

How do I design the most reliable O-Ring seal groove?

Parker has published recommendations on the best groove designs for different O-ring applications.

If I modify Parker's gland recommendations, will the O-Ring still work?

Possibly. Parker's recommendations are time-tested and well proven. You may be able to modify these recommendations without significantly affecting seal performance, but you should test the application to determine if you are satisfied with the performance.

Will Parker's gland designs work with other manufacturer's O-Rings?

Parker's gland recommendations are designed around the performance of Parker products. Other manufacturers' products may not provide suitable performance in Parker-designed grooves. Don't you consider it unethical to ask Parker for engineering help and then buy O-rings from someone else?

Why is my O-Ring leaking?

Leakage can be caused by several things. Our interactive leakage troubleshooting guide provides more on-line assistance.

How can I estimate the amount of friction an O-Ring will develop?

Use this method to estimate the running friction an O-ring will develop in a reciprocating piston or rod application.

Should I use a backup ring?

If the pressure rating of your current design is insufficient, using a backup ring may be the key. Parker's **Extrusion Chart** shows the relationship between rubber hardness, clearance gap, and pressure rating.

Are there backup rings for face seal grooves?

Face seal grooves are designed to have metal-to-metal contact between the mating faces, making a backup ring unnecessary. If this is not possible in your application, click on the "Request Quote on This Product" link at the bottom of the page for engineering assistance. This problem is too complex to be solved over the internet.

What's the pressure rating of an O-Ring?

Parker's Extrusion Chart shows the relationship between seal hardness, clearance gap, and pressure rating.

How long will this seal last in application?

Unfortunately, this is one area of seal design in which there are no solid answers. We're working hard to develop seal life prediction, but at this point, it's still more 'guesstimation' than exact science.

What seal material should I use for this application?

Parker's inPHorm for O-rings, a seal design and material selection program, can help with this.

When using a standard O-Ring in a rectangular groove, what minimum radius do I need at the corners?

We recommend an inside turning radius of 6 times the cross-section of the O-ring. This can be reduced to 3 times the cross-section if need be.

In a face seal with internal pressure, is an internal groove wall necessary?

Not always. If there is no suction or vacuum within the system, the inside wall of a face seal groove can often be omitted to reduce manufacturing costs. However, keep in mind that high fluid velocities can create suction via the Venturi effect, which can literally suck the O-ring out of the groove. Be sure to test a prototype over a wide range of temperatures and fluid flow rates if you choose this option

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