

Specification

NEMA: G-10

U.L. LISTED: N

DESCRIPTION: Is constructed of a woven glass fabric combined with easy-machining, non-brominated epoxy resin. It is engineered to provide NEMA grade G-10 properties, but is easier to machine and more cost effective in many applications. Applications for G-10 include; low temperature thermal insulation, structural applications and various other mechanical, and electrical applications at low to moderately high temperatures. Meets or exceeds the requirements of MIL-I-24768/2.

TYPICAL PROPERTIES

		UNITS	VALUE		
			Thickness Tested		
			0.0625"	0.125"	0.500"
PHYSICAL PROPERTIES					
Specific Gravity <i>(ASTM D792)</i>		-			1.77
Rockwell Hardness <i>(ASTM D785)</i>	0.250" Build-up	M Scale	99		
Moisture Absorption <i>(ASTM D570)</i>	Condition A	%	0.22		
Flexural Strength <i>(ASTM D790)</i>	Condition A LW / CW	psi (Mpa)	66,000 / 60,000 (455.1) / (413.7)		
Flexural Modulus <i>(ASTM D790)</i>	Condition A LW / CW	kpsi (Gpa)	3,400 / 3,300 (23.4) / (22.8)		
Tensile Strength <i>(ASTM D638)</i>	Condition A LW / CW	psi (Mpa)		43,000 / 39,000 (296.5) / (268.9)	
Izod Impact Strength <i>(ASTM D256)</i>	Condition A LW / CW	ft-lb/in (J/cm)			
	Condition E-48/50 LW / CW	ft-lb/in (J/cm)			9.50 / 7.50 (5.07) / (4.00)
Compressive Strength <i>(ASTM D695)</i>	Condition A Flatwise	psi (Mpa)			44,000 (303.4)
Bonding Strength <i>(ASTM D229)</i>	Condition A	lb (kg)			2,500 (1,134.0)
Shear Strength <i>(ASTM D732)</i>	Condition A Perpendicular	psi (Mpa)	19,000 (131.0)		

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TYPICAL PROPERTIES (continued)

	UNITS	VALUE		
		Thickness Tested		
		0.0625"	0.125"	0.500"
THERMAL PROPERTIES				
Temperature Index ¹ <i>(UL Bulletin 746b)</i>	Electrical / Mechanical	°C	130 / 140	
Coefficient of Thermal Expansion <i>(IPC-TM 650-2.4.24)</i>	X-axis / Y-axis	" / °C x10 ⁻⁶	12.1 / 9.6	
Tg by DMA		°C	128	
Flammability Rating <i>(UL Bulletin 94)</i>	Condition A	Class	HB	
ELECTRICAL PROPERTIES				
Breakdown Voltage <i>(ASTM D149)</i>	Condition A	kVolts	48	
	Condition D-48/50	kVolts	49	
Electric Strength <i>(ASTM D149)</i>	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.

The data within this document is for reference only. Values above are typical for this grade of material.

It is the responsibility of the end user of this information to validate the data in this document. K&E Plastics, Inc. assumes no liability for the use of this data.

Users are urged to contact K&E Plastics, Inc. to determine if the Specification has been revised.