

DuPont™ Kalrez® 4079

Technical Information — September 2010

Product Description

DuPont™ Kalrez® 4079 perfluoroelastomer parts are a low compression set product for general purpose use in o-rings, diaphragms, seals and other parts used in the chemical process and aircraft industries. It is a carbon black filled product with excellent chemical resistance, good mechanical properties, and outstanding hot air aging properties. It exhibits low swell in organic acids, inorganic acids and aldehydes, and has good response to temperature cycling effects. A maximum upper service temperature of 316°C (600°F) is recommended, with short excursions to higher temperatures possible. Kalrez® 4079 is not recommended for use in hot water/steam applications or in contact with certain hot aliphatic amines, ethylene oxide, or propylene oxide.

Typical Physical Properties¹

| | |
|--|--------------|
| Color | Black |
| Maximum Application Temperature ² , °C (°F) | 316 (600) |
| Maximum Application Pressure ² , MPa (psi) | 8.27 (1200) |
| Durometer, Shore A ³ | 75 |
| Durometer, Shore M (o-ring) | 83 |
| 100% Modulus ⁴ , MPa (psi) | 7.24 (1050) |
| Elongation at break ⁴ , % | 150 |
| Tensile at break ⁴ , MPa (psi) | 16.88 (2450) |
| Compression set ⁵ , % (70 hours at 204°C (400°F)) | |
| Pellet | 25 |
| Size 214 O-Ring | 35 |
| Specific Gravity, g/cc | 2.02 |

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) | -6.7 (19) |
| TR-10 ³ , °C (°F) | -2 (28) |
| Brittle Point ⁴ , °C (°F) | -50 (-58) |
| Linear Coefficient of Thermal Expansion, /°C (/°F) | 3.61X10 ⁻⁴ (2.01X10 ⁻⁴) |
| Abrasion Resistance ⁵ , (volume loss, cubic mm) | 119.7 |
| Coefficient of friction ⁶ (to steel) | |
| Static | |
| Dynamic | |
| Volume resistivity ⁷ , ohms/square | 4.87 x 10E11 |
| Surface resistivity ⁷ , Ohm-cm | 5.61 x 10E14 |
| Dielectric Constant ⁸ at 150°C and 1 MHz | 9 |
| Dissipation Factor ⁸ at 150°C and 1MHz | 0.08506 |

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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Caution: Do not use in medical applications involving permanent implantation in the human body. For other medical applications, discuss with your DuPont customer service representative and read Medical Caution Statement H-50103-3.

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