

# VIBRATION MANAGEMENT CORPORATION

5930 THOMAS ROAD , HOUSTON , TEXAS 77041 , U.S.A

INTERNET ADDRESS: [www.vimco.biz](http://www.vimco.biz)

## STORAGE:

1. Store expansion joints in a dry/cool location such as a warehouse.
2. Store flange face down on a pallet or wooden platform.
3. Do not store other heavy items on top of expansion joint(s).
4. Ten-year shelf life can be expected with ideal conditions.

## HANDLING:

Do not lift with ropes or bars through the bolt holes. If lifting through the bore, use padding or a saddle to distribute the weight. Do not let expansion joints sit vertically on the edges of the flanges for any period of time.

## SERVICE CONDITIONS:

Make sure the expansion joint rating for temperature, pressure, vacuum\* movements and selection of elastomeric materials match the system requirements. Contact the manufacturer if the system requirements exceed those of the expansion joint selected. (\*Vacuum service for spherical rubber connectors: Vacuum rating is based on neutral installed length, without external load. These products should not be installed "extended" on vacuum applications.)

## ALIGNMENT:

Expansion joints are not designed to make up for piping misalignment errors. Pipe misalignment should be no more than 1/8" in any direction.

## ANCHORING:

Anchors are required whenever a piping system changes direction. Expansion joints should be located as close as possible to anchor points. If an anchoring system is not used, it is recommended that control rods be installed on the expansion joint to prevent excessive movements from occurring due to pressure thrust of the line.

## PIPE SUPPORT:

Piping must be supported so expansion joints do not carry any pipe weight.

## MATING FLANGES:

Install the expansion joint flange against the mating pipe flanges and install bolts so that the bolt head is against the expansion joint flange. Bolts should be installed from the arch side (so that the bolt heads are adjacent to the arch) to insure that the bolts do not interfere with the arch during periods of compression.

Flange-to-flange dimensions of the expansion joint must match the required opening. The rubber expansion joint must be compressed 1/8" to 3/16" during installation in order to obtain a correct installed face-to-face dimension.

Make sure mating flanges are clean and are flat faced type. When attaching beaded end flanged expansion joints to raised face flanges, the use of ring gaskets is required, to prevent metal flange faces from cutting the rubber bead during installation.

Never install expansion joints next to flangeless wafer type check or butterfly valves. Serious damage to the rubber flange bead can result due to an absence of a flange-to-flange mating surface and/or proper bolt connection.

**WARNING:** *Expansion joints may operate in pipelines or equipment carrying fluids and/or gases at elevated temperatures and pressures and may transport hazardous materials. Precautions should be taken to protect personnel in the event of leakage or splash. Rubber expansion joints should not be installed in inaccessible areas where inspection is impossible.*

|                          |                         |  |                    |
|--------------------------|-------------------------|--|--------------------|
| <u>Notes / Remarks :</u> | <u>Project</u> :        | <u>Title :</u><br><b>RUBBER<br/>EXPANSION JOINTS<br/>Installation Instructions</b> | <u>Drawing no.</u> |
|                          | <u>Client</u> :         |  | <b>I-250001.01</b> |
|                          | <u>Consultant</u> :     |  | (2 pages)          |
|                          | <u>Representative</u> : |  | Rev. <b>0</b>      |

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## BOLT TORQUE:

Below are the minimum recommended torque values for non-metallic expansion joints with beaded end type flanges to achieve an adequate seal:

| Sizes        | Recommended Torque |
|--------------|--------------------|
| 1" thru 6"   | 10 ft/lbs          |
| 8" thru 12"  | 20 ft/lbs          |
| 16" thru 24" | 30 ft/lbs          |

Tighten bolts in stages by alternating around the flange. Use recommended torque values above to achieve a good seal. Never tighten an expansion joint to the point that there is metal-to-metal contact between the expansion joint flange and the mating flange. NOTE: Over torquing bolts can cause deformation of the rubber expansion joint flanges, thus resulting in possible premature failure.

## ADDITIONAL TIPS:

1. Insulation over a non-metallic rubber expansion joint is not recommended; however, if the insulation is required, it should be made removable to permit easy access to the flange area, to check bolting.
2. It is acceptable (but not necessary) to lubricate the expansion joint flanges with a thin film of graphite dispersed in glycerin or water to ease disassembly at a later time.
3. Do not weld in the near vicinity of a non-metallic expansion joint.
4. If an expansion joint is to be installed underground, or will be submerged in water, contact the manufacturer for specific guidelines.
5. If the expansion joint will be installed outdoors, make sure the cover material will withstand ozone, sunlight, etc. Materials such as Neoprene and Chlorobutyl are recommended, Materials painted with weather-resistant paint will give additional ozone and sunlight protection.
6. Check the tightness of retaining rings two or three weeks after installation and re-tighten as necessary.
7. Consider ordering a spare expansion joint. The cost of downtime of a critical expansion joint far exceeds the cost of a spare unit placed and protected in reserve on-site.
8. **Failure to install according to instructions, or any evidence of exceeding ratings will automatically void warranty.**

## CONTROL RODS FOR RUBBER EXPANSION JOINTS

1. Assemble control rod plates behind pipe flanges. Flange bolts through the control plate must be long enough to accommodate the plate. Control rod plates should be equally spaced around the flange. Depending on the size and pressure rating of the system, more than two (2) control rods may be required.
2. Insert control rods through top plate holes. Steel washers are to be positioned at outer plate surface. An optional rubber washer can be positioned between the steel washer and the outer plate surface.
3. If a single nut per unit is furnished, position this nut so that there is a gap between the nut and the steel washer. This gap is equal to the joints maximum extension (commencing with the nominal face-to-face length). To lock this nut in position, either "stake" the thread in two places or tack weld the nut to the rod. If two nuts are supplied, the nuts will create a "jamming" effect to prevent loosening. NOTE: Consult the manufacturer if there are any questions as to the rated compression and elongation. These two dimensions are critical in setting the nuts and sizing the compression sleeve.
4. If there is a requirement for compression pipe sleeves, ordinary pipe may be used, sized in length to allow the joint to be compressed to its normal limit.
5. If there is a requirement for spherical washers, these washers are to be positioned at outer plate surface and backed up by movable double nuts.
6. For reducer installations, it is necessary that all control rod installations be parallel to the piping.