

## Industrial Laminates/Norplex NP612 Paper Base Laminate

Category : Polymer , Thermoset

### Material Notes:

Description: Room temperature punching and shearing grade up to .125" thick. More flexible and lower mechanical properties than NP611.

Intended for applications where electrical and moisture requirements are secondary. Thickness Tested: 0.062", 0.125" and 0.500"

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Industrial-LaminatesNorplex-NP612-Paper-Base-Laminate.php](http://www.lookpolymers.com/polymer_Industrial-LaminatesNorplex-NP612-Paper-Base-Laminate.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.35 - 1.40 g/cc	1.35 - 1.40 g/cc	ASTM D792
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Moisture Absorption at Equilibrium	3.2 %	3.2 %	ASTM D229
	@Thickness 1.57 mm	@Thickness 0.0620 in	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	65 - 85	65 - 85	ASTM D785
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Tensile Strength, Yield	57.9 MPa	8400 psi	CW; ASTM D638
	@Thickness 1.57 mm	@Thickness 0.0620 in	
	86.2 MPa	12500 psi	LW; ASTM D638
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Modulus of Elasticity	5.86 GPa	850 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	121 MPa	17600 psi	CW; ASTM D790
	@Thickness 1.57 mm	@Thickness 0.0620 in	
	131 MPa	19000 psi	LW; ASTM D790
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Compressive Strength	186 MPa	27000 psi	ASTM D695
	@Thickness 12.7 mm	@Thickness 0.500 in	
Shear Strength	65.5 MPa	9500 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
	0.406 J/cm @Thickness 12.7 mm	0.760 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	5.5	5.5	Permittivity, Cond D-24/23; ASTM D150
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Dielectric Strength	27.6 kV/mm	700 kV/in	Cond A; ASTM D229 S.T.
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Dielectric Breakdown	55000 V	55000 V	Cond A; ASTM D229 S/S
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Dissipation Factor	0.060	0.060	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	500 V	500 V	ASTM D3638
	@Thickness 3.17 mm	@Thickness 0.125 in	

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

## **Contact Songhan Plastic Technology Co.,Ltd.**

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