

FFKM Kalrez® 0040 For Low Temperature Applications - Technical Data Sheet

1. Introduction

Kalrez® 0040 Perfluoroelastomer Parts are specially 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 perfluoroelastomer 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.

AUTHORIZED DISTRIBUTOR

Kalrez®
perfluoroelastomer parts

DuPont Performance Elastomers

2. Typical Physical Properties¹

Colour	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 , %	
70h/200°C (392°F)	41
336h/200°C (392°F)	57
672h/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)
Volume Swell (% Change) ⁶ , 168 h	
Nitric Acid, 110°C (230°F)	10
Ethylenediamine, 90°C (194°F)	19

1 Not to be used for specification purposes

2 ASTM D2240 (pellet test specimens)

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

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

5 DuPont Performance Elastomers proprietary test method

6 AS568 K214 O-ring test specimens