

**APPLIED PRECISION TECHNOLOGY, INC.**  
**AND**  
**LIBERTY PLASTICS COMPANY, INC.**

**TECHNICAL DATA BULLETIN**

**GRADE:** AT8000™      **NEMA GRADE:** FR-4      **U.L. LISTED** N

**DESCRIPTION:**

Premium woven glass fabric epoxy laminate designed for the test fixture market where increased flexural strength and modulus are needed in larger probe and vacuum boards. Engineered to exceed NEMA Grade FR-4 strength properties, with significant improvement in flexural modulus over mil spec FR-4.

**THICKNESS TESTED:** 0.250" & 0.500"

**TYPICAL PROPERTIES**

<u>GENERAL PHYSICAL PROPERTIES</u>	<u>UNITS</u>	<u>VALUE</u>
Specific Gravity	-	1.88
Rockwell Hardness (.250")	M Scale	115
Moisture Absorption (.250")	%	0.1
Flexural Strength      LW (.0.250")              CW	psi	84,000 66,000
Flexural Modulus      LW (.0.250")              CW	kpsi	4,400 4,300
Tensile Strength      LW (.250")              CW	psi	51,000 42,000
Compressive Stength Flatwise (.500")	psi	67,000
Izod Impact Strength      LW E-48/50 (.500")              CW	ft - lb/in	10.2 8.8
Bond Strength (.500")	lb	2,800
Shear Strength (Perpendicular) (.250")	lb	22,000

<b><u>THERMAL &amp; ELECTRICAL PROPERTIES</u></b>	<b><u>UNITS</u></b>	<b><u>VALUE</u></b>
Maximum Operating Temperature <sup>1</sup>	°C	---
Coefficient of Thermal Expansion	in/in/°Cx10 <sup>-6</sup>	
X-axis		13.9
(.062)    Y-axis		19.0
Flammability Rating - U.L. 94	V-0, V-1, HB	V-0
Dielectric Breakdown Condition		
A	kV	63
(.250")    D-48/50		66
Electric Breakdown Condition		
A	V/mil	---
(.250")    D-48/50		
Permittivity Condition    (.250")		
D-24/23	-	4.75
Dissipation Factor Condition    (.250")		0.019
D-24/23	-	0.114
Arc Resistance    (.250")    D-495	sec	129
Comparitive Tracking Index	-	220
(.250")    D-3638		
T <sub>g</sub>	°C	143

Tests Conducted by IL NORPLEX, INC. Industrial Laminates/Norplex, Inc.

This data, while believed to be accurate and based on reliable analytical methods, is for informational purposes only. Any sales of this product will be governed by the terms and conditions of the agreement under which it is sold. Data supplied above are "typical values", not to be considered "specification values"

Last Revision: 04/12/99

<sup>1</sup> This temperature is recommendation only, and based upon experience in various applications. The maximum operation temperature is dependent upon the application and should be investigated prior to use.

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The AT8000™ Technical Data Bulletin is available in .pdf format by clicking [here](#)

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