

Applied Precision Technology And Liberty Plastics Company

Technical Data Bulletin

GRADE: AT9000 NEMA GRADE: FR-4 U.L. Listed: N

DESCRIPTION:

Woven fine glass fabric epoxy laminate specifically engineered for use in printed circuit board testers while providing NEMA grade properties. This material contains bromine on the epoxy resin backbone. Certifiable to MIL-I-24768/27, Type GEE-F.

THICKNESS TESTED: 0.062" & 0.500" TYPICALLY: 0.062" & 0.500"

TYPICAL PROPERTIES

<u>General Physical Properties</u>	<u>Units</u>	<u>Value</u>
Specific Gravity	-	1.85
Rockwell Hardness (.062")	M Scale	115
Moisture Absorption (.062")	%	.10
Flexural Strength LW (.062") CW	psi	67,000 54,000
Flexural Modulus LW (.062") CW	kpsi	3,200 2,800
Tensile Strength LW (.125") CW	psi	42,000 33,000
Compressive Strength flatwise (.500")	psi	66,000
Izod Impact Strength LW E-48/50 (.500") CW	ft – lb/in	7.9 7.3
Bond Strength (.500")	lb	2,300
Shear Strength (Perpendicular) (.062")	lbs per sq. inch	21,500
Maximum Operating Temperature ¹	°C	138
Coefficient of Thermal Expansion X-axis	In/in/°C x 10 ⁻⁶	10.0

(.062")	Y-axis		13.0
Flammability Rating – U.L. 94		V-0, V-1, HB	V-0
Dielectric Breakdown Condition			
	A	kV	66
(.062")	D-48/50		65
Electric Breakdown Condition			
	A	V/mil	800
(.062")	D-48/50		750
Permittivity Condition (.062")		-	
	D-24/23		4.8
Dissipation Factor Condition (.062")		-	
	D-24/23		.032
Arc Resistance (.125") D-495		sec	130
Comparative Tracking Index		-	
(.125")	D-3638		300
T _g		°C	-

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 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 pas

¹ 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.