



FKM XploR™ V9T22

**EXPLOSIVE DECOMPRESSION RESISTANT MATERIALS
OUTSTANDING LOW AND HIGH 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.

XploR™ V9T22 exhibits superior high pressure sealing performance in EDR situations, which is supported by independent institute approval to standard test protocols.

When the composition of the well or conditions of the application are known, FKM XploR™ V9T22 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
- Temperature resistance from -40°C/-40°F to +230°C/+446°F
- Exceptional mechanical performance
- Low long-term compression set
- Very good chemical compatibility
- Extremely long life in aggressive media, including hydrocarbon and aqueous media, common within oil & gas applications
- High modulus, high strength

Applications

- Separation equipment
- Connector systems
- Valves
- Wellhead control equipment
- Tubing hangers
- Blowout Preventers (BOPs)
- Swivel stacks on Floating Production Storage and Offloading (FPSO) vessels
- Downhole Tools

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

FKM XPLOR™ V9T22 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	J9513
Elastomer base		LT-FKM
NORSOK M710		No
Hardness	DIN 53505	95+/-5 Shore A
Color		Black
Specific Gravity	DIN EN ISO 1183-1	1.8+/-0.03
Tensile Strength	DIN 53 504	21.3 MPa/3,090 psi
Elongation at Break	DIN 53 504	145%
Modulus at 100%	DIN 53 504	14.1 MPa/2,050 psi
Compression Set 24 hrs/150°C/302°F	DIN ISO 815 Type B	25%
Compression Set 72 hrs/150°C/302°F	DIN ISO 815 Type B	27%
Compression Set 168 hrs/150°C/302°F	DIN ISO 815 Type B	34%
Air Aging 70 hrs @ 150°C/302°F	DIN 53508	+3 Shore A
Hardness Change		-15%
Tensile Strength Change		-10%
Fluid Immersion Testing: Oil ASTM No. 1: 903 70 hrs @ 150°C/302°F	DIN ISO 1817	0 Shore A +0.3%
Change in Hardness		
Change in Volume		
Fluid Immersion Testing: Oil IRM 903 70 hrs @ 150°C/302°F	DIN ISO 1817	0 Shore A +1.5%
Change in Hardness		
Change in Volume		
Fluid Immersion Testing: Water 70 hrs @ 100°C/212°F	DIN ISO 1817	-2 Shore A 2.1%
Change in Hardness		
Change in Volume		
TR 10 Point	TBS 00036	-30°C/-22°F
TR 5 Point	TBS 00036	-32°C/-26°F
TR 2 Point	TBS 00036	-38°C/-36°F
Service Temperature		-40°C to +230°C/ -40°F to +446°F

