

Industrial Laminates/Norplex NP101 Synthetic Fabric

Category : Polymer , Thermoset , Phenolic

Material Notes:

Description: Phenolic resin combined with spun nylon fabric. Good impact strength and excellent electrical properties under high humidity conditions. Meets applicable Boeing specification, but exempt from non-afterglow requirements. Thickness Tested: 0.062", 0.125", and 0.500"

Order this product through the following link:

http://www.lookpolymers.com/polymer_Industrial-LaminatesNorplex-NP101-Synthetic-Fabric.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.20 - 1.30 g/cc	1.20 - 1.30 g/cc	ASTM D792
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Moisture Absorption at Equilibrium	0.30 %	0.30 %	ASTM D229
	@Thickness 1.57 mm	@Thickness 0.0620 in	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	80 - 100	80 - 100	ASTM D785
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Tensile Strength, Yield	55.2 MPa	8000 psi	CW; ASTM D638
	@Thickness 1.57 mm	@Thickness 0.0620 in	
	55.2 MPa	8000 psi	LW; ASTM D638
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Modulus of Elasticity	3.79 GPa	550 ksi	CW; ASTM D229
	@Thickness 1.57 mm	@Thickness 0.0620 in	
	4.83 GPa	700 ksi	LW; ASTM D229
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Flexural Strength	75.8 MPa	11000 psi	CW; ASTM D790
	@Thickness 1.57 mm	@Thickness 0.0620 in	
	96.5 MPa	14000 psi	LW; ASTM D790
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Compressive Strength	172 MPa	25000 psi	ASTM D695
	@Thickness 12.7 mm	@Thickness 0.500 in	
	96.5 MPa	14000 psi	

Shear Strength Mechanical Properties	Metric @ Thickness 15.7 mm	English @ Thickness 0.620 in	ASTM D732 Comments
Izod Impact, Unnotched	1.44 J/cm @ Thickness 12.7 mm	2.70 ft-lb/in @ Thickness 0.500 in	CW, Cond E-48/50; ASTM D256
	1.82 J/cm @ Thickness 12.7 mm	3.40 ft-lb/in @ Thickness 0.500 in	LW, Cond E-48/50; ASTM D256

Thermal Properties	Metric	English	Comments
CTE, linear	95.0 $\mu\text{m/m-}^{\circ}\text{C}$ @ Thickness 1.57 mm, Temperature 20.0 $^{\circ}\text{C}$	52.8 $\mu\text{in/in-}^{\circ}\text{F}$ @ Thickness 0.0620 in, Temperature 68.0 $^{\circ}\text{F}$	x-axis; IPC-TM 650-2.4.24
CTE, linear, Transverse to Flow	120 $\mu\text{m/m-}^{\circ}\text{C}$ @ Thickness 1.57 mm, Temperature 20.0 $^{\circ}\text{C}$	66.7 $\mu\text{in/in-}^{\circ}\text{F}$ @ Thickness 0.0620 in, Temperature 68.0 $^{\circ}\text{F}$	x-axis; IPC-TM 650-2.4.24
Maximum Service Temperature, Air	105 $^{\circ}\text{C}$	221 $^{\circ}\text{F}$	
Flammability, UL94	HB @ Thickness 1.57 mm	HB @ Thickness 0.0620 in	

Electrical Properties	Metric	English	Comments
Dielectric Constant	3.75 @ Thickness 1.57 mm	3.75 @ Thickness 0.0620 in	Permittivity, Cond D-24/23; ASTM D150
Dielectric Strength	19.7 kV/mm @ Thickness 1.57 mm	500 kV/in @ Thickness 0.0620 in	Cond D-48/50; ASTM D229 S.T.
	25.6 kV/mm @ Thickness 1.57 mm	650 kV/in @ Thickness 0.0620 in	Cond A; ASTM D229 S.T.
Dielectric Breakdown	45000 V @ Thickness 1.57 mm	45000 V @ Thickness 0.0620 in	Cond D-48/50; ASTM D229 S/S
	65000 V @ Thickness 1.57 mm	65000 V @ Thickness 0.0620 in	Cond A; ASTM D229 S/S
Dissipation Factor	0.035 @ Thickness 1.57 mm	0.035 @ Thickness 0.0620 in	Cond D-24/23; ASTM D150
Arc Resistance	17 sec @ Thickness 3.17 mm	17 sec @ Thickness 0.125 in	ASTM D495
	150 V	150 V	

Comparative Tracking Index	Metric	English	ASTM D3638
Electrical Properties	@ Thickness 3.17 mm	@ Thickness 0.125 in	Comments

Descriptive Properties	Value	Comments
Bond Strength	1800 lb	0.5", ASTM D229
Color	Natural	

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