

# 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 Properties<sup>1</sup>

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

### Specific Gravity, g/cc

<sup>1</sup>Not to be used for specification

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

<sup>3</sup>ASTM D2240 (pellet test specimen)

<sup>4</sup>ASTM D412, 500mm/min

<sup>5</sup>ASTM D395B



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## Additional Physical Properties<sup>1</sup>

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

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

<sup>3</sup>ASTM D1329

<sup>4</sup>ASTM D746

<sup>5</sup>Din 53 516

<sup>6</sup>ASTM 1894

<sup>7</sup>ASTM D 257

<sup>8</sup>ASTM D150

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