

# Precision Polymer Z93B

Acrylonitrile Butadiene Rubber

Precision Polymer Engineering Ltd.

## Message:

Z93B is a Copolymer of acrylonitrile and butadiene with a medium ACN content of 30 - 45%. HNBR materials typically provide superior heat resistance, excellent mechanical properties, combined with exceptional resistance to oils, hydrogen sulphide, amines present in crude oil, high energy radiation, ozone and weathering. Z93B is accepted by the UK Ministry of Defence (MOD) to Defence Standard 02-337 part 1, issue 2 (NES 337) for use on naval ships and submarines. Available in any sized O-ring (fully moulded up to 2.5m/8ft internal diameter) and custom designed components.

**Key Attributes**

- Excellent chemical resistance
- Excellent wear resistance and mechanical properties
- Accepted by M.O.D. to Def. Stan. NES 337
- Meets ASTM D2000/SAE J200 line call-out M4DH716, A26, B36, EO16, EO36, F17.

**Typical Applications**

- Naval ships and submarines
- Oilfield applications

General Information			
Features	Good chemical resistance		
	Good wear resistance		
Uses	Ship application		
	Oil/Gas Supplies		
Agency Ratings	ASTM D 2000		
Appearance	Black		
Hardness	Nominal Value		Test Method
IRHD Hardness	92		ASTM D1415, ISO 48
Elastomers	Nominal Value	Unit	Test Method
Tensile Strength (Yield)	22.0	MPa	ASTM D412, ISO 37
Tensile Elongation (Break)	200	%	ASTM D412, ISO 37
Compression Set (135°C, 24 hr)	18	%	ASTM D395, ISO 815
Aging	Nominal Value	Unit	Test Method
Change in Tensile Strength in Air (150°C, 70 hr)	10	%	ASTM D412, ISO 37
Change in Ultimate Elongation in Air (150°C, 70 hr)	-25	%	ASTM D412, ISO 37
Change in IRHD Hardness in Air (150°C, 70 hr)	3.0		ASTM D573, ISO 188
Thermal	Nominal Value	Unit	
Maximum Operating Temperature	180	°C	
Low Temperature Resistance - Non Brittle after 3 mins	-25	°C	
Additional Information	Nominal Value	Unit	

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Minimum Operating Temperature: -30°C (-22°F)

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