

NP610

TECHNICAL DATA BULLETIN

GRADE: NP610

NEMA LI 1-1998 Grade: X

U.L. LISTED: N

DESCRIPTION: Phenolic paper based grade for mechanical applications. Good tensile, compressive and flexural strength. Primarily a machining material, but may be hot punched up to .093" thick. NP610 meets ANSI/NEMA IM 60000-2021 Grade X, MIL-I-24768/12 Type PBM, ASTM D709 Type X and IEC 60893-3-4 PFCP 201.

TYPICAL PROPERTIES

		UNITS	VALUE		
			Thickness Tested		
			0.0625"	0.125"	0.500"
PHYSICAL PROPERTIES					
Specific Gravity (ASTM D792)		-			1.40
Rockwell Hardness (ASTM D785)	0.250" Build-up	M Scale	90		
Moisture Absorption (ASTM D570)	Condition D ₁ -24/23	%			
		%	1.80		0.58
Flexural Strength (ASTM D790)	Condition A	psi	34,000 / 28,000		
	LW / CW	(MPa)	(234.4) / (193.1)		
Flexural Modulus (ASTM D790)	Condition A	kpsi	1,900 / 1,400		
	LW / CW	(GPa)	(13.1) / (9.7)		
Tensile Strength (ASTM D638)	Condition A	psi		17,000 / 13,000	
	LW / CW	(MPa)		(117.2) / (89.6)	
Izod Impact Strength (ASTM D256)	Condition A	ft-lb/in			
	LW / CW	(J/cm)			
	Condition E-48/50	ft-lb/in			0.82 / 0.76
	LW / CW	(J/cm)			(0.44) / (0.41)
Compressive Strength (ASTM D695)	Condition A	psi			35,000
	Flatwise	(MPa)			(241.3)
Bonding Strength (ASTM D229)	Condition A	lb			1,000
		(kg)			(453.6)
Shear Strength (ASTM D732)	Condition A	psi	15,000		
	Perpendicular	(MPa)	(103.4)		

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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 / 130		
Coefficient of Thermal Expansion (IPC-TM 650-2.4.24) X-axis / Y-axis	" / °C x10 ⁻⁶	13.0 / 17.0		
Flammability Rating Condition A (UL Bulletin 94)	Class	HB		
ELECTRICAL PROPERTIES				
Breakdown Voltage Condition A (ASTM D149)	kVolts	40		
Electric Strength Condition A (ASTM D149)	Volts/mil (kV/cm)	600 (236.2)		
Arc Resistance Condition A (ASTM D495)	sec	90		

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.