

NP691

TECHNICAL DATA BULLETIN

GRADE: NP691

U.L. LISTED: N

DESCRIPTION: Flame resistant, room temperature punching grade. NP691 is very similar to NP612 in electrical properties and mechanical strength, with improved moisture resistance. NP691 is certifiable to MIL-I-24768/24 PBM-PF

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	85		
Moisture Absorption (ASTM D570)	Condition A	%			
	Condition D ₁ -24/23	%	1.60		
Flexural Strength (ASTM D790)	Condition A	psi	20,000 / 17,000		
	LW / CW	(Mpa)	(137.9) / (117.2)		
Flexural Modulus (ASTM D790)	Condition A	kpsi	1,000 / 900		
	LW / CW	(Gpa)	(6.9) / (6.2)		
Tensile Strength (ASTM D638)	Condition A	psi		14,000 / 9,500	
	LW / CW	(Mpa)		(96.5) / (65.5)	
Izod Impact Strength (ASTM D256)	Condition A	ft-lb/in			0.80 / 0.60
	LW / CW	(J/cm)			(0.43) / (0.32)
Compressive Strength (ASTM D695)	Condition A	psi			35,000
	Flatwise	(Mpa)			(241.3)
Bonding Strength (ASTM D229)	Condition A	lb			1,200
		(kg)			(544.3)
Shear Strength (ASTM D732)	Condition A	psi	18,000		
	Perpendicular	(Mpa)	(124.1)		

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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	105 / 105		
Coefficient of Thermal Expansion (IPC-TM 650-2.4.24) X-axis / Y-axis	" / °C x10 ⁻⁶	16.0 / 20.0		
Flammability Vertical Condition A (UL Bulletin 94)	Class	V-0		
ELECTRICAL PROPERTIES				
Dissipation Factor @ 1 MHz (ASTM D150) Condition A	-			
	Condition D-24/23	-	0.060	
Relative Permittivity @ 1 MHz (ASTM D150) Condition A	-			
	Condition D-24/23	-	5.20	
Breakdown Voltage (ASTM D149) Condition A	kVolts	60		
	Condition D-48/50	kVolts	5	
Electric Strength (ASTM D149) Condition A	Volts/mil (kV/cm)	500 (196.9)		
	Condition D-48/50	Volts/mil (kV/cm)	300 (118.1)	
Arc Resistance (ASTM D495) Condition A	sec		100	
Comparative Tracking Index (ASTM D3638)	Volts		240	

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.