

EnDura® Z97M

High performance RGD resistant HNBR for the oilfield industry



Description

Z97M is a peroxide-cured, Rapid Gas Decompression (RGD) resistant HNBR compound.

Z97M provides good chemical resistance to sour gas (H₂S), crude oil, lubricating agents, and oil additives, with superior resistance to carbon dioxide, water, drilling mud and amine corrosion inhibitors.

The EnDura® range of elite materials has been specifically developed for rapid gas decompression resistant in downhole, surface and subsea oilfield equipment.



Key Attributes

- ▶ Excellent Rapid Gas Decompression Resistant
- ▶ Tested to **RGD ISO23936-2**
- ▶ Tested to sour (H₂S) fluid **API 6A (ISO 10423:2009 F.1.13.5.2)**
- ▶ Improved mechanical strength than standard HNBR
- ▶ Good chemical resistance especially to oil and fuel
- ▶ High hardness and modulus without overly compromising EOB

Typical Applications

- ▶ Low temperature and high pressure environments
- ▶ Exploration and drilling equipment
- ▶ Subsea valves and pumps
- ▶ Blow-out preventers (BOPs)
- ▶ Rotary lip seals
- ▶ Packers
- ▶ Cup Seals

Other materials in this range

- EnDura® V91A (-51°C / -60 °F)
- EnDura® V91K (-41°C / -42°F)
- EnDura® V91J (-18°C / -1°F)
- EnDura® A90H (TFE/P)

Typical Material Properties

Property	ASTM	ISO	Value
Material Type	HNBR	HNBR	Med ACN
Colour			Black
Hardness: (Shore A)	D1415	ISO48	94
Tensile Strength (MPa)	D412	ISO37	28
Elongation at break (%)	D412	ISO37	110
Modulus @ 50% (MPa)			18.0
Modulus @ 100% (MPa)			24.0
Compression Set: 22 hrs @ 150°C (302°F)	D395	ISO815	15%
70 hrs @ 150°C (302°F)	D395	SO815	20%
Heat Resistance: 70 hrs @ 150°C (302°F)	D573	ISO188	
Hardness change (°IRHD)	D1415	ISO48	+2
Tensile strength change (%)	D412	ISO37	+8
Elongation at break change (%)	D412	ISO37	-20
Glass Transition: T _g (mid point)	D3418		-23°C (-9.4°F)
Minimum Operating Temperature			-29°C (-20°F)
Maximum Operating Temperature			+180°C (+356°F)

SPECIAL NOTE: This information is to the best of our knowledge accurate and reliable. However, Precision Polymer Engineering 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. It should also be noted that all elastomeric parts have a finite life. Therefore a regular programme of inspection and replacement is strongly recommended. The material properties above should not to be used for specification purposes.

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