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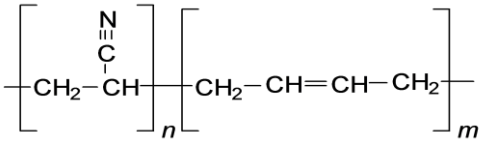
MATERIAL SPECIFICATION SHEET

MN180



Low Temperature Hydrogenated Acrylonitrile Butadiene Elastomer (HNBR)

SPECIFICATIONS

Property	Spec	Value
Hardness (Shore A)	ASTM D-2240	75±5
Tensile Strength (MPa)	ASTM D-412 Die C	10 min.
Elongation (%)	ASTM D-412 Die C	200 min.
Tear Strength (N/mm)	ASTM D-624 Die C	-
Specific Gravity	ASTM D-1817	-
Heat Resistance (150°C @ 70hrs) A26	ASTM D-865	
Hardness Change (%)		+10 max
Tensile Strength Change (%)		-25 max
Elongation Change (%)		-30 max
Volume Change (%)		-
Compression Set (150°C @ 22hrs) B16 (%)	ASTM D-395	30 max
ASTM No.1 Oil (150°C @ 70hrs) EO16	ASTM D-471	
Hardness Change (%)		-5 to +10
Tensile Strength Change (%)		-20 max
Elongation Change (%)		-30 max
Volume Change (%)		±5
IRM 903 Oil (150°C @ 70hrs) EO36	ASTM D-471	
Hardness Change (%)		-15 max
Tensile Strength Change (%)		-30 max
Elongation Change (%)		-30 max
Volume Change (%)		+25 max
Low – Temperature Resistance (-40°C @ 3 minutes)	ASTM D-2137	Non Brittle

**Meets the requirement of:
ASTM 2000 M3DH710 A26 B16 EO16 EO36 Z1

DESCRIPTION

MN180 is a HNBR material with hardness 75±5 Shore A, specially compounded for applications requiring low and high temperature performance in aggressive fluids. The first commercialization of hydrogenated nitrile rubber HNBR copolymer was in 1984, almost 50 years after the commercialization of NBR. To obtain HNBR, NBR is hydrogenated during the polymer synthesis process. Hydrogen is selectively added to the unsaturated carbon-carbon double bonds, of butadiene in the NBR polymer to form saturated carbon-carbon single bonds. Thus HNBR emphasizes two essential features: nitrile, functional groups as in NBR, and a hydrogenated backbone. The nitrile polar group is responsible for HNBR's excellent oil and fuel resistance. The hydrogenated backbone is responsible for HNBR's significantly increased high temperature properties compared to NBR. HNBR has very good ozone and weather resistance thanks to its saturated backbone.