

Gasket Installation Procedures

In order to ensure the optimum service life of our gasket materials it is important to not only choose the correct material for the application but to install and maintain it correctly.

The following guidelines are designed to assist the end user in the assembly of our gasket materials:

Flange Condition

- Remove the old gasket and check that the joint faces are clean and free from indentations and scoring. Radial (cross face) scoring is a particular concern, and can lead to joint leakage.
- For most applications a surface finish of between 3.2 μ m to 6.3 μ m Ra (125 to 250 micro inch) is recommended. For very thin gaskets (0.4 mm or below) a surface finish as fine as 1.6 μ m Ra is acceptable. Use a surface finish comparator e.g. Novus comparator to check flange finish.
- Check that the flange faces are parallel or that the pipework is sufficiently flexible to allow the flanges to be pulled parallel and concentric without undue bolt loads.

Gasket

- Always use a new gasket.
- The gasket material should be as thin as possible. Out of flat or pitted flanges may require thicker gaskets to accommodate the imperfections. To ensure optimum performance a minimum thickness/width ratio of 1/5 is required (ideally 1/10)
- Check that the gasket is in good condition and that the dimensions are correct for the class and size of the flanges.
- Do not use jointing compounds, grease or lubricants with our gasket materials. These compounds can affect the friction between the gasket and the flange and can lead to premature joint failure.
- If there is a requirement to fix the gasket to the flange prior to assembly (e.g. large vertical flanges) then a light dusting of spray adhesive e.g. 3M 77 spray may be used. The adhesive should be applied sparingly and in isolated areas.

Bolting

- Ensure the bolt and nut threads are clean. Apply bolt lubricant to the bolt and nut threads and to the face of the nut to be tightened. Do not apply grease or bolt

lubricant to the joint face. After cleaning and lubrication it should be possible to run the nut along the full length of the bolt by hand. If this is not possible the bolts and nuts should be refurbished or replaced.

- Scrape, wire brush or file as necessary the back face of each flange where the bolt heads or nuts are to sit, ensuring that the surfaces are clean and flat.
- Use hardened flat washers to ensure even transfer of the load

Installation

- Ensure that the gasket is installed centrally
- It is recommend that the bolts are tightened using a controlled method such as torque or tension. If using a torque wrench, ensure that it is accurately calibrated.
- Tighten bolts in a star-like crossing pattern in the following sequence:
 - Finger tighten nuts.
 - Tighten to 30% of the final load
 - Tighten to 60% of the final load
 - Tighten to full load
 - Make a final tightening sequence, working around the flange, tightening each bolt in turn until the specified torque is applied.

After Installation

- Check that the flange faces are parallel using a suitable tool e.g. Novus Flange Gap tool