

“IS” Gland Pack Slip Type Expansion Joint



RECOMMENDED OPERATING INSTRUCTIONS

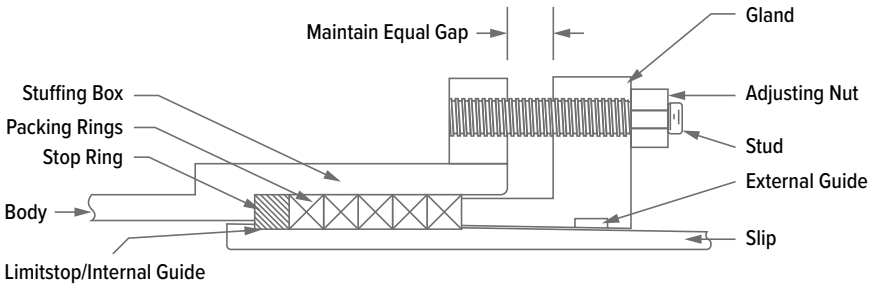


Figure 1

A. **Packing Adjustment** – When the expansion joints are packed at the factory, the packing is pressed into the stuffing box under cold conditions. Most packings will compress further when exposed to heat. Therefore, it is imperative if any leakage is present that the gland be gradually and uniformly drawn up as the joints are brought up to temperature. The joints should be inspected and glands adjusted, if required, periodically for the first few days.

- 1) **Initial Gland Draw-Up** – Glands must be drawn up uniformly to prevent any damage to the slip. The distance between the gland face and the stuffing box flange must be equal around the circumference of the slip (See Figure 1).
- 2) **Amount of Gland Draw-Up** – The resiliency of the packing may be destroyed by drawing up a packing gland too much at one time. Packings under those conditions are forced into a hard mass and lose their sealing efficiency. Therefore, tighten only enough to stop any leakage (Do not over tighten).

B. **Packing Addition and Replacement** – It may become necessary to install additional packing when no more adjustment to the gland can be made, or to completely repack the stuffing box. To add packing, the line must not be under pressure. After the pressure is off the line, the gland may be untightened and moved back from the stuffing box.

- 1) **Clean Stuffing Box** – Remove any foreign objects, pieces of packing, dirt, etc., which would prevent good sealing between the packing rings and the stuffing box. When replacing the packing, make sure all the packing has been removed. A stop ring at the end of the stuffing box will be encountered. Do not remove.
- 2) **Clean Slip** – Remove any residue, dirt, buildup, etc., from the exposed slip surface, using a putty knife, steel wool, or crocus cloth. Care must be used not to scratch or score the slip.
- 3) **Packing Installation** – The packing rings should be cut with square ends. Stagger the butt end joint of the successive rings at least 90° apart and install as shown on the attached packing specification sheet. Press each ring tightly and evenly into place.
- 4) **Packing Adjustment** – Refer to Paragraph A.

C. Preventative Maintenance

- 1) **Hydrotesting/Start-up** – Gland adjustments may be required at hydrostatic or start-up testing. In order that maximum adjustment will be available when expansion joint is in final service, an extra ring of packing may need to be installed. Install the extra ring of packing after final test while system is not pressurized.
 - 2) **Leak Detection** – After initial installation, the joint should be inspected regularly based on service conditions, number of heat-up cycles, and experience. It is very important that any leakage through the packing be stopped immediately. If the leak is permitted to continue, it may cut channels through both the packing and the slip, requiring not only new packing but also a new slip.
 - 3) **Inspection** – Alignment guides, pipe supports, anchors and the joint itself should be inspected yearly for proper operation. It is recommended that the expansion joint be inspected during the shutdown and start-up cycle at this time.
 - 4) **Slip Maintenance** – The slip has a hard, corrosion-resistant, highly-polished surface which slides and keeps friction at a minimum through the packing. To extend the life of the packing, the slip should be cleaned periodically (see B.2 above). The frequency of cleaning will depend on the environment.
- D. **Service Conditions** – The ADSCO expansion joint has been designed for the specific service conditions listed on the purchase order. Changes in pressures, temperatures, material conveyed via the piping etc., can change the optimum packing or joint design from that furnished. Any of the above changes, unless notified and approved by ADSCO would void the warranty.

RECOMMENDED INSTALLATION SPECIFICATIONS

INTRODUCTION

The slip type expansion joint is designed to accommodate only axial movement, no lateral movement is allowed. Rigid adherence to installation and alignment specifications must, therefore, be maintained. Misalignment due to improper installation or anchor and/or guide failure can result in joint leakage from uneven packing wear, slip damage, or slip binding. Proper attention paid to installation and operating procedures will assure long, trouble-free joint life.

A. **RECOMMENDED INSTALLATION** – The best procedure for installing an expansion joint is to first install the pipe, pipe supports, hangers, and guides between two main anchors. Then cut the opening for the joint. The following procedure incorporates these steps:

- 1) Protect the slip surface during handling and installation. A smooth slip is essential to prevent leakage and reduce wear on the packing.
- 2) Every expansion joint installation should provide ample working room and access to the packing glands and rams.
- 3) (a) All expansion joints are shipped from the factory in the fully open position, for compression only, unless otherwise specified on the order. It is assumed they will be installed at ambient temperature, approximately 70°F.
(b) If the pipe is likely to be exposed to colder temperatures than prevail at the time the joint is installed, the slip should be extended to allow the maximum contraction which may occur. Otherwise, all the fittings and anchors may be subjected to excessive strain.

- 4) Install or check pipe, anchors, guides, roller supports, slide supports, spring supports, on the piping system completely. Make sure they are in proper running order and have been bolted/welded completely.
- 5) For new installations, cut opening for expansion joint.
- 6) Securely align, level (shim, grout, etc.) and fasten down anchor base expansion joints by welding/bolting. Do not weld/bolt piping to the slip ends at this time.
- 7) Align and weld/bolt the piping to the body end of the single anchor base joints.
- 8) Adjust as necessary the anchors, guides, and pipe supports/slides on the slip side of the expansion joint to align the piping. The slip outer surfaces or, on flanged joints, the outside surfaces of the flanges, must be within 3/32" of each other. Measured on two axis 90° apart.



- 9) Joints without bases should be installed using the same procedure as (4) and (5) above; that is, welding the body end, then the slip end after aligning piping. Care must be taken with these joints to orient drip, vent, or service connections on the vertical or horizontal axis as designed.
- 10) Any field piping changes, anchor modifications, etc., should be thoroughly considered as the change may require re-engineering. This will ensure proper guiding, anchoring, and support and expansion/contraction for the expansion joint.

WARRANTY

WARRANTY TERMS

ADSCO Packed Expansion Joints are sold subject to the mutual agreement that they are warranted by ADSCO Manufacturing Corporation to be free from defects in material and workmanship, but ADSCO's liability and the buyer's exclusive remedy shall be limited to replacement or repair without charge, at ADSCO's factory, of any material defects which become apparent within five years of the date of shipment, and which shall be determined to be defective by ADSCO upon their return to the factory, or at ADSCO's option to a refund of the purchase price; and that ADSCO shall have no liability for damages of any kind, direct or indirect, arising from an installation and/or use of any material, and by accepting the material the buyer will assume all liability for any damages, direct or consequential, which may result from its use or misuse.

FIVE YEAR SERVICE GUARANTEE

In addition, ADSCO guarantees the satisfactory performance of ADSCO Packed Expansion Joints for a period of five years from the date of shipment, provided, only, that the Expansion Joints are installed, operated, and serviced in accordance with ADSCO's prescribed standards. ADSCO will either replace or repair, without charge, at ADSCO's factory, any Packed Expansion Joint which fails to give five year's service under the above conditions.

FIVE YEAR LEAK-FREE GUARANTEE

In addition, ADSCO guarantees the satisfactory leak-free performance of ADSCO Packed Expansion Joints for a period of five years from the date of shipment, provided, only, that the Expansion Joints are installed, operated, and maintained in accordance with ADSCO's prescribed standards. ADSCO will furnish replacement packing at no extra charge within a period of five years from date of shipment.

ADSCO

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