

Low Temperature HNBR KA183-85

No. ORD5749

Low Temperature HNBR for Energy, Oil, and Gas Applications

Parker Hannifin is recognized worldwide for leadership in elastomer development. One creation is KA183-85, a low temperature hydrogenated nitrile (HNBR) material designed for the Energy, Oil and Gas applications. It has excellent cold temperature attributes, formulated to withstand temperatures as low as -40°F (-40°C).

In subsea oil exploration and production of crude oil, 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 temperatures, 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. And 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 CO₂ and decompression per

NACE standard TM0297-97 with outstanding results.

Advantages:

Low temperature capability as low as -40°F (-40°C)
 300°F (149°C) performance rating
 Excellent abrasion resistance
 Excellent wear resistance
 Good extrusion resistance
 Extensive testing profile for EOG-specific requirements which include testing in:

- Methanol
- Oil
- Marsten Bentley oceanic fluids
- Kerosene
- Baroid Petrofree drilling fluid

PROPERTY	KA183-85 2-325 O-Ring Results
Original Physical Properties ASTM D2240	
Shore A hardness	88
Tensile strength, min., psi	2551
Ultimate elongation, min., %	139
Modulus @ 100% Elongation, min %	1947
Modulus @ 50% Elongation, min %	846
Specific Gravity	1.36
Compression Set (70 Hours @212°F) ASTM D395 Method B	
Percent of Original Deflection, max	18
Compression Set (70 Hours @250°F) ASTM D395 Method B	
Percent of Original Deflection, max	28
Compression Set (70 Hours @250°F) ASTM D395 Method B	
Percent of Original Deflection, max	48
Heat Aging (70 Hours @ 212°F) ASTM D573	
Hardness change, pts.	-1
Tensile strength change, %	-1
Elongation change, %	+5
Modulus Change @ 100%	-7
Modulus Change @ 50%	-18
Volume change, %	0
Heat Aging (70 Hours @ 250°F) ASTM D573	
Hardness change, pts.	0
Tensile strength change, %	+1
Elongation change, %	+3
Modulus Change @ 100%	-2
Modulus Change @ 50%	-9
Volume change, %	-1

