Product Data Sheet

EnDura® V91JF

Fluorosurfactant free high performance FKM for the oil & gas industry

FLUORO-SURFACTANT FREE

Description

Recognising the demanding challenges in the oil and gas exploration and extraction industry, PPE have developed the most technically advanced range of elastomer materials to meet the needs of sealing applications operating in the most severe conditions.

The EnDura® range of elite materials has been specifically formulated for Rapid Gas Decompression (RGD) resistance in downhole, surface and subsea oilfield equipment.

PPE support enhanced responsible fluoropolymer manufacturing practices and have developed Endura® V91JF as an alternative material to the legacy V91J, by leveraging a new FKM manufacturing process that does not require the use of fluorinated surfactants, thus making the whole production cycle more environmentally sustainable.

EnDura® V91JF provides outstanding mechanical strength, excellent overall fluid resistance as well as Rapid Gas Decompression (RGD) resistance.

Key Attributes

- Validated performance against legacy EnDura® V91J material through wide range of testing
- Tested to **ISO 23936-2, Annex B** (RGD)
- Excellent high pressure performance
- Good sealing performance in pressure and temperature cycling environments - tested at temperatures (ambient to 177°C - 350°F) and pressures (atmospheric to 1040 bar – 15 psi)
- Wide resistance to oilfield chemicals
- Excellent Sour Gas resistance
- Versatile material with good compression set characteristics providing excellent sealing properties

Typical Applications

High pressure environments
Exploration and drilling equipment
Completion equipment
Subsea valves and pumps
Compressors
Feed throughs
O-rings, T-section seals, special profiles and custom-made seals

Other materials in this range

EnDura® V91A (-51°C / -60°F)
EnDura® V91K (-41°C / -42°F)
EnDura® Z95X (HNBR)
EnDura® Z97M (HNBR)
EnDura® A90H (FEPM)
Perlast® G92E (FFKM)
Perlast® G90LT (low T FFKM -46°C / -51°F)

Typical Material Properties

Property	Test method	Value
Material Type	ASTM D1418	FKM Type 2
Colour		Black
Hardness (Shore A)	ASTM D2240	86
Tensile Strength (MPa)	ASTM D412	26.0
Elongation at break (%)	ASTM D412	245
50% Modulus (MPa) 100% Modulus (MPa)	ASTM D412	5.5 11.0
Compression Set (%): 24 h @ 200°C (392°F)	ASTM D395B	20
Glass Transition: Tg	D3418	-4°C (23°F)
Minimum Operating Temperature		-18°C (-1°F)
Maximum Operating Temperature	*	+225°C (+437°F)
Continuous Use Temperature	**	+210°C (+410°F)

* and ** PPE proprietary test methods

SPECIAL NOTE: *This information is to the best of our knowledge accurate and reliable. However, PPE Ltd makes no warranty, expressed or implied that parts manufactured from this material will perform satisfactorily in the customer's application. It is the customer's responsibility to evaluate parts prior to use, especially in applications where their failure may result in injury and/or damage. While this material has been developed as an alternative to a legacy material, technical and commercial equivalency is neither given or implied and suitability should be considered on a case-by-case basis. It should also be noted that all elastomeric parts have a finite life, therefore a regular program of inspection and replacement is strongly recommended. In non-black grades of elastomer, it is possible to observe slight variations in colour. This is normal and is inherent in the part; it is not indicative of foreign matter. These colour variations are not expected to adversely effect the performance of the part. The material properties above should not be used for specification purposes.*