

Industrial Laminates/Norplex NP159 Synthetic Fabric (discontinued **)

Category : Polymer , Thermoset , Aramid , Phenolic

Material Notes:

Description: Woven aramid fiber fabric combined with high temperature phenolic resin. With a proper post baking procedure, NP159 will withstand continuous operation at 200° C. Material becomes brittle at this temperature and therefore, undo mechanical stress should be avoided. Thickness Tested: 0.062", 0.125" and 0.500"

Order this product through the following link:

http://www.lookpolymers.com/polymer_Industrial-LaminatesNorplex-NP159-Synthetic-Fabric-nbspdiscontinued-.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.25 - 1.35 g/cc	1.25 - 1.35 g/cc	ASTM D792
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Moisture Absorption at Equilibrium	1.3 %	1.3 %	ASTM D229
	@Thickness 1.57 mm	@Thickness 0.0620 in	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	110 - 130	110 - 130	ASTM D785
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Tensile Strength, Yield	64.1 MPa	9300 psi	CW; ASTM D638
	@Thickness 1.57 mm	@Thickness 0.0620 in	
	75.8 MPa	11000 psi	LW; ASTM D638
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Modulus of Elasticity	4.14 GPa	600 ksi	CW; ASTM D229
	@Thickness 1.57 mm	@Thickness 0.0620 in	
	6.21 GPa	900 ksi	LW; ASTM D229
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Flexural Strength	131 MPa	19000 psi	CW; ASTM D790
	@Thickness 1.57 mm	@Thickness 0.0620 in	
	200 MPa	29000 psi	LW; ASTM D790
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Compressive Strength	310 MPa	45000 psi	ASTM D695
	@Thickness 12.7 mm	@Thickness 0.500 in	
	100 MPa	14500 psi	

Shear Strength Mechanical Properties	Metric @ Thickness 15.7 mm	English @ Thickness 0.620 in	ASTM D732 Comments
Izod Impact, Unnotched	2.83 J/cm @ Thickness 12.7 mm	5.30 ft-lb/in @ Thickness 0.500 in	CW, Cond E-48/50; ASTM D256
	3.31 J/cm @ Thickness 12.7 mm	6.20 ft-lb/in @ Thickness 0.500 in	LW, Cond E-48/50; ASTM D256

Thermal Properties	Metric	English	Comments
CTE, linear	40.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ @ Thickness 1.57 mm, Temperature 20.0 $^{\circ}\text{C}$	22.2 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ @ Thickness 0.0620 in, Temperature 68.0 $^{\circ}\text{F}$	x-axis; IPC-TM 650-2.4.24
CTE, linear, Transverse to Flow	45.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ @ Thickness 1.57 mm, Temperature 20.0 $^{\circ}\text{C}$	25.0 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ @ Thickness 0.0620 in, Temperature 68.0 $^{\circ}\text{F}$	x-axis; IPC-TM 650-2.4.24
Maximum Service Temperature, Air	160 $^{\circ}\text{C}$	320 $^{\circ}\text{F}$	
Flammability, UL94	HB @ Thickness 1.57 mm	HB @ Thickness 0.0620 in	

Electrical Properties	Metric	English	Comments
Dielectric Constant	3.8 @ Thickness 1.57 mm	3.8 @ Thickness 0.0620 in	Permittivity, Cond D-24/23; ASTM D150
Dielectric Strength	21.7 kV/mm @ Thickness 1.57 mm	550 kV/in @ Thickness 0.0620 in	Cond D-48/50; ASTM D229 S.T.
	27.6 kV/mm @ Thickness 1.57 mm	700 kV/in @ Thickness 0.0620 in	Cond A; ASTM D229 S.T.
Dielectric Breakdown	35000 V @ Thickness 1.57 mm	35000 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	200 sec @ Thickness 3.17 mm	200 sec @ Thickness 0.125 in	ASTM D495

Descriptive Properties	Value	Comments
Bond Strength	2400 lb	0.5", ASTM D229
Color	Natural	

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