

PEEK BACKUP RINGS FOR HIGH TEMPERATURE & HIGH PRESSURE

Backup rings (BUR's), also known as anti-extrusion rings, perform exactly as their name implies: they act as backup support to seal components from extruding under pressure. They are characterized by the following:

- Material temperatures up to 500°F / 260°C
- Self-lubricated materials, low-stress shapes
- Pressures up to 20,000 psi – with fillers for additional strength and hardness
- High resistance to fuels, lubricants & various chemicals
- Available in machined, near net shapes & molded parts
- NORSOK M-710 (sour gas aging) Compliant



THE MAIN OBJECTIVE OF BACKUP RINGS

Split backup rings are typically designed with an angled scarf cut. The angled cut takes advantage of the pressure applied to the seal to close the extrusion gap through the split. If the backup ring produced displays excessive stress (Fig 1), the scarf cut will overlap. As the temperature is elevated, joined by the thermal expansion of the O-ring, the scarf-cut sharp end can cause damage to the O-ring causing leakage and possibly premature failure to the sealing area.

Using low-stress PEEK to produce your BURs will prevent the scarf cut from overlapping and damaging the O-ring. Virgin PEEK and filled grades are widely used to handle the highest pressure and elevated temperatures while providing low friction and chemical compatibility.

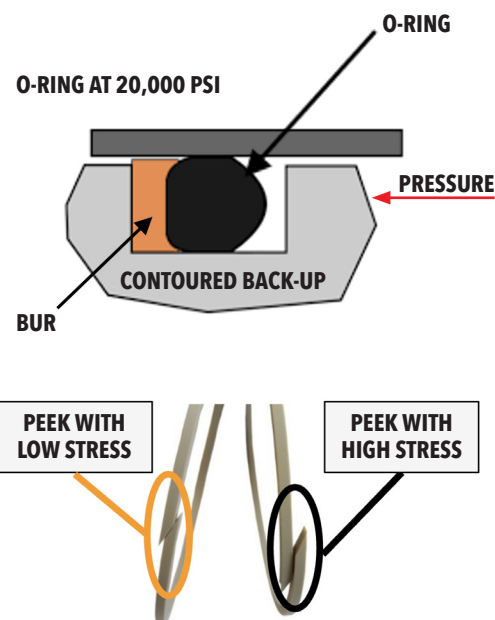


Fig 1: Single Turn, Scarf-Cut

WHETHER THE THERMOPLASTIC IS INTENDED FOR USE IN SEALING VALVES, COMPRESSORS, OR OTHER ROTATIONAL EQUIPMENT IN SUBSEA OPERATIONS, CONTACT PORT PLASTICS ARE FOR ALL YOUR NEEDS IN TERMS OF POLYMERS FOR THE ENERGY MARKET.
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