

Saint-Gobain Norton® PFA Fluoropolymer Film

Category : Polymer , Film , Thermoplastic , Fluoropolymer , PFA

Material Notes:

Features/Benefits: Outstanding flex life and stress crack resistance Performance from -254°C (-425°F) to 260°C (500°F) Outstanding anti-stick release properties Excellent electrical properties Excellent weatherability Product thicknesses from 0.0005" (0.0127 mm) to 0.030" (0.76 mm) Width up to 62" (1575 mm) for 0.0005" to 0.010" and up to 48" for over 0.010" All films are manufactured and converted in class 100,000 clean room facility Available in cementable (surface treated) form Norton® PFA fluoropolymer film is manufactured by Saint-Gobain Advanced Films and Fabrics from perfluoroalkoxy (PFA) polymer resin. This film offers the highest continuous use temperature 260°C (500°F) of any melt-processable fluoropolymer film. Norton PFA film offers many of the performance properties of PTFE in a clear, transparent form and can be heat sealed, thermoformed, welded, metallized, or laminated to a wide variety of materials. Norton® PFA film offers a combination of excellent dielectric properties across a wide temperature and frequency range, the highest level of chemical and stress crack resistance, excellent clarity and weatherability. The chemical resistance of PFA provides excellent tank-lining performance. Norton® PFA Type WF (mechanical grade) is an ideal economical solution for applications that don't require high aesthetic standards, such as hot melt adhesive (welding tape) application. PFA WF grade possesses all physical, mechanical, and thermal properties of PFA film while offering up to 25% savings. Surface Treatments Available: C-Treatable (cementable, 1 or 2 sides); Corona Treatment (1 or 2 sides); Chemical Etching (1 or 2 sides) Flammability (UL-94): V-0 The combination of chemical resistance and high temperature resistance over a wide frequency range make Norton PFA film an ideal component for circuit board fabricators, flat cable, and electrical insulation applications. Product thickness availability from 0.0005" through 0.030" at widths up to 62" offers circuit board designers flexibility in structure design. The high temperature resistance and non-wetting surface of Norton PFA make it an ideal material for use as a high temperature release film or bagging film for composite manufacturers. The continuous use temperature of 260°C (500°F) and a melt point 310°C (590°F) meet the needs of new resin systems requiring a 230°C (446°F) cure temperature. **Specification Notes:** All values represent typical performance properties and should not be used for specification purposes. Information provided by Saint Gobain Performance Products.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Saint-Gobain-Norton-PFA-Fluoropolymer-Film.php

Physical Properties	Metric	English	Comments
Specific Gravity	2.12 - 2.18 g/cc	2.12 - 2.18 g/cc	ASTM D-792
Water Absorption	<= 0.010 %	<= 0.010 %	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	15.5 MPa	2250 psi	ASTM D-882
Elongation at Break	300 %	300 %	ASTM D-882
Tensile Modulus	0.483 GPa	70.0 ksi	ASTM D-882
Tear Strength	98.1 kN/m	560 pli	Initial Tear Strength; ASTM D-1004
Elmendorf Tear Strength, MD	4.92 - 5.31 g/micron	125 - 135 g/mil	(direction not reported), Propagation Tear Strength; ASTM D-1922

Mechanical Properties	Metric	English	Comments
Thermal Properties	Metric	English	Comments
CTE, linear	99.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$ @Temperature 20.0 $\text{Å}^\circ\text{C}$	55.0 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$ @Temperature 68.0 $\text{Å}^\circ\text{F}$	ASTM D-696
Specific Heat Capacity	1.17 J/g- $\text{Å}^\circ\text{C}$	0.280 BTU/lb- $\text{Å}^\circ\text{F}$	
Thermal Conductivity	0.195 W/m-K	1.35 BTU-in/hr-ft $\text{Å}^2\cdot\text{Å}^\circ\text{F}$	ASTM D-2863
Melting Point	302 - 310 $\text{Å}^\circ\text{C}$	575 - 590 $\text{Å}^\circ\text{F}$	ASTM D-3418
Maximum Service Temperature, Air	260 $\text{Å}^\circ\text{C}$	500 $\text{Å}^\circ\text{F}$	UL-746 B
Flammability, UL94	V-0	V-0	

Optical Properties	Metric	English	Comments
Refractive Index	1.35	1.35	ASTM D542
Transmission, Visible	96 %	96 %	ASTM E424

Electrical Properties	Metric	English	Comments
Surface Resistivity per Square	1.00e+15 ohm	1.00e+15 ohm	ASTM D-257
Dielectric Constant	2.1 @Frequency 1000 Hz	2.1 @Frequency 1000 Hz	ASTM D-150
Dielectric Strength	185 kV/mm	4700 kV/in	Value for a 1 mil sample.; ASTM D-149
Dissipation Factor	0.00050 @Frequency 1000 Hz	0.00050 @Frequency 1000 Hz	ASTM D-150

Descriptive Properties	Value	Comments
Fold Endurance (MIT)	600000, Min	ASTM D-2176

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