KA183-85

Low Temperature HNBR

Low temperature HNBR:

Parker Hannifin is recognized worldwide for leadership in elastomer development. One creation is KA183-85, a low temperature hydrogenated nitrile (HNBR) material designed for energy, oil and gas applications. It has excellent cold temperature attributes, formulated to withstand temperatures as low as -58°F (-50°C).

In subsea oil exploration and production of crude oil and natural gas, application temperatures can reach close to freezing point. Most seal materials are slow to rebound from these harsh temperatures which limit their sealing capacity.

KA183-85 excels in low temeratures, remaining flexible and allowing the sealing properties to remain robust.

Another benefit of this 85 durometer material is its excellent tensile, modulus, and elongation properties. As an HNBR, KA183-85 is compatible with hydrogen sulfide, corrosion inhibitors, steam, methanol and oil.

KA183-85 has passed extensive testing in high pressure CO_2 and decompression per ISO 23936-2 and NACE standard TM0297-97 with outstanding results.

Recommended For Use In:

- H2S resistance per ISO23936-2
- Temperature capability as low as -58°F (-50°C)
- 300°F (149°C) performance rating
- Passed NACE TM0192-2003
- Passed NACE TM0297-97
- Good extrusion resistance
- RGD resistant per ISO 23936-2 100% H_2 and CO_2

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Original Physical Properties	Test method	Test results
Hardness, shore A, pts.	ASTM D2240	86
Tensile strength, psi	ASTM D412	3023
Elongation, %, min.	ASTM D412	135
Modulus @ 100% elongation, psi	ASTM D412	2117
Specific gravity	ASTM D297	1.36
Compression Set 70 hrs. @ 302°F		
Percent of original deflection	ASTM D395 Method B	20
Dry Heat Resistance 70 hrs. @ 302°F		
Hardness change, pts.	ASTM D573	+7
Tensile strength change, %		-5
Elongation change, %		-22
Distilled Water, 70 hrs. @ 212°F		
Hardness change, pts.	ASTM D471	+4
Tensile strength change, %		-9
Ultimate elongation change, %		-9
Volume change, %		+4
Diesel #2 Low Sulfur, 70 hrs. @ 212°F		
Hardness change, pts.	ASTM D471	-18
Tensile strength change, %		-28
Ultimate elongation change, %		-31
Volume change, %		+30
Methanol, 70 hrs @ RT		
Hardness change, pts.	ASTM D471	-6
Tensile strength change, %		-35
Ultimate elongation change, %		-23
Volume change, %		+8
Erifon 818, 70 hrs. @158%		
Hardness change, pts.	ASTM D471	+3
Tensile strength change, %		-3
Ultimate elongation change, %		-15
Volume change, %		0
Baroid ZnBr, 70 hrs. @ 212°F		
Hardness change, pts.	ASTM D471	+13
Tensile strength change, %		+55
Ultimate elongation change, %		-33
Volume change, %		+15
Low temperature		
TR-10, °C	ASTM D1329	-39

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