Comparison of Parbak vs. PTFE and Leather Back-Up

Parker Parbaks	PTFE Back-Up Rings	Leather Back-Up Rings
Continuous ring.	Spiral or scarf-cut for most applications. This discontinuity is often a cause of leaks or damage to the O-ring.	Continuous ring.
Easiest and quickest to assemble in either piston or cylinder groove.	Moderately simple to assemble. Scarf or spiral cut can be opened, for assembling over piston or doubled over itself for assembly into cylinder groove.	Difficult to assemble over piston. Must be soaked in oil, stretched, then pounded into place. Less difficult to assemble into cylinder groove.
Good resistance to extrusion. Standard material satisfactory up to (121°C) 250°F. Other compounds available for temperatures as high as (204°C) 400°F.	Tends to soften and extrude at temper atures around (149°C) 300°F.	Tends to harden and crack at high temperature.
Does not cause overly smooth rubbing surface. Maintains lubrication.	Deposits on rubbing surface making it extremely smooth. The O-ring then wipes the surface dry.	Does not cause overly smooth rubbing surface. Maintains lubrication.
Good resistance to radiation. Can be made in compound having even better resistance when required.	Fair resistance to radiation.	No information available.
Continuous ring with no loose particles or sections.	Thin sections of spiral may become lodged under O-ring causing leakage.	Loose leather fibers may become lodged under O-ring causing leakage.
No scarf cut to open. Coefficient of thermal expansion comparable to O-ring material.	Low temperature shrinkage may open up scarf cut, causing temperature leakage.	Continuous ring.
Continuous ring, no scarf cut.	High temperature expansion may overlap scarf cut causing damage to O-ring.	Continuous ring, no scarf cut.
Absorbs slight amount of oil, aiding lubrication.	Almost completely non-absorbent, will not hold enough oil to aid lubrication.	Tends to absorb moisture, increasing possibility of corrosion.
Resists cold flow and tendency to extrude under high pressure.	Will cold flow and extrude at room temperature and high pressure.	Resists cold flow and tendency to extrude under high pressure.
Uniform dimensions.	Uniform dimensions.	Variable dimensions.

Table 6-3: Comparison of Parbak vs. PTFE and Leather Back-Up

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