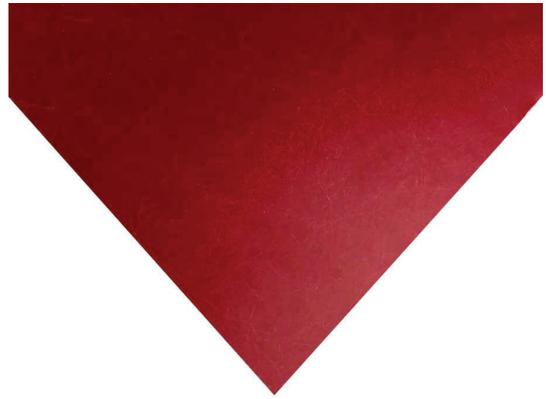


Nema GPO-3 Glass Polyester Laminate

Thermoset Polyester



Description and Overview

GPO-3 is a thermoset composite similar to phenolic grades, but is formed from fiberglass and a polyester resin instead of a phenolic resin. It combines good mechanical strength with track resistance, low conductivity, low smoke generation, and low flame spread, making it a good material for electrical applications as well as transit applications. It is UL94 V-0 fire rated and will self-extinguish.

GPO-3 is easily machined using standard metalworking equipment.

Applications and Uses

GPO-3 is resistant to chemicals as well as impacts and abrasion. Combined with its high arc resistance, heat resistance, track resistance, and low smoke generation, it is the preferred material for switchgear panels and transit applications.

- Power distribution
- Switchgear barriers
- Switchgear mounting panels
- High voltage appliance insulators
- Transit applications

Mechanical Properties

	Unit	Procedure	Typical Values
Tensile Strength	Psi	ASTM D638	8,000
Tensile Modulus	Psi X 10 ⁵	ASTM D638	1.7
Flexural Strength	Psi	ASTM D790	22,100
Flexural Strength - 130°C	Psi	ASTM D790	13,100
Compressive Strength	Psi	ASTM D695	33,100
Shear Strength	Psi	ASTM D732	11,600
IZOD Impact Strength (notched)	ft. lb./in.	ASTM D256	8.9
Water Absorption	% by wt.	ASTM D570	0.4
Specific Gravity	-	ASTM D792	1.81

Electrical Properties

Electrical Strength - Perpendicular S/T in air	Vpm	ASTM D149	450
Electrical Strength - Perpendicular S/T in oil	Vpm	ASTM D149	584
Electrical Strength - Parallel S/S in oil	kV	ASTM D149	47
Arc Resistance	Sec.	ASTM D495	180
Inclined Plane Track Resistance-1/4" thick @2.5 kV		ASTM D2303	1,000
IEC Track Resistance (CTI) @ 3 mm thickness	V.	UL746A	>600
UL High Voltage Track Rate	In./Min	UL746A	0
Permittivity, 60 Hz	-	ASTM D150	4.1
Dissipation Factor, 60 Hz	-	ASTM D150	0.013
Permittivity, MHz	-	ASTM D150	4.1
Dissipation Factor, MHz	-	ASTM D150	0.010
Insulation Resistance	Ohm x 10 ¹²	ASTM D257	3.1

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WARNING: This product can expose you to chemicals, which are known to the State of California to cause cancer, birth defects, and/or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

