

PTFE SKIVED FILMS FLEX BARRIERS



A broad range of **SKIVED FILMS** is manufactured by **Saint-Gobain**® Performance Plastics Corporation, Tape Solutions business, and comes with high quality virgin PTFE resins or PTFE compounds that are intended 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.

Norgard® 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.

Norgard Flex Barriers are intended to 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.

Norgard 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** internal high-frequency flex life tests to simulate diaphragm material flex life performance).

In highly aggressive chemical media, permeation plays a major roll. The **Norgard** 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).

**Previously known as*

CHEMFILM® PTFE SKIVED FLEX BARRIERS



*Pictures shown are for illustration purpose only.

FEATURES AND 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 (**Norgard** 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 (**Norgard** LP material)

AVAILABILITY

Flex Barriers are available in widths up to 1350mm and thicknesses down to 25 µm. A variety of standard dimensions is always available and kept in stock. Please contact the factory for further information, slit widths and minimum order quantities. Special thicknesses, widths or other requirements are available upon request.

APPLICATIONS

- Tank liners
- Pump & Valve Diaphragms
- Elastomer Laminates
- Gas & Liquid tight barrier in compensators and expansion joints
- Low friction & anti-squeak in automotive

TYPICAL PROPERTIES

Property	Flex Barriers FR (Flex Resist)	Flex Barriers FR (Flex Resist), etched	Flex Barriers LP (Low Permeability)	Flex Barriers LP (Low Permeability), etched	Test Method
Thickness	0.1 - 4.0 mm	0.1 - 4.0 mm	0.1 - 4.0 mm	0.1 - 4.0 mm	-
Surface tension, etched surface	N/A	≥ 45 mN/m	N/A	≥ 45 mN/m	DIN ISO 8296
Tensile Strength	≥ 25 N/mm ²	≥ 25 N/mm ²	≥ 25 N/mm ²	≥ 25 N/mm ²	DIN EN ISO 527 v = 50 mm/min microtensile specimen (according to ISO 13000)
Elongation at break	≥ 300 %	≥ 300 %	≥ 280 %	≥ 280 %	DIN EN ISO 527 v = 50 mm/min microtensile specimen (according to ISO 13000)
Filler content	None	None	None	None	Thermal Gravimetric Analysis
Appearance/color	White	Brown*	White	Brown*	-

Property	Value	Test method
Density	2.11 - 2.15 g/cm ²	DIN EN ISO 1183-1
Surface finish	R _t ≤ 5 μm for FR and LP R _t ≤ 10 μm for FR and LP (etched)	DIN EN ISO 4288
Dielectric breakdown strength	40 - 100 kV/mm for unfilled materials	ASTM D-149 thickness 0.05-0,5mm
Ball indentation hardness 132/60**	28 N/mm ² for unfilled materials	DIN EN ISO 2039-1 thickness min 4mm
Coefficient of friction***	0.08	-

The values presented are typical values and should not be used for specification purposes.

Contact your **Saint-Gobain** Tape Solutions representative for more information.

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 your actions or inactions, including your use, design, fabrication or application of the products into which the materials are incorporated.

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