Rubber expansion joints - Installation and maintenance information

Rubber expansion joints are wear parts which are subject to natural aging, so they should be replaced after approx. 5 years.

Storage

Rubber expansion joints should be stored in dark, cool, and dry rooms!

Installation

A rubber expansion joint may not be removed for inspection purposes and then reinstalled, since the sealing surfaces are damaged as a result and will no longer seal reliably.
Additional seals are not required since the rubber expansion joints are self-sealing. In general, it is necessary to ensure a plane contact surface over the entire sealing surface of the rubber bellows. The sealing lip on the expansion joints must not protrude into the connected pipe. If this is the case, an additional steel disk and an additional seal must be installed to protect the sealing lip. An additional steel disk must also be installed in case of installation against a rubber seal (e.g. rubberized pipes). (see overleaf for installation example)
The pipes must be aligned precisely and routed carefully so that bends cannot develop. Only install one expansion joint between any two fixed points. The expansion over this segment must be less than the available expansion compensation. Install the expansion joint as close as possible to a fixed support so that only one sliding support is required on the other side of the expansion joint. Otherwise sliding supports are required on both sides. Offset between the supports and the expansion joint approx. 2x nominal diameter. Design the fixed supports for the maximum anchor point forces. Bolt tightening torques We recommend the use of grade 8.8 flange bolts. The bolts must be tightened evenly in 3-4 passes, following a crosswise pattern.
For tightening using a torque wrench:

Step 1: Tighten all bolts evenly by hand while ensuring that the sealing surfaces are parallel to one another.

Type 130 / Type 100

Standard Diameter	25-80	100-300	350-500	600
Step 2	50 Nm	50 Nm	50 Nm	100 Nm
Step 3	80 Nm	100 Nm	130 Nm	210 Nm

Typ SAE 3000

Standard Diameter	32	40	50	65
Step 2	5 Nm	5 Nm	5 Nm	10 Nm
Step 3	10 Nm	14 Nm	16 Nm	21 Nm

The expansion joint sealing face which protrudes from the steel flange should be compressed to approx. half of its original thickness through application of the bolt tightening torque.

Step 3: The final torque should be re-applied all around after a settling time of approx. 30 minutes.

CAUTION:

Don't work with sharp-edged tools (risk of damaging the rubber bellows).
Cover the rubber parts during welding and cutting work in order to protect the rubber bellows from flying sparks and/or radiated heat. Tighten the flange bolts alternately and evenly, and ensure that the sealing surfaces remain parallel. For expansion joints with through-holes, the bolts must be installed with the bolt head facing the bellows in order to prevent damage to the bellows under pressure.
The flanges on type 100 bellows have threaded holes. Ensure that the threaded bolt ends don't protrude on the bellows side during installation, in order to prevent damage to the bellows under pressure.
The rubber parts must not be painted or insulated (solvents and chemicals will damage the bellows).
All accessory parts must be tested for proper functionality and completeness after installation and before the first pressure test.
Flowing media must not contain any additives which are damaging to elastomers.
The expansion joints must not be subjected to torsion forces. Avoid simultaneous max. lateral movement and max. axial extension.

INSPECTION INTERVALS

Rubber expansion joints are wear parts. Therefore a visual inspection must be performed at least twice per year by a specialist.
The rubber expansion joint must be replaced immediately if any abnormalities such as formation of bubbles, cracking, or other defects are found.

This information is provided according to our best knowledge, but doesn't represent a fitness for use warranty. Technical changes reserved.

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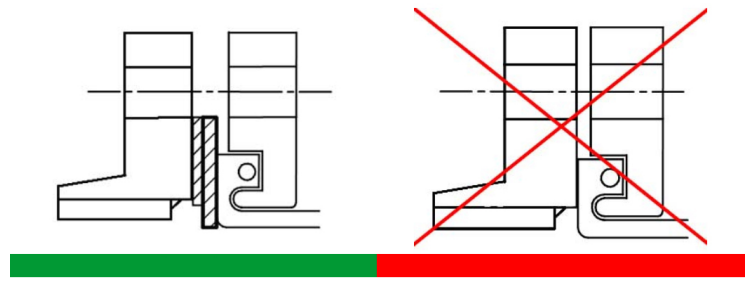

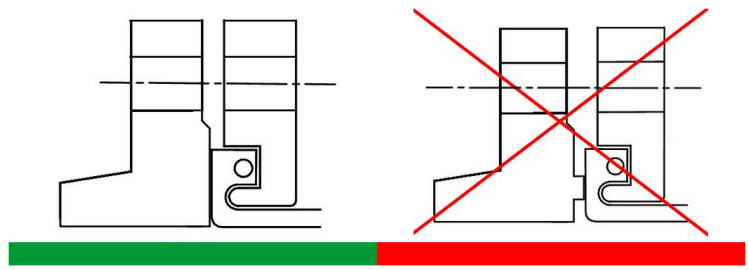

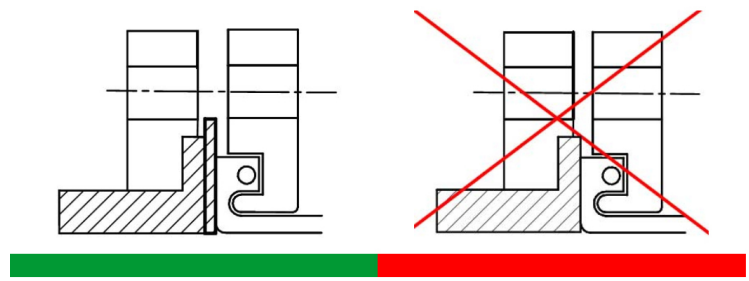

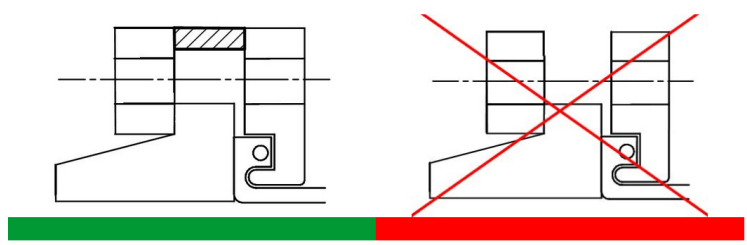

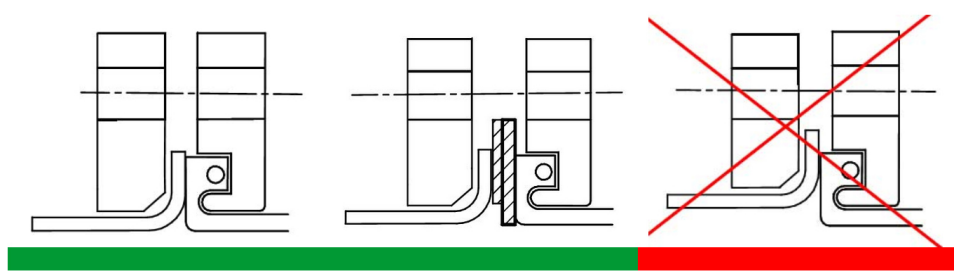

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