



RUBBER FLANGED NON-METALIC EXPANSION JOINT INSTALLATION, MAINTENANCE AND STORAGE

1. SCOPE:

1.1 Application:

This specification covers the installation, maintenance and storage of non-metallic expansion joints. The purpose of the standard is to ensure the proper handling of the expansion joints. For definition of terms used in this specification, refer to Technical Handbook, Non-Metallic Expansion Joints and Flexible Connectors.

1.2 Safety-Hazardous Material

While the materials, methods, applications and processes described or referenced in this standard may involve the use of hazardous material, this standard does not address the hazards which may be involved in such use. It is the sole responsibility of the user/installer to ensure familiarity with the safe and proper use of any hazardous materials and to take the necessary precautionary measures to ensure the health and safety of all personnel involved.

2. Application Documents:

2.1 Fluid Sealing Association Technical Handbook, non-metallic Expansion Joints and Flexible Connectors 6th Edition.

2.2 American Society of Testing Materials (ASTM)

Application for copies should be address to:
American Society of Testing Materials
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959



3. GENERAL REQUIREMENTS

3.1 INSTALLATION:

3.1.1 Inspection of Expansion Joint:

Remove expansion joint from protective/shipping packaging. Check the interior, exterior and flange face of the expansion joint for cuts or gauges.

Inspect the mating flanges for rough or damaged areas.

3.1.2 Application, Anchoring, Alignment:

3.1.2.1 Review the application to which the expansion joint is going to be applied. Special attention should be paid to the pressure/vacuum, temperature, and the movements to ensure that the expansion joint meets the system requirements.

3.1.2.2 Review the system to ensure that the anchors, supports, and alignment guides are properly designed. If the system is not properly anchored and/or guided, control rods with compression sleeves should be used to protect the expansion joint against excessive axial movements. In addition, the anchors and/or guides must be designed to withstand the trust forces generated by the expansion joint.

Note: 1) Control rods do not protect the expansion joint and the piping system against lateral offsets and are not a replacement for proper system anchors, guides and supports.
2) Control rods should not be used with non-metallic flanges such as PVC FRP and flanges which do not have sufficient strength.



3.1.2.3 Inspect the piping to ensure that the pipes are properly aligned axially and laterally within the tolerances as outlined in the Technical Handbook Non-Metallic Expansion Joints and Flexible Pipe Connectors (see 2.1). If the piping is not properly aligned, the pipes should be adjusted. When piping cannot be properly aligned, an offset joint should be used.

3.1.3 Installation:

Refer to manufacture's installation manuals/instructions for any special installation requirements.

3.1.3.1 Flange Lubricant:

A thin layer of graphite dispersed in glycerin or water to the rubber flange may be applied to ease for ease of installation or removal at a later date.

3.1.3.2 Install the Expansion Joint:

Install the expansion joint between the mating flanges. Special care, such as the use of slings, should be taken to ensure the expansion joint is not damaged during the process. Continued support of the expansion joint is required until the expansion joint is bolted in place.

3.1.3.3 Install Flange Bolts:

Install the flange bolts through the retaining rings, expansion joint and mating flanges from the arch side of the expansion joint. Metal washers are required at all splits of the retaining rings and are recommended on all bolts. Tighten bolts alternately around the flange until nuts are tight and the rubber flange bulges slightly.

Note: To prevent leakage, the Flange Bolts should be retightened after about one week of operation and checked periodically, thereafter.



3.1.3.4 Control Rods:

When Control Rods are required, install the control rod plates to the outboard side of the mating flange at the same time as the Flange Bolt installation. The number and distribution of control rod plates is determined by the customer, expansion joint specification or the Technical Handbook (see 2.1) minimums. Install the control rods through the remaining control rod plates. If required install a compression sleeve at the time of the control rod insertion in the control rod plate. Place the rubber and metal washers on the control rods and tighten the nuts until snug. Stake the thread of the control rods to prevent the nut from movement during operation.

3.2 Maintenance:

3.2.1 Periodic Inspection:

The Expansion Joint should be inspected periodically to ensure proper operation and installation.

3.2.2 Welding:

If welding is to occur in the vicinity of the expansion joint, a weld blanket or protective cover should be used to protect the expansion joint.

3.3 Storage:

3.3.1 Standard Storage:

Ideal storage is a warehouse with a relatively dry, dark, cool location. The warehouse temperature should not be over 80° F (27C). Storage near ozone producing equipment should be avoided. Store flange face down (in an axis vertical position) on a pallet or wooded platform. Do not store heavy items on top of the expansion joint. A minimum five year shelf-life may be expected with ideal conditions. If storage must be outdoors, the expansion joints should be placed on wooden platforms and should not be in contact with the ground. Cover with a tarpaulin.