



## **When to use FRP Composite Flanges with O-Ring Style Gaskets**

Based on our many years of experience in making flat flange faces work at higher pressures, we have established the following "recommendations" as to when to use FRP composite flanges with O-Ring retaining grooves (seats), and O-Ring gaskets - in lieu of flat face FRP flanges with sealing rings and flat rubber gaskets:

1. All flanges 20" diameter and larger, which will be used at 150 psi service pressures (or higher), should be furnished with a retaining seat face for use with O-Ring style gaskets.
2. All 18" diameter and larger flanges, where the flanges will be tested at 225 psi service, regardless of operating pressure, should be furnished with a retaining seat face for use with O-Ring style gaskets.
3. All 24" diameter and larger flanges, that will be tested at 150 psi service, regardless of the operating pressure, should be furnished with a retaining seat face for use with O-Ring style gaskets.
4. All 30" diameter and larger flanges, that will be operating at 100 psi service or higher, should be furnished with a retaining seat face for use with O-Ring style gaskets.
5. All 48" diameter and larger flanges, that will be operating at 75 psi service or higher, should be furnished with a retaining seat face for use with O-Ring style gaskets.
6. All 54" diameter and larger flanges, operating at 50 psi or higher, should be furnished with a retaining seat face for use with O-Ring style gaskets.

While these recommendations do not mean that O-Ring gaskets cannot, and should not, be used on smaller diameter flanges; or flanges operating or tested at lower pressure than those recommend above, we vigorously promote and recommend that FRP composite flanges be built for O-Ring gaskets for the larger sizes and the higher pressures.

Please keep in mind that when using an O-Ring gasket - only one flange of the pair of flanges has the O-Ring retaining groove or seat. The other mating flange is a flat face flange. If the mating flange is steel, it must not have a raised face. If the mating flange is an FRP composite flange, it should be furnished without seal rings. It would be preferred if the mating flange is FRP, that it have a slightly textured veil surface on the face. When an FRP flange is used against a mating steel flange, the retaining groove (seat) for the O-Ring should be in the FRP composite flange.