

NP611

TECHNICAL DATA BULLETIN

GRADE: NP611

NEMA: XP

U.L. LISTED: Y ²

DESCRIPTION: Hot punching general-purpose phenolic grade. Mechanical properties approach those of NP610 with improved electrical properties and moisture resistance.

TYPICAL PROPERTIES

		UNITS	VALUE		
			Thickness Tested		
			0.0625"	0.125"	0.500"
PHYSICAL PROPERTIES					
Specific Gravity (ASTM D792)		-			1.35
Rockwell Hardness (ASTM D785)	0.250" Build-up	M Scale	100		
Moisture Absorption (ASTM D570)	Condition A	%			
	Condition D ₁ -24/23	%	1.50		
Flexural Strength (ASTM D790)	Condition A	psi (Mpa)	29,000 / 22,000 (199.9) / (151.7)		
	LW / CW				
Flexural Modulus (ASTM D790)	Condition A	kpsi (Gpa)	1,200 / 900 (8.3) / (6.2)		
	LW / CW				
Tensile Strength (ASTM D638)	Condition A	psi (Mpa)		18,000 / 13,500 (124.1) / (93.1)	
	LW / CW				
Izod Impact Strength (ASTM D256)	Condition A	ft-lb/in (J/cm)			
	LW / CW				
	Condition E-48/50	ft-lb/in (J/cm)			0.70 / 0.60 (0.37) / (0.32)
Compressive Strength (ASTM D695)	Condition A	psi (Mpa)			45,000 (310.3)
	Flatwise				
Bonding Strength (ASTM D229)	Condition A	lb (kg)			1,100 (499.0)
Shear Strength (ASTM D732)	Condition A	psi (Mpa)	12,200 (84.1)		
	Perpendicular				



Global Thermoset Composite Solutions

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TYPICAL PROPERTIES (continued)

	UNITS	VALUE		
		Thickness Tested		
		0.0625"	0.125"	0.500"
THERMAL PROPERTIES				
Maximum Operating Temperature ¹	°C			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	50		
	Condition D-48/50	kVolts	4	
Electric Strength Condition A (ASTM D149)	Volts/mil (kV/cm)	600 (236.2)		
Arc Resistance Condition A (ASTM D495)	sec		75	
Comparative Tracking Index (ASTM D3638)	Volts		180	

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.

² Only applies to thicknesses greater than 0.027".

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".

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