

Industrial Laminates/Norplex NP424 Laminate

Category : Polymer , Thermoset , Carbon Fiber/Thermoset Composite

Material Notes:

Description: Composite material composed of woven glass fabric surfaces and paper core combined with epoxy resin. Primarily used in the printed circuit board industry. Easy punching and excellent electrical properties and higher flexural strength than paper based grades.

Provides excellent mechanical and electrical properties, and punches well up to .093". Thickness Tested: 0.062", 0.125" and 0.500"

Order this product through the following link:

http://www.lookpolymers.com/polymer_Industrial-LaminatesNorplex-NP424-Laminate.php

Physical Properties	Metric	English	Comments
Moisture Absorption at Equilibrium	0.25 %	0.25 %	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	235 MPa	34100 psi	CW; ASTM D638
	@Thickness 1.57 mm	@Thickness 0.0620 in	
	310 MPa	44900 psi	LW; ASTM D638
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Modulus of Elasticity	14.5 GPa	2100 ksi	CW; ASTM D229
	@Thickness 1.57 mm	@Thickness 0.0620 in	
	17.2 GPa	2500 ksi	LW; ASTM D229
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Flexural Strength	276 MPa	40000 psi	CW; ASTM D790
	@Thickness 1.57 mm	@Thickness 0.0620 in	
	331 MPa	48000 psi	LW; ASTM D790
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Compressive Strength	345 MPa	50000 psi	ASTM D695
	@Thickness 12.7 mm	@Thickness 0.500 in	
Shear Strength	86.2 MPa	12500 psi	ASTM D732
	@Thickness 15.7 mm	@Thickness 0.620 in	
	0.694 J/cm	1.30 ft-lb/in	

Impact, Unnotched Mechanical Properties	Metric @Thickness 12.7 mm	English @Thickness 0.500 in	CW, Cond E-48/50; ASTM D256 Comments
	0.908 J/cm	1.70 ft-lb/in	LW, Cond E-48/50; ASTM D256
	@Thickness 12.7 mm	@Thickness 0.500 in	

Thermal Properties	Metric	English	Comments
CTE, linear	13.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	7.22 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	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	16.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	8.89 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	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	V-0	V-0	
	@Thickness 1.57 mm	@Thickness 0.0620 in	

Electrical Properties	Metric	English	Comments
Arc Resistance	121 sec	121 sec	ASTM D495
	@Thickness 3.17 mm	@Thickness 0.125 in	
Comparative Tracking Index	300 V	300 V	ASTM D3638
	@Thickness 3.17 mm	@Thickness 0.125 in	

Descriptive Properties	Value	Comments
Bond Strength	1400 lb	0.5", ASTM D229
Color	Tan	

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