

NP320E

TECHNICAL DATA BULLETIN

GRADE: NP320E

NEMA: LE

U.L. LISTED: N

DESCRIPTION: Similar to NP320 with improved moisture resistance. It is suitable for electrical applications in moderate humidity conditions. NP320E meets or exceeds the requirements of MIL-I-24768/13 and ASTM D709 Type II Grade LE.

TYPICAL PROPERTIES

		UNITS	VALUE		
			Thickness Tested		
			0.0625"	0.125"	0.500"
PHYSICAL PROPERTIES					
Specific Gravity (ASTM D792)		-			1.34
Rockwell Hardness (ASTM D785)	0.250" Build-up	M Scale	100		
Moisture Absorption (ASTM D570)	Condition A	%			
	Condition D ₁ -24/23	%	1.90		
Flexural Strength (ASTM D790)	Condition A	psi	22,000 / 16,000		
	LW / CW	(MPa)	(151.7) / (110.3)		
Flexural Modulus (ASTM D790)	Condition A	kpsi	1,600 / 1,200		
	LW / CW	(GPa)	(11.0) / (8.3)		
Tensile Strength (ASTM D638)	Condition A	psi		13,000 / 9,000	
	LW / CW	(MPa)		(89.6) / (62.1)	
Izod Impact Strength (ASTM D256)	Condition A	ft-lb/in			
	LW / CW	(J/cm)			
	Condition E-48/50	ft-lb/in			1.35 / 1.10
	LW / CW	(J/cm)			(0.72) / (0.59)
Compressive Strength (ASTM D695)	Condition A	psi			36,000
	Flatwise	(MPa)			(248.2)
Bonding Strength (ASTM D229)	Condition A	lb			1,900
		(kg)			(861.8)
Shear Strength (ASTM D732)	Condition A	psi	13,500		
	Perpendicular	(MPa)	(93.1)		

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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	125 / 125	
Coefficient of Thermal Expansion (IPC-TM 650-2.4.24)	X-axis / Y-axis	" / °C x10 ⁻⁶	18.0 / 19.0	
Flammability Rating (UL Bulletin 94)	Condition A	Class	HB	
ELECTRICAL PROPERTIES				
Dissipation Factor @ 1 MHz (ASTM D150)	Condition A	-		
	Condition D-24/23	-	0.065	
Relative Permittivity @ 1 MHz (ASTM D150)	Condition A	-		
	Condition D-24/23	-	5.50	
Breakdown Voltage (ASTM D149)	Condition A	kVolts	50	
	Condition D-48/50	kVolts	5	
Electric Strength (ASTM D149)	Condition A	Volts/mil (kV/cm)	625 (246.1)	
	Condition D-48/50	Volts/mil (kV/cm)	500 (196.9)	
Arc Resistance (ASTM D495)	Condition A	sec	15	
Comparative Tracking Index (ASTM D3638)		Volts	170	

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.