



Skived PTFE Films Flex Barriers

Saint-Gobain offers a broad range of Skived Films. These films are manufactured from high quality virgin PTFE resins or PTFE compounds and are designed to meet applications with the highest operational requirements. Full in-house processing includes, mixing, moulding, sintering, skiving, sodium-ammonia surface treatment and slitting as well as IATF 16949 and ISO 9001 certifications guaranteeing consistent high product quality.

CHEMFILM® Flex Barrier materials consist of different film and laminate constructions made from premium fluoropolymer resins. They excel in chemical process applications requiring high levels of movement and cycling, a wide operating temperature range, outstanding chemical resistance and crack-free long term performance such as pump diaphragms, valve diaphragms, flexible tank linings and check valve flappers.

CHEMFILM® Flex Barriers provide excellent stress crack resistance and extended flex life. Due to their low surface energy fluoropolymers show outstanding anti-stick characteristics and withstand highly aggressive chemical media.

CHEMFILM® FR (Flex Resist) materials are the perfect fit for applications with movement and flexing. They reach up to 70 % increased life time compared to regular modified PTFE (in Saint-Gobain's internal high-frequency flex life tests to simulate diaphragm material flex life performance).

In highly aggressive chemical media permeation plays a major roll. The CHEMFILM® LP (Low Permeability) materials are the perfect combination for high flex life and low permeability requirements.

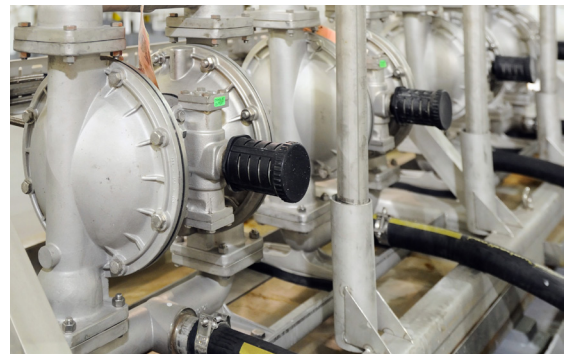
To complement the product offering a bondable version is available (best-in-class etching on one or both sides).



- Tank liners
- Pump & Valve Diaphragms
- Elastomer Laminates
- Gas & Liquid tight barrier in compensators and expansion joints



- Low friction & anti-squeak in automotive



Typical Properties	Thickness [mm]	Surface tension, etched surface [mN/m]	Tensile Strength [N/mm ²]	Elongation at break [%]	Filler content [% by weight]	Appearance/ Color
Flex Barriers FR (Flex Resist)	Typically 0.4 - 1.0	N/A	≥ 25	≥ 300	None	White
Flex Barriers FR (Flex Resist), etched	Typically 0.4 - 1.0	≥ 45	≥ 25	≥ 300	None	Brown*
Flex Barriers LP (Low Permeability)	Typically 0.4 - 1.0	N/A	≥ 25	≥ 280	None	White
Flex Barriers LP (Low Permeability), etched	Typically 0.4 - 1.0	≥ 45	≥ 25	≥ 280	None	Brown*
<i>Test Method</i>	-	<i>DIN ISO 8296</i>	<i>DIN EN ISO 527 v = 50 mm/min microtensile specimen (according to ISO 13000)</i>	<i>DIN EN ISO 527 v = 50 mm/min microtensile specimen (according to ISO 13000)</i>	<i>Thermal Gravimetric Analysis</i>	-

ADDITIONAL PROPERTIES Applies to all materials

Density [g/cm ²]	2.11 - 2.15	DIN EN ISO 1183-1
Surface finish [µm]	Rt ≤5 for FR and LP Rt ≤10 for FR and LP (etched)	DIN EN ISO 4288
Dielectric breakdown strength [kV/mm]	40 - 100	ASTM D-149 thickness 0.05 - 0.5 mm
Ball indentation hardness 132/60** [N/mm ²]	28	DIN EN ISO 2039-1 thickness min 4mm
Coefficient of friction***	0.08	

FEATURES & BENEFITS

- High purity due to usage of highest quality resins
- Continuous service temperature up to 260°C
- Superior etching for improved bondability
- Outstanding flex life (CHEMFILM® FR material)
- Smooth surface and low friction
- Excellent stress and crack resistance
- Conformity to common food and pharma regulations
- Great combination of long flex life and low permeability (CHEMFILM® LP material)

AVAILABILITY

CHEMFILM® Flex Barriers are available in widths up to 1350 mm and thicknesses down to 25 µm. Please contact the factory for further information, slit widths and minimum order quantities. Special thicknesses, widths or other requirements are available upon request.

Performance tests are run using standard test procedures. The values presented are typical values and should not be used for specification purposes. Special requirements (e.g. thickness or color) are available. All values, except surface tension, are measured on non-etched film/laminate with a thickness of > 0.1 perpendicular to molding direction.

*On etched side

**Raw material manufacturer data

***Ball on Disc, Ø=6mm, v=10mm/s, F_N=2N, t=2h

IMPORTANT: It is the user's responsibility to ensure the suitability and safety of Saint-Gobain 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.

WARRANTY: For a period of 6 months, Saint-Gobain warrants this product(s) to be free from defects in manufacturing. 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.

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