

ECTFE FILMS

ECTFE FLUOROPOLYMER FILM

VERSIV™ ECTFE fluoropolymer film is manufactured from ethylene-chlorotrifluoroethylene resin by Saint-Gobain Composite Solutions. This material offers the outstanding performance of fluoropolymer film over a temperature range from cryogenic -200°C (-328°F) to 165°C (330°F).

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.

ECTFE film offers low surface energy, making it an excellent choice for release applications. The low specific gravity of ECTFE yields more square feet per LB than other fluoropolymers for excellent light weight performance.

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

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.

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

Previously known as **CHEMFILM® ECTFE*



*Pictures shown are for illustration purpose only.



FEATURES AND BENEFITS

- Highest mechanical strength of melt fluoropolymers
- 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

AVAILABILITY

- Product thickness from 0.0005" (0.013 mm) to 0.010" (0.254 mm)
- Width up to 60" (1,524mm)
- Available in cementable (surface treated form)

TYPICAL PROPERTIES

| General | Value | Unit | Test Method |
|---------------------------------|-------------|---------------------|-------------|
| Standard Widths | 1,524 | mm | - |
| | 60 | inches | |
| Specific Gravity | 1.68 | - | ASTM D-792 |
| Yield (1 mil) | 22 | m ² /kg | - |
| | 115 | ft ² /lb | |
| Water Absorption, 24 hr. | <0.01 | % | - |
| Mechanical | Value | Unit | Test Method |
| Tensile Strength | 55 | MPa | ASTM D-882 |
| | 8,000 | psi | |
| Elongation, Ultimate | 250 | % | ASTM D-882 |
| Tensile Modulus | 1,375 | MPa | ASTM D-882 |
| | 200,000 | psi | |
| Initial Tear Strength | 4.4 | N | ASTM D-1004 |
| | 450 | gm/mil | |
| Propagating Tear Strength, 1mil | 11.6 | N | ASTM D-1922 |
| | 1,200 | gm/mil | |
| Fold Endurance (M.I.T) | >250,000 | cycles | ASTM D-2176 |
| Electrical | Value | Unit | Test Method |
| Dielectric Strength, 1 mil | 216 | kV/mm | ASTM D-149 |
| | 5,000 | V/mil | |
| Dielectric Constant | 2.55 - 2.63 | - | ASTM D-150 |
| Dissipation Factor, 1 kHz | <0.005 | - | ASTM D-150 |
| Thermal | Value | Unit | Test Method |
| Melting Point | 240 | °C | ASTM D-3418 |
| | 465 | °F | |
| Continuous Service Temperature | 148 - 172 | °C | - |
| | 300 - 340 | °F | |
| Flammability | V-0 | - | ASTM UL-94 |
| Heat Sealing Temperature | 245 - 260 | °C | - |
| | 475 - 500 | °F | |

The values presented are typical values and should not be used for specification purposes. Contact your Saint-Gobain Composite Solutions representative for more information.

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IMPORTANT: The values presented are typical values and should not be used for specification purposes. Contact your representative for more information. It is the user's responsibility to ensure the suitability and safety of Saint-Gobain Composite Solutions products for all intended uses and that the materials to be used comply with all applicable regulatory requirements. Saint-Gobain assumes no responsibility for any product failures that occur due to misuse of the materials it provides arising out of the design, fabrication or application of the products into which the materials are incorporated by purchaser and/or user.

WARRANTY: We warranty specifications at delivery and honor claims for such breach of warranty for six (6) months after delivery. The only obligation under any applicable product warranty will be to replace any portion proving defective, or at our option, to refund the purchase price thereof. User assumes all other risks, if any, including the risk of injury, loss or damage, whether direct or consequential arising out of the use, misuse or inability to use this product(s). SAINT-GOBAIN COMPOSITE SOLUTIONS DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

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