



# Gasket Tape Series 1000

Installation

## Installation Instructions

GORE® Gasket Tape Series 1000 is a form-in-place gasket for glass-lined equipment that guards against premature gasket failure. Unlike PTFE envelope gaskets, it will not degrade due to chemical attack, and will ensure a tight and long-lasting seal.

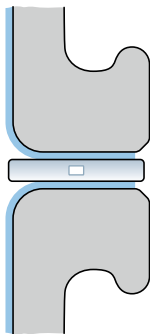
To install, please follow the instructions below:

### 1. SIZE SELECTION

#### 1.1 Gasket Width

Select the gasket width that provides enough material to align the gasket tape flush with the inner and outer diameter. Ensure full coverage of the glass surface. Excess material may exceed the outer diameter.

Figure 1



#### 1.2 Gasket Thickness

Most applications require a base layer of 6 mm (1/4") tape, which can accommodate deviation up to 1.5 mm (0.060") without shimming. Applications with deviation up to 2.3 mm (0.090") can utilize 9 mm (3/8") tape without shimming.

#### 1.3 Shimming

To effectively seal flanges with deviations beyond the maximum for the base layer, a shimming process is recommended. Use of 3 mm (1/8") GORE® Series 1000 shim tape as a shim layer will accommodate an additional 1.5 mm (0.060") of flange deviation. Ensure the shim layer has the same width as the base layer.

## 2. INSTALLATION

### 2.1 Open Flanged Connection

For a trouble-free installation, open the flanges a minimum of 15 cm (6"). Ensure the flanges are well secured for a safe working environment.

### 2.2 Clean Sealing Surface Thoroughly

To ensure optimal adhesion, remove all oil, graphite, and/or other residue, preferably using a specialized grease remover.

### 2.3 Measure Flange Irregularities

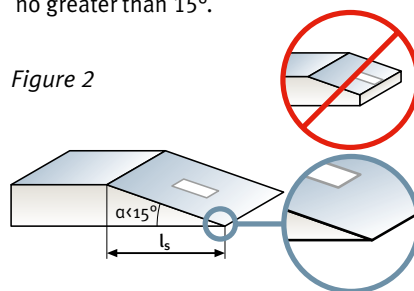
Place a separator between the flanges to avoid glass-to-glass contact. A fiber sheet or a plywood board may be used to achieve this. Close and align the flanges without compressive load beyond equipment weight. Use a thickness gauge to measure the irregularities or flange deviations. Mark all irregularities and their magnitude on the flange for later reference. Be sure to mark the flange orientation for future flange alignment. For the shimming process, please refer to 2.7.

### 2.4 Perform Initial Skive Cut

Unwind about 0.5 m (1.5 ft) of GORE® Gasket Tape Series 1000. Cut the end with a sharp knife on a clean, firm surface using the skiving technique.

In general, the length of the skive cut,  $l_s$ , should be approximately 35 mm (1.5"). The skive angle,  $\alpha$ , should be no greater than 15°.

Figure 2



### ATTENTION

When using the skiving technique to cut the gasket tape, it is critical that the skive runs out smoothly, avoiding any step.

### 2.5 Apply Base Layer of Gasket Tape

Position the skived end of the gasket tape near the designated starting clamp or bolt.

Remove the adhesive backing as it is installed, to prevent the the adhesive strip from picking up dirt during the installation.

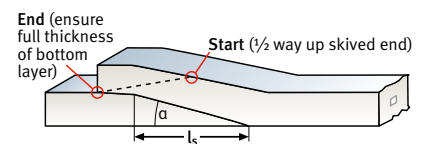
### ATTENTION

The adhesive on GORE® Gasket Tape Series 1000 adheres best to clean surfaces. In cold conditions, gently warm the gasket tape before installation.

### 2.6 Complete the Layer of Gasket Tape

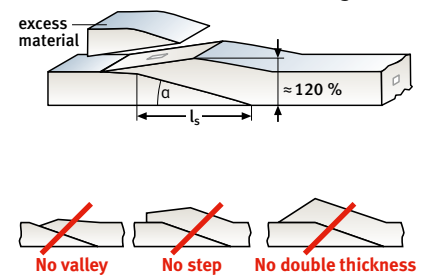
Complete the gasket by laying the tape over the skived end, extending beyond ~15 mm (1/2"). To prepare for the second and final skive cut, identify and mark the starting and end points.

Figure 3a



Cut away the gasket material at an angle. This will leave an area of ~120% of the original gasket thickness.

Figure 3b



### ATTENTION

Avoid contact with oil and fats when handling and installing the gasket tape. No additional anti-adhesives spray or liquid should be applied to the flange surfaces.



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### 2.7 Shim Flange Irregularities

Using the measurements performed in Step 2.3, use the 3 mm (1/8") GORE® Series 1000 shim tape to perform the following shimming process.

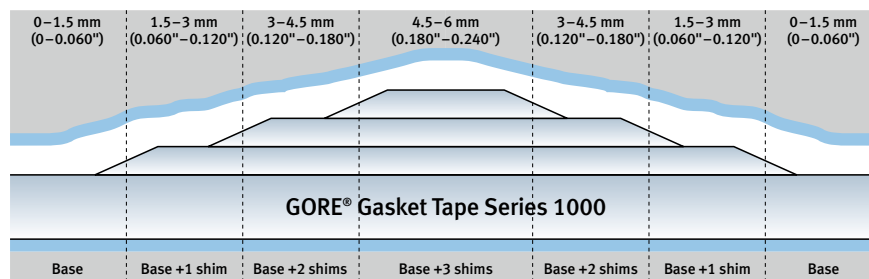
- Measure the length of the irregularity to be shimmed.
- Cut the gasket tape approximately 4 cm (1.5") longer than the measurement.
- Cut both ends of the gasket tape shim using the skiving technique described in Step 2.4.
- Place the gasket tape shim on the previous layer of GORE® Gasket Tape Series 1000.
- Repeat steps a) through d) until the number of shims have been installed for the measured irregularity.

#### Shimming guidance

| Base Layer  | Shims    | Total Thickness | Max. Deviation  |
|-------------|----------|-----------------|-----------------|
| 6 mm (1/4") | 0        | 6 mm            | 1.5 mm (0.060") |
| 6 mm (1/4") | 1 x 3 mm | 9 mm            | 3 mm (0.120")   |
| 6 mm (1/4") | 2 x 3 mm | 12 mm           | 4.5 mm (0.180") |
| 9 mm (3/8") | 0        | 9 mm            | 2.3 mm (0.090") |
| 9 mm (3/8") | 1 x 3 mm | 12 mm           | 3.8 mm (0.150") |
| 9 mm (3/8") | 2 x 3 mm | 15 mm           | 5.3 mm (0.210") |

**Note:** for both base layer thicknesses, add one shim layer per 1.5 mm (0.060") additional deviation.

Figure 4 – Illustrated flange deviation: example with a 6 mm (1/4") base tape



### ATTENTION

Ensure the skive cut begins right after the marked flange irregularity. Full shim layers should be built to accommodate the flange deviation for even compression of the GORE® Gasket Tape Series 1000.

### 3. TORQUING

#### 3.1 Select a Torque

The torque recommendations of the equipment manufacturer must be followed at all times.

#### 3.2 Close the Flanged Connection

Bring the flanges in contact and align flanges as marked in Step 2.3. If many shim layers are causing uneven contact, precompress the shimmed layers by slightly tightening the bolts/clamps directly near the thick gasket spot.

#### 3.3 Torque

Utilize the star pattern, multiple pass, and incremental torque. Refer to the ESA/FSA "Gasket Installation Procedures" for more detailed information on the recommended installation practices.

#### 3.4 Retorque

It is recommended that the bolts/clamps are retorqued once after the first temperature cycle. A temperature cycle is defined as an internal temperature difference ( $\Delta T$ ) greater than 100 °C (180 °F) for at least 1 hour.

Be sure the retorque is in accordance with the torque value recommended by the equipment manufacturer. Retorquing should only be performed after the flange has cooled down to ambient temperature.

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