

Technical Information

June 2007



Kalrez[®] perfluoroelastomer
parts

From DuPont Performance Elastomers

Kalrez[®] Spectrum[™] 7090

Product Description

Kalrez[®] Spectrum[™] 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 ¹

Color	Black
Hardness, Shore A ²	90
50% Modulus ³ , MPa (psi)	15.50 (2248)
Tensile Strength at Break ³ , MPa (psi)	22.75 (3300)
Elongation at Break ³ , %	75
Compression Set ⁴ , %	
70 hr @ 204°C	12
70 hr @ 260°C	23
Temperature of Retraction, Tr10 ⁵ , °C (°F)	-5 (23)
Maximum Continuous Service Temperature ⁶ , °C (°F)	325°C (617°F)

¹ Not to be used for specification purposes

² ASTM D2240 (pellet test specimens)

³ ASTM D1414 & D412 (AS568 K214 O-ring test specimens)

⁴ ASTM D1414 & D395B (AS568 K214 O-ring test specimens)

⁵ ASTM D1329 (dumbbell test specimens/test specimens stretched 25%)

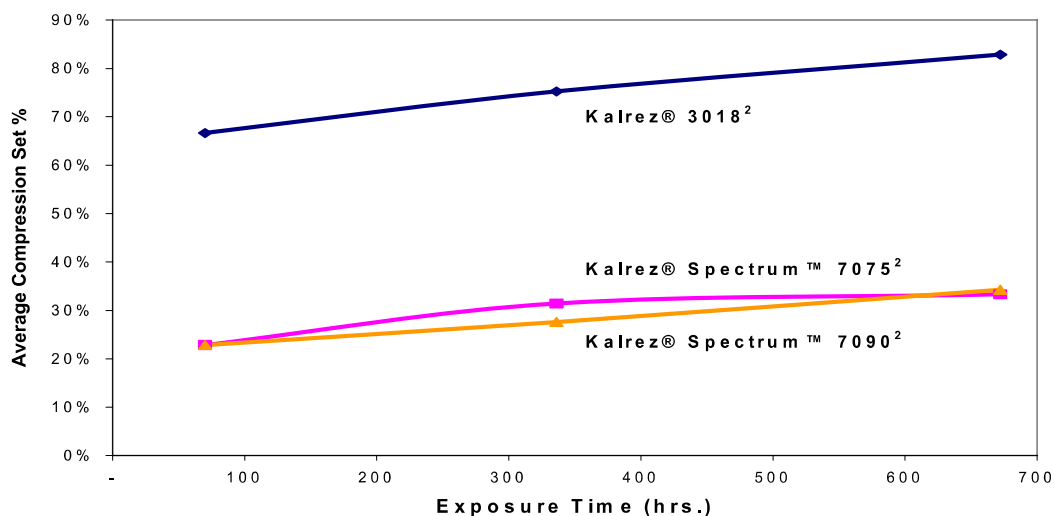
⁶ DuPont Performance Elastomers proprietary test method

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 Air¹

672 Hours at 260°C (500°F)



¹ Not to be used for specification purposes

² ASTM D1414 & D395B (AS568 K214 O-ring test specimens)

For further information please contact one of the offices below, or visit our website at www.dupontelastomers.com/kalrez

Global Headquarters – Wilmington, DE USA

Tel. +1-800-853-5515
+1-302-792-4000
Fax +1-302-792-4450

European Headquarters - Geneva

Tel. +41-22-717-4000
Fax +41-22-717-4001

South & Central America Headquarters - Brazil

Tel. +55-11-4166-8978
Fax +55-11-4166-8989

Asia Pacific Headquarters - Singapore

Tel. +65-6275-9383
Fax +65-6275-9395

Japan Headquarters – Tokyo

Tel. +81-3-6402-6300
Fax. +81-3-6402-6301

The information set forth herein is furnished free of charge and is based on technical data that DuPont Performance Elastomers believes to be reliable. It is intended for use by persons having technical skill, at their own discretion and risk. Handling precaution information is given with the understanding that those using it will satisfy themselves that their particular conditions of use present no health or safety hazards. Since conditions of product use and disposal are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information. As with any material, evaluation of any compound under end-use conditions prior to specification is essential. Nothing herein is to be taken as a license to operate or a recommendation to infringe on patents. While the information presented here is accurate at the time of publication, specifications can change. Check www.dupontelastomers.com for the most up-to-date information.

Caution: Do not use in medical applications involving permanent implantation in the human body. For other medical applications, discuss with your DuPont Performance Elastomers customer service representative and read Medical Caution Statement H-69237.

DuPont™ is a trademark of DuPont and its affiliates.

Kalrez® and Kalrez® Spectrum™ are registered trademarks or trademarks of DuPont Performance Elastomers.

Copyright © 2007 DuPont Performance Elastomers. All Rights Reserved.

(06/07) Printed in U.S.A.

Reorder no: KZE-A10576-00-A0607

DuPont
Performance Elastomers