT STRESS - 3 σ)		3.6	5.3	7.6	8.4												9.9		

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

* THERE WAS AN ASSUMED FRICTION OF 12% IN PINS

TABLE - AII-35 POISSONS RATIO FROM TENSION TESTS

DATE: 11-15-68

MATERIAL IDENTIFICATION:

PANEL S/N10 RESIN CONT. 31.0% FILA. ORIENT. 0°

STRAIN GAGE FACTOR: 2.10
 STRAIN GAGE RESISTANCE: 360
 EXTENSOMETER: S-400-2AB

SPEC IDEN.	TEST COND.	WIDTH (IN.)	THICK (IN.)	AREA (SQ. IN.)	LOAD (LBS.)	STRESS (KSI)	STRAIN TRANS. (IN./IN.)	STRAIN LONG. (IN./IN.)	POISSON'S RATIO (μ)	MODULUS $E \times 10$ (PSI)	REMARKS
S/N10 - 28	RT	1.249	.087	.1087	0	0	-	-	-	-	5380 LBS CUTOFF
					1087	10	.000364	.00780	.1285		
					2174	20	.000890	.00670	.1210		
					3261	30	.000834	.00910	.1026		
					4348	40	.001116	.01260	.0892		
					5380	49.6	.001220	.01690	.0797		
S/N10 - 25	RT	1.249	.088	.1100	0	0	-	-	-	-	5370 LBS CUTOFF
					1100	10	.000364	.00320	.1107		
					2200	20	.000676	.00600	.1128		
					3300	30	.000944	.00910	.1036		
					4400	40	.001166	.01230	.0940		
					5370	48.9	.001200	.01600	.0864		

TABLE - AII-37 POISSONS RATIO FROM TENSION TESTS

DATE: 11-14-68

MATERIAL IDENTIFICATION:

PANEL S/N7 RESIN CONT. 31.0% FILA. ORIENT. 90°

STRAIN GAGE FACTOR: 2.10
STRAIN GAGE RESISTANCE: 360
EXTENSOMETER: SS-400-2AB

SPEC IDEN.	TEST COND.	WIDTH (IN.)	THICK (IN.)	AREA (SQ. IN.)	LOAD (LBS.)	STRESS (KSI)	STRAIN TRANS. (IN./IN.)	STRAIN LONG. (IN./IN.)	POISSON'S RATIO (μ)	MODULUS $E \times 10$ (PSI)	REMARKS
S/N7 - 21	RT	1.247	.073	.0910	0	0	-	-	-	-	4820 LBS CUTOFF
					910	10	.000334	.00336	.0996		
					1820	20	.000664	.00660	.1005		
					2730	30	.000910	.01030	.0894		
					3640	40	.001078	.01406	.0767		
					3940	42.2	.001094	.01500	.0730		
S/N7 - 22 (4A)	RT	1.260	.075	.0937	0	0	-	-	-	-	4860 LBS CUTOFF
					937	10	.000392	.00336	.1170		
					1874	20	.000764	.00680	.1160		
					2811	30	.001000	.01047	.06		
					3748	40	.001120	.01	.07		
					3960	42.2	.001130	.01	.06		

TABLE - AII-38 POISSONS RATIO FROM TENSION TESTS

DATE: 11-14-68

MATERIAL IDENTIFICATION:

STRAIN GAGE FACTOR: 2.10
 STRAIN GAGE RESISTANCE: 350
 EXTENSOMETER: S-400-2AB

PANEL RESIN CONT. FILA. ORIENT.

S/N10 31.0% 90°

SPEC IDEN.	TEST COND.	WIDTH (IN.)	THICK (IN.)	AREA (SQ. IN.)	LOAD (LBS.)	STRESS (KSI)	STRAIN TRANS. (IN./IN.)	STRAIN LONG. (IN./IN.)	POISSON'S RATIO (μ)	MODULUS $E \times 10$ (PSI)	REMARKS
S/N10 - 36	RT	1.251	.089	.1112	0	0	-	-	-		4750 LBS CUTOFF
					1112	10	.000370	.00280	.1321		
					2224	20	.000844	.00630	.1021		
					3336	30	.000842	.01020	.0825		
					4448	40	.001004	.01450	.0893		
					4590	42.7	.001016	.01490	.0873		
S/N10 - 36	RT	1.252	.089	.1115	0	0	-	-	-		4900 LBS CUTOFF
					1115	10	.000316	.00330	.0868		
					2230	20	.000610	.00840	.0863		
					3345	30	.000690	.00980	.0807		
					4480	40	.001080	.01380	.0784		
					4900	44.0	.001104	.01510	.0732		

TABLE - AIII-1 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING				TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS				
		0°		-65°F FOR 1 HR				-65°F FOR 30 MINS				35.6%				.0106				
S/N 14	TENSION	STRESS - KSI														MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²		
SPEC. NO.	T (1)	W (1)	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030			
147	.083	.405	04.4	10.5	16.3	21.9	27.0	31.8	36.8	41.6	47.0	50.5	55.0	59.1	67.1	75.5	80.5	84.0	.0380	.0411
148	.083	.407	06.5	11.6	17.0	22.8	27.8	32.7	37.0	42.1	46.7	51.1	55.7	60.0	61.8	69.0	75.4	76.8	.0332	.0413
149	.083	.407	08.5	16.0	20.1	26.4	30.3	35.8	41.1	47.0	52.0	57.5	62.5	67.7	73.0	78.9	84.3	87.5	.0320	.0413
151	.083	.406	08.0	15.6	19.5	24.3	30.2	35.5	41.3	46.1	51.9	57.1	62.0	67.0	72.5	77.0	81.0	85.0	.0314	.0411
153	.086	.404	07.8	15.0	19.5	24.2	29.8	35.0	40.3	45.5	50.5	55.2	60.0	65.0	69.7	74.3	79.0	84.3	.0326	.0420
155	.085	.406	08.0	15.4	19.7	24.7	29.4	34.9	40.1	45.4	50.2	55.2	60.0	65.0	69.7	74.3	78.9	86.1	.0326	.0421
156	.084	.407	02.7	15.4	19.5	24.2	29.8	34.8	40.0	45.4	50.4	55.9	60.6	65.6	70.5	75.4	83.7	86.0	.0329	.0417
158	.085	.406	08.1	15.4	19.2	24.5	29.5	34.4	39.2	44.6	49.6	54.7	59.4	64.1	69.0	73.5	81.6	82.8	.0321	.0421
161	.085	.406	08.8	16.4	20.2	25.0	30.4	35.4	40.4	45.9	50.8	55.5	60.4	65.4	70.4	75.0	83.0	83.0	.0321 (1)	.0421
162	.087	.493	08.3	15.4	19.6	24.4	29.3	35.2	40.1	45.4	50.5	55.5	60.2	65.0	69.7	74.1	81.7	84.5	.0330	.0424
AVERAGE STRESS			7.6	15.7	19.1	24.2	29.4	34.5	39.6	44.9	49.9	54.8	59.6	64.4	69.6	73.9	78.3	83.3	.0330	
STANDARD DEVIATION STRESS			1.28	2.24	1.31	1.06	1.10	1.34	1.55	1.72	1.78	2.29	2.45	2.76	3.87	3.48	3.78	2.86	.00184	
AVERAGE STRESS-30'			4.8	8.0	15.2	21.0	28.1	30.5	35.0	39.7	44.7	47.9	52.2	50.1	58.0	63.5	67.1	75.3	0275	

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOR WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOR SLIPPAGE

(1) CURVE IDEALIZED

NOTE: SPLIT BOXES READ FROM UPPER LEFT TO LOWER RIGHT. TO NEXT BOX, IN .002 INCREMENTS OF STRAIN STARTING WHERE BOXES BEGIN TO BE SPLIT.

TABLE - AIII-2 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING						TEST COND.				RESIN CON'T.			NOMINAL PER PLY THICKNESS			
		90°		-65°F FOR 1 HR						-65°F FOR 30 MINS				35.6%			.0101			
S/N 16	TENSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²	
STRAIN IN./IN.		STRESS - KSI																		
SPEC. NO.	T ⁽¹⁾	W ⁽¹⁾																		
25	.080	.088	15.1	18.9	23.9	28.4	33.2	37.9	42.8	47.5	52.0	56.5	61.0	65.4	70.3	-	72.5	.0291	.0368	
26	.080	.088	15.3	18.9	23.9	28.4	32.9	37.7	42.8	42.2	52.0	56.8	61.5	65.8	70.2	-	71.5	.0287	.0368	
27	.080	.083	14.6	18.3	23.1	28.2	32.7	37.4	42.0	46.7	51.5	56.0	60.4	64.8	69.0	-	70.5	.0295	.0368	
28	.080	.088	15.0	18.3	23.6	28.7	33.2	37.7	42.7	47.8	52.5	56.8	61.5	65.9	70.4	73.9	71.6	.0502	.0368	
30	.080	.078	14.6	18.3	22.8	27.6	32.6	37.7	42.1	46.7	51.5	56.0	60.0	64.0	68.3	-	69.4	.0283	.0368	
31	.083	.082	14.5	18.2	23.0	27.6	32.2	36.8	41.6	46.0	50.5	54.8	59.5	-	-	-	62.8	.0256	.0413	
33	.080	.086	15.0	18.6	23.2	27.6	32.2	37.4	42.2	46.8	51.3	55.9	60.4	64.9	69.1	-	73.6	.0298	.0368	
35	.083	.072	14.0	17.4	21.8	26.4	30.8	35.8	40.7	45.0	49.5	54.3	59.0	62.6	-	-	65.1	.0299	.0413	
36	.082	.079	14.7	18.2	22.6	26.8	31.8	36.4	41.3	46.8	50.1	54.5	59.0	-	-	-	61.5	.0248	.0407	
41	.082	.085	14.2	19.2	23.2	27.8	32.2	36.9	41.3	46.0	50.6	55.0	59.5	63.5	-	-	68.4	.0279	.0407	
AVERAGE STRESS		8.3	14.8	18.5	23.1	27.8	32.4	37.2	42.0	46.6	51.2	56.7	60.1	-	-	-	66.7	.0280	-	
STANDARD DEVIATION STRESS		.56	.37	.51	.63	.66	.72	.66	.72	.98	.92	.94	1.13	-	-	-	4.19	.00177	-	
AVERAGE STRESS-30'		6.5	13.7	17.0	21.2	25.8	30.2	36.2	39.8	43.7	48.4	52.9	56.7	-	-	-	58.1	.0228	-	

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AIII-3 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING								TEST COND.				RESIN CONT.			NOMINAL PER PLY THICKNESS		
		0°		95% RH @ 125°F FOR 42 DAYS								-65°F FOR 30 MINS				36.6%			.0108		
S/N 14	TENSION	STRAIN IN./IN.		STRESS - KSI																	
		T ⁽¹⁾	W ⁽¹⁾	002	004	006	008	010	012	014	016	018	020	022	024	026	028	030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2
40	.084 .495	07.7	14.7	21.6	25.8	30.8	36.1	41.0	45.9	51.6	56.7	61.4	66.1	68.4	.0252	.0416					
42	.086 .492	07.9	15.4	21.8	26.6	30.8	36.2	41.4	46.1	51.6	56.4	61.4	66.0	70.4	74.0	.0423					
44	.085 .496	08.3	15.4	22.0	26.1	31.2	36.7	42.1	47.1	52.0	57.3	62.0	66.5	69.0	.0252	.0422					
46	.084 .494	07.9	15.7	22.4	26.3	31.3	36.4	42.1	47.5	53.0	57.8	62.4	67.0	70.5	.0264	.0416					
48	.084 .497	07.2	15.1	21.6	26.7	30.6	36.6	42.0	47.0	52.3	57.4	62.4	67.1	71.8	74.6	.0292	.0417				
51	.085 .494	08.3	15.5	21.9	26.0	30.9	35.7	41.0	46.5	51.6	56.5	61.4	66.0	70.3	73.6	.0290	.0420				
53	.082 .499	08.6	16.7	23.3	27.4	33.0	38.6	44.7	50.0	55.5	60.6	65.6	71.0	75.5	78.4	.0264	.0409				
60	.084 .491	08.0	15.7	22.2	26.6	31.4	37.3	42.8	48.5	53.5	59.1	64.0	69.0	72.5	74.5	.0290	.0413				
61	.084 .490	08.3	16.8	23.0	29.4	32.8	38.3	43.7	49.0	54.5	59.5	64.4	68.4	71.8	73.8	.0290	.0412				
63	.086 .499	07.9	15.2	21.5	26.6	30.4	35.2	40.9	46.2	51.4	56.2	61.0	65.9	70.0	72.0	.0314	.0429				
AVERAGE STRESS		08.0	15.6	22.1	26.2	31.3	36.7	42.1	47.5	52.7	57.6	62.6	67.2	73.0	.0279						
STANDARD DEVIATION STRESS		.39	.66	.61	.69	.89	1.03	1.26	1.29	1.40	1.61	1.54	1.59	2.89	.00023						
AVERAGE STRESS-3σ		6.8	13.6	20.3	24.1	28.6	33.6	38.3	43.6	48.5	52.8	58.0	63.4	64.3	.0210						

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AIII-5 REDUCED TEST DATA

PANEL NO	TYPE TEST	TEST DIRECTION	SPEC. CONDITIONING										TEST COND.				RESIN CONT.			NOMINAL PER PLY THICKNESS		
			95% RH @ 125°F FOR 42 DAYS										25°F FOR 30 MIN				36.6%			.0100		
S/N 14	TENSION	0°	002	004	006	008	010	012	014	016	018	020	022	024	026	028	030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²		
STRAIN IN./IN.		STRESS - KSI																				
SPEC NO.	T ⁽¹⁾	W ⁽¹⁾																				
64	.083	.498	08.0	15.7	22.0	27.3	32.2	37.1	42.5	47.8	53.0	58.5	62.9	64.2				65.0	.0243	.0414		
65	.084	.496	07.8	15.0	21.0	25.8	31.0	36.0	41.0	46.3	51.1	56.0	60.5	61.4				62.4	.0260	.0417		
66	.083	.498	07.5	13.6	19.8	26.0	31.8	37.8	43.8	49.4	54.5	59.5	62.4					62.9	.0238			
70	.068	.498	10.4	19.2	26.0	31.8	36.2	44.5	51.0	57.7	64.3							70.5	.0200	.0338		
71	.084	.500	07.7	14.9	21.7	26.6	31.6	36.6	41.6	47.0	52.4	58.5	60.5	61.3				61.3	.0267 ⁽¹⁾	.0420		
AVERAGE STRESS			8.3	15.7	22.1	27.3	33.0	38.4	44.0	49.6	55.1							64.4	.0238			
STANDARD DEVIATION STRESS																						
AVERAGE STRESS-90°																						

FOOTNOTES (1) TO NEAREST .001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (I) CURVE IDEALIZED

TABLE - AIII-8 REDUCED TEST DATA

PANEL NO	TYPE TEST	TEST DIRECTION	SPEC. CONDITIONING										TEST COND.				RESIN CONT.			NOMINAL PER PLY THICKNESS		
			95% RH 126°F FOR 42 DAYS										26°F FOR 30 MIN				36.6%			.0104		
S/N 14	TENSION	90°	002	004	006	008	010	012	014	016	018	020	022	024	026	028	030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²		
STRAIN IN./IN.	T (1)	W (1)	STRESS - KSI																			
81	.084	.496	07.2	14.2	19.2	23.8	28.8	33.2	38.0	42.5	47.1	51.6	55.7					56.0	.0226	.0416		
91	.084	.493	07.3	13.8	18.7	23.2	27.8	32.6	37.5	42.0	46.0	50.0						51.5	.0210	.0414		
94	.084	.496	07.9	14.7	19.5	24.0	28.6	33.0	37.8	42.0	46.6	50.5						52.0	.0208	.0416		
105	.082	.496	07.4	14.8	19.7	24.1	29.0	33.4	38.6	43.0	47.7	51.9						53.6	.0208	.0407		
143	.082	.494	07.4	14.8	19.8	23.7	28.4	33.3	38.3	43.0	47.0	51.0	54.8					55.3	.0224	.0405		
AVERAGE STRESS			7.4	14.5	19.4	23.8	28.6	33.1	38.2	42.5	46.9	51.0						53.7	.0215			
STANDARD DEVIATION STRESS																						
AVERAGE STRESS-90°																						

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(E) CURVE IDEALIZED

TABLE - AIII-7 REDUCED TEST DATA

PANEL NO	TYPE TEST	TEST DIRECTION	SPEC. CONDITIONING										TEST COND				RESIN CONT			NOMINAL PER PLY THICKNESS		
			95% RH @ 125°F FOR 42 DAYS										RT				35.6%			.0104		
S/N 14	TENSION	0°	002	004	006	008	010	012	014	016	018	020	022	024	026	028	030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN ²		
SPEC NO	T(1)	W(1)	STRESS - KSI																			
2	.083	.498	06.5	12.9	19.7	25.0	30.2	35.1	40.2	45.0	49.8	54.0						54.5	.0204	.0428		
4	.086	.498	06.7	13.6	19.9	25.0	29.9	35.3	40.2	45.1	50.3	53.5						55.0	.0220	.0428		
6	.085	.496	07.1	14.2	20.2	25.4	30.8	35.8	40.8	45.6	50.4							51.5	.0184	.0421		
8	.085	.497	07.6	14.4	20.8	25.8	30.7	35.9	41.3	46.0	50.6	53.2						54.4	.0204	.0423		
10	.074	.493	08.2	15.9	23.0	28.8	34.2	39.8	46.4	51.5	56.6	61.1						61.6	.0208	.0365		
16	.084	.497	07.2	14.3	20.4	25.8	31.1	36.1	41.4	46.4	51.4	54.5						55.3	.0236	.0418		
18	.083	.494	07.8	14.9	21.4	26.8	32.2	37.6	42.6	47.8	52.9	56.5						57.5	.0210	.0410		
20	.084	.496	07.2	14.2	20.4	25.4	30.7	35.0	41.5	46.3	51.5	54.5						55.1	.0224	.0417		
22	.083	.494	07.4	14.2	20.0	25.6	31.2	36.1	42.0	46.4	51.2	53.9						55.1	.0220	.0410		
24	.083	.496	07.3	14.6	20.6	26.2	31.0	36.4	41.7	46.9	51.6							55.4	.0211	.0412		
AVERAGE STRESS			07.3	14.3	20.6	26.0	31.2	36.4	41.8	46.7	51.6							55.5	.0212			
STANDARD DEVIATION STRESS			.50	.76	1.04	1.13	1.22	1.40	1.78	1.93	1.96							2.57	.00136			
AVERAGE STRESS-3σ			6.3	12.0	17.2	22.7	27.5	31.8	36.2	40.9	45.7							47.8	.0172			

FOOTNOTES (1) TO NEAREST .001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (I) CURVE IDEALIZED

TABLE - AIII-8 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING								TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS	
		90°		95% RH @ 125°F FOR 42 DAYS								RT				35.6%				.0104	
S/N 14	TENSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2		
SPEC. NO.	T (1) W (1)	STRESS - KSI																			
79	.084 .493	08.4	13.1	18.4	23.1	27.6	32.6	37.2	41.8	46.0							48.5	.0192	.0414		
93	.085 .496	08.6	12.8	18.0	22.2	26.8	31.3	36.8	39.8								43.9	.0184	.0422		
98	.084 .488	07.1	13.6	19.2	23.5	28.2	32.8	37.4	41.7	46.0							49.4	.0198	.0417		
99	.084 .465	06.5	12.5	18.3	22.7	27.4	32.1	36.7	41.1	45.5							49.4	.0199 (1)	.0416		
101	.082 .498	06.9	13.5	19.1	23.5	28.4	33.2	38.0	42.5	47.0							50.2	.0197	.0407		
107	.082 .497	07.4	14.2	19.4	24.0	29.0	33.7	38.6	43.1	47.4							50.8	.0195	.0408		
112	.081 .495	06.6	12.9	19.0	24.3	29.2	34.0	38.8	43.4	47.9	52.0						52.0	.0204	.0401		
119	.084 .496	07.1	13.8	19.0	23.2	27.8	32.5	37.1	41.4	45.5	49.4						50.0	.0204	.0422		
141	.084 .488	06.4	12.8	18.4	22.8	27.4	32.1	36.8	41.1								44.8	.0177	.0422		
144	.084 .487	06.9	13.4	18.7	22.7	27.8	32.6	37.0	41.1	45.5							48.3	.0199	.0418		
AVERAGE STRESS		06.8	13.2	18.8	23.2	27.9	32.7	37.3	41.7								48.9	.0196			
STANDARD DEVIATION STRESS		.32	.43	.46	.65	.74	.79	.91	.91								2.67	.00086			
AVERAGE STRESS-3σ		5.8	11.9	17.4	21.3	25.7	30.3	34.6	39.0								40.9	.0169			

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - A11:9 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING					TEST COND.					RESIN CONT.			NOMINAL PER PLY THICKNESS		
		0°		NONE					160° F FOR 30 MIN					35.6%			.0104		
S/N 14: S/N 16	TENSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2
SPEC. NO.	T (1) W (1)	STRESS - KSI																	
S/N 14-152	.063 .494	06.7	12.6	18.3	23.4	28.3	33.0	37.6	42.0	46.7	51.2	55.5	59.5				61.2	.0260	.0410
154	.085 .497	06.5	12.4	17.7	21.9	28.4	30.8	35.1	39.6	44.4	48.5	52.4	56.4				58.6	.0255	.0423
159	.065 .497	06.9	12.1	17.3	21.5	25.8	30.3	34.9	40.0	43.8	47.9	52.3	56.0	59.1			59.9	.0266	.0423
180	.085 .497	06.5	12.3	17.7	21.4	26.6	31.1	35.6	40.7	44.4	48.5	52.7	56.8				60.3	.0259	.0423
S/N 16 - 43	.080 .497	06.9	13.4	18.9	23.6	28.6	33.3	38.1	43.1	47.7	52.3	56.5	61.0	64.5			65.5	.0268	.0386
44	.082 .496	07.3	13.9	18.9	24.0	28.8	33.6	38.3	43.0	47.6	52.1	56.5	60.6				63.2	.0260	.0407
46	.083 .496	06.2	12.6	17.7	22.3	26.8	31.2	35.6	40.1	44.9	49.0	53.4	57.2				60.2	.0249	.0412
48	.084 .496	06.0	12.0	17.5	22.0	26.4	30.2	35.8	39.6	43.7	48.2	52.7	56.6	60.2			61.6	.0267	.0417
49	.081 .497	06.6	12.5	18.1	22.7	27.3	31.7	36.6	41.4	45.9	50.5	54.6	58.0	62.7			64.4	.0239	.0403
50	.063 .497	06.5	12.7	18.2	22.5	27.2	31.6	36.3	41.2	46.4	50.0	54.4	58.0	62.4			63.7	.0270	.0413
AVERAGE STRESS		6.5	12.6	18.0	22.5	27.2	31.7	36.4	41.0	45.4	48.8	53.9	58.1				61.9	.0261	
STANDARD DEVIATION STRESS		.41	.59	.56	.89	.97	1.08	1.17	1.30	1.48	1.57	1.66	1.01				2.24	.00079	
AVERAGE STRESS-3σ		5.3	10.9	16.3	19.8	24.3	28.5	32.9	37.1	41.0	45.1	48.9	52.7				55.2	.0237	

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER;

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(II) CURVE IDEALIZED

TABLE - AIII-10 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION				SPEC. CONDITIONING				TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS			
		90°				NONE				180°F FOR 30 MIN				36.6%				.0069			
S/N 16	TENSION	002	004	006	008	010	012	014	016	018	020	022	024	026	028	030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2		
STRAIN IN./IN.		STRESS - KSI																			
SPEC. NO.	T(1) W(1)																				
2	.080 .496	07.5	13.4	18.7	22.7	27.4	32.2	36.8	41.5	47.1	50.4						51.0	.0203	.0387		
4	.080 .495	06.6	12.6	17.7	22.2	26.5	31.6	36.4	40.7	45.2	49.3						52.5	.0213	.0386		
6	.078 .495	07.4	13.6	18.7	23.3	28.0	33.2	37.8	42.5	47.2	51.2						54.3	.0214	.0386		
8	.080 .497	07.3	13.8	18.7	23.2	28.0	33.1	37.6	42.1	46.5							50.0	.0195	.0386		
10	.078 .496	07.3	13.9	18.5	23.3	28.0	33.2	37.8	42.7	47.2	51.5						55.6	.0218	.0386		
21	.077 .498	06.7	12.0	16.7	21.1	25.6	30.0	34.4	38.8	43.2	47.2	51.0					54.1	.0236	.0384		
22	.080 .495	05.8	11.6	16.2	20.2	24.5	28.8	33.1	37.4	41.5	45.5	49.4	53.0				53.5	.0243	.0386		
23	.075 .496	05.5	11.2	15.8	20.2	24.4	28.6	32.9	37.2	41.3							44.9	.0195	.0382		
24	.075 .498	06.3	12.1	17.2	20.8	24.8	29.2	33.6	37.6	41.6	45.5						48.7	.0215	.0384		
32	.080 .498	06.8	11.6	16.8	20.5	24.6	29.0	33.0	37.3	41.3	45.0	49.1	52.5				54.2	.0248	.0389		
AVERAGE STRESS		6.5	12.6	17.5	21.8	26.2	30.9	35.3	39.8	44.2							51.9	.0218			
STANDARD DEVIATION STRESS		79	1.02	1.11	1.32	1.56	1.96	2.13	2.34	2.66							3.25	.00186			
AVERAGE STRESS-3σ		4.1	9.8	14.2	17.8	21.5	25.0	28.9	32.8	36.2							42.1	.0162			

FOOTNOTES (1) TO NEAREST .001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (I) CURVE IDEALIZED

TABLE - AIII-11 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC CONDITIONING								TEST COND.				RESIN CONT				NOMINAL PER PLY THICKNESS			
		0°		95% RH @ 125°F FOR 42 DAYS 160°F FOR 10: .N								160°F FOR 10: .N				35.6%				.0105			
S/N 14	TENSION	002	004	006	008	010	012	014	016	018	020	022	024	026	028	030	MAX STRESS	STRAIN AT MAX STRESS	AREA $\frac{IN.^2}{IN.}$				
STRAIN IN./IN.	T(1) W(1)	STRESS - KSI																					
1	.085 .497	06.4	12.7	18.7	24.4	29.8	35.0	39.8									.13	.0146	.0423				
3	.034 .498	06.7	12.9	19.1	24.8	30.1	35.4	40.1	44.7								46.0	.0165	.0419				
5	.083 .496	07.0	13.6	19.8	25.5	31.0	36.4	41.2									43.8	.0149	.0412				
7	.089 .498	06.5	12.5	18.0	23.6	28.8	33.8	38.3									42.0	.0156	.0444				
9	.083 .496	07.1	13.6	19.9	25.9	31.1	36.4	41.4	46.3								48.5	.0168	.0412				
15	.082 .496	07.1	13.5	19.9	25.8	31.4	36.5	41.6	46.1								47.0	.0163	.0407				
17	.084 .496	07.2	13.4	19.4	25.3	30.8	36.0	40.7	45.4								45.8	.0161	.0417				
19	.084 .496	06.7	13.1	19.0	24.8	30.2	36.5	40.3	45.1								45.9	.0163	.0417				
21	.084 .493	06.6	13.1	19.0	24.6	30.2	36.5	40.4									44.9	.0160	.0414				
23	.083 .492	06.6	13.0	19.1	25.2	30.7	36.1	41.1									45.3	.0159	.0409				
AVERAGE STRESS		06.7	13.1	19.2	25.0	30.4	36.7	40.5									45.0	.0159					
STANDARD DEVIATION STRESS		.30	.28	.76	.70	.77	.81	.97									1.86	.00069					
AVERAGE STRESS-3 σ		5.8	1.25	1.69	22.9	28.1	33.3	37.6									39.4	.0138					

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AIII-12 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING										TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS			
		90°		95% RH @ 125°F FOR 42 DAYS										160°F FOR 10 MINS				36.6%				.0104			
S/N 14	TENSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2						
STRAIN - IN./IN.		STRESS - KSI																							
SPEC. NO.	T(1)	W(1)																							
75	.082	.496	08.5	12.5	17.9	22.8	27.8	32.0	36.4								38.2	.0152	.0407						
90	.084	.496	08.0	11.6	17.0	21.8	26.4	30.8	36.1								35.6	.0144	.0417						
103	.082	.496	06.9	11.8	17.4	22.4	27.0	31.4	36.9								37.8	.0149	.0407						
106	.083	.495	08.5	12.5	17.9	22.7	27.2	31.9	36.0								37.9	.0149	.0411						
111	.083	.496	08.6	12.6	18.0	22.8	27.4	32.0	36.4								38.7	.0150	.0412						
124	.085	.496	06.1	11.9	17.1	23.0	28.6	30.8	36.1								36.6	.0147	.0422						
137	.082	.496	08.4	12.4	17.9	23.9	27.4	32.0	36.4								36.8	.0142	.0407						
138	.082	.495	06.9	12.1	17.2	22.8	26.1	30.1	34.6								37.6	.0156	.0422						
139	.084	.497	08.9	12.6	17.7	23.5	26.8	31.4	36.7								38.3	.0155	.0418						
146	.084	.493	06.8	12.6	17.9	23.7	27.1	31.2	36.8								36.6	.0156	.0414						
AVERAGE STRESS		6.4	12.3	17.6	23.0	27.0	31.4	36.3									37.6	.0150							
STANDARD DEVIATION STRESS		.38	.38	.39	.63	.51	.59	.65									.99	.00047							
AVERAGE STRESS-3σ		5.3	11.2	16.4	21.1	26.5	29.6	33.6									34.6	.0136							

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AIII-16 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION	SPEC. CONDITIONING										TEST COND.					RESIN CONT.			NOMINAL PER PLY THICKNESS		
			400°F FOR 100 HRS										400°F FOR 30 MIN					35.6%			.0103		
S/N 14	TENSION	90°	STRESS - KSI										400°F FOR 30 MIN										
STRAIN IN./IN.			002	004	006	008	010	012	014	016	018	020	022	024	026	028	030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²			
SPEC NO	T(1)	W(1)																					
76	.082	.495	04.4	08.4	14.3	19.4	24.0	28.3	32.7									34.4	.0145	.0408			
78	.082	.495	05.1	10.3	15.2	20.2	24.6	29.0										31.2	.0129	.0408			
81	.082	.495	06.4	10.3	15.2	19.0	24.1	28.6	33.0									33.5	.0141	.0408			
83	.082	.495	05.7	10.8	15.5	20.6	25.1	29.4										31.2	.0126	.0408			
114	.083	.495	04.8	09.8	14.7	19.5	24.0	28.3										32.8	.0140	.0410			
115	.083	.494	05.9	10.7	15.5	20.0	24.2	28.3										29.3	.0139	.0410			
116	.082	.495	06.7	10.4	15.4	20.2	24.6											29.3	.0120	.0408			
118	.082	.496	04.9	09.8	14.7	19.5	23.7	28.0										32.0	.0136	.0407			
121	.082	.495	04.4	09.4	14.1	18.7	23.2	27.6										31.0	.0137	.0408			
122	.082	.495	04.9	09.7	14.8	19.7	24.1	28.4										32.5	.0136	.0408			
AVERAGE STRESS			5.1	10.1	14.9	19.7	24.2	28.5										32.0	.0136				
STANDARD DEVIATION STRESS			.63	.51	.50	.54	.52	.57										1.44	.00076				
AVERAGE STRESS-3σ			3.2	8.6	13.4	18.1	22.6	26.8										27.7	.0112				

FOOTNOTES (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AIII-17 REDUCED TEST DATA

PANEL NO	TYPE TEST	TEST DIRECTION					SPEC. CONDITIONING					TEST COND.					RESIN CONT.					NOMINAL PER PLY THICKNESS		
		0°					450° F FOR 100 HRS.					450° F FOR 30 MINS.					35.6%					.0101		
S/N 6	TENSION	002	004	006	008	010	012	014	016	018	020	022	024	026	028	030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN.²					
STRAIN IN./IN.		STRESS - KSI																						
SPEC NO	T ⁽¹⁾ W ⁽¹⁾																							
S/N 6 - 11	.081 .498	05.2	10.8	16.1	21.3	26.5	31.6										34.6	.0133	.0400					
13	.081 .496	05.4	10.9	16.4	21.4	26.5	31.8	36.8									37.8	.0144	.0402					
15	.081 .496	05.7	11.3	16.8	22.0	27.1	32.3										36.5	.0132	.0402					
17	.081 .496	06.1	11.8	17.2	22.4	29.4	32.8										36.8	.0137	.0402					
19	.081 .496	06.0	11.7	17.3	22.6	22.8	33.1	38.3									39.7	.0147	.0402					
AVERAGE STRESS		5.7	11.3	16.4	21.9	26.5	32.3										36.7	.0139						
STANDARD DEVIATION STRESS																								
AVERAGE STRESS-3σ																								

FOOTNOTES (1) TO NEAREST .001"

- (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
- (C) CURVE EXCEEDED THE GRAPH PAPER
- (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
- (I) CURVE IDEALIZED

TABLE - AIII-18 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION				SPEC. CONDITIONING				TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS			
		90°				450°F FOR 100 HRS				450°F FOR 30 MIN				35.6%				.0104			
S/N 14	TENSION	002	004	006	008	010	012	014	016	018	020	022	024	026	028	030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²		
SPEC NO.	T(1) W(1)	STRESS - KSI																			
S/N 14 - 80	.080 .493	04.3	08.0	12.0	16.1	20.1	23.5										28.2	.0133	.0440		
82	.082 .495	04.4	08.6	13.1	17.5	21.9	26.1										28.9	.0137	.0408		
117	.082 .494	05.2	10.1	15.1	19.8	24.4											25.3	.0103	.0406		
120	.082 .495	04.8	08.1	13.3	17.5	21.4											25.4	.0119	.0406		
123	.081 .495	04.5	08.9	13.1	17.6	21.7	25.9										25.9	.0120	.0401		
AVERAGE STRESS		4.6	8.9	13.3	17.7	21.9											25.3	.0122			
STANDARD DEVIATION STRESS																					
AVERAGE STRESS-3σ																					

FOOTNOTES (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AIII-19 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING						TEST COND.				RESIN CONT.			NOMINAL PER PLY THICKNESS						
		0°			1 Hr @ -65°F						-65°F For 30 Min				35.6%			.0103						
S/N4, S/N6, S/N3	COMPRESSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN.²					
STRAIN IN./IN.		STRESS - KSI																						
SPEC NO.	T (1)	W (1)																						
S/N4	4	.081	.750	07.2	15.5	23.2	30.4	37.6	44.7	52.0	60.4	69.0	-	-	-	-	75.4	.0199	.0808					
	10	.080	.750	08.3	16.7	23.8	31.7	38.4	45.2	52.1	59.0	65.4	71.7	78.0	83.0	-	83.7	.0243	.0800					
	28	.081	.750	07.0	17.7	28.0	34.6	41.7	48.6	55.7	61.7	70.9	79.8	-	-	-	82.3	.0211	.0807					
	43	.082	.740	11.0	18.4	26.0	32.8	40.6	51.5	61.3	-	-	-	-	-	-	70.3	.0159	.0815					
	51	.081	.750	07.4	15.5	21.8	29.6	36.8	43.6	50.6	57.6	62.2	74.1	80.1	-	-	80.9	.0225	.0807					
S/N6	211	.083	.745	10.1	17.6	25.9	32.2	39.8	46.3	53.1	59.5	65.9	-	-	-	-	67.6	.0185	.0831					
	212	.083	.751	08.1	10.4	20.8	28.1	34.5	41.3	48.1	54.5	60.1	66.2	70.0	-	-	73.7	.0237	.0824					
	213	.082	.745	07.7	14.7	21.7	28.5	35.4	41.9	48.4	54.7	61.2	68.8	72.0	-	-	73.6	.0228	.0814					
	214	.079	.745	09.7	19.6	26.2	33.8	40.5	47.3	54.3	60.9	68.8	-	-	-	-	71.4	.0195	.0802					
S/N3	III	.082	.751	07.4	14.9	22.8	30.1	37.4	43.9	51.2	57.7	63.9	70.2	76.0	82.1	-	83.3	.0248	.0815					
AVERAGE STRESS				8.2	16.0	24.2	31.2	38.5	45.4	52.7														
STANDARD DEVIATION STRESS				1.57	2.43	2.36	2.17	2.36	2.80	3.94														
AVERAGE STRESS ± 3σ				4.5	8.3	17.1	24.7	31.2	38.7	41.2														

FOOTNOTES: (1) TO NEAREST .001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (I) CURVE IDEALIZED

TABLE - AIII-20 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING					TEST COND.					RESIN CONT			NOMINAL PER PLY THICKNESS				
		90°			1 HR @ -65°F					-65°F For 30 Min					36.6%			.0104				
S/N3	COMPRESSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2			
STRAIN IN./IN.		STRESS - KSI																				
SPEC. NO.	T(1)	W(1)																				
2	.084	.751	08.4	15.2	22.6	29.3	35.2	42.0	48.7	-							51.2	.0167	.0631			
3	.084	.740	07.6	15.4	21.6	28.2	34.2	39.9	44.7	51.3	-						52.1	.0167	.0629			
13	.083	.751	07.1	12.8	19.7	25.7	33.3	38.6	45.6	51.2	-						54.7	.0176	.0624			
18	.083	.751	10.9	18.6	27.3	35.7	43.3	50.5	-								56.3	.0138	.0624			
19	.083	.751	09.0	17.3	24.0	30.5	37.0	43.2	49.5	55.4	-						57.7	.0168	.0624			
57	.083	.740	07.2	13.7	20.1	26.5	32.6	38.3	44.1	49.4	54.4	-					55.2	.0193	.0621			
60	.083	.751	07.1	14.1	20.8	27.1	33.0	38.5	44.6	49.8	54.3	-					54.9	.0187	.0624			
66	.083	.751	10.9	18.5	25.5	32.1	38.5	44.5	50.4	55.9	61.0	-					61.6	.0183	.0624			
71	.082	.750	09.4	19.1	27.0	35.0	-										43.4	.0089	.0615			
74	.083	.740	08.1	15.3	21.9	28.2	34.6	38.4	41.9	45.3	48.3	51.4	54.5	57.2	60.0	62.4	62.7	.0286	.0621			
AVERAGE STRESS		8.6	16.0	23.0	29.8												56.0	.0176				
STANDARD DEVIATION STRESS		1.38	2.23	2.77	3.66												4.56	.00476				
AVERAGE STRESS -3σ		4.2	9.3	15.7	18.8												42.3	.0032				

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AIII-21 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING						TEST COND.				RESIN CONT.			NOMINAL PER PLY THICKNESS				
		COMPRESSION		0°		125°F @ 95% RH for 42 Days						-65°F For 30 Min.				35.6%			.0698		
S/N6	STRAIN IN./IN.	T(1)	W(1)	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2
		STRESS - KSI																			
166	.080	.750		08.5	17.5	25.8	35.0	43.3	52.0	60.0	67.5								71.4	.0170	.0600
172	.089	.748		11.6	22.5	33.3	43.2	51.2	56.1	-									64.0	.0136	.0616
176	.072	.750		09.3	19.6	29.4	41.6	55.5	65.5	-									66.5	.0120	.0540
178	.083	.750		08.4	18.1	25.8	33.7	41.1	48.6	57.8									64.7	.0154	.0823
180	.082	.750		09.6	18.7	27.3	36.2	44.9	53.2	59.0									65.3	.0157	.0815
188	.082	.750		08.1	17.4	26.0	34.2	41.7	49.6	57.0	64.3								70.5	.0167	.0815
217	.079	.751		10.6	20.3	29.6	38.0	46.5	54.6	62.1	69.4	75.0							77.3	.0186	.0583
218	.083	.749		09.8	18.5	26.6	35.2	43.4	51.0	59.0	66.3								68.8	.0166	.0621
229	.077	.751		07.8	15.4	22.8	34.7	42.5	50.3	57.6	65.0	72.3							73.2	.0197	.0578
230	.079	.748		08.3	16.2	25.2	33.4	40.8	48.3	54.9	59.8	64.0							66.2	.0190	.0542
AVERAGE STRESS				09.2	18.4	27.2	36.5	46.1	53.2										68.8	.0184	
STANDARD DEVIATION STRESS				1.02	2.06	2.91	4.06	4.42	5.38										4.36	.00233	
AVERAGE STRESS				6.1	12.3	18.5	24.4	31.8	37.4										55.7	.0086	

FOOTNOTES: (1) TO NEAREST .001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (I) CURVE :DEALIZED

TABLE - AIII-22 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING							TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS		
		90°			95% RH @ 125°F For 42 Days							-85°F For 30 Min				36.6%				.0093		
S/N6	COMPRESSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN.²			
STRAIN IN./IN.		STRESS - KSI																				
SPEC. NO.	T ⁽¹⁾	W ⁽¹⁾																				
180	.064	.750	(1) 08.9	18.3	28.2	37.8	46.5	55.2	-	-	-	-	-	-	-	-	56.3	.0122	.0480			
194	.078	.750	09.4	19.7	29.1	38.2	47.0	55.0	-	-	-	-	-	-	-	-	60.4	.0133	.0585			
196	.079	.749	08.5	16.9	23.7	31.6	39.6	47.1	53.3	-	-	-	-	-	-	-	57.1	.0158	.0692			
200	.070	.750	(1) 07.4	15.0	22.4	30.4	-	-	-	-	-	-	-	-	-	-	37.1	.0098	.0440			
201	.069	.749	08.1	15.7	24.4	(1) 32.1	(1) 39.7	(1) 47.4	-	-	-	-	-	-	-	-	51.0	.0134	.0516			
202	.072	.749	09.3	18.4	26.7	34.6	42.0	48.3	-	-	-	-	-	-	-	-	49.9	.0125	.0539			
232	.083	.751	10.9	18.8	26.4	33.7	40.3	47.4	52.1	-	-	-	-	-	-	-	53.3	.0143	.0823			
233	.064	.750	07.8	15.3	23.0	30.3	37.8	45.4	52.0	57.3	-	-	-	-	-	-	58.1	.0161	.0630			
235	.084	.751	(1) 06.5	12.8	18.8	25.2	30.8	36.9	41.9	48.0	52.1	-	-	-	-	-	54.3	.0191	.0630			
237	.084	.751	05.2	12.0	25.3	18.5	21.9	25.2	28.6	31.8	35.3	38.5	41.8	44.5	47.5	50.3	51.8	.0292	.0630			
AVERAGE STRESS		87	16.3	23.8	31.1															52.9	.0158	
STANDARD DEVIATION STRESS		1.61	2.59	4.25	6.19															6.32	.00572	
AVERAGE STRESS-3σ		3.4	8.5	11.0	12.4															5	.0014	

FOOTNOTES (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETR SLIPPAGE

(1) CURVE IDEALIZED

TABLE - AIII-23 REDUCED TEST DATA

PANEL NO.	TYPE TEST		TEST DIRECTION				SPEC. CONDITIONING						TEST COND.						RESIN CONT.				NOMINAL PER PLY THICKNESS			
	COMPRESSION		0°				95% RH @ 125°F For 42 Days						25°F						35.6%				.0096			
SPEC NO.	STRAIN IN./IN		STRESS - KSI												MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²									
	T ⁽¹⁾	W ⁽¹⁾	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024				.026	.028	.030						
174	.073	.751	07.3	15.7	23.7	31.9	38.0	48.3	--	--	--	--	--	--	--	--	56.9	.0139	.0549							
175	.070	.750	09.3	16.8	23.3	29.5	36.8	47.3	52.7	57.7	--	--	--	--	--	--	60.8	.0176	.0525							
221	.083	.747	06.1	13.7	22.1	29.7	36.3	45.0	56.1	--	--	--	--	--	--	--	64.2	.0151	.0620							
222	.081	.751	07.1	13.8	18.9	24.7	31.2	37.8	43.4	46.1	50.4	--	--	--	--	--	56.3	.0200	.0608							
228	.078	.749	10.2	22.0	32.1	36.2	44.7	52.4	--	--	--	--	--	--	--	--	59.6	.0136	.0686							
AVERAGE STRESS			8.0	16.4	24.0	31.0	37.6	46.3									59.6	.0160								
STANDARD DEVIATION STRESS																										
AVERAGE STRESS-3σ																										

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(*) CURVE IDEALIZED

TABLE - AIII-24 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING				TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS					
		90°			95% RH @ 125°F For 42 Days				25°F				35.6%				.0089					
S/N6	COMPRESSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN.²			
STRAIN - IN./IN.		STRESS - KSI																				
SPEC. NO.	T (1)	W (1)																				
239	.079	.750	07.3	16.6	26.4	24.8	40.5	46.3	-	-	-	-	-	-	-	-	51.8	.0140	.0693			
240	.080	.751	07.1	13.5	20.8	28.6	38.2	45.4	-	-	-	-	-	-	-	-	51.6	.0138	.0601			
241	.079	.751	08.6	15.4	22.4	29.6	39.4	46.4	48.6	-	-	-	-	-	-	-	50.3	.0149	.0693			
242	.077	.749	07.8	16.3	30.9	41.4	-	-	-	-	-	-	-	-	-	-	53.4	.0088	.0576			
244	.083	.751	07.6	15.2	21.8	28.7	34.5	40.5	-	-	-	-	-	-	-	-	46.5	.0136	.0624			
AVERAGE STRESS			7.7	15.4	24.5	30.8														50.7	.0132	
STANDARD DEVIATION STRESS																						
AVERAGE STRESS-3σ																						

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AIII-25 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING					TEST COND.					RESIN CONT.			NOMINAL PER PLY THICKNESS		
		0°		95% RH @ 125°F FOR 42 DAYS					RT					35.6%			.0093		
S/N 6	COMPRESSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA $\frac{1}{2}$ IN.
STRAIN - IN./IN.		STRESS - KSI																	
SPEC NO.	T ⁽¹⁾	W ⁽¹⁾																	
167	.079	.749	(1)	15.1	23.3	29.8	37.1	45.5	50.5	-							56.9	.0157	.0588
170	.089	.751	(1)	17.2	26.7	(1)	34.6	43.0	51.8	-							53.3	.0122	.0625
173	.071	.750	08.5	16.7	25.0	32.5	42.5	50.2	57.4	-							59.0	.0149	.0633
181	.081	.750	08.3	11.2	15.1	19.6	23.0	27.3	34.6	40.0	47.0	53.5	-				53.5	.0120	.0607
182	.081	.750	08.1	17.7	29.0	39.6	46.5	-									53.5	.0120	.0607
183	.072	.745	09.3	18.0	26.7	34.4	41.9	47.5	51.1	53.3							57.6	.0098	.0540
184	.072	.750	11.7	17.5	27.2	37.0	46.6	54.6									54.8	.0121	.0640
185	.071	.751	08.5	17.4	26.8	36.6	45.9	53.2									55.0	.0123	.0633
186	.070	.750	09.3	19.0	27.6	36.7	43.0	51.0	-								52.4	.0123	.0626
188	.079	.750	08.9	16.7	25.3	32.9	40.5	47.0	-								51.5	.0129	.0603
AVERAGE STRESS		8.8	17.6	28.2	33.3	41.0											55.1	.0136	
STANDARD DEVIATION STRESS		1.38	2.29	40.2	5.31	6.96											2.63	.00323	
AVERAGE STRESS-3 σ		9.4	10.4	14.1	17.4	20.1											47.2	.0039	

FOOTNOTES: (1) TO NEAREST .001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (I) CURVE IDEALIZED

TABLE - AIII-26 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING								TEST COND.				RESIN CONT.			NOMINAL PER PLY THICKNESS		
		90°			95% RH @ 125°F FOR 42 DAYS								RT				35.6%			.0089		
S/N 6	COMPRESSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2			
STRAIN IN./IN.	T(1)	STRESS - KSI																				
SPEC NO.	W(1)																					
191	.748	07.1	18.3	28.1	33.5	38.3	40.4	42.4	-								44.0	.0194	.0681			
193	.750	07.2	13.9	20.7	26.2	29.7	33.1	36.3	38.8	41.5	44.4	-					46.3	.0214	.0693			
195	.750	07.4	14.2	19.0	22.7	26.1	28.4	30.3	32.2	35.8	36.1	38.8					50.6	.0320	.0685			
197	.750	13.0	22.6	29.0	33.1	35.9	38.4	41.2	44.0	47.3	49.8	-					51.5	.0212	.0690			
199	.750	03.8	06.8	14.5	20.2	-											29.2	.0100	.0625			
245	.749	05.6	09.0	12.5	15.4	18.5	21.4	24.2	27.2	29.7	32.3	33.9	35.8	37.3	39.4	41.1	48.5	.380	.0622			
246	.744	08.7	18.9	27.8	36.0	43.1	47.6	-									52.4	.0130	.0692			
247	.745	07.1	11.5	15.5	22.1	27.6	33.4	40.2	44.8								47.8	.0162	.0620			
248	.749	06.6	13.7	20.1	27.8	34.6	41.2	46.6	-								51.4	.0156	.0622			
249	.751	07.2	13.9	20.8	28.7	35.4	42.8	-									48.5	.0128	.0624			
AVERAGE STRESS		7.4	14.5	20.8	26.6												47.0	.0200				
STANDARD DEVIATION STRESS		2.36	4.38	5.96	6.50												6.78	.00886				
AVERAGE STRESS-3σ		0.32	1.4	2.9	5.9												26.7					

FOOTNOTES (1) TO NEAREST 001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (E) CURVE IDEALIZED

TABLE - AIII-27 REDUCED TEST DATA

PANEL NO	TYPE TEST	TEST DIRECTION	SPEC. CONDITIONING										TEST COND.					RESIN CONT.			NOMINAL PER PLY THICKNESS		
			0°										180°F FGR 30 MIN					35.6%			.0102		
			NONE																				
	COMPRESSION		002	004	006	008	010	012	014	016	018	020	022	024	026	028	030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²			
	STRAIN IN IN		STRESS - KSI																				
SPEC NO	T ⁽¹⁾	W ⁽¹⁾																					
5	.081	.751	7.3	14.3	20.7	27.6	33.7	38.4	40.4	42.3	44.0	46.0	47.8	49.6	51.5	53.5	55.2	57.6	.0316	.0609			
14	.081	.751	09.0	15.3	22.7	30.6	33.5	46.2	53.4	-	-	-	-	-	-	-	-	55.4	.0146	.0609			
31	.080	.751	08.3	15.5	22.4	30.6	37.6	43.0	46.0	48.3	51.1	53.5	54.9	56.9	58.9	-	-	60.9	.0273	.0601			
32	.080	.751	06.0	11.5	19.9	26.6	31.1	36.0	40.9	-	-	-	-	-	-	-	-	47.6	.0156	.0601			
40	.082	.751	07.1	14.6	21.5	29.2	37.0	42.8	48.8	54.0	-	-	-	-	-	-	-	56.0	.0168	.0616			
41	.082	.750	08.8	15.1	22.0	29.1	36.1	42.6	49.0	54.5	-	-	-	-	-	-	-	58.7	.0178	.0615			
46	.082	.750	07.5	14.5	21.3	27.8	34.2	40.5	-	-	-	-	-	-	-	-	-	46.8	.0136	.0615			
59	.064	.751	05.7	11.9	18.2	25.4	32.2	38.0	41.8	48.5	-	-	-	-	-	-	-	49.4	.0163	.0631			
60	.083	.750	04.9	10.6	17.1	23.7	30.0	36.2	46.8	-	-	-	-	-	-	-	-	51.9	.0178	.0621			
65	.081	.751	08.9	15.8	22.5	29.6	36.6	43.4	49.3	41.5	46.8	-	-	-	-	-	-	63.0	.0186	.0609			
AVERAGE STRESS			07.4	13.9	20.9	28.0	34.1	40.7															
STANDARD DEVIATION STRESS			1.37	1.89	1.89	2.26	2.60	3.41															
AVERAGE STRESS-3σ			2.7	8.2	15.2	21.2	25.7	30.5															

FOOTNOTES: (1) TO NEAREST .001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (I) CURVE IDEALIZED

TABLE - AIII-28 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING				TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS					
		90°		NONE				160°F FOR 30 MIN				35.6%				MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2			
S/N6, S/N4, S/N3	COMPRESSION	.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	.0103				
STRAIN - IN./IN.		STRESS - KSI																			
SPEC. NO.	T (1)	W (1)																			
S/N 6 - 234	.083	.749	06.8	12.2	17.9	23.4	29.0	33.3	-	-	-	-	-	-	-	-	-	-	34.7	.0127	.0621
S/N 4 - 1	.080	.751	07.0	13.3	19.0	24.4	30.0	35.0	-	-	-	-	-	-	-	-	-	-	35.8	.0122	.0601
IV	.083	.750	06.0	12.6	18.4	28.0	35.4	-	-	-	-	-	-	-	-	-	-	-	37.8	.0110	.0621
V	.082	.751	05.8	11.3	16.4	22.1	28.6	35.0	-	-	-	-	-	-	-	-	-	-	36.5	.0134	.0616
IX	.081	.751	05.9	12.7	17.8	25.5	34.5	37.8	-	-	-	-	-	-	-	-	-	-	39.4	.0140	.0620
X	.083	.751	06.9	16.0	22.0	27.3	31.6	37.4	-	-	-	-	-	-	-	-	-	-	38.4	.0122	.0624
XII	.083	.750	05.2	10.0	14.5	20.2	25.9	30.4	-	-	-	-	-	-	-	-	-	-	35.0	.0136	.0621
S/N 3 - 34	.084	.753	05.7	10.9	16.1	22.0	27.6	32.2	-	-	-	-	-	-	-	-	-	-	36.0	.0132	.0633
43	.083	.749	05.8	10.9	16.4	23.2	29.5	36.2	-	-	-	-	-	-	-	-	-	-	37.4	.0131	.0621
53	.083	.752	05.3	10.1	14.9	20.2	26.6	34.6	-	-	-	-	-	-	-	-	-	-	38.1	.0136	.0625
AVERAGE STRESS			05.9	12.0	17.3	23.6	30.0												36.9	.0129	
STANDARD DEVIATION STRESS			1.26	1.80	2.10	2.69	3.15												1.47	.00089	
AVERAGE STRESS-3σ			2.1	6.6	11.0	15.5	25.5												32.5	.0102	

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOR WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOR SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AIII-29 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING						TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS		
		0°			95% RH @ 125°F FOR 42 DAYS						160°F FOR 10 MIN				35.6%				.0101		
S/N 4, S/N 6	COMPRESSION	STRAIN - IN./IN.			STRESS - KSI												MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²		
		T(1)	W(1)		.002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024				.026	.028
S/N 4 - 13	.081	.752	08.6	15.3	22.0	28.6	34.8	41.3	42.3	-	-	-	-	-	-	-	-	-	49.5	.0147	.0609
33	.081	.751	08.2	14.8	21.4	27.9	34.5	41.4	49.4	-	-	-	-	-	-	-	-	-	54.9	.0155	.0609
57	.084	.750	07.2	13.5	19.9	26.6	33.3	39.9	-	-	-	-	-	-	-	-	-	-	42.4	.0138	.0630
62	.081	.752	06.4	12.8	19.3	26.3	32.9	35.0	44.9	-	-	-	-	-	-	-	-	-	47.6	.0149	.0609
75	.083	.751	06.9	16.4	26.5	34.4	40.9	47.3	52.6	-	-	-	-	-	-	-	-	-	53.3	.0146	.0624
S/N 6 - 189	.081	.750	06.2	12.0	18.2	24.6	32.0	38.8	-	-	-	-	-	-	-	-	-	-	41.5	.0131	.0607
210	.073	.749	06.9	13.8	20.8	28.2	35.5	42.7	-	-	-	-	-	-	-	-	-	-	48.6	.0140	.0546
215	.079	.750	05.9	12.2	19.0	28.7	37.5	-	-	-	-	-	-	-	-	-	-	-	40.8	.0107	.0593
220	.085	.750	11.7	22.6	32.9	-	-	-	-	-	-	-	-	-	-	-	-	-	37.6	.0075	.0638
226	.080	.752	06.2	14.3	20.8	27.9	34.9	40.9	-	-	-	-	-	-	-	-	-	-	43.6	.0128	.0601
AVERAGE STRESS			7.4	14.8	22.1														46.0	.0132	
STANDARD DEVIATION STRESS			1.71	3.08	4.44														5.66	.00241	
AVERAGE STRESS-3σ			2.3	5.6	8.8														29.0	.0060	

FOOTNOTES (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AI-1-30 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION				SPEC. CONDITIONING	TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS								
		90°					85% RH @ 125°F FOR 42 DAYS	160°F FOR 30 MIN				35.6%				MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2					
STRAIN IN./IN.		.002	.004	.006	.008	.010		.012	.014	.016	.018	.020	.022	.024	.026				.028	.030			
SPEC NO	T(1)	STRESS - KSI																					
	W(1)																						
S/N 3 - 8	.084	.751	06.2	10.3	16.6	22.2	27.6	31.6	36.2	-	-	-	-	-	-	-	36.9	.0141	.0631				
21	.084	.749	05.6	11.6	17.4	23.1	28.5	33.9	-	-	-	-	-	-	-	-	35.2	.0136	.0628				
37	.084	.749	06.7	12.8	19.4	25.8	31.8	-	-	-	-	-	-	-	-	-	38.2	.0118	.0629				
52	.084	.752	05.4	11.1	16.5	22.2	28.5	33.3	-	-	-	-	-	-	-	-	36.6	.0134	.0631				
66	.083	.751	05.6	11.1	16.0	21.6	27.2	32.7	-	-	-	-	-	-	-	-	35.4	.0130	.0624				
S/N 6 - 192	.080	.750	06.0	09.6	15.9	20.7	24.5	29.6	35.4	-	-	-	-	-	-	-	36.0	.0142	.0600				
198	.071	.749	06.6	12.7	18.8	-	-	-	-	-	-	-	-	-	-	-	23.7	.0073	.0533				
231	.080	.750	06.7	12.2	16.3	20.2	24.5	30.0	34.6	-	-	-	-	-	-	-	37.7	.0154	.0600				
238	.084	.750	09.8	19.1	A	-	-	-	-	-	-	-	-	-	-	-	35.1	A	.0630				
243	.083	.750	05.6	11.4	16.4	20.9	23.5	26.0	28.8	30.7	A	-	-	-	-	-	37.9	A	.0622				
AVERAGE STRESS				6.22	12.2	19.1															35.27	.0127	
STANDARD DEVIATION STRESS				1.22	1.68	2.86															3.3	.0024	
AVERAGE STRESS-3σ				2.56	7.2	10.5															25.4	.0054	

FOOTNOTES (1) TO INCL-REST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

TABLE - AIII-31 REDUCED TEST DATA

PANEL NO	TYPE TEST	TEST DIRECTION	SPEC. CONDITIONING						TFST COND.				RESIN CONT.			NOMINAL PER PLY THICKNESS							
			95% RH @ 125°F FOR 42 DAYS						220°F FOR 10 MIN				35.6%										
S/N 4	COMPRESSION	0°	002	.004	.006	.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²			
SPEC NO	T ₁ (1) W ₁ (1)	STRESS - KSI																					
20	.081 .751	06.6	13.2	20.6	31.2	41.7	-	-	-	-	-	-	-	-	-	-	-	44.9	.0106	.0609			
41	.083 .752	05.3	12.0	18.4	24.4	32.0	-	-	-	-	-	-	-	-	-	-	-	39.0	.0109	.0625			
58	.084 .751	08.7	16.2	22.3	29.3	36.1	-	-	-	-	-	-	-	-	-	-	-	40.3	.0110	.0631			
64	.080 .751	05.0	10.5	16.7	23.3	29.8	35.8	41.6	-	-	-	-	-	-	-	-	-	42.4	.0142	.0601			
69	.077 .751	06.1	14.9	19.5	27.1	34.9	-	-	-	-	-	-	-	-	-	-	-	45.5	.0158	.0579			
AVERAGE STRESS		06.3	13.4	19.5	27.1	34.9															42.4	.0125	
STANDARD DEVIATION STRESS																							
AVERAGE STRESS-3σ																							

FOOTNOTES: (1) TO NEAREST .001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (I) CURVE IDEALIZED

TABLE - AIII-34 REDUCED TEST DATA

PANEL NO	TYPE TEST	TEST DIRECTION			SPEC. CONDITIONING							TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS		
		90°			100 Hrs @ 400°F							400°F For 30 Min				36.6%				MAX STRESS	STRAIN AT MAX STRESS	AREA IN ²
S/N 3, S/N 14	COMPRESSION	002	004	006	008	010	012	014	016	018	020	022	024	026	028	030	STRESS - KSI					
STRAIN IN/IN	T(1)	W(1)																				
S/N 3	17	.083	.752	06.3	10.1	14.5	-	-	-	-	-	-	-	-	-	-	18.2	.0075	.0625			
	36	.077	.749	06.4	10.7	16.3	22.5	28.7	-	-	-	-	-	-	-	-	31.0	.0108	.0575			
	50	.079	.751	04.9	10.0	15.1	20.0	26.1	-	-	-	-	-	-	-	-	25.3	.0107	.0695			
	73	.083	.751	06.9	11.1	16.3	20.7	-	-	-	-	-	-	-	-	-	22.8	.0089	.0624			
	14	.083	.750	06.3	13.3	19.8	-	-	-	-	-	-	-	-	-	-	22.2	.0075	.0623			
	25	.083	.750	06.0	10.5	15.8	20.7	-	-	-	-	-	-	-	-	-	23.2	.0091	.0623			
	42	.082	.749	08.3	14.4	20.2	-	-	-	-	-	-	-	-	-	-	23.1	.0074	.0614			
	44	.083	.750	06.9	10.9	17.8	22.8	-	-	-	-	-	-	-	-	-	23.9	.0086	.0623			
	64	.081	.750	04.7	09.4	14.1	19.2	-	-	-	-	-	-	-	-	-	23.4	.0102	.0607			
S/N 14	8	.084	.747	04.1	09.2	15.3	21.9	28.3	-	-	-	-	-	-	-	-	29.4	.0106	.0627			
AVERAGE STRESS				06.7	12.0	16.5											23.2	.00913				
STANDARD DEVIATION STRESS				17.1	19.9	20.9											3.26	.00139				
AVERAGE STRESS-3σ				2.1	6.0	10.2											13.4	.0049				

FOOTNOTES (1) TO NEAREST .001"

- (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
- (C) CURVE EXCEEDED THE GRAPH PAPER
- (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
- (II) CURVE IDEALIZED

TABLE - A11f37 REDUCED TEST DATA

PANEL NO.	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING				TEST COND.				F ₁ SIN CONT				NOMINAL PER PLY THICKNESS			
		0/90		NONE				-68° F FOR 30 MIN				36.6%							
S/N 16, S/N 17	PANEL SHEAR	.004	.008	.012	.016	.020	.024	.028	.032	.036	.040	.044	.048	.052	.056	.060	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. ²
STRAIN IN./IN		STRESS - KSI																	
SPEC NO.	T(1) W(1)																		
S/N 16-5	.084 3.875	06.5	11.7	16.9	18.5	18.8	19.2	19.4	19.6	19.7	19.8	19.8					19.8	.0656	.318
6	.080 3.875	06.2	11.1	14.3	16.4	17.7	18.5	19.0	19.3	19.5	19.9	20.0	20.2	20.4			20.6	.0536	.310
10	.080 3.875	06.2	09.4	12.1	14.2	15.6	16.5	17.3	17.8	18.1	18.3	18.5	18.6	18.6			18.8	.0672	.310
11	.080 3.875	05.5	09.5	12.5	14.6	16.4	17.4	18.2	18.5	18.7	18.9	18.9	18.9	19.0			19.1	.0660	.310
13	.081 3.875	07.0	11.3	14.6	16.3	17.6	18.4	18.9	19.2	19.5	19.6	19.7					19.8	.0480	.314
14	.079 3.875	04.6	09.3	12.7	15.0	16.2	17.2	17.9	18.2	18.5	18.8	19.0	19.2				19.3	.0616	.306
15	.077 3.875	06.4	10.9	14.1	16.3	17.7	18.7	19.6	20.2	20.5	21.0	21.2	21.5				21.6	.0486	.298
16	.078 3.875	07.0	12.6	15.5	17.5	18.7	19.4	19.9	20.0	20.0	20.0	20.1					20.1	.0464	.302
S/N 17-4	.084 3.875	06.8	11.6	14.6	16.0	17.1	17.4	17.5	17.5	17.5	17.7	17.9	18.0				18.0	.0616	.326
7	.081 3.875	06.2	11.3	14.4	16.0	17.2	17.9	18.3	18.5	18.5	18.5	18.5	18.5	18.5			18.6	.0680	.314
AVERAGE APPARENT STRESS		06.1	10.9	14.2	16.1	17.3	18.1	18.6	18.8	19.1	19.3	19.4					19.6	.0614	
STANDARD DEVIATION APPARENT STRESS		.65	1.11	1.42	1.28	1.03	.91	.96	.96	.98	.98	.92					1.06	.00316	
AVERAGE APPARENT STRESS - 3σ		4.1	7.6	10.9	12.3	14.2	15.4	15.7	15.9	16.1	16.3	16.6					16.4	.0326	
*(.98) x (AVERAGE APPARENT STRESS)		5.4	9.8	12.5	14.2	15.2	15.9	16.4	16.5	16.6	17.6	17.1					17.2		
*(.98) x (AVERAGE APPARENT STRESS - 3σ)		3.6	6.7	9.6	10.8	12.5	13.5	13.8	13.9	14.2	14.3	14.6					14.4		

FOOTNOTES (1) TO NEAREST .001"

- (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
- (C) CURVE EXCEEDED THE GRAPH PAPER
- (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
- (I) CURVE IDEALIZED

* THERE WAS AN ASSUMED FRICTION OF 12% IN PINS

TABLE - AIII-39 REDUCED TEST DATA

PANEL NO	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING						TEST COND.				RESIN CONT.				NOMINAL PER PLY THICKNESS						
		S/N 6	S/N 13	0/90	0/90	.004	.008	.012	.016	.020	.024	.028	.032	.036	.040	.044	.048	.052	.056	.060	MAX STRESS	STRAIN AT MAX STRESS	AREA IN. 2	
	STRAIN IN./IN.																							
	SPEC NO	T ⁽¹⁾	W ⁽¹⁾																					
	S/N 6 - 32	.082	3.875	05.8	09.8	11.8	12.8														13.8	A	0.318	
	39	.079	3.875	05.8	10.0	12.4															14.4	A	0.306	
	40	.083	3.875	05.3	09.2	11.5	13.1														14.0	A	0.322	
	S/N 16 - 1	.080	3.875	05.4	09.1	11.4	12.6	13.5	14.0	14.3	14.4	14.7	14.8	15.0	15.0						15.1	.06320	0.310	
	4	.080	3.875	05.5	09.4	12.2	14.4	14.9	15.3												15.4	.0246	0.310	
	8	.080	3.875	05.4	09.4	12.0	13.3	14.2	14.8	15.1	15.5	15.8	16.0								16.0	.0436	0.310	
	12	.082	3.875	05.0	08.8	11.3	12.4	13.7	14.2	14.6	14.9	15.0									15.3	.0400	0.318	
	9	.080	3.875	05.4	09.5	11.8	12.9	13.8	14.3	14.7	15.0	15.2	15.3	15.3	15.3	15.4	15.5				15.6	.0692	0.310	
	2	.081	3.875	04.9	08.8	11.2	12.5	13.3	14.0	14.4	14.8	14.8	15.1								16.3	.0438	0.314	
	17	.083	3.875	04.4	08.7	11.2	12.7	13.5	14.1	14.3	14.5	14.7	14.7	14.8							14.8	.0462	0.322	
	AVERAGE APPARENT STRESS			5.3	9.3	11.7	13.0														15.0	.0370		
	STANDARD DEVIATION APPARENT STRESS			.4	.4	.4	.7														.7	.0072		
	AVERAGE APPARENT STRESS - 3σ			4.0	8.0	10.5	11.5														12.8			
	*1.88σ x (AVERAGE APPARENT STRESS)			4.7	8.2	10.3	11.4														13.2			
	*1.88σ x (AVERAGE APPARENT STRESS - 3σ)			3.5	7.0	9.2	9.7														11.2			

FOOTNOTES: (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

* THERE WAS AN ASSUMED FRICTION OF 12% IN PINS

TABLE - AIII-40 REDUCED TEST DATA

PANEL NO	TYPE TEST	TEST DIRECTION		SPEC. CONDITIONING				TEST COND.				RESIN CONT				NOMINAL PER PLY THICKNESS			
		0/90		NONE				180° F FOR 30 MIN.				35.6%				MA' STRESS	STRAIN AT MAX STRESS	AREA IN 2	
S/N 6	PANEL SHEAR	.004	.006	.012	.016	.020	.024	.028	.032	.036	.040	.044	.048	.052	.056	.060			
STRAIN IN./IN.		STRESS - KSI																	
SPEC NO	T(1) W(1)																		
S/N 6-14	.073 3.875	04.5	07.3	09.2	10.5	11.1	11.5										12.6	.0722	.283
20	.071 3.875	05.0	08.8	11.4													12.8	.0150	.291
26	.084 3.875	04.4	07.8	10.2	11.7	12.8											13.3	.0226	.325
34	.081 3.875	04.9	07.7	09.3	10.5	11.0	11.4										11.7	.0270	.314
30	.082 3.875	04.4	08.4	10.0	11.3	12.2											12.8	.0234	.318
37	.075 3.875	04.1	08.7	08.5	09.7	10.6	11.4	11.9	12.0	12.2							13.0	.0674	.291
42	.077 3.875	04.6	07.6	09.7	11.1	11.9	12.5	12.8									13.1	.0294	.298
24	.078 3.875	04.8	07.9	09.7	10.8												13.1	.0460	.302
27	.084 3.875	04.4	07.6	10.0	11.5	12.6											12.8	.0204	.325
33	.081 3.875	04.7	07.4	09.1	10.1	10.8											11.4	.0270	.314
AVERAGE APPARENT STRESS		4.8	7.7	9.7													12.7	.03126	
STANDARD DEVIATION APPARENT STRESS		.3	.6	.9													.62		
AVERAGE APPARENT STRESS - 3σ		3.8	6.0	7.1													10.8		
*(.88) x (AVERAGE APPARENT STRESS)		4.0	8.8	8.8															
*(.88) x (AVERAGE APPARENT STRESS - 3σ)		3.5	5.3	6.2															

FOOTNOTES (1) TO NEAREST .001"

(A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED

(C) CURVE EXCEEDED THE GRAPH PAPER

(D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE

(I) CURVE IDEALIZED

* THERE WAS AN ASSUMED FRICTION OF 12% IN PINS

TABLE - AIII-41 REDUCED TEST DATA

PANEL NO	TYPE TEST	TEST DIRECTION	SPEC CONDITIONING										TEST COND	RESIN CONT			NOMINAL PER PLY THICKNESS			
			100 HRS AT 400° F											400° F FOR 30 MIN.			35.6%			
S/N 6	PANEL SHEAR	0/90°	.004	.008	.012	.016	.020	.024	.028	.032	.036	.040	.044	.048	.052	.056	.060	MAX STRESS	STRAIN AT MAX STRESS	AREA IN ²
STRESS - KSI																				
SPEC NO	T(1)	W(1)																		
S/N 6 - 22	.081	3.875	(1)	01.0	01.8	02.5	03.1	03.8	04.0	04.3	04.5	04.8	04.9					05.8	A	.314
36	.078	3.875	00.9	01.7	02.3	02.9	03.4	03.8	04.1	04.4	04.7	05.0	A					05.9	A	.302
21	.078	3.875	(1)	01.0	01.9	02.6	03.2	03.7	04.2	04.5	04.8	05.0	A					05.5	A	.302
25	.081	3.875	(1)	01.1	01.8	02.7	03.4	03.8	03.7	03.8	04.1	04.2	A					05.4	A	.314
AVERAGE APPARENT STRESS																				
STANDARD DEVIATION APPARENT STRESS																				
AVERAGE APPARENT STRESS - 30°																				
*(.88) x (AVERAGE APPARENT STRESS)																				
*(.88) x (AVERAGE APPARENT STRESS - 30°)																				

FOOTNOTES (1) TO NEAREST .001"
 (A) COMPRESSOMETER WAS SHUT OFF BEFORE FAILURE OCCURRED
 (C) CURVE EXCEEDED THE GRAPH PAPER
 (D) STRESS REPORTED FOR RECORDING PURPOSES BUT DELETED FROM AVERAGES BECAUSE OF COMPRESSOMETER SLIPPAGE
 (I) CURVE IDEALIZED
 * THERE WAS AN ASSUMED FRICTION OF 12% IN PINS

TABLE A111-43 POISSONS RATIO BY TENSION TESTS

DATE: 2-17-69
 MATERIAL IDENTIFICATION:
 STRAIN GAGE FACTOR: 2.03
 STRAIN GAGE RESISTANCE: 120Ω
 EXTENSOMETER: S-400-2A8

PANEL: S/N16
 RESIN CONT.: 35.6%
 F.I.L.A. ORIENT.: 0°

SPEC IDEN.	TEST COND.	WIDTH (IN.)	THICK (IN.)	AREA (SQ. IN.)	LOAD (LBS.)	STRESS (KSI)	STRAIN TRANS. (IN./IN.)	STRAIN LONG. (IN./IN.)	POISSON'S RATIO (μ)	MODULUS E x 10 (PSI)	REMARKS
S/N 16 - 9	RT	.450	.081	1012	0	0	-	-	-	-	4400 LBS CUTOFF
					1012	10	.000328	.00300	.1092		
					2024	20	.000832	.00528	.1195		
					3036	30	.000890	.00940	.0947		
					4048	40	.001104	.01280	.0860		
					4460	44.0	.001160	.01420	.0819		
S/N 16 - 10	RT	1.251	.082	1028	0	0	-	-	-	-	3810 LBS CUTOFF
					1028	10	.000310	.00336	.0824		
					2066	20	.000610	.00676	.0903		
					3084	30	.000900	.01012	.0890		
					3810	37.1	.001132	.01280	.0886		

