DuPont™ Kalrez® Spectrum™ 7090

Technical Information — Rev. 1, July 2010

Product Description

DuPont™ Kalrez® Spectrum™ 7090 perfluoroelastomer parts 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[1]

Color	Black
Hardness, Shore A[2]	90
50% Modulus[3], MPa (psi)	15.51 (2250)
Tensile Strength at Break[3], MPa (psi)	22.75 (3300)
Elongation at Break[3], %	75
Compression Set[4], %	
70 hr at 204 °C	12
70 hr at 260 °C	23
Temperature of Retraction, Tr10[5], °C (°F)	–5 (23)
Maximum Continuous Service Temperature[6], °C (°F)	325 (617)

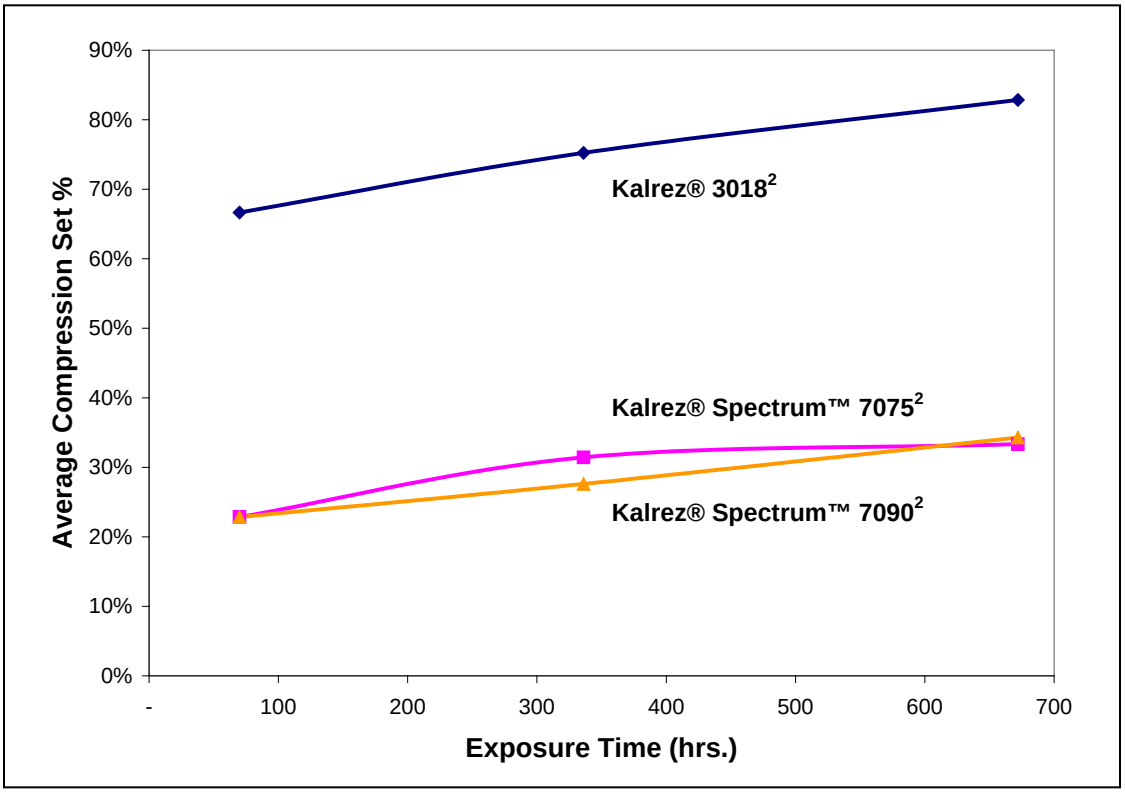
[1] Not to be used for specification purposes
[2] ASTM D2240 (pellet test specimens)
[3] ASTM D1414 and D412 (AS568 K214 O-ring test specimens)
[4] ASTM D1414 and D395B (AS568 K214 O-ring test specimens)
[5] ASTM D1329 (dumbbell test specimens/test specimens stretched 25%)
[6] DuPont proprietary test method

Performance Features/Benefits

- Higher hardness and modulus
- Exceptional thermal stability and compression set resistance
- Outstanding seal force retention properties and response to temperature cycling effects
- Excellent mechanical properties
- Lower coefficient of thermal expansion (CTE) versus other Kalrez® parts thus minimizing the need to increase the free volume of the seal gland when upgrading from fluoroelastomers (FKM) to perfluoroelastomers (FFKM)

Long-Term Compression Set in Hot Air[1]

672 hour at 260 °C (500 °F)



[1] Not to be used for specification purposes

[2] ASTM D1414 and D395B (AS568 K214 O-ring test specimens)

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