VG109-90

Low Temperature FKM Sealing to -50°F with Excellent Compression Set, RGD, and Extrusion Resistance

Low Temperature and Compression Set Resistance

In the demanding global environments of the Oil and Gas industry, seal materials are pushed to extreme limits. Parker develops innovative rubber materials providing improved sealing capabilities in a broad range of temperatures, pressures, and chemistries. Parker's newest cutting edge FKM material, VG109- 90, is formulated for services requiring low temperature, rapid gas decompression (RGD) and excellent compression set resistance.

VG109-90 provides improved performance at low temperatures, resistance to rapid gas decompression, and high temperature sealing performance. It also provides outstanding long term compression set resistance and retained resiliency while maintaining fluid compatibility. This material was developed to seal in environments ranging from -50°F up to 400°F.

The unique characteristics of this FKM elastomer allows VG109-90 to meet many of the demanding requirements found in such industries as Oil and Gas, Automotive and Aerospace.

For more information on this innovative material, please contact a Parker O-Ring Division Applications Engineer by calling 859 335 5101 or e-mail at ordmailbox@parker.com.

Features:

- Wide temperature range: -50°F to 400°F
- H2S Resistant per NACE TM0187 (20%)
- RGD REsistant per TOTAL GS EP PVV 142
- H2S Resistant per API 6A and API 16C (10%)
- Outstanding retained resiliency
- RGD resistant per ISO 23936-2 100% H_2 and CO_2
- H2S resistant per ISO 23936-2 (up to 10%)
- Extrusion resistance
- Wide range of chemical compatibilities
- Low temperature performance without reducing high temperature capabilities

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Original Physical Properties	Test method	Test results
Hardness, Shore A, pts.	ASTM D2240	88
Tensile strength, psi %	ASTM D412	2314
Ultimate elongation , %	ASTM D412	126
Modulus at 100% elongation, psi	ASTM D412	2014
Specific gravity	ASTM D295	1.73
Compression Set 70 hrs. @ 392°F (1/2 inch buttons)		
Percent of original deflection, max	ASTM D395 Method B	9
Heat Resistance 168 hrs. @ 392°F		
Hardness change, Shore A pts.	ASTM D865	+2
Tensile strength change, %		+17
Ultimate elongation change, %		-27
Modulus at 75% elongation change, psi		+36
Fluid Immersion 70 hrs. @ 212°F DI Water		
Hardness change, Shore A pts.	ASTM D471	-3
Tensile strength change, %		-8
Ultimate elongation change, %		-3
Modulus at 100% elongation change, psi		-10
Volume change, %		+3
Fluid Immersion 70 hrs. @ 212°F Diesel #2		
Hardness change, Shore A pts.	ASTM D471	-4
Tensile strength change, %		-22
Ultimate elongation change, %		+10
Modulus at 100% elongation change, psi		-30
Volume change, %		+4
Fluid Immersion 70 hrs. @ 75°F Methanol		
Hardness change, Shore A pts.	ASTM D471	-13
Tensile strength change, %		-3
Ultimate elongation change, %		-30
Modulus at 100% elongation change, psi		-31
Volume change, %		+23
Fluid Immersion 70 hrs. @ 212°F Erlfon 818		
Hardness change, Shore A pts.	ASTM D471	-4
Tensile strength change, %		-8
Ultimate elongation change, %		+5
Modulus at 100% elongation change, psi		-16
Volume change, %		+6
Fluid Immersion 70 hrs. @ 212°F Zinc Bromide, ($ZnBr_2$)		
Hardness change, Shore A pts.	ASTM D471	-1
Tensile strength change, %		-3
Ultimate elongation change, %		-10
Modulus at 100% elongation change, psi		+2
Volume change, %		+1
Low temperature		
TR-10,˚C	ASTM D1329	-36

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