

# Precision Polymer N83B

Acrylonitrile Butadiene Rubber

Precision Polymer Engineering Ltd.

## Message:

N83B is a Copolymer of acrylonitrile and butadiene with a medium ACN content of 30 - 45%.  
NBR materials typically provide excellent resistance to petroleum-based oils, fuels and greases, as well as, very low gas permeability, ozone resistance, plus exceptional heat ageing and mechanical properties.  
N83B is accepted by the UK Ministry of Defence (MOD) to Defence Standard 02-337 part 1, issue 1 (NES 337) for use on naval ships and submarines.  
Material code MN80.  
Available in any sized O-ring (fully moulded up to 2.5m/8ft internal diameter) and custom designed components.

**Key Attributes**  
Excellent resistance to aliphatic hydrocarbon oils, fuels and greases.  
Very low gas permeability  
Accepted by M.O.D. to Def. Stan. NES 337

**Typical Applications**  
Naval ships and submarines  
Aerospace Applications

General Information			
Features	Copolymer		
	Good heat aging resistance		
	Ozone resistance		
	Fuel resistance		
	Oil resistance		
	Grease resistance		
Uses	Ship application		
	Aerospace applications		
Appearance	Black		
Hardness	Nominal Value	Test Method	
IRHD Hardness	78	ASTM D1415, ISO 48	
Elastomers	Nominal Value	Unit	Test Method
Tensile Strength (Yield)	19.0	MPa	ASTM D412, ISO 37
Tensile Elongation (Break)	270	%	ASTM D412, ISO 37
Compression Set (70°C, 24 hr)	6.0	%	ASTM D395, ISO 815
Aging	Nominal Value	Unit	Test Method
Change in Tensile Strength in Air (100°C, 168 hr)	6.0	%	ASTM D412, ISO 37
Change in Ultimate Elongation in Air (100°C, 168 hr)	-29	%	ASTM D412, ISO 37
Change in IRHD Hardness in Air (100°C, 168 hr)	3.0		ASTM D573, ISO 188
Thermal	Nominal Value	Unit	
Maximum Operating Temperature	120	°C	

Low Temperature Resistance - Non-brittle  
after 3 minutes

-20

°C

Additional Information

Nominal Value

Unit

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

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#### Recommended distributors for this material

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