

# DuPont™ Kalrez® 9100

Technical Information — September 2010

## Product Description

DuPont™ Kalrez® 9100 perfluoroelastomer parts are an amber translucent product targeted specifically for etching and deposition process applications, e.g., HDPCVD, PECVD, ALD, etc. It has also exhibited excellent performance in “select” ashing/stripping processes. Kalrez® 9100 has been specifically designed for low erosion and ultra-low particle generation in harsh plasma environments. It offers excellent thermal stability, very low outgassing as well as excellent elastomer recovery and mechanical strength properties and is well suited for both static and dynamic sealing applications. A maximum continuous service temperature of 300°C (572°F) is suggested. Ultrapure post-cleaning and packaging is standard for all Kalrez® 9100 parts

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

Color	Amber
Maximum Application Temperature <sup>2</sup> , °C (°F)	300 (572)
Maximum Application Pressure <sup>2</sup> , MPa (psi)	5.17 (750)
Durometer, Shore A <sup>3</sup>	68
Durometer, Shore M (o-ring)	74
100% Modulus <sup>4</sup> , MPa (psi)	4.76 (690)
Elongation at break <sup>4</sup> , %	233
Tensile at break <sup>4</sup> , MPa (psi)	13.78 (1999)
Compression set <sup>5</sup> , % (70 hours at 204°C (400°F))	
Pellet	
Size 214 O-Ring	18
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)	-3.15 (26)
Brittle Point <sup>4</sup> , °C (°F)	
Linear Coefficient of Thermal Expansion, /°C (/°F)	4.64x10 <sup>-4</sup> (2.58x10 <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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