

ENG



**INSTALLATION
INSTRUCTIONS FOR TEADIT
CERTIFIED LOW EMISSION
VALVE PACKING**

STOPFB
GLAND PA

TEA

450 °C (850 °F)
Steady 650 °C (1200 °F)

Certified Low-Leaki

VALVES

The importance of packing a valve correctly cannot be overemphasized. Many packing failures are due to incorrect installation of the packing. The following steps have been developed to ensure effective installation of packing in valves.

1. **BACK SEAT THE VALVE.** This will prevent the stem and stuffing box from being damaged during packing removal.
2. **REMOVE ALL THE OLD PACKING FROM THE STUFFING BOX AND OTHER AREAS OF CONTACT.** The old packing should be examined for any unusual wear, burning, extrusion, or excessive compression. If the valve includes lantern rings and/or carbon rings, try to remove them if possible and **DO NOT THROW THEM AWAY.** Any damage that is found that might impact the operation of the valve or any of the seals to operate leak free should be repaired or brought to the attention of the appropriate person to make repairs.
3. **CLEAN THE STUFFING BOX AND STEM THOROUGHLY.** Inspect these areas and look for scoring, corrosion, pitting, burning, and unusual wear. Repairs should be made as noted or as directed by the appropriate

person. The stem shall be polished to provide a smooth surface for the packing. The stem should have a surface finish R_a of $32\mu\text{in}$ ($0.80\mu\text{m}$) or smoother. The stuffing box should have a finish R_a of $125\mu\text{in}$ ($3.2\mu\text{m}$) or smoother. Excessively damaged parts should be replaced.

- 4. MEASURE AND RECORD STEM DIAMETER, STUFFING BOX BORE AND BOX DEPTH. USE THE CORRECT CROSS-SECTION OF PACKING.** To determine the correct packing size, measure the diameter of the stem (inside the stuffing box area, if possible) and then measure the diameter of the stuffing box (outer diameter of the ring). Subtract the stem diameter from the stuffing box diameter and divide by two. The result is the required packing size. An equation is provided below:

$$\text{Packing Size} = \frac{\text{Stuffing Box Diameter} - \text{Stem Diameter}}{2}$$

- 5. WHEN USING SPOOL PACKINGS, ALWAYS CUT THE PACKING INTO SEPARATE RINGS.** It is necessary that the rings be cut to the correct length. Otherwise, service life is reduced. Never wind a coil of packing into a stuffing box. Rings must be cut at an angle of 45 degrees to achieve maximum sealing at packing ends. The best way to cut packing rings is to use a Teadit packing cutter after setting the cutter to



TEADIT 2236
The best sealing result
for emissions control
ever seen by a
single packing.



the appropriate packing size and stem diameter. Verify the fit of the first packing ring. Once verified, each additional ring can be cut in the same manner.

- 6. DETERMINE STUFFING BOX DEPTH.** A packing set of five rings is recommended for most installations. Stuffing box depth should be noted prior to installing any packing. For deep stuffing boxes be aware of the following:

Deep Stuffing Boxes: If the stuffing box is deep and spacer rings are required, utilize as many Spacer Bushing Spool Stock (SBSS) packing rings as necessary at the bottom and a maximum of one ring at the top of the box to reduce the number of 2236 spool packing rings to five. Or install bushing spacers in lieu of SBSS packing. Or, if a lantern ring is in use, make sure that the lantern ring is installed under the lubrication port. Packing should be placed underneath the lantern ring. If the lantern ring is broken, inoperable, or it does not allow for proper arrangement of packing, contact the appropriate person.

Packing Extrusion: If packing extrusion is a problem, use one layer SBSS packing where needed to prevent packing extrusion.

- 7. INSTALL ONE RING AT A TIME.** Make sure the cut packing ring is clean, and has not picked up any dirt during handling. Seat each ring firmly with a suitable tamping tool. Joints of successive rings should be staggered and kept at least 90 degrees apart. When enough rings have been individually seated so that the nose of the gland follower will reach them, the gland follower can be used to supplement the individual tamping.
- 8. AFTER THE LAST RING IS INSTALLED,** bring the packing gland follower down on the packing set and tighten the entire packing set. Do not jam the packing into place by excessive loading. Torque the packing gland studs to the recommended Teadit Torque values:

<http://www.teadit2236.eu>

- 9. STROKE THE VALVE FIVE TIMES** before start up and retighten again gland studs to the correct recommended value.
- 10. AFFIX A WARRANTY TAG AND/OR ORANGE RE-TORQUE TAG TO THE VALVE AND RE-TORQUE.** The packing gland shall be re-torqued within **three** days after it has been operating at normal process conditions. Plant specific procedures will dictate tagging protocol.

Option 1: Attach a metal warranty card and hole-punch the re-torque field after re-torque has been performed.

Option 2: Attach an orange re-torque tag and remove it once re-torque is complete.

Option 3: Both Option 1 and 2 above.



Packing 2236

Valve Stem Packing for Extreme Emission Control

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ATTENTION!

The packing gland must be retightened 3 days after it has been operating at normal process conditions.

Date installed _____

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max. temp. 450 °C (850 °F)
Steam 650 °C (1200 °F)

Certified Low-Leak