

# **APPLIED PRECISION TECHNOLOGY, INC.**

81 West Street  
Attleboro, MA 02703

## **TECHNICAL DATA BULLETIN**

GRADE: AT9000™

NEMA GRADE: FR-4

U.L. LISTED: N

### DESCRIPTION:

Low cost woven glass fabric epoxy laminate. Engineered to provide NEMA grade FR-4 properties at lower cost. 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" and 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")	%	0.10
Flexural Strength LW (.062") CW	psi	65,000 52,000
Flexural Modulus LW (.062") CW	kpsi	3,100 2,800
Tensile Strength LW (.125") CW	psi	40,000 32,000
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) (.250")	lb	21,500

<u>THERMAL &amp; ELECTRICAL PROPERTIES</u>	<u>UNITS</u>	<u>VALUE</u>
Maximum Operating Temperature <sup>1</sup>	°C	140

Coefficient of Thermal Expansion X-axis Y-axis		in/in/°Cx10 <sup>6</sup>	10.0 13.0
Flammability Rating - U. L. 94		V-0, V-1, HB	V-0
Dielectric Breakdown Condition A (.062") D-48/50		KV	66 65
Electric Strength Condition A (.062") D-48/50		V/mil	800 750
Permittivity Condition (.062") D-24/23		-	4.8
Dissipation Factor Condition (.062") D-24/23		-	0.032
Arc Resistance (.125") D-495		sec	130
Comparative Tracking Index (.125") D3638		-	300
T <sub>g</sub>		°C	

Uses substrate of AT7000™, with an electrostatic dissipative surface with a resistivity of 10<sup>5</sup> to 10<sup>10</sup> ohms per sq. inch. 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 a 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.