

# EnDura® Z95X

Material Specification for Baker Hughes, Oil Field Equipment

## ENDURA®

### Description

Z95X is a peroxide-cured, explosive decompression resistant HNBR compound.

Z95X provides good chemical resistance to sour gas (H<sub>2</sub>S), 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 Explosive Decompression (ED) resistance in downhole, surface and subsea oilfield equipment.

**The high mechanical strength and abrasion resistance of Z95X makes it particularly suitable for dynamic applications.**

### Key Attributes

- ▶ Excellent Explosive Decompression resistance
- ▶ Tested to **NORSOK M710** Annex B
- ▶ Tested to **TOTAL GS PVV 142 03/01** ED specification
- ▶ Tested to **NACE TM0297** ED standard
- ▶ Improved resistance to weather and heat than standard nitrile grades
- ▶ Good chemical resistance especially to oil and fuel
- ▶ High mechanical strength

### Typical Applications

Low temperature and high pressure environments  
 Exploration and drilling equipment  
 Cementing and completion equipment  
 Subsea valves and pumps  
 Blow-out preventers (BOPs)  
 Mud motors  
 Rotary lip 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)

Potassium Formate, 12.7 ppg, HCOOK 400 hrs @ 110°C (230°F)	Result
Hardness change, IRHD	-1
Tensile Strength change, %	-15
Elongation at Break change, %	-0.5
Volume change, %	0.2



### Material Properties

Property	ASTM	ISO	Typical Value	Limit
Material Type	HNBR		Med ACN	
Colour			Black	
Hardness: (°IRHD)	D1415	ISO48	87	90±5
Tensile Strength (MPa)	D412	ISO37	35.0	30.0 min
Elongation at break (%)	D412	ISO37	215	170 min
Modulus @ 50% (MPa)			6.0	4.0 min
Modulus @ 100% (MPa)			15.0	10.0 min
Compression Set: 24 hrs @ 150°C (302°F)	D395	ISO815	18%	25%max
Heat Resistance: 70 hrs @ 150°C (302°F)	D573	ISO188		
Hardness change (°IRHD)	D1415	ISO48	+2	
Tensile strength change (%)	D412	ISO37	+3.5	
Elongation at break change (%)	D412	ISO37	+3.5	
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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