



CHEMFAB[®]

A Saint-Gobain Brand

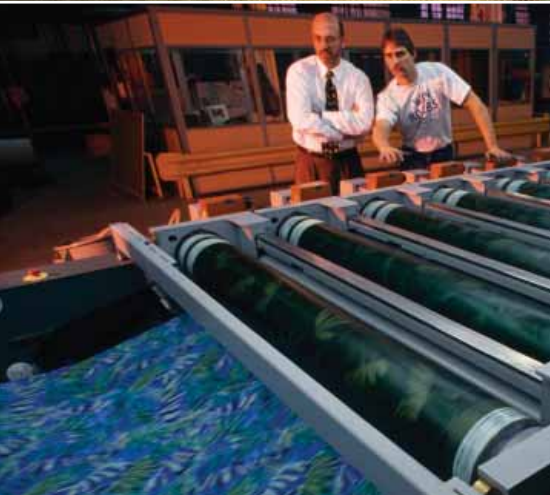
PTFE-Coated
Fabrics, Laminates
and Belting



“Saint-Gobain Performance Plastics has been providing Textile Rubber and Chemical Company with CHEMFAB® high performance coated fabric belts for over 20 years. Saint-Gobain has always worked very closely with us to address the challenges of our application and to achieve the specification requirements needed.

Partnerships like the one we have developed over the years with Saint-Gobain have been very important in the development and commercial success of many products that we provide to the marketplace. It has been and will continue to be this type of relationship that will ensure the future success of both companies.”

—Textile Rubber & Chemical Company, Dalton, GA – USA



Top: CHEMFAB® Belts are manufactured to customer specifications.

Center: TCK® Open Mesh Belting is used as conveyor belting in drying of spools of yarn.

Bottom: CHEMFAB®, TCK® and TCN® Open Mesh Belting products are used in many textile drying applications, including rotary screen print dryers.

SAINT-GOBAIN COATED FABRICS AND COMPOSITES

Saint-Gobain Performance Plastics is the world leader in designing, manufacturing and supplying high-performance flexible materials for demanding end-use applications. Our products combine the chemical, electrical and release properties of fluoropolymers and silicone with the mechanical properties of woven fiberglass and aramid fabrics.

Our manufacturing centers exercise the most stringent quality procedures and draw on the most extensive base of technology, production capabilities and expertise in the industry.

Whatever your requirements may be, Saint-Gobain Performance Plastics can provide the material solution.

Contact us today to discover how our products and capabilities can benefit your company.

Properties of these composites include:

- Low friction
- Excellent release/non-stick properties
- Resistance to temperature extremes—
-240°F to +500°F (-150°C to +260°C)
- Outstanding chemical resistance
- Strength, flexibility and dimensional stability
- Outstanding electrical properties
- USDA and FDA compliance*

Successful applications include:

- Release sheets
- Heat sealing
- Protective curtains
- Gasketing
- Insulation materials
- Conveyor belts
- Dryer belts
- Food cooking belts and sheets
- Machine components

* Not all products are compliant with food safety requirements; please check with your District Sales Manager or Customer Service Representative if you have any questions.

CHEMFAB® PTFE-COATED FABRICS

Electrical Grade (CF0)

Offers the highest level of PTFE content to produce a smooth surface coating. Electrical Grade fabrics are an excellent choice for applications that require consistently high dielectric strength or where an ultra-smooth finish is desired.

Premium Grade (CF1)

Provides high PTFE content for long release life in many demanding applications. The dimensional stability, smooth surface and mechanical durability make Premium Grade products ideal for applications such as conveyor belting, heat sealing, gasketing and release sheets.

Standard Grade (CF2)

Offers the optimum balance of PTFE content, strength and durability at an economical price. Standard Grade fabrics are designed to provide outstanding value in many common applications, and are often the logical starting point when determining the right product for a new application.

Mechanical Grade (CF3)

Provides a cost-effective solution for mechanical release applications. Mechanical Grade fabrics are used where smooth surface finish is not as critical or where the fabric texture may be desirable.

Economy Grade (CF4)

Offers the most economical choice for basic release applications. Economy Grade fabrics are designed to provide reliable release with a textured finish.

Porous Grade (CF9)

Designed with air flow in mind, Porous Grade fabrics allow for the escape of volatile gases, air circulation for drying and are the best choice for applications where porosity is required.

Anti-Static Coating

Many of the Premium and Standard Grade products are available with a specially formulated black PTFE coating that provides for static dissipation.

Tear-Resistant Coating

Several of our fabrics are available with a tear-resistant coating. This process increases the tear strength of the fabric while making it more conformable and able to resist creasing.

Belting Fabrics

Available in widths up to 175", CHEMFAB® Brand belting fabrics are available in a variety of open mesh and closed weaves, fabric types and styles, and coating weights to address the needs of many different applications. Our CHEMFAB® belting products are PTFE-coated fiberglass fabrics. TCK® and TCN® are high performance, PTFE-coated aramid fabrics (KEVLAR® and NOMEX®).

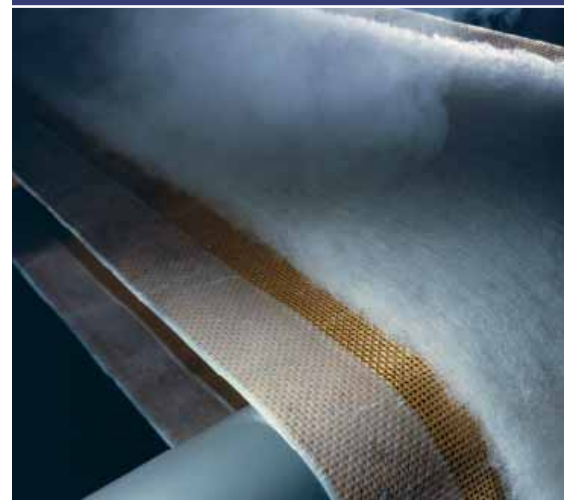
These belting products are offered in two basic forms:

- **Open Mesh Belting** products are used in drying applications where air flow is required. Typical applications include screen print and textile dryers, non-wovens processing and similar processes that require the circulation of hot air.
- **Heavy Weight Belting** products are available in multiple widths and styles. Most of the heavy weight fabrics are heavily coated with PTFE to ensure consistent and reliable release performance in applications as diverse as polymer casting, lamination, composite manufacturing, rubber curing and vulcanization, and general conveying. Several products are available with a light PTFE coating that allows for off-gassing through the belt where required.

Top: TCK® Open Mesh Belting can withstand the effects of the high moisture content common in the processing of non-woven materials.

Center: In-house weaving capabilities allow Saint-Gobain Performance Plastics to better control the quality of our products and to provide custom solutions for demanding applications.

Bottom: Saint-Gobain Performance Plastics manufactures a wide variety of high performance products, including fabrics, belting, films and tapes.



Saint-Gobain Performance Plastics manufactures a unique line of flexible, non-porous PTFE-laminated composites that offer superior performance by combining the features of multi-layer fluoropolymer cast films with the mechanical properties of fiberglass fabrics.

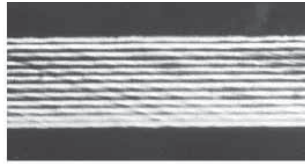


Top: DARLYN® Expansion Joint Composites are used with outstanding success in some of the most severe environments, including flue gas desulphurization systems common to coal-fired power plants.

Bottom: CHEMLAM® laminated PTFE composites are used in high volume factory food processing applications, where reliability and performance are paramount.

CHEMLAM® PTFE-LAMINATED COMPOSITES

Multi-layer Cast PTFE Film



- Built up in layers similar to multiple dipping of a candle.
- Each layer can be tailored for specific requirements, such as special colors or modified surface properties.
- Patented technology — only available through Saint-Gobain Performance Plastics.

Laminated Composites



- Crack- and pinhole-free surface results in low permeation properties, low-grease wicking and long-term release properties for easy cleaning.
- Uniform PTFE thickness over the texture of the fiberglass fabric reinforcement eliminates thin spots in coating that can cause premature failure.

Standard Product Offering

CHEMLAM® Standard Series

Provides exceptional value in the applications most often served by PTFE-coated fabrics. With our unique cast film and lamination technology, the CHEMLAM® Standard Series puts the PTFE where it is most beneficial — on the outside of the fabric — thus offering the best value in many applications. As with PTFE-coated fabrics, applications include release sheets, belting, gasketing and a myriad of others.

CHEMLAM® F-Series

Designed specifically for food processing applications where the high PTFE content, combined with the superior barrier properties of the cast film surface, provides exceptional release life and prolonged resistance to the wicking of fats and oils into the base fabric. Most common uses include the cooking of various meats — including bacon, poultry and others.

CHEMLAM® Ultra Series

Provides exceptional mechanical durability by using multiple plies of fiberglass fabric within the composite. CHEMLAM® Ultra Series fabrics are available with either two or three plies of fabric and with various amounts of PTFE content, allowing for

finished product to be tailored to the requirements of a wide range of applications; the most common of these are in food processing, packaging and polymer processing.

CHEMLAM® Silver Series

Similar in construction to other CHEMLAM® products, CHEMLAM® Silver Series fabrics are made with a thicker specially formulated silver film. CHEMLAM® Silver has a proprietary surface treatment designed to enhance release life in the most demanding applications.

Specialty Laminates

We offer a wide variety of Specialty Laminates designed for specific applications that require outstanding chemical, thermal and mechanical properties. These products include DARLYN® and FLUEFLEX® Expansion Joint Composites, which are used in corrosive flue gas environments. Other products include our CHEMLAM® CPI fabrics — designed for use in chemical processing industry applications — and our CHEMLAM® RL products, which combine a cast PTFE film with various fabrics, including cotton and cotton/polyester blends.

SLIPGRIP® PTFE/SILICONE COMPOSITES

SLIPGRIP® composites offer both a “slippery” surface — PTFE, and a “grippy” surface — silicone rubber.

PTFE, having the lowest coefficient of friction of any known solid, provides an exceptional surface for many reasons: minimum drag in a conveyor belting application, exceptional dielectric strength, and superior release properties. Silicone rubber has characteristics normally associated with PTFE — good chemical resistance, electrical and thermal properties. Where the two surfaces differ the most — coefficient of friction — is what makes it unique.

SLIPGRIP® Composites can be used as cooking sheets, release sheets, conveyor belts and consumer products. They can even be used in some applications where a pressure-sensitive adhesive tape product is currently used — the silicone rubber adheres well to most smooth and clean metal or glass surfaces, while peeling away cleanly with no residue left behind!

SLIPGRIP® Standard Series

Offers the characteristics of our CHEMFAB® Standard Grade PTFE-coated fabrics combined with the attributes of silicone rubber. These products are available in either roll good form or custom fabricated into sheets or belting.

SLIPGRIP® Laminate Series

Offers the characteristics of our CHEMLAM® PTFE-laminates combined with the attributes of silicone rubber. These composites utilize the unique cast film of SGPPL, allowing the use of our copper and silver films — delivering exceptional performance with a splash of color. These products are available in either roll good form or custom fabricated into sheets or belting.

Beta® is a registered trademark of AGY.

SPECIALTY AND STRUCTURAL FABRICS

Saint-Gobain Performance Plastics is vertically integrated, which means that along with coating, casting, lamination and fabrication capabilities, we also weave many of the fabrics that go into our composites. This allows us to produce unique specialty fabrics designed to meet the most stringent requirements of our customers. These products include:

BETA® Cloth

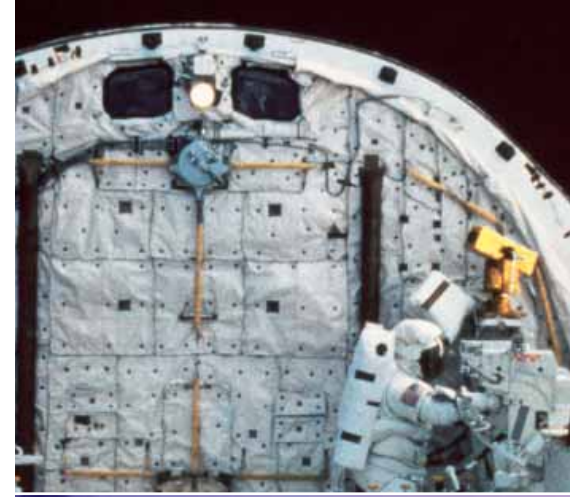
Designed and manufactured to withstand the harsh environment of space, this material is used in the International Space Station and on the Space Shuttle, most often as part of multi-layer insulation required to protect sensitive — and expensive — equipment.

SHEERFILL® and FABRASORB® Architectural Membranes

As the pioneer in permanent structures using PTFE-coated fabrics, Saint-Gobain Performance Plastics has gained a global reputation as the leader in quality, durability and capabilities. Used in landmark structures around the world — including the Millennium Dome in London and the newest stadiums in Houston and Phoenix — SHEERFILL® Architectural Fabric is the product of choice for fabric structures.

RAYDEL® Microwave Transmissive Fabrics

From small planar covers used in point-to-point transmission to large air-supported radomes designed to house and protect the most advanced communications equipment on the planet, RAYDEL® microwave transmissive fabrics are designed to provide exceptional performance. The hydrophobic PTFE coating enables a clear signal to be maintained through the fabric in all weather conditions and also provides a self-cleaning surface that will ensure trouble-free service for many years.



Top: CHEMFAB® Beta® Cloth is available only from Saint-Gobain Performance Plastics; it is used extensively on shuttle missions and in the International Space Station.

Center: SHEERFILL® Architectural Membrane is used in creative and long-lasting structures, including the Denver International Airport terminal.

Bottom: RAYDEL® Microwave Transmissive Fabrics are used to protect sensitive — and expensive — communications equipment from the elements. Saint-Gobain Performance Plastics designs, fabricates and installs spherical radomes to shelter equipment in harsh environments.

Saint-Gobain Performance Plastics developed its belting materials for applications that require superior release characteristics, dimensional and thermal stability, and the dynamic strength to stand up to the most rigorous operating conditions. The unique behavior of the materials results in a product that is more practical and cost-effective than conventional belting materials.

Release Properties

The release characteristics of PTFE are superior to those of any other high-temperature material. This non-stick property is retained over a full range of operating temperatures.

Permeability

Our open mesh belting combines a maximum amount of open area with good mechanical strength. The result is a very high level of air flow through the belt, maximizing the rate of drying.

Dimensional Stability

The woven reinforcement results in an elongation of approximately 1% under normal mechanical loading, even at temperatures of 500°F (260°C). Length distortion is exceptionally low, while width rigidity and stability are enhanced by the high-modulus of the reinforcement.

Thermal Stability

CHEMFAB® belting may be used continuously at temperatures up to 500°F (260°C) without reducing its performance.

Dynamic Strength

Our belting has been subjected to static and dynamic tests that indicate it can withstand all normal operating conditions affecting service life.

Chemical Resistance

PTFE surfaces are unaffected by most chemicals and solvents.

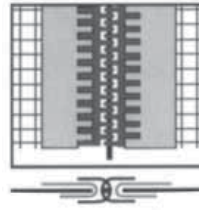
CHEMFAB® BELTING FABRICATION TECHNIQUES

Seam Descriptions

Saint-Gobain Performance Plastics provides a broad range of seam options suited to the performance specifications of each belting system.

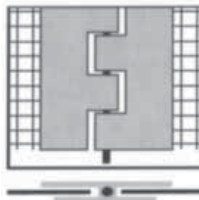
Alligator® or Clipper® Laced Seam

In this extremely strong and flexible mechanical seam, Alligator- or Clipper- type metal lacing is locked into reinforced belt ends. The laced ends are then meshed and joined by a pin. Available in stainless steel or steel.



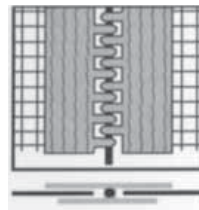
Hinge Seam

Separate sections of material are folded over each of the belt ends, then heat sealed and/or stitched in place. A series of castellated or crenel notches cut into the apex of each fold form a pattern of square or "toothed" loops at the belt ends. The ends are then meshed and joined by a pin fed through the matched pattern of loops. This seam is produced with TCK® (KEVLAR®, a superior strength fabric, coated with PTFE).



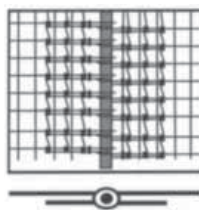
Cable Seam

High-temperature webbed synthetic fabric assures high-strength performance of the cable seam. These belt ends are meshed and joined by a wire fed through to complete the seam.



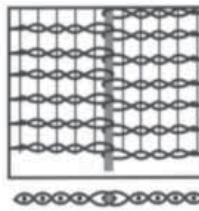
Fold Back Loop Seam

The carcass of our open weave belting material is folded back onto itself at each end and stitched into place. The looped ends are then meshed together and a joining pin is fed through to complete the seam. This method is a direct and reliable means of creating a seam from the same material as the belt itself.



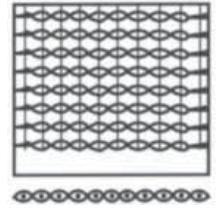
Pin Seam

This seam incorporates reweaving to provide the convenience of a mechanical joining technique combined with the benefits of an endless belt. The two ends are then meshed together and joined by a pin passed through the loops. Joining pins are available in stainless steel or non-metallic materials. Available on select TCK® and TCN® belting products.



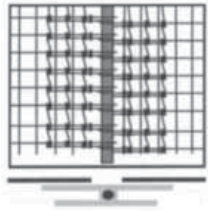
Endless Woven Seam

The belt ends are joined by reweaving the warp threads into the belt carcass of the opposite belt end. This technique produces a truly endless belt with excellent tracking characteristics, uniformity and greater overall flexibility than belts with conventional seams. Available on select TCK® and TCN® belting products.



TCK® 90 Seam

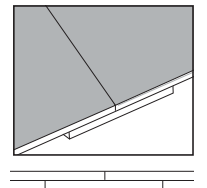
Using our weaving technology, the TCK® 90 seam incorporates braided KEVLAR® yarns woven into an open weave. This extremely strong seam is then stitched to the belt carcass, resulting in an open weave seam that does not block airflow. This seam is ideal for drying applications.



Heat-Sealed Splices

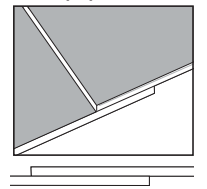
Overlap Seam: The ends of the belt are overlapped (sometimes at an angle) and heat sealed together using a bonding agent (PFA film).

Butt Splice



Butt Seam: The ends of the belt are butted together, a reinforcement strip is placed under the seam and heat sealed (with PFA) to the belt. This is useful in reducing mark-off at the seam.

Overlap Splice



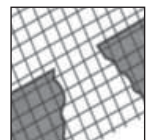
Skived (or Scarfed) Splice:

A type of overlap, the ends of the belt are skived down before splicing to reduce the thickness of the seam and mark-off.

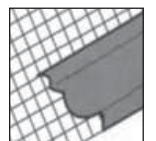
Edge Reinforcement

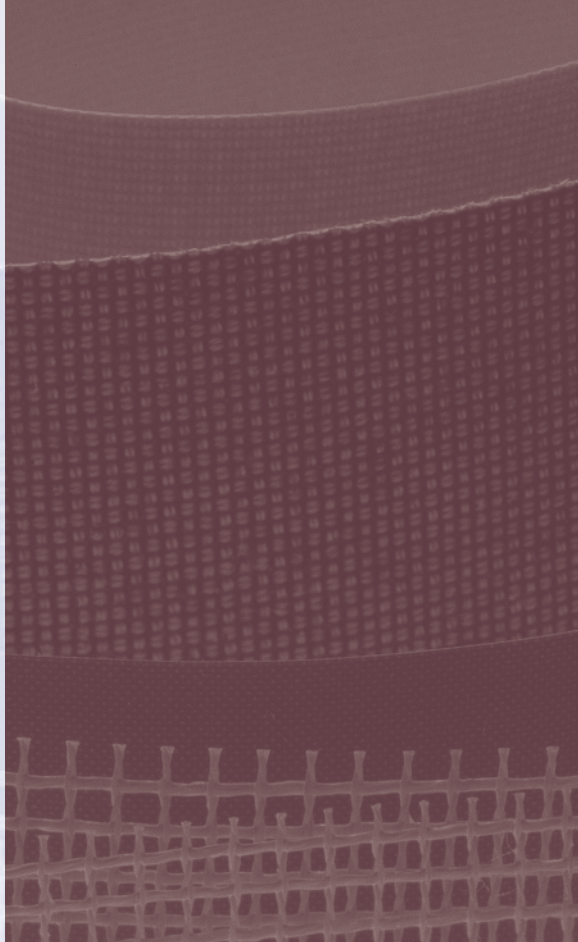
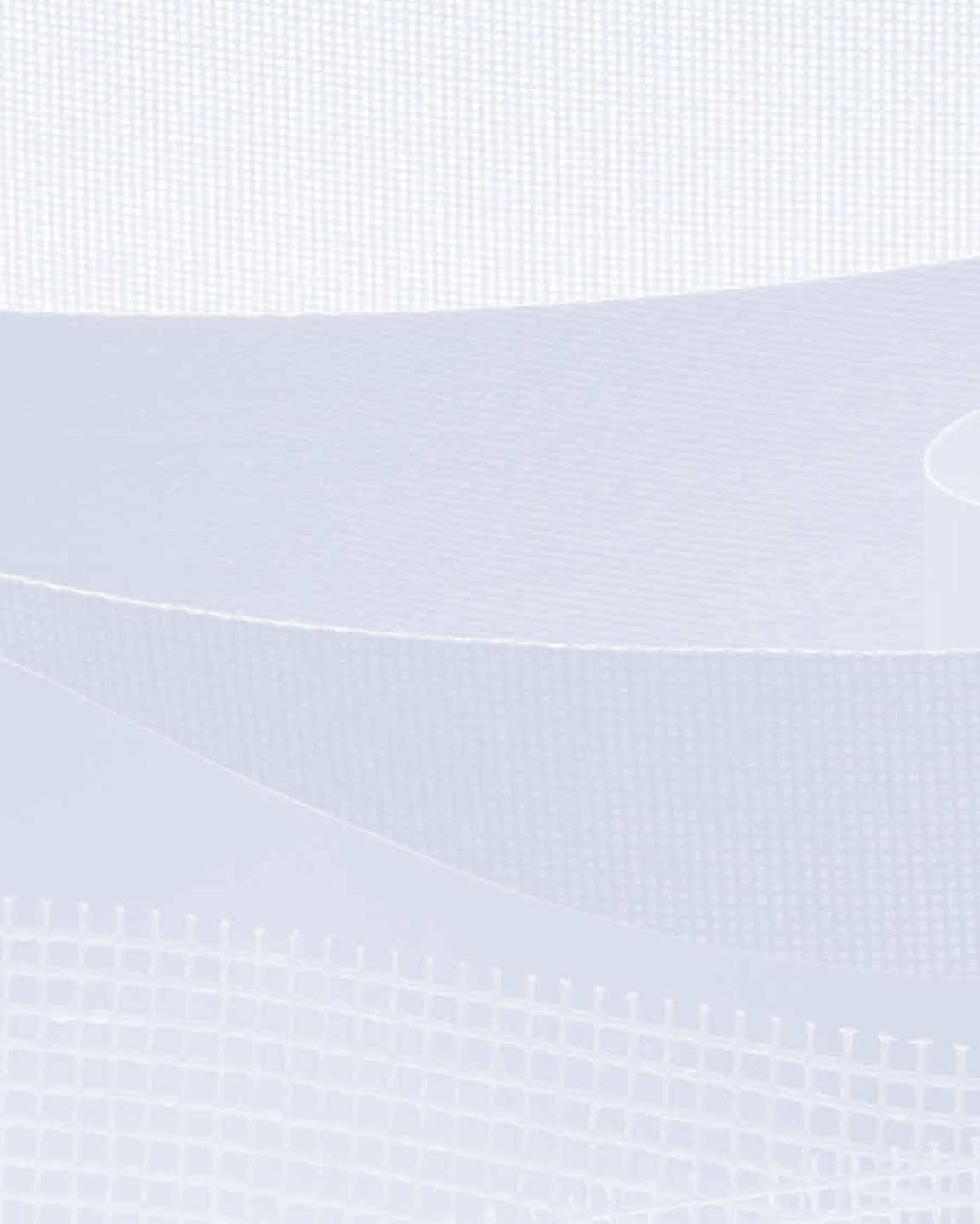
Belt edge reinforcement provides additional support for pin guides, grommets and eyelets, protects belt edges from wear and unraveling, and presents a uniform edge for automatic tracking sensors. We offer the following edge reinforcements on all belting styles and recommend them for use with open mesh belting.

3 Mil PTFE Film: Heat-sealed to the belt edge, this reinforcement is available in widths from 1/2" to 2" (13mm to 50mm).



PTFE/Glass Fabric: Reinforcing strips are heat-sealed to the belt edge. Available in widths from 1/2" to 2" (13mm to 50mm). Fabric edges are strongly recommended when using grommets, pins or eyelets.





WHEN PERFORMANCE MATTERS...

**Count on the Brands from
Saint-Gobain Performance Plastics**

CHEMFAB® FABRICS

CHEMLAM® LAMINATES

SLIPGRIP® COMPOSITES

CHEMFAB® BELTING

TCK® AND TCN® BELTING

CHEMFAB® Brand PTFE-Coated Fabrics

Exceptional release properties and dimensional stability at temperature extremes, as well as chemical resistance and cleanability, are the hallmarks of our coated fabrics. Whether you need a standard "off the shelf" product, one that is engineered to a specific application or an entirely new product, we can meet your unique challenge.

Saint-Gobain Performance Plastics is the world leader in the production of differentiated products based in polymer and fluoropolymer technology with our family of quality brands that includes CHEMFAB®, CHR® and NORTON®. Saint-Gobain Performance Plastics offers a wide range of products including PTFE and silicone-coated fabrics, belting, fluoropolymer films, release liners and foams.

These engineered products are used in a variety of industries such as food processing, transportation, electronics, healthcare, construction, packaging and industrial equipment. Our combined expertise in fabrics, films, foams and coatings gives you confidence in our team approach to providing solutions for demanding applications.

Contact your nearest Saint-Gobain Performance Plastics representative for more details.

www.chemfab.saint-gobain.com



NORTH AMERICA
Saint-Gobain Performance Plastics
150 Gaylord Street
Elk Grove, IL 60007
Customer Service: (800) 323-6677
Tel: (847) 364-0384
Fax: (888) 394-1156

SOUTH AMERICA
Saint-Gobain Performance Plastics Brasil
R. Antonio Matheus Sobrinho, 120
Cep: 13280-000, Brasil
Tel: +55 (19) 2127-8532
Fax: +55 (19) 2127-8540

EUROPE
Saint-Gobain Performance Plastics
Kilrush
County Clare, Ireland
Tel: 353 65 90 80 170
Fax: 353 65 90 80 177

ASIA-PACIFIC
Saint-Gobain Performance Plastics
Suite 1203, No. 147
Chienkwo North Road Section 2
Taipei Taiwan, 104
Tel: 886 (2) 25034201
Fax: 886 (2) 25034202

Saint-Gobain Performance Plastics: A Tradition of Innovation



The invention of making glass by casting it onto a table marked a change from older, traditional processes such as glass blowing. This new process revolutionized glass-making for years to come and would continue to be virtually the only method until the 1920s.

Detail from a painting depicting glass being cast in Saint-Gobain in 1824. Painting by Edouard Pingret. (Saint-Gobain collection)

For more than four decades, Saint-Gobain Performance Plastics and its family of companies have supplied the world with innovative, high performance polymer products for the most demanding industrial applications.

Our tradition of excellence goes back more than 300 years through our connection to Compagnie de Saint-Gobain, one of the world's top 100 industrial

corporations and a leader in the production of engineered materials. Since its founding in 1665 as a glassmaker in France, Saint-Gobain has continued to find new and innovative ways to transform materials ranging from plastics to glass.

Today, Saint-Gobain is a global leader in each of its businesses, including flat glass, glass containers, insulation, rein-

forcements, building materials, abrasives, industrial ceramics and piping.

Saint-Gobain Performance Plastics carries on Saint-Gobain's commitment to quality as the world's leading producer of engineered high performance polymer products for virtually every industry around the globe, using resins such as fluoropolymers, silicones and high-temperature thermoplastics.

Backed by a proud heritage of product innovation, technological expertise and market leadership, Saint-Gobain Performance Plastics is dedicated to working with our customers to solve today's application issues and the challenges that lie ahead.

DISTRIBUTED BY:

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). SAINT-GOBAIN PERFORMANCE PLASTICS DISCLAIMS ANY AND ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

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