

Industrial Laminates/Norplex NP630 Paper Base Laminate

Category : Polymer , Thermoset

Material Notes:

Description: Machining grade with good electrical properties and moisture resistance. Low cold flow with good dimensional stability.

Thickness Tested: 0.062", 0.125", and 0.500"

Order this product through the following link:

http://www.lookpolymers.com/polymer_Industrial-LaminatesNorplex-NP630-Paper-Base-Laminate.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.35 - 1.45 g/cc	1.35 - 1.45 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	90 - 110	90 - 110	ASTM D785
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Tensile Strength, Yield	82.7 MPa	12000 psi	CW; ASTM D638
	@Thickness 1.57 mm	@Thickness 0.0620 in	
	96.5 MPa	14000 psi	LW; ASTM D638
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Modulus of Elasticity	7.24 GPa	1050 ksi	CW; ASTM D229
	@Thickness 1.57 mm	@Thickness 0.0620 in	
	8.96 GPa	1300 ksi	LW; ASTM D229
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Flexural Strength	103 MPa	15000 psi	CW; ASTM D790
	@Thickness 1.57 mm	@Thickness 0.0620 in	
	138 MPa	20000 psi	LW; ASTM D790
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Compressive Strength	207 MPa	30000 psi	ASTM D695
	@Thickness 12.7 mm	@Thickness 0.500 in	
Shear Strength	88.3 MPa	12800 psi	ASTM D732
	@Thickness 15.7 mm	@Thickness 0.620 in	

Mechanical Properties	Metric <small>J/cm</small>	English <small>-lb/in</small>	Comments
Izod Impact, Unnotched	@Thickness 12.7 mm	@Thickness 0.500 in	CW, Cond E-48/50; ASTM D256
	0.294 J/cm @Thickness 12.7 mm	0.550 ft-lb/in @Thickness 0.500 in	LW, Cond E-48/50; ASTM D256

Thermal Properties	Metric	English	Comments
CTE, linear	19.0 $\mu\text{m/m}\cdot\text{Å}^\circ\text{C}$	10.6 $\mu\text{in/in}\cdot\text{Å}^\circ\text{F}$	x-axis; IPC-TM 650-2.4.24
	@Thickness 1.57 mm, Temperature 20.0 $\text{Å}^\circ\text{C}$	@Thickness 0.0620 in, Temperature 68.0 $\text{Å}^\circ\text{F}$	
CTE, linear, Transverse to Flow	15.0 $\mu\text{m/m}\cdot\text{Å}^\circ\text{C}$	8.33 $\mu\text{in/in}\cdot\text{Å}^\circ\text{F}$	x-axis; IPC-TM 650-2.4.24
	@Thickness 1.57 mm, Temperature 20.0 $\text{Å}^\circ\text{C}$	@Thickness 0.0620 in, Temperature 68.0 $\text{Å}^\circ\text{F}$	
Maximum Service Temperature, Air	130 $\text{Å}^\circ\text{C}$	266 $\text{Å}^\circ\text{F}$	
Flammability, UL94	HB	HB	
	@Thickness 1.57 mm	@Thickness 0.0620 in	

Electrical Properties	Metric	English	Comments
Dielectric Constant	6.1	6.1	Permittivity, Cond D-24/23; ASTM D150
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Dielectric Strength	23.6 kV/mm	600 kV/in	Cond D-48/50; ASTM D229 S.T.
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Dielectric Breakdown	27.6 kV/mm	700 kV/in	Cond A; ASTM D229 S.T.
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Dielectric Breakdown	10000 V	10000 V	Cond D-48/50; ASTM D229 S/S
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Dielectric Breakdown	40000 V	40000 V	Cond A; ASTM D229 S/S
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Dissipation Factor	0.050	0.050	Cond D-24/23; ASTM D150
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Arc Resistance	110 sec	110 sec	ASTM D495
	@Thickness 3.17 mm	@Thickness 0.125 in	
Comparative Tracking Index	200 V	200 V	ASTM D3638
	@Thickness 3.17 mm	@Thickness 0.125 in	

Electrical Properties	Metric	English	Comments
Descriptive Properties		Value	Comments
Bond Strength		1000 lb	0.5", ASTM D229
Color		Natural, Black	

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