

DuPont™ Kalrez® 7090

Technical Information — September 2010

Product Description

DuPont™ Kalrez® 7090 perfluoroelastomer parts made from compound 7090 are specifically targeted for use in applications requiring high hardness/higher modulus properties. These specialty black parts have excellent mechanical properties including compression set resistance, seal force retention, response to temperature cycling effects and rapid gas decompression resistance. Kalrez® Spectrum™ 7090 perfluoroelastomer parts are well suited for both static and dynamic sealing applications; especially applications that require extrusion resistance at higher temperatures. They also offer outstanding thermal stability and chemical resistance. A maximum continuous service temperature of 325°C (617°F) is suggested. Short excursions to higher temperatures may also be possible.

Typical Physical Properties¹

Color	Black
Maximum Application Temperature ² , °C (°F)	325 (617)
Maximum Application Pressure ² , MPa (psi)	17.93 (2600)
Durometer, Shore A ³	90
Durometer, Shore M (o-ring)	
100% Modulus ⁴ , MPa (psi)	15.51 (2250)
Elongation at break ⁴ , %	75
Tensile at break ⁴ , MPa (psi)	22.75 (3300)
Compression set ⁵ , % (70 hours at 204°C (400°F))	
Pellet	12
Size 214 O-Ring	

Specific Gravity, g/cc

¹Not to be used for specification

²DuPont proprietary test method – maximum application temperature and pressure may vary with seal design and application specifics

³ASTM D2240 (pellet test specimen)

⁴ASTM D412, 500mm/min

⁵ASTM D395B



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Additional Physical Properties¹

Tg ² , °C (°F)	
TR-10 ³ , °C (°F)	-5 (23)
Brittle Point ⁴ , °C (°F)	
Linear Coefficient of Thermal Expansion, /°C (/°F)	2.21x10 ⁻⁴ (1.23x10 ⁻⁴)
Abrasion Resistance ⁵ , (volume loss, cubic mm)	
Coefficient of friction ⁶ (to steel)	
Static	
Dynamic	
Volume resistivity ⁷ , ohms/square	
Surface resistivity ⁷ , Ohm-cm	
Dielectric Constant ⁸ at 150°C and 1 MHz	
Dissipation Factor ⁸ at 150°C and 1MHz	

¹Not to be used for specification

²DuPont proprietary test method – maximum application temperature and pressure may vary with seal design and application specifics

³ASTM D1329

⁴ASTM D746

⁵Din 53 516

⁶ASTM 1894

⁷ASTM D 257

⁸ASTM D150

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