

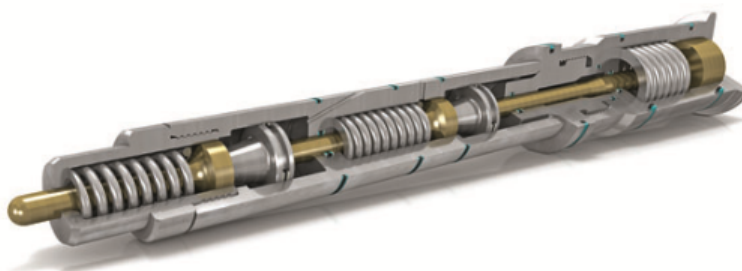
# Ultra Low Temperature RGD Resistant FFKM Material

Perfluoroelastomer (FFKM) elastomers offer exceptional thermal stability, outstanding long-term compression set and almost universal chemical compatibility – delivering long life in the most aggressive of media, including hydrocarbon and aqueous media, common within oilfield applications.

Isolast® XploR™ J9523 FFKM from Trelleborg Sealing Solutions combines excellent chemical and thermal properties, with outstanding low temperature capability. Ideally suited for wellhead and other drilling applications involving aggressive media where the ambient temperature above and below ground is below 0 °C for prolonged periods. It also exhibits superior high pressure sealing performance in Rapid Gas Decompression (RGD) situations, which is supported by independent testing in accordance with institutional standards.



*Outstanding Elastomer Performance at -40°C*



*A Typical Downhole Tool Sealing Arrangement*

Oilfield equipment manufacturers are currently specifying Isolast® XploR™ J9523 FFKM for use in Logging Tools, Wireline Tools, Drilling Motors, Swivel Stacks on Floating Production Storage and Offloading (FPSO) vessels, Flowline Equipment and Packers. This RGD resistant FFKM material is however suitable for many industrial applications requiring ultra low temperature sealing capability, such as within Chemical Injection Equipment.

## NORSOK Approved

Isolast® XploR™ J9523 meets the requirements of NORSOK M-710 in respect of sour fluid and RGD resistance. Material certification can be viewed [here](#).

## Why Specify Isolast® XploR™ J9523 FFKM?

- Outstanding performance at extremely low temperatures
- Unrivalled RGD resistance within its material type
- Independently tested to NORSOK M-710 and BS EN ISO 23936-2 standards
- Operating temperatures from -40 °C to +240 °C / -40 °F to +464 °F with short excursions to 250 °C / +482 °F
- Exceptional mechanical performance
- Low long-term compression set
- Outstanding resistance to aggressive media such as hot organic and inorganic acids, caustics, amines (especially hot amines), ketones, aldehydes, sour gases, hydrocarbons, steam, formate solutions and mixed process streams common within oil & gas applications
- Extended life in aggressive media, including the hydrocarbon and aqueous media common within oil & gas applications
- High modulus and high strength

## Isolast® XploR™ J9523 Compound Data

	Standard	J9523
Elastomer Base		EXT LT-FFKM
Hardness	DIN 53505	90+ / -5 Shore A
Color		Black
Specific Gravity	DIN EN ISO 1183-1	1.94+ / -0.03
Tensile Strength	DIN 53 504	17.1 MPa / 2,480 psi
Elongation at Break	DIN 53 504	208%
Modulus at 100%	DIN 53 504	7.0 MPa / 1,015 psi
Compression Set 72 hrs / 200 °C / 392 °F	DIN ISO 815 Type B	25%
Air Aging 70 hrs @ 250 °C / 484 °F	DIN 53508	-1 Shore A (Hardness change) -5% (Tensile change) -12% (Elongation change)
<b>Fluid Immersion Testing:</b>  Oil ASTM No. 1: 70 hrs @ 150 °C / 302 °F  Change in Hardness  Change in Volume	DIN ISO 1817	   -1 Shore A  +1.3%
<b>Fluid Immersion Testing:</b>  Oil IRM 903 70 hrs @ 150 °C / 302 °F  Change in Hardness  Change in Volume	DIN ISO 1817	   -2 Shore A  +2.6%
<b>Fluid Immersion Testing:</b>  Water 70 hrs @ 100 °C / 212 °F  Change in Hardness  Change in Volume	DIN ISO 1817	   -1 Shore A  +1.6%
<b>Fluid Immersion Testing:</b>  Methanol 70hrs @ 40 °C / 104 °F  Change in Hardness  Change in Volume	DIN ISO 1817	   -1 Shore A  +0.6%

TR 10 Point	TBS 00036	-28 °C / -18.4 °F
Service Temperature		-40 °C to +240 °C / -40 °F to +464 °F
Excursion Temperature		To +250 °C / 482 °F

## Applications

When the composition of the well or conditions of the application are known, Isolast® XploR™ J9523 FFKM may prove the optimum and most cost-effective material for your application, especially when operating temperatures are extremely low. Typical applications currently in use include:

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

All standard international O-Ring sizes and cross-sections along with custom-engineered solutions and specially designed seal profiles are available in Isolast® XploR™ J9523. To discuss how ultra low temperature RGD resistant FFKM materials can enhance your design process, contact your local Trelleborg Sealing Solutions Marketing Company.