

Industrial Laminates/Norplex NP321 Cotton Fabric (discontinued **)

Category : Polymer , Thermoset , Phenolic

Material Notes:

Description: NP321 consists of a fine weave cotton fabric (linen) impregnated with a phenolic resin binder. Applications include vanes for air and liquid pumps, and compressors. NP321 remains very flat during fabrication and in the application. Wear resistance is improved by the addition of a lubricant in the system. Thickness Tested: 0.062", 0.125", and 0.500".

Order this product through the following link:

http://www.lookpolymers.com/polymer_Industrial-LaminatesNorplex-NP321-Cotton-Fabric-nbspdiscontinued-.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.30 - 1.40 g/cc	1.30 - 1.40 g/cc	ASTM D792
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Moisture Absorption at Equilibrium	1.9 %	1.9 %	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	86.2 MPa	12500 psi	CW; ASTM D638
	@Thickness 1.57 mm	@Thickness 0.0620 in	
	128 MPa	18500 psi	LW; ASTM D638
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Modulus of Elasticity	5.52 GPa	800 ksi	CW; ASTM D229
	@Thickness 1.57 mm	@Thickness 0.0620 in	
	6.89 GPa	1000 ksi	LW; ASTM D229
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Flexural Strength	147 MPa	21300 psi	CW; ASTM D790
	@Thickness 1.57 mm	@Thickness 0.0620 in	
	177 MPa	25700 psi	LW; ASTM D790
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Compressive Strength	234 MPa	34000 psi	ASTM D695
	@Thickness 12.7 mm	@Thickness 0.500 in	
	82.7 MPa	12000 psi	

Shear Strength Mechanical Properties	Metric @ Thickness 15.7 mm	English @ Thickness 0.620 in	ASTM D732 Comments
Izod Impact, Unnotched	1.17 J/cm @Thickness 12.7 mm	2.20 ft-lb/in @Thickness 0.500 in	CW, Cond E-48/50; ASTM D256
	1.39 J/cm @Thickness 12.7 mm	2.60 ft-lb/in @Thickness 0.500 in	LW, Cond E-48/50; ASTM D256

Thermal Properties	Metric	English	Comments
CTE, linear	14.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ @Thickness 1.57 mm, Temperature 20.0 $^{\circ}\text{C}$	7.78 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ @Thickness 0.0620 in, Temperature 68.0 $^{\circ}\text{F}$	x-axis; IPC-TM 650-2.4.24
CTE, linear, Transverse to Flow	19.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ @Thickness 1.57 mm, Temperature 20.0 $^{\circ}\text{C}$	10.6 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ @Thickness 0.0620 in, Temperature 68.0 $^{\circ}\text{F}$	x-axis; IPC-TM 650-2.4.24
Maximum Service Temperature, Air	150 $^{\circ}\text{C}$	302 $^{\circ}\text{F}$	
Flammability, UL94	HB @Thickness 1.57 mm	HB @Thickness 0.0620 in	

Electrical Properties	Metric	English	Comments
Dielectric Constant	6.0 @Thickness 1.57 mm	6.0 @Thickness 0.0620 in	Permittivity, Cond D-24/23; ASTM D150
Dielectric Strength	6.69 kV/mm @Thickness 1.57 mm	170 kV/in @Thickness 0.0620 in	Cond D-48/50; ASTM D229 S.T.
	18.1 kV/mm @Thickness 1.57 mm	460 kV/in @Thickness 0.0620 in	Cond A; ASTM D229 S.T.
Dielectric Breakdown	20000 V @Thickness 1.57 mm	20000 V @Thickness 0.0620 in	Cond D-48/50; ASTM D229 S/S
	51000 V @Thickness 1.57 mm	51000 V @Thickness 0.0620 in	Cond A; ASTM D229 S/S
Dissipation Factor	0.050 @Thickness 1.57 mm	0.050 @Thickness 0.0620 in	Cond D-24/23; ASTM D150
Arc Resistance	133 sec @Thickness 3.17 mm	133 sec @Thickness 0.125 in	ASTM D495

Descriptive Properties	Value	Comments
Bond Strength	1600 lb	0.5", ASTM D229
Color	Natural, Black	

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