HNBR XploR™ H9T21

EXPLOSIVE DECOMPRESSION RESISTANT MATERIALS
OUTSTANDING LOW TEMPERATURE PERFORMANCE

Explosive Decompression is a major concern to the oil and gas industry. It occurs when applied system pressure is released, causing absorbed gas to expand, potentially damaging elastomer seals.

Trelleborg Sealing Solutions has focused on this issue and presents the XploR™ range, an entire family of advanced elastomers especially developed for oil and gas applications. The portfolio includes compounds in HNBR, FKM, Aflas® and Isolast® Perfluoroelastomer, each of which demonstrates best-in-class Explosive Decompression Resistance (EDR) for its material type.

When the composition of the well or conditions of the application are known, HNBR XploR™ H9T21 may prove the optimum and most cost-effective material for your application.

For further information on selecting the right compound and advice on seal specification for your individual application, consult your local Trelleborg Sealing Solutions marketing company. **Find contact details at www.tss.trelleborg.com.**

Features and benefits

- Unrivalled Explosive Decompression Resistance (EDR) within its material type
- Excellent low temperature performance
- Temperature resistance from -40°C/-40°F to +160°C /+320°F
- Exceptional mechanical performance
- Low long-term compression set
- Good media compatibility
- Long life in aggressive media, including hydrocarbon and aqueous media, common within oil & gas applications
- High modulus, high strength

Applications

- Riser connectors
- Tubing hangers
- Packers
- Downhole Tools
- Flowline equipment
- Blowout Preventers (BOPs)

XploR™ is available in all standard international O-Ring sizes and cross-sections along with custom-engineered solutions and specially designed seal profiles.

HNBR XPLOR™ H9T21 COMPOUND DATA

Explosive Decompression Facts

Inherently, elastomer seals contain voids. Gas or gas mixtures in contact with elastomer surfaces are absorbed and will saturate elastomer seals. At high-pressure this absorbed gas is in a compressed state. When external pressure is reduced, either rapidly or over a relatively short period of time, the compressed gas nucleates at the voids, expanding within the elastomer.

The voids inflate leading to high tensile stresses or strains in the void walls. Depending on the strength and hardness of the elastomer, this can cause the elastomer to break or crack.

No elastomer can be completely explosive decompression resistant; however, the XploR™ range demonstrates unrivalled EDR.

	Standard	H9T20
Elastomer base		LT-HNBR
NORSOK M710		No
Hardness	DIN 53505	90+/-5 Shore A
Color		Black
Specific Gravity	DIN EN ISO 1183-1	1.27+/-0.03
Tensile Strength	DIN 53 504	18.5 MPa /2,680 psi
Elongation at Break	DIN 53 504	176%
Modulus at 100%	DIN 53 504	11.5 MPa/1,670 psi
Tear Strength	ISO 34-1	33 kN/m
Compression Set 72 hrs/150°C/302°F	DIN ISO 815 Type B	40%
Air Aging 70 hrs @ 150°C/302°F Hardness Change Tensile Strength Change Elongation at Break Change	DIN 53508	 3 Shore A -5% -15%
Fluid Immersion Testing: Oil ASTM No. 1 70 hrs @ 150°C/302°F Change in Hardness Change in Volume	DIN ISO 1817	 -2 Shore A +6.8%
Fluid Immersion Testing: Oil IRM 903 70 hrs @ 150°C/302°F Change in Hardness Change in Volume	DIN ISO 1817	 -24 Shore A +38%
Fluid Immersion Testing: Water 70 hrs @ 100°C/212°F Change in Hardness Change in Volume	DIN ISO 1817	 +1 Shore A +2.0%
Fluid Immersion Testing: Methanol 70 hrs @ 40°C/104°F Change in Hardness Change in Volume	DIN ISO 1817	 -10 Shore A +14.5%
TR 10 Point	TBS 00036	-29°C/-20°F
Service Temperature		-40°C to +160°C/ -40°F to +320°F

99GBT5BRODE0411

TRELLEBORG

WWW.TSS.TRELLEBORG.COM