

Industrial Laminates/Norplex NP193P Synthetic Fabric

Category : Polymer , Thermoset , Aramid , Phenolic

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 phenolic 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. Variations of this material may be developed for specific applications. Thickness Tested: 0.125", 0.250" & 0.500"

Order this product through the following link:

http://www.lookpolymers.com/polymer_Industrial-LaminatesNorplex-NP193P-Synthetic-Fabric.php

| Physical Properties | Metric | English | Comments |
|------------------------------------|--------------------|----------------------|-----------|
| Moisture Absorption at Equilibrium | 3.69 % | 3.69 % | ASTM D229 |
| | @Thickness 1.57 mm | @Thickness 0.0620 in | |

| Mechanical Properties | Metric | English | Comments |
|-------------------------|--------------------|----------------------|-----------------------------|
| Tensile Strength, Yield | 131 MPa | 19000 psi | CW; ASTM D638 |
| | @Thickness 1.57 mm | @Thickness 0.0620 in | |
| | 159 MPa | 23000 psi | LW; ASTM D638 |
| | @Thickness 1.57 mm | @Thickness 0.0620 in | |
| Modulus of Elasticity | 8.27 GPa | 1200 ksi | CW; ASTM D229 |
| | @Thickness 1.57 mm | @Thickness 0.0620 in | |
| | 8.27 GPa | 1200 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 | |
| | 228 MPa | 33000 psi | LW; ASTM D790 |
| | @Thickness 1.57 mm | @Thickness 0.0620 in | |
| Compressive Strength | 269 MPa | 39000 psi | ASTM D695 |
| | @Thickness 12.7 mm | @Thickness 0.500 in | |
| Izod Impact, Unnotched | 3.74 J/cm | 7.00 ft-lb/in | CW, Cond E-48/50; ASTM D256 |
| | @Thickness 12.7 mm | @Thickness 0.500 in | |
| | 12.8 J/cm | 24.0 ft-lb/in | LW, Cond E-48/50; ASTM D256 |

| Mechanical Properties | @Thickness 12.7 mm Metric | @Thickness 0.500 in English | Comments |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| Thermal Properties | Metric | English | Comments |
| CTE, linear | 21.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$ @Thickness 1.57 mm, Temperature 20.0 $\text{Å}^\circ\text{C}$ | 11.7 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$ @Thickness 0.0620 in, Temperature 68.0 $\text{Å}^\circ\text{F}$ | x-axis; IPC-TM 650-2.4.24 |
| CTE, linear, Transverse to Flow | 30.8 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$ @Thickness 1.57 mm, Temperature 20.0 $\text{Å}^\circ\text{C}$ | 17.1 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$ @Thickness 0.0620 in, Temperature 68.0 $\text{Å}^\circ\text{F}$ | x-axis; IPC-TM 650-2.4.24 |
| Flammability, UL94 | HB @Thickness 1.57 mm | HB @Thickness 0.0620 in | |

| Electrical Properties | Metric | English | Comments |
|-----------------------|-----------------------------|-------------------------------|---------------------------------------|
| Dielectric Constant | 5.0 @Thickness 1.57 mm | 5.0 @Thickness 0.0620 in | Permittivity, Cond D-24/23; ASTM D150 |
| Dissipation Factor | 0.030 @Thickness 1.57 mm | 0.030 @Thickness 0.0620 in | Cond D-24/23; ASTM D150 |

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

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