



Kalrez® 0040 For Low-Temperature Applications

Kalrez® 0040 Perfluoroelastomer Parts are specifically designed for low temperature environments where significant chemical resistance is required. Its ground-breaking polymer and cure technology takes low temperatures sealing performance (-42°C) to an area once thought unattainable for perfluoroelastomers parts. Kalrez® 0040 is an excellent choice in applications such as couplings for the chemical transportation industry, where elasticity is required in some of the coldest environments. With regards to chemical resistance, Kalrez® 0040 will seal against a wide array of chemicals over all temperature ranges. As an example of its chemical performance, the table below shows that volume swell is about 10% when exposed to Nitric Acid at 110°C for 168 hours.

Typical Physical Properties ¹

Color	Black
Hardness, Durometer Shore A ²	70
100% Modulus ³ , MPa (psi)	6.6 (959)
Tensile Strength at Break ³ , MPa (psi)	13.7 (1885)
Elongation at Break ³ , %	180
Compression Set ⁴ , %	
70 hrs. at 200°C (392°F)	41
336 hrs. at 200°C (392°F)	57
672 hrs. at 200°C (392°F)	62
Upper Service Temperature, °C (°F) ⁵	220 (428)
Lower Service Temperature, °C (°F) ⁵	-42 (-43.6)
Tg °C (°F) ⁵	-27 (-16.6)
Tr10 °C (°F) ^x	-x(-xx)
<u>Volume Swell (% Change)⁶, 168 hours</u>	
Nitric Acid, 110°C (230°F)	10
Ethylenediamine, 194°F (90°C)	19

¹Not to be used for specification purposes

²ASTM D2240 (pellet test specimens)

³ASTM D412 500mm/min (dumbbell test specimens)

⁴ASTM D395B (AS568 K214 O-ring test specimens)

⁵DuPont Performance Elastomers proprietary test method

⁶AS568 K214 O-ring test specimens

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