

NP500A

TECHNICAL DATA BULLETIN

GRADE: NP500A

NEMA LI 1-1998 Grade: 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 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 complies with ANSI/NEMA IM 60000-2021 Grade G-10, MIL-I-24768/2 GEE, ASTM D709 Type IV Grade G-10 and IEC 60893-2-EPGC 201.

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 D ₁ -24/23	%	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	ft-lb/in (J/cm)			
	LW / CW				
	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)			62,800 (433.0)
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)		

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TYPICAL PROPERTIES (continued)

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		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		120
Flammability Rating (UL Bulletin 94)	Condition A	Class	HB	
ELECTRICAL PROPERTIES				
Breakdown Voltage (ASTM D149)	Condition A	kVolts	48	
	Condition D-48/50	kVolts	49	
Electric Strength (ASTM D149)	Condition A	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".

To assure the material's performance is adequate for a specific application; customers should verify, independent of Norplex-Micarta, performance characteristics of interest.

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.