

Parker X-Ring Seals

Four Lipped Symmetric Seal for Dynamic Applications



Dynamic Sealing:

X-rings, also referred to in the industry as Quad-Rings®, are characterized by a four lipped symmetric profile. They provide an alternative sealing option for use in dynamic applications.

There are several reasons you may select an X-ring over a standard O-ring. First, O-rings can be prone to roll from reciprocating movement. The lobes of an X-ring create stability in a gland, maintaining contact in two locations against the sealing surface. Second, the lobes of an X-ring create a reservoir for lubricant which reduces friction. Lastly, an X-ring does not require a high amount of squeeze, which also reduces friction and wear on the seal.



Contact Information:

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Features:

- Available in AS568 standard cross sectional sizes
- Nitrile material N1470-70 for general service applications with temperatures of -40 to 225°F
- Fluorocarbon material V1475-75 for higher temperature applications of -15 to 400°F
- Lobed profile resists rolling in the groove
- Lobes capture lubricant for reduced running friction
- Profile has two contact points for increased seal function

Quad-Ring® is a registered trademark of Minnesota Rubber and Plastics, Quadion LLC.

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N1470 tested to ASTM D2000 M2BG714 B14 B34 EA14 EF11 EO14 EO34 Z2			
Original Physical Properties	Test method	Spec limits	Test results
Hardness, Shore A, pts.	ASTM D2240	70 ± 5	75
Tensile strength, PSI	ASTM D412	1450	2263
Ultimate elongation, %	ASTM D412	250	262
Specific gravity	ASTM D297		1.25
(B14) Compression Set (Solid)			
Percent of original deflection, max	ASTM D395 Method B	25	8
Heat Age, 70 hrs. @ 212°F			
Hardness change, pts.	ASTM D573	±15	+3
Tensile strength change, %		±30	+10
Ultimate elongation change, %		-50	-11
(EA14) Fluid resistance water, 70 hrs. @ 212°F			
Hardness change, pts.	ASTM D471	±10	+1
Volume change, %		±15	+3
(EF11) Fluid resistance fuel A, 70 hrs. @ 73°F			
Hardness change, pts.	ASTM D471	±10	-4
Tensile strength change, %		-25	-11
Ultimate elongation change, %		-25	-13
Volume change, %		-5 to +10	+3
(EO14) Fluid resistance IRM 901, 70 hrs. @ 212°F			
Hardness change, pts.	ASTM D471	-5 to ±10	+2
Tensile strength change, %		-25	+16
Ultimate elongation change, %		-45	-3
Volume change, %		-10 to 5	-5
(EO34) Fluid resistance IRM 903, 70 hrs. @ 212°F			
Hardness change, pts.	ASTM D471	-10 to +5	-9
Tensile strength change, %		-45	+6
Ultimate elongation change, %		-45	-6
Volume change, %		0 to +25	+14
(Z2) Low temperature resistance			
TR-10, temperature °F	ASTM D1329	report	-35

V1475 tested to ASTM D2000 M2HK710 A1-10 B37 B38 EF31 EO78 Z1 Z2			
Original Physical Properties	Test method	Spec limits	Test results
Hardness, Shore A, pts. (Z1)	ASTM D2240	75 ± 5	77
Tensile strength, min, PSI	ASTM D412	1450 (10.0)	1800
Elongation, min %	ASTM D412	175	182
Specific gravity	ASTM D297		1.88
Basic oil immersion ASTM #3, 70 hrs. @ 302°F (175°C)			
Volume change, %	ASTM D471	+10 max	+3
Basic compression set, 22 hrs. @ 347°F (175°C) (Plied)			
% max	ASTM D395	35	6
(A1-10) Heat resistance, 70 hrs. @ 482°F	ASTM D573		
Hardness change, pts, max		+10	+1
Tensile strength change, %, max		-25	+8
Elongation change, %, max		-25	-11
(B37) Compression set, 22 hrs. @ 347°F (175°C)			
% Deflection, max	ASTM D395	50	6
(B38) Compression set, 22 hrs. @ 392°F (200°C)			
% Deflection, max	ASTM D395	50	13
(EF31) Fuel C, 70 hrs. @ 23°C (room temperature)			
Hardness change, pts	ASTM D471	±5	-3
Tensile strength change, %, max		-25	-7
Elongation change, %, max		-20	-6
Volume change, %		0 to +10	+4
(EO78) Fluid resistance, #101 oil, 70 hrs. @ 392°F (200°C)			
Hardness change, pts	ASTM D471	-15 to +5	-9
Tensile strength change, %, max		-40	-4
Elongation change, %, max		-20	-5
Volume change, %		0 to -15	+11
(Z2) Heat resistance, 70 hrs. @ 528°F (275°C)			
Hardness change, pts	ASTM D473	+10	+5
Tensile strength change, %, max		-40	-8.6
Elongation change, %, max		-20	+2.2

