

Thickness, Gasket

Garlock recommends the use of thinner gaskets wherever possible. This not only lowers the cost of the gasket, it increases the performance of the joint by lowering emissions and product loss and increasing blowout resistance. Thinner gaskets will not seal as many flange irregularities as thicker gaskets, however, and require flatter flanges. Experience with the particular flange system is often an important guide when specifying a gasket thickness. A more complete discussion of the subject is available.

Torques, Bolt

We realize many end users resist using a torque wrench for installation. We have found the use of a torque wrench to be the least painful way to gain a substantial increase in performance. Any method which accurately controls the compressive load on the gasket is acceptable.

See Bolt Torque Tables for ANSI/ASME B16.5 RF flanges on page C-44. For non-standard flanges, contact Applications Engineering.

The maximum torque values for flanges such as glass-lined or PTFE-lined, FRP and PVC-type flanges are established by the flange manufacturer to avoid damage to the flanges. We recommend the use of the maximum allowable torque for each size. These maximum torques are usually lower, and often much lower, than we would recommend.

Traced Lines (Heat Traced)

Heat traced lines pumping materials which are solid at ambient temperature can present a number of problems for gaskets:

1. The bolts are usually hotter than the flanges since the heat is applied from outside the pipe. This causes the bolts to expand more than the pipe, which lowers the compressive stress on the gasket.
2. Any line which is shut down will freeze solid. When the line is reheated on start-up, there is occasionally a plug of solid material blocking a section of the pipe. The heating may cause some areas of the material to liquefy and then expand. The expansion can create extremely high pressures inside the joint if the solid plug is blocking a section of the line.

USDA

See FDA.