

INSTALLATION INSTRUCTIONS FOR RUBBER EXPANSION JOINTS

Service conditions

Make sure the expansion joint rating for temperature, pressure, vacuum and movements match the system requirements.

Contact HALESON for advice if the system requirements exceed those of the expansion joint selected.

Check to make sure the elastomer selected is chemically compatible with the process fluid.

Alignment

Expansion joints are normally not designed to compensate for piping misalignment errors. Piping should be lined up within 1/8". Misalignment reduces the rated movements of the expansion joint and can induce severe stress and reduce service life. Pipe guides should be installed to keep the pipe aligned and to prevent undue displacement.

Anchoring

Proper anchoring of piping is a must. The anchors are decided by the customer's engineer. If anchors are not used, excessive movements may damage the expansion joints. Use of control rods and/or compression sleeves must be decided by the customer's engineer.

Pipe support

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

Mating flanges

Install the expansion joint against the mating pipe flanges and install bolts so that the bolt head and washer are against the retaining rings. Bolts shall not be too long to interfere with the arch of the rubber joint. If washers are not used, flange leakage can result, particularly at the split in the retaining rings.

Make sure the mating flanges are clean. For models with floating flanges (such as HS-10R and HS-20) raised face flanges are adequate. Flat face flanges are recommended for models with rubber flanges (such as HS-60, HS-60BV, HS-21...). However if raised face flanges are to be used, the raised face shall not exceed 1/16". Mating flanges must be parallel to achieve good sealing. Mating flanges' I.D. must match I.D. of rubber expansion joint. Flanges with oversized I.D. may cut the expansion joint rubber flange.

Do not install expansion joints next to check valves or butterfly valves.

Tightening bolts

Tighten bolts in stages by alternating around the flange. If the joint has integral rubber flanges, the bolts should be tight enough to make the rubber flange O.D. bulge between the retaining rings and the mating flange. Torque bolts sufficiently to assure leak-free operation at hydrostatic test pressure.

If the joint has metal flanges, tighten bolts only enough to achieve a seal and never tighten to the point that there is metal-to-metal contact between the joint flange and the mating flange.

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Storage

Ideal storage is a warehouse with a relatively dry, cool location. Store flange face down on a pallet or wooden platform. Do not store other heavy items on top of an expansion joint. Ten year shelf-life can be expected with ideal conditions. If storage must be outdoor joints should be placed on wooden platforms and should not be in contact with the ground. Cover with a tarpaulin.

Large joint Handling

Do not lift with ropes or bars through the bolt hole. If lifting through the bore, use padding or a saddle to distribute the weight. Make sure cables or forklift arms do not contact the rubber. Do not let expansion joints sit vertically on the edges of the flanges for any period of time.

Additional tips

- Do not insulate over a rubber expansion joint; however, if insulation is required, it should be made removable to permit easy access to the flanges. This facilitates periodic inspection of the tightness of the joint bolting.
- 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.
- Do not weld in the near vicinity of a rubber joint.
- If expansion joints are to be installed underground, or will be submerged in water, contact HALESON for specific recommendations.
- If the expansion joint will be installed outdoors, make sure the cover material will withstand ozone, sunlight, etc. Materials painted with weather resistant paint will give additional ozone and sunlight protection.
 - Check the tightness of leak-free flanges two or three weeks after installation and re-tighten if necessary.

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 joints should not be installed in inaccessible areas where inspection is impossible. Make sure proper drainage is available in the event of leakage when operating personnel are not available.