

DuPont™ Kalrez® Spectrum™ 0040

For Low-Temperature Applications

Technical Information — Rev. 2, June 2011

Product Description

Kalrez® Spectrum™ 0040 perfluoroelastomer parts are specifically designed for low-temperature environments where significant chemical resistance is required. Proprietary polymer and cure technology promotes low-temperature sealing performance (-42°C) of Kalrez® Spectrum™ 0040 parts to temperatures typically unattainable for perfluoroelastomers parts. Kalrez® Spectrum™ 0040 is an excellent choice in applications such as couplings for the chemical transportation industry, or for other applications where chemical resistance and elasticity are required in some of the coldest environments. The volume swell for Kalrez® Spectrum™ 0040 is approximately 10% when exposed to nitric acid at 110°C for 168 hours. Compression set resistance is similar to that of our broad chemically-resistant product, Kalrez® Spectrum™ 6375.

Typical Physical Properties¹

Color	Black
Hardness, Durometer Shore A ²	70
100% Modulus ³ , MPa (psi)	5.17 (750)
Tensile Strength at Break ³ , MPa (psi)	8.96 (1300)
Elongation at Break ³ , %	170
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) ⁶	-17(1.4)
<u>Volume Swell (% Change)⁷, 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 proprietary test method

⁶ASTM D1329 (slab test specimens)

⁷ASTM D471 (AS568 K214 O-ring test specimens)

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