

## Industrial Laminates/Norplex NP193E Synthetic Fabric

Category : Polymer , Thermoset , Aramid

### Material Notes:

Description: 17 oz. aramid and "soft glass" fibers are combined to make a fabric that is stronger than pure aramid and less abrasive than glass fabrics. This material is impregnated with a high temperature epoxy resin matrix, which produces a composite with excellent mechanical strength at elevated temperatures and adverse environments. Applications include wear plates for conveyor systems, valve plates, and compressor and pump vanes. Thickness Tested: 0.125", 0.250" & 0.500"

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Industrial-LaminatesNorplex-NP193E-Synthetic-Fabric.php](http://www.lookpolymers.com/polymer_Industrial-LaminatesNorplex-NP193E-Synthetic-Fabric.php)

Physical Properties	Metric	English	Comments
Moisture Absorption at Equilibrium	0.50 %	0.50 %	ASTM D229
	@Thickness 1.57 mm	@Thickness 0.0620 in	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	179 MPa	26000 psi	CW; ASTM D638
	@Thickness 1.57 mm	@Thickness 0.0620 in	
	200 MPa	29000 psi	LW; ASTM D638
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Modulus of Elasticity	11.7 GPa	1700 ksi	CW; ASTM D229
	@Thickness 1.57 mm	@Thickness 0.0620 in	
	12.4 GPa	1800 ksi	LW; ASTM D229
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Flexural Strength	138 MPa	20000 psi	CW; ASTM D790
	@Thickness 1.57 mm	@Thickness 0.0620 in	
	324 MPa	47000 psi	LW; ASTM D790
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Compressive Strength	221 MPa	32000 psi	ASTM D695
	@Thickness 12.7 mm	@Thickness 0.500 in	
Izod Impact, Unnotched	2.14 J/cm	4.00 ft-lb/in	CW, Cond E-48/50; ASTM D256
	@Thickness 12.7 mm	@Thickness 0.500 in	
	8.01 J/cm	15.0 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	44.4 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	24.7 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	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	26.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	14.4 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	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 $\text{Å}^\circ\text{F}$	
Flammability, UL94	HB	HB	
	@Thickness 1.57 mm	@Thickness 0.0620 in	

Electrical Properties	Metric	English	Comments
Dielectric Constant	4.3	4.3	Permittivity, Cond D-24/23; ASTM D150
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Dielectric Breakdown	45000 V	45000 V	Cond D-48/50; ASTM D229 S/S
	@Thickness 1.57 mm	@Thickness 0.0620 in	
	46000 V	46000 V	Cond A; ASTM D229 S/S
	@Thickness 1.57 mm	@Thickness 0.0620 in	
Dissipation Factor	0.021	0.021	Cond D-24/23; ASTM D150
	@Thickness 1.57 mm	@Thickness 0.0620 in	

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

## Contact Songhan Plastic Technology Co.,Ltd.

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