



Kalrez® V-Rings for Oil Production Six-Year Service Record

The outstanding service record for Kalrez parts in oil production applications is best shown by the results of testing V-rings recovered after six years' service in a producing well. As shown in *Table 1* and *Figures 1–3*, except for a slight drop in hardness, the aged V-rings were indistinguishable in physical properties and appearance from the unaged control.

No competitive comparisons are made in this technical information because only Kalrez V-rings are suitable for service conditions this severe.

Figure 1. This Kalrez V-ring was essentially unaffected by six years downhole.



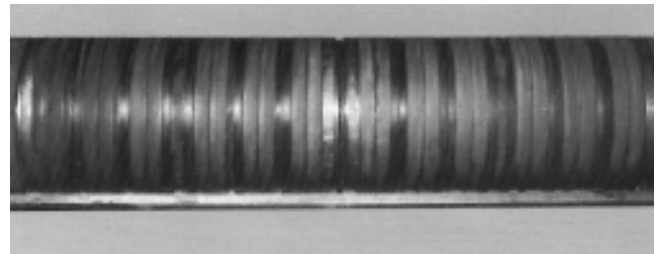
Table 1
Kalrez V-Rings: Six-Year Service Record

Conditions	Production	
Depth, 4,602 m (15,100 ft)	3,000 BBL/Day Oil	
Temperature, 149°C (300°F)	125 BBL/Day Water	
Pressure, 46.2 MPa (6,700 psi)	Gas/Oil Ratio—1.3	
Physical Property Comparisons (Kalrez 3065 Compound)		
	New V-Rings	Six-Year Downhole V-Rings
Tensile at Break, MPa (psi)	20.7 (3,010)	21.5 (3,120)
Elongation, %	27	30
Hardness, Shore A	95	85

Figure 2. Tubing-to-packer seal after six years downhole



Figure 3. Close-up of Figure 2



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