

15. Gasket installation procedures

How to install and use gaskets in the field?

Successfully sealing a flanged connection depends upon many elements of a well - designed flanged system working well together. Here is a summary, which should serve as a guideline for maintenance operators, engineers, and fitters in order to ensure successful gasket installation and assembly of bolted flange connections.

Tools Required

Special tools are required for cleaning and tensioning the fasteners. In addition, always use standard safety equipment and follow good safety practice. Prepare the following equipment prior to installation:

- Calibrated torque wrench, hydraulic or other tensioner,
- Wire brush
- Lubricant
- Helmet and safety goggles
- Other plant specified equipment

1. Clean and examine

Remove all particles and debris from seating surfaces, fasteners (bolts or studs), nuts, and washers. Use plant-specific dust control procedures. Examine fasteners (bolts or studs), nuts, and washers for defects such as burrs or cracks. Examine flange surfaces for warping, radial scores, heavy tool marks, or anything prohibiting proper gasket seating. Replace components if found to be defective.

2. Align flanges

Align flange faces and bolt holes without using excessive force. Report any misalignment.

3. Install gasket

Verify if the gasket is of the specified size and material. Carefully insert gaskets between the flanges. Make sure the gasket is centred between the flanges. Do not use "jointing compounds", graphite, grease or release agents on the gasket or seating surfaces. Bring flanges together, ensuring the gasket isn't pinched or damaged.

4. Lubricate load-bearing surfaces

Use only specified or approved lubricants. Liberally apply Lubricant uniformly to all thread, nut, and washer load-bearing surfaces. Ensure Lubricant doesn't contaminate either flange or gasket face.



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5. Install and tighten bolts

Always use proper tools: calibrated torque wrench or other controlled tensioning device.

Consult our Technical expert or use the Gasket calculation software DON for guidance on torque specification.

Always torque nuts in a cross bolt-tightening pattern. Tighten the nuts in multiple steps:

- step-1 Tighten all nuts initially by hand. (Larger bolts may require a small hand wrench.)
- step-2 Torque each nut to approximately 40% of full torque.
- step-3 Torque the nuts to approximately 70% of full torque.
- step-4 Torque each nut to full torque, again using the cross bolt tightening pattern. (Large-diameter flanges may require additional tightening passes.)
- step-5 Apply at least one final full torque to all nuts in a clock-wise direction until all torque is uniform. (Large diameter flanges may require additional tightening passes.)



6. Retightening

Do not retorque elastomer-based, asbestos free gaskets after they have been exposed to elevated temperatures unless otherwise specified. Retorque fasteners exposed to aggressive thermal cycling. All retorquing should be performed at ambient temperature and atmospheric pressure.

STORING GASKETS

Industrial gaskets consist of various materials, which are subjected to ageing, weathering, oxidation... Ageing causes decreasing of the mechanical properties of gaskets. For this reason storage under the following conditions is recommended:

- Ambient temperature of storage- away from heaters
- Dark storage room- away from direct sunlight
- Dry atmosphere
- Avoid areas where electric discharge appears- ozone production
- The gaskets must lie horizontally-avoid hanging on hooks or folding which could cause cracking

Avoid storing gaskets for more than two years.

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Our team is always available to our customers for any assistance, including advice they might need on the selection and use of our sealing products. This is provided by a special team of highly skilled experts making up the Technical Service department. By spreading the most comprehensive knowledge of our products, the Technical Service can help you to solve practically any sealing problem. If you need our help, do not hesitate to contact us.

