

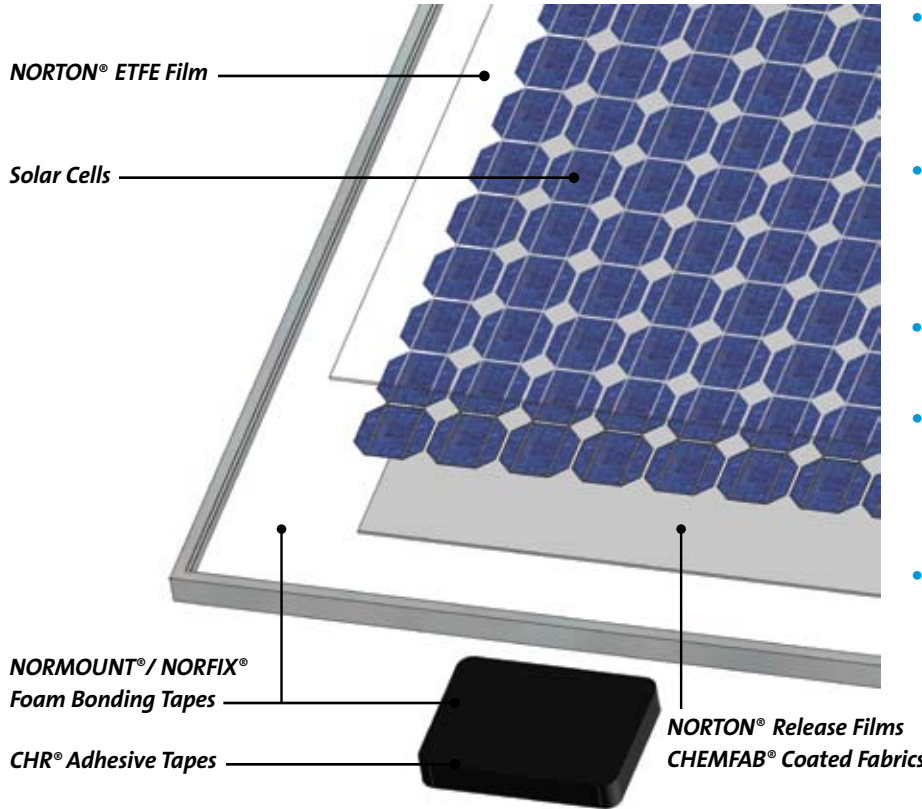
Saint-Gobain Performance Plastics— Composites



**Material
Solutions for
Photovoltaic
Module
Production**

Saint-Gobain Performance Plastics — Composites Material Solutions for Photovoltaic Module Production

Saint-Gobain—The World Leader in Providing the Broadest Range of Unique Engineered Products for Photovoltaic Solutions



- **NORTON® High Performance Extruded Films**
ETFE film for flexible, lightweight PV modules
- **NORTON® High Performance Release Films**
Extruded films, cast PTFE film and skived PTFE film
- **CHR® Pressure-sensitive Adhesive Tapes**
- **NORMOUNT®/NORFIX® High Performance Foam Bonding Tapes**
For frame and junction box
- **CHEMFAB® Specialty Coated Fabrics**
PTFE-coated glass fabrics as release sheet

NORTON® High Performance Extruded Films

NORTON® ETFE film is proven as front cover for flexible, lightweight PV modules; it provides high light transmission, excellent weatherability and UV resistance, and can offer superb adhesion to EVA adhesive systems.

| Product Name | Tensile Strength ASTM D882 | Elongation ASTM D882 | Light Transmission (2 mil, 50µm film) ASTM D1003 | Yield (2 mil, 50µm film) | Width |
|--------------------------|-------------------------------|-------------------------|--|--|-------------------------------|
| NORTON® ETFE Film | 7000 psi (48 Mpa) | 300% | 94% | 55 ft. ² /lb. (11.3 m ² /kg) | Customized up to 61" (1549mm) |
| NORTON® FEP Film | 3500 psi (24 Mpa) | 300% | 97% | 45 ft. ² /lb. (9.2 m ² /kg) | Customized up to 61" (1549mm) |

NORTON® High Performance Release Films



| Product Name | Gauges in. (mm) | Width in. (mm) |
|--|--|----------------------|
| CHEMFILM® MR Release Film | 0.001 (0.025), 0.002 (0.05) | 48 (1219) |
| NORTON® FluoroLease® A Multi-layer Release Film | 0.001 (0.025), 0.002 (0.05) | 61 (1549) |
| NORTON® FEP Release Film | 0.0005 (0.013), 0.001 (0.025), 0.002 (0.05) | 48 (1219), 61 (1549) |
| NORTON® ETFE Release Film | 0.0005 (0.013), 0.0006 (0.015), 0.0008 (0.02), 0.001 (0.025), 0.002 (0.05) | 48 (1219), 61 (1549) |
| NORTON® PMP Release Film | 0.0012 (0.03), 0.002 (0.05) | 61 (1549) |
| NORTON® ECTFE Release Film | 0.0005 (0.013), 0.001 (0.025) | 48 (1219), 61 (1549) |
| T-100 Skived PTFE Release Film | 0.001 (0.025), 0.002 (0.05), 0.003 (0.076) | up to 60 (1524) |
| NORTON® TH Series PI Film | 0.001 (0.025), 0.002 (0.05), 0.003 (0.076) | 61.8 (1570) |

ADHESIVE SYSTEMS

CHR® Pressure-sensitive Adhesive Tapes

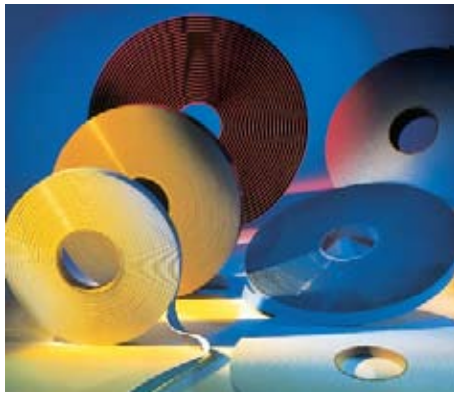
CHR® pressure-sensitive adhesive tapes comprise a full range of products for dielectric insulation and masking functions.



| Substrates | Service Temperature | RUBBER | SILICONE | ACRYLIC |
|--------------------------------|---------------------------------------|--------------------------------------|---------------------------------------|--------------------------------------|
| | | -20°F to +325°F (-29°C to +164°C) | -100°F to +500°F (-73°C to +260°C) | -40°F to +375°F (-40°C to +188°C) |
| Polyester | -100°F to +350°F (-73°C to +177°C) | M851, M852, M855 | M832, M824 | NA |
| Polyimide | -100°F to +500°F (-73°C to +260°C) | NA | K201, K202 | NA |
| Skived PTFE | -100°F to +500°F (-73°C to +260°C) | NA | 2045-2, -3, -5, -10 | 2042-2, -3, -5, -10 |
| High Modulus PTFE | -100°F to +500°F (-73°C to +260°C) | 2250-2 | 2255-2, HM350 (low elongation) | 2253-2 |
| Extruded PTFE | -100°F to +500°F (-73°C to +260°C) | NA | 2285-2, 7962 | 2283 |
| Silicone Sponge Strip-N-Stick® | -100°F to +500°F (-73°C to +260°C) | NA | 100S | 100A, 512AF |
| PTFE Coated Fabric | -100°F to +500°F (-73°C to +260°C) | NA | SG25-03, -05 | SG23-03, -05 |

NORMOUNT®/NORFIX® High Performance Foam Bonding Tapes

NORMOUNT® and NORFIX® are sealing tapes used to fix the frame onto the panel, but also can be used as mounting tapes to bond the junction box to the backsheet. They create an instant watertight seal with no curing time. The installation is simple and economical due to elimination of residue cleaning, use of spacers and control of sealant mixture.



| Saint-Gobain Part Number | Description | Gauges in. (mm) | Color |
|-------------------------------|--------------------------------|--------------------------------|--------------------------|
| NORMOUNT® V8800 V9000 | Polyurethane Foam Bonding Tape | 0.030 to 0.062 (0.8 to 1.6) | Black Off-white |
| NORMOUNT® Acrylic A-Series | Acrylic Foam Bonding Tape | 0.020 to 0.062 (0.5 to 1.6) | Gray, White and Clear |
| NORFIX® V7700 | Polyethylene Foam Bonding Tape | 0.030 to 0.060 (0.8 to 1.5) | Black |

CHEMFAB® Specialty Coated Fabrics

CHEMFAB® PTFE-coated fabrics provide easy release in the lamination process; they are offered in a wide range of glass patterns and high temperature capabilities for process customization.



| Saint-Gobain Part Number | Description | Gauges in. (mm) | Widths in. (mm) |
|--------------------------|---------------|-----------------|-----------------|
| CF210-2 AS | Release Sheet | 0.0093 (0.235) | 102 (2600) |
| CF210-1 | Release Sheet | 0.0093 (0.235) | 80 (2032) |
| CF210-2 | Release Sheet | 0.0093 (0.235) | 102 (2600) |
| CF214-1 | Release Sheet | 0.0126 (0.320) | 102 (2600) |



PERFORMANCE PLASTICS

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