CHEMFILM® PFA Fluoropolymer Film

PFA fluoropolymer film is manufactured by Saint-Gobain Performance Plastics 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. 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.

PFA Type PG (general purpose 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.

PFA Type WF (mechanical welding 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% cost savings.

Applications
The combination of chemical resistance and high temperature resistance over a wide frequency range make PFA film an ideal component for circuit board fabricators, flat cable, and electrical insulation applications. Product thickness availability from 12.7 µm (.0005”) through 250 µm (0.010”) at widths up to 1,524 mm (60”) offers circuit board designers flexibility in structure design.

The high temperature resistance and non-wetting surface of PFA make it an ideal material for use as a high temperature release film or bagging film for composite manufactures. The continuous use temperature of 260°C (500°F) and a melt point of 310°C (590°F) meet the needs of new resin systems requiring a 230°C (446°F) cure temperature.

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 .010” (0.76 mm)
- Width up to 60” (1,575 mm) for 0.0005” to 0.010”
- All films are manufactured and converted in class 100,000 clean room facility
- Available in cementable (surface treated) form
### Typical Film Properties

**General**
- **Specific Gravity**: 2.12-2.18
- **Yield (1 mil)**: 18(90)
- **Water Absorption, 24 hr.**: <0.01

**Mechanical**
- **Tensile Strength @ Break (RT)**: 21(2250)
- **Elongation @ Break (RT)**: 300
- **Tensile Modulus (RT)**: 480(70000)
- **Initial Tear Strength, 2mil**: 4.9-5.3(1.1-1.2)
- **Propagation Tear Strength, 2 mil**: 2.4-2.7 (0.55-0.60)
- **Fold Endurance (M.I.T)**: >600000

**Electrical**
- **Dielectric Strength, 1 mil**: 185(4700)
- **Dielectric Constant, 1 kHz**: 2.1
- **Dissipation Factor, 1 kHz**: 0.0005

**Thermal**
- **Melt Point**: 302-310(575-590)
- **Continuous Service Temperature**: 260 (500)
- **Specific Heat**: 1172(28)
- **Coefficient of Thermal Conductivity**: 0.195(1.35)
- **Coefficient of Linear Thermal Expansion**: 9.9x10⁻⁵(5.5x10⁻⁵)
- **Flammability**: UL-94
- **Limiting Oxygen Index**: 95

**Optical**
- **Refractive Index**: 1.35
- **Solar Transmission**: 96

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Limited Warranty: For a period of 6 months from the date of first sale, Saint-Gobain Performance Plastics Corporation warrants this product(s) to be free from defects in manufacturing. Our only obligation will be to provide replacement product for 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).

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