

M SEALS HNBR- RGDB90

Norsok M-710 & API6A Compliant Peroxide Cured HNBR



MATERIAL DATA SHEET (Version 6.0 – 05.2022)



High Temperature



Norsok M710



API 6A FF/HH



Chemical Resistance

Description

HNBR-RGDB90 is a Peroxide cured Hydrogenated-Acrylonitrile-Butadiene-Rubber, commonly referred to as HNBR or HSN. This material has been optimised and tested against Norsok M-710 and ISO 104234: 2009 / API6A requirements for resistance to both Rapid Gas Decompression (RGD) and sour environments containing H₂S.

The material has a high Acrylonitrile content (ACN content) in comparison to standard grades of HNBR, which provides it with increased chemical resistance normally required for applications seen in the Oil & Gas industry.

HNBR-RGDB90 provides good chemical resistance in the most commonly used hydraulic fluids, animal, vegetable, Silicone and Biodegradable oils, crude oils and applications where sour oils/gases (H₂S) are found.

Physical Properties

Property	Test method	Unit	Typical Value
Colour			Dark Grey/Black
Density	ISO 1183-1	g/cm ³	1.39
Hardness	ISO 7619-1	Shore A	83(+/-5)
Tensile Strength	DIN 53504	N/mm ²	7.8
Tensile Modulus 100%	DIN 53504	N/mm ²	3.4
Elongation at break	DIN 53504	%	273.2
Tear Strength	ISO 34-1 B	N/mm	10.4
Rebound resilience	DIN 53512	%	39
Compression set (25% Strain 24 Hours @ 70°C)	ISO 815-1	%	10.6
Compression set (25% Strain 24 Hours @ 100°C)	ISO 815-1	%	11.9
Compression set (25% Strain 24 Hours @ 150°C)	ISO 815-1	%	15.6
Minimum service temperature		°C	-20
Maximum service temperature		°C	+150

Norsok M-710 RGD resistance in 10% CO ₂ + 90% CH ₄ @ 15MPa - 100°C		
Material	Summary Rating	Conclusion
HNBR-RGDB90	0 0 0 0	PASS
Conditions: 10.5% compression and 65% groove fill.		

Main Characteristics

- ISO 23936-2 / Norsok M-710 Annex A & B compliant
- ISO 10423:2009 F.1.13.5.2 API6A FF/HH tested
- Good abrasion resistance
- Good physical properties

Typical Products

- T-Seals
- Energised U-Seals
- Static Seals & O-Rings
- Scraper/Wiper seals

HNBR-RGDB90 met the testing requirements according to ISO 23936-2 and lifetime predictions were as follows:

- >7 months provided service temperature does not exceed +130°C
- >19 years provided service temperature does not exceed +80°C

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