

Norton® ECTFE Fluoropolymer Film



Norton® ECTFE fluoropolymer film is manufactured from ethylene-chlorotrifluoroethylene (Halar®)* resin by Saint-Gobain Advanced Films and Fabrics. This material offers the outstanding performance of fluoropolymer film over a temperature range from cryogenic -200°C (-328°F) to 165°C (330°F).

Norton® ECTFE film provides the highest abrasion resistance of any fluoropolymer film available. This film has superior chemical resistance and very high tensile strength and flexural modulus.

Norton® ECTFE film offers low surface energy, making it an excellent choice for release applications. The low specific gravity of ECTFE provides more square feet than FEP for composite fabrication.

The combination of heat stability, electrical characteristics, and barrier properties provides insulator performance especially suited for the electrical and electronics industry. Norton ECTFE film offers the highest dielectric strength of all fluoropolymer films.

Norton® ECTFE film has outstanding resistance to weathering and high energy radiation. This material is suitable for electrical tapes, cable insulation, printed circuits, capacitors, chlorine cells, flat cable constructions, and solar collectors.

Norton® ECTFE film offers a UL V-0 rating for flammability. This provides performance suitable for aircraft cabin interiors and fuel cell membranes.

*Halar® is a registered trademark of Ausimont USA, Inc.
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Features/Benefits

- Outstanding release properties
- Performance from -200°C (-328°F) to 165°C (330°F)
- High dielectric strength
- Excellent chemical, radiation, weather and abrasion resistance
- Non-flammable
- Thermoformable
- Product thicknesses from 0.0005" (0.013 mm) to 0.010" (0.254 mm)
- Width up to 60" (1524 mm)
- Blue, clear and white colors
- All films are manufactured and converted in class 100,000 clean room facility



ECTFE satisfies harsh chemical processing requirements



ECTFE release film yields 22% more per pound than FEP

Norton® ECTFE Fluoropolymer Film — Typical Physical Properties*

| Property | ASTM Method | Metric Value | Metric Units | English Value | English Units |
|----------------------------------|-------------|--------------|--------------------|---------------|---------------------|
| General | | | | | |
| Specific Gravity | D-792 | 1.68 | | 1.68 | |
| Yield (1 mil film) | | 22 | m ² /kg | 115 | ft ² /lb |
| Flammability | UL-94 | V-0 | | V-0 | |
| Water Absorption, 24 hrs | | <0.01 | % | <0.01 | % |
| Mechanical | | | | | |
| Tensile Strength | D-882 | 55 | MPa | 8000 | psi |
| Elongation, Ultimate | D-882 | 250 | % | 250 | % |
| Tensile Modulus | D-882 | 1375 | MPa | 200000 | psi |
| Initial Tear Strength, 1 mil | D-1004 | 4.4 | N | 450 | gm/mil |
| Propagating Tear Strength, 1 mil | D-1922 | 11.6 | N | >1200 | gm/mil |
| Fold Endurance (M.I.T.) | D-2176 | >250000 | cycles | >250000 | cycles |
| Electrical | | | | | |
| Dielectric Strength, 1 mil | D-149 | 216 | kV/mm | 5500 | V/mil |
| Dielectric Constant, 1 kHz | D-150 | 2.55-2.63 | | 2.55-2.63 | |
| Dissipation Factor, 1 kHz | D-150 | <0.005 | | <0.005 | |
| Thermal | | | | | |
| Melt Point | D-3418 | 240 | °C | 465 | °F |
| Continuous Service Temperature | | 150-170 | °C | 300-340 | °F |
| Heat Sealing Temperature | | 245-260 | °C | 475-500 | °F |

*Represent typical performance properties and should not be used for specification purposes.

Contact your Saint-Gobain Performance Plastics representative for appropriate values.



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