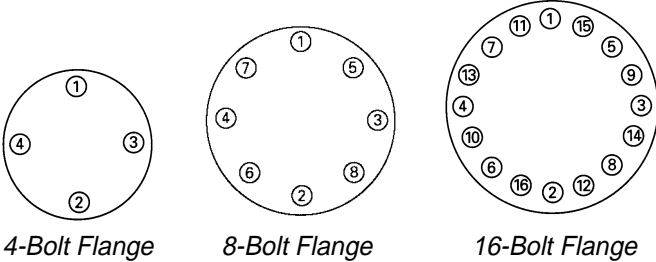


# Gasket Installation

In a flanged connection, all components must be correct to achieve a seal. The most common cause of leaky gasketed joints is improper installation procedures.

## Bolting Procedures



- Place the gasket on the flange surface to be sealed.
- Bring the opposing flange into contact with the gasket.
- Clean the bolts and lubricate them with a quality lubricant, such as an oil and graphite mixture.
- Place the bolts into the bolt holes.
- Finger-tighten the nuts.
- Follow the bolting sequence in the diagrams above.
- During the initial tightening sequence, do not tighten any bolts more than 30% of the recommended bolt stress. Doing so will cause cocking of the flange and the gasket will be crushed.
- Upon reaching the recommended torque requirements, do a clockwise bolt-to-bolt torque check to make certain that the bolts have been stressed evenly.
- Due to creep and stress relaxation, it is essential to prestress the bolts to ensure adequate stress load during operation.

### WARNING:

Properties/applications shown throughout this brochure are typical. Your specific application should not be undertaken without independent study and evaluation for suitability. For specific application recommendations consult Garlock. Failure to select the proper sealing products could result in property damage and/or serious personal injury.

Performance data published in this brochure has been developed from field testing, customer field reports and/or in-house testing.

While the utmost care has been used in compiling this brochure, we assume no responsibility for errors. Specifications subject to change without notice. This edition cancels all previous issues. Subject to change without notice.

## Hydrostatic Testing Precautions

- If hydrostatic tests are to be performed at pressures higher than those for which the flange was rated, higher bolt pressures must be applied in order to get a satisfactory seal under the test conditions.
- Use high-strength alloy bolts (ASTM B 193 Grade B7 is suggested) during the tests. They may be removed upon completion. Higher stress values required to seat the gasket during hydrostatic tests at higher than flange rated pressures may cause the standard bolts to be stressed beyond their yield points.
- Upon completion of hydrostatic testing, relieve all bolt stress by 50% of the allowable stress.
- Begin replacing the high-strength alloy bolts (suggested for test conditions) one by one with the standard bolts while maintaining stress on the gasket.
- After replacing all the bolts, follow the tightening procedure recommended in the bolting sequence diagrams.

## Prestressing Bolts for Thermal Expansion

Bolts should be prestressed to compensate for thermal expansion as well as for relaxation, creep, hydrostatic end pressure and residual gasket loads.

A difference in the coefficient of thermal expansion between the materials of the flange and the bolts may change loads. In cases of serious thermal expansion, it may be necessary to apply a minimum of stress to the bolts and allow the pipe expansion to complete the compression of the gasket.

A gasket with a centering guide ring should be compressed to the guide ring. A gasket without a centering guide ring must be installed with precautions taken to prevent thermal expansion from crushing the gasket beyond its elastic limit.