

Saint-Gobain Norton® MFA Fluoropolymer Film

Category : Polymer , Film , Thermoplastic , Fluoropolymer

Material Notes:

Features/Benefits: Outstanding clarity Performance from -254°C (-425°F) to 230°C (446°F) Outstanding flex life and stress-crack resistance Outstanding anti-stick release properties Excellent electrical properties Excellent weatherability Minimum thicknesses of 0.0005" (0.0127 mm) Widths up to 62" (1575 mm) All films are manufactured and converted in class 100,000 clean room facility Norton® MFA fluoropolymer film is manufactured from a new, semi-crystalline thermoplastic fluoropolymer (Hyflon® MFA, from Ausimont, is made by copolymerization of tetrafluoroethylene and perfluoromethyl vinyl ether) designed specifically for high temperature applications in the chemical and electrical industries. This film's unique properties place its performance between that of Norton® FEP and Norton® PFA films. Norton MFA film is a clear, transparent product that can be heat sealed, thermoformed, welded, metallized, or laminated to a wide variety of materials. Norton MFA film offers a combination of excellent dielectric properties across a wide temperature and frequency range, chemical and stress-crack resistance similar to PFA, a continuous service temperature of 230° (446°F) and the highest clarity of any fluoropolymer film. Chemical applications such as tank linings and roll covers benefit from this unique combination of properties. The high clarity/low haze structure provides excellent performance in applications such as solar collectors, cell culture bags, UV sterilization applications, and protective films from UV sources. The combination of chemical resistance and high temperature resistance over a wide frequency range make Norton MFA film an ideal component for circuit board fabricators. Flat cable and electrical insulation applications benefit from the low dielectric constant and dissipation factors. Films are available from 0.0005" thickness up to 62" wide and are produced in a Class 100,000 clean room. The high temperature resistance and non-wetting surface of Norton MFA make an ideal material for use as a high temperature release or bagging film for composite manufacturers. Norton MFA with 350-400% elongation, continuous service temperature of 230°C (446°F), and a melt point of 290°C (554°F) meet the needs of BMI systems requiring a 230°(446°F) cure temperature. 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 Applications Include: Used for Aerospace/Release Films, Chemical Process, Electrical/Electronics, Medical, Protective/Decorative. 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-MFA-Fluoropolymer-Film.php

Physical Properties	Metric	English	Comments
Specific Gravity	2.15 g/cc	2.15 g/cc	ASTM D-792
Water Absorption	<= 0.030 %	<= 0.030 %	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	24.1 - 30.16 MPa	3500 - 4375 psi	ASTM D-882
Elongation at Break	300 %	300 %	ASTM D-882
Tensile Modulus	0.496 GPa	72.0 ksi	ASTM D-882

Thermal Properties	Metric	English	Comments
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Thermal Properties	Metric $m/m-^{\circ}C$	English $in-in-^{\circ}F$	Comments
CTE, linear	@Temperature 20.0 °C	@Temperature 68.0 °F	ASTM D-896
Melting Point	280 - 290 °C	536 - 554 °F	ASTM D-3418
Maximum Service Temperature, Air	230 °C	446 °F	UL-746 B
Flammability, UL94	V-0	V-0	
Oxygen Index	$\geq 95 \%$	$\geq 95 \%$	ASTM D2863

Optical Properties	Metric	English	Comments
Refractive Index	1.35	1.35	ASTM D542
Haze	2.5 - 3.5 %	2.5 - 3.5 %	ASTM D1003
Transmission, Visible	90 %	90 %	transparent; thickness not quantified

Electrical Properties	Metric	English	Comments
Surface Resistivity per Square	1.00e+15 ohm	1.00e+15 ohm	ASTM D-257
Dielectric Constant	2.0 @Frequency 1000 Hz	2.0 @Frequency 1000 Hz	ASTM D-150
Dielectric Strength	197 kV/mm	5000 kV/in	Value for a 1 mil sample.; ASTM D-149
Dissipation Factor	≤ 0.00050	≤ 0.00050	ASTM D-150

Descriptive Properties	Value	Comments
Fold Endurance (MIT) (cycles)	6000	

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