

NP500A

TECHNICAL DATA BULLETIN

GRADE: NP500A

NEMA: G-10

U.L. LISTED: N

DESCRIPTION: NP500A is constructed of a woven glass fabric combined with easy-machining, non-brominated epoxy resin. It is engineered to provide NEMA grade G-10 properties, but is easier to machine and more cost effective in many applications. Applications for NP500A include; low temperature thermal insulation, structural applications and various other mechanical, and electrical applications at low to moderately high temperatures. NP500A meets or exceeds the requirements of MIL-I-24768/2.

TYPICAL PROPERTIES

		UNITS	VALUE		
			Thickness Tested		
			0.0625"	0.125"	0.500"
PHYSICAL PROPERTIES					
Specific Gravity (ASTM D792)		-			1.77
Rockwell Hardness (ASTM D785)	0.250" Build-up	M Scale	99		
Moisture Absorption (ASTM D570)	Condition A	%	0.22		
Flexural Strength (ASTM D790)	Condition A LW / CW	psi (Mpa)	66,000 / 60,000 (455.1) / (413.7)		
Flexural Modulus (ASTM D790)	Condition A LW / CW	kpsi (Gpa)	3,400 / 3,300 (23.4) / (22.8)		
Tensile Strength (ASTM D638)	Condition A LW / CW	psi (Mpa)		43,000 / 39,000 (296.5) / (268.9)	
Izod Impact Strength (ASTM D256)	Condition A LW / CW	ft-lb/in (J/cm)			
	Condition E-48/50 LW / CW	ft-lb/in (J/cm)			9.50 / 7.50 (5.07) / (4.00)
Compressive Strength (ASTM D695)	Condition A Flatwise	psi (Mpa)			44,000 (303.4)
Bonding Strength (ASTM D229)	Condition A	lb (kg)			2,500 (1,134.0)
Shear Strength (ASTM D732)	Condition A Perpendicular	psi (Mpa)	19,000 (131.0)		



Global Thermoset Composite Solutions

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TYPICAL PROPERTIES (continued)

	UNITS	VALUE		
		Thickness Tested		
		0.0625"	0.125"	0.500"
THERMAL PROPERTIES				
Temperature Index ¹ (UL Bulletin 746b) Electrical / Mechanical	°C	130 / 140		
Coefficient of Thermal Expansion (IPC-TM 650-2.4.24) X-axis / Y-axis	" / °C x10 ⁻⁶	12.1 / 9.6		
Tg by DMA	°C	128		
Flammability Rating Condition A (UL Bulletin 94)	Class	HB		
ELECTRICAL PROPERTIES				
Breakdown Voltage Condition A (ASTM D149)	kVolts	48		
	Condition D-48/50	kVolts	49	
Electric Strength Condition A (ASTM D149)	Volts/mil (kV/cm)	690 (271.7)		
	Condition D-48/50	Volts/mil (kV/cm)	690 (271.7)	

¹ This temperature is a recommendation only, and based upon experience in various applications. The maximum operating temperature is dependent upon the application and should be investigated prior to use.

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

It is the responsibility of the users of this information to make sure that they have the latest version of this TDB, and are urged to check with Customer Service or, preferably our web site, www.norplex-micarta.com, to determine if the information is the most current available.

Specification writers: Contact Norplex-Micarta for specification values before submission.