**SUPPORT, DRIVING, TENSIONS AND GUIDING**

The excellent dimensional stability of Chemfab brand conveyor belts makes it possible to use simple systems for support, tensioning, driving and guiding.

Nevertheless, if belts are to be trouble-free throughout their full working life, it is essential that the arrangements for tensioning, driving and guiding be specifically designed for the particular application. Accordingly, we advise that customers seek the advice of their area Sales Manager.

**SUPPORT**

Steel sliding plate, steel chevrons or rollers are all suitable forms of support for Saint-Gobain Performance Plastics belts.

**DRIVING**

A single drive roller with a flat face and suitable high friction covering will meet the requirements of most applications.

**TENSIONING**

Tensioning can be achieved by quite simple means as Saint-Gobain Performance Plastics belts undergo very little expansion or contraction during their working life.

**GUIDING**

A guiding system is essential for most PTFE belts. Guiding may be by external guide systems or by incorporating a system in the belt construction, such as metal pins or grommets.

External, electrical, or mechanical systems are preferred, since they are suitable for all widths of belts and prolong belt life by preventing edge damage due to incorrect tracking.

**OPTIMIZING BELT LIFE**

Belt life varies by each application, but a few rules will help you maximize life: run at low tensions, use only flat rollers, ensure each roller is aligned properly, and utilize an automatic guiding system.
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 belting combines a maximum amount of open area with good mechanical strength. The result is a very high level of controlled 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 550°F. Length distortion is exceptionally low, while width rigidity and stability are enhanced by the high-modulus of the reinforcement.

Thermal Stability
Chemfab® brand belting may be used continuously at temperatures up to 550°F without reducing its performance.

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

Chemical Resistance
PTFE surfaces are unaffected by most chemicals and solvents.
### TCK—PTFE-coated KEVLAR

- High-temperature aramid fiber offers a belting material with extremely high strength-to-weight ratio
- KEVLAR is an excellent fabric for use in high-moisture environments

### CHEMFAB—PTFE-coated fiberglass

- Offers a belting material of proven performance in industry
- Fiberglass is a durable, high-temperature material that provides maximum value in use

### TCN—PTFE-coated Nomex

- High-temperature polyamide fiber offers a belting material with excellent flex life and superior abrasion resistance
- TCN belts are easily tracked and have less than 1% elongation

### Typical Applications

- **TCN**—PTFE-coated Nomex
- **CHEMFAB**—PTFE-coated fiberglass
- **TCK**—PTFE-coated KEVLAR
- **TCN** belts are easily tracked and have less than 1% elongation
- Fiberglass is a durable, high-temperature material that provides maximum value in use

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**Width Availability (in)** | **Tensile Strength (lbs/in width)** (warp) | **Elongation (% — tension up to 10 PLI)** | **Min. Pulley Dia. (ins – 180 wrap)** | **Maximum Temperature (°F)** | **Maximum Allowable Working Tension (lbs/in width)** | **Typical Applications**
---|---|---|---|---|---|---
up to 175 | 140 | less than 1 | 6 | 3 | 500 | 550 | 15 |
up to 126 | 160 | less than 2 | 6 | 3 | 500 | 550 | 15 |
58 | 450 | less than 1 | 6 | 3 | 400 | 450 | 25 |
up to 150 | 360 | less than 1 | 6 | 3 | 400 | 450 | 25 |
up to 162 | 350 | less than 1 | 6 | 3 | 400 | 450 | 25 |
up to 175 | 425 | less than 1/2 | 6 | 3 | 400 | 450 | 25 |
up to 175 | 370 | less than 1 | 6 | 3 | 400 | 450 | 25 |
up to 175 | 460 | less than 1/2 | 8 | 4 | 500 | 600 | 25 |
up to 155 | 900 | less than 1/2 | 8 | 4 | 500 | 600 | 25 |
up to 170 | 500 | less than 1/2 | 8 | 4 | 500 | 600 | 25 |
up to 62 | 600 | less than 1/2 | 8 | 4 | 500 | 600 | 25 |
up to 66 | 1100 | less than 1/2 | 8 | 4 | 500 | 600 | 25 |
up to 175 | 235 | less than 1 | 10 | 3 | 500 | 600 | 15 |
Fabrication Techniques

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

FOLD BACK LOOP SEAM
The carcass of the open weave belting material is folded back onto itself at each end and stitched into place. From the apex of each fold, one or more fill (cross-wise) threads are removed to create a series of loops. The loops are then meshed together and a joining pin is led 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.

CABLE SEAM
High-temperature webbed synthetic fabric assures high-strength performance of the cable seam. Alternately woven one side open and one side closed every 1/8”, sections of synthetic material are folded over the belt ends and stitched in place, creating a series of loops parallel to the width of the belt. These belt ends are then meshed and joined by a wire 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.

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, steel or Monel.

FINGER SPLICE
This unique splice uses “fingers” from the belt carcass that are locked together through heat sealing. A finger splice used on a solid belt produces a very smooth, continuous release surface.

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).

PIN SEAM
This seam incorporates reweaving to provide the convenience of a mechanical joining technique combined with the benefits of an endless belt. Fill (cross-wise) threads are removed at each belt end to free warp (lengthwise) threads. The warp threads are then folded back and rewoven into the belt carcass to form loops. 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.

ENDLESS WOVEN SEAM
Fill (crosswise) threads are removed at each belt end to free warp (lengthwise) threads. The belt ends are then 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.

TCK 90 SEAM
Using our weaving technology, the TC90 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.

FLAP OVER SEAM
A PTFE-coated, synthetic fabric flap over the seam area can be heat sealed and/or stitched to a belt. This will ensure a continuous release surface which will inhibit mark-off from seam contamination and protect the seams from abrasion. A flap over seam is generally used with a metal seam and is available with all Saint-Gobain Performance Plastics belting styles.

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 with all belting styles and recommend them for use with porous or screen dryers materials such as TCK 1590, TCK 1589, CHEMFAB 1590 and CHEMFAB 1589.

<table>
<thead>
<tr>
<th>PROCESS</th>
<th>TYPICAL APPLICATIONS</th>
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<tbody>
<tr>
<td>Conveying</td>
<td>Packaging, screen printing</td>
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<td>Casting</td>
<td>Polymer processing; manufacturing floor coverings, carpet tiles and rubber extrusions</td>
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<td>Releasing</td>
<td>Food processing; screen printing; rubber extrusions processing; composites manufacturing</td>
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<td>Laminating</td>
<td>Textile fuse pressing; wood processing; composites manufacturing</td>
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<tr>
<td>Drying</td>
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<th>PRODUCTS</th>
<th>TCK 1590</th>
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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, reinforcements, 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.

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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