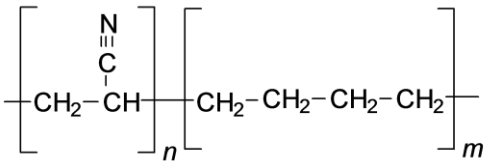
systemseals

MATERIAL SPECIFICATION SHEET

MN317

Highly Saturated Nitrile Butadiene Elastomer
(HNBR 80 w/ Internal Lubricant)



SPECIFICATIONS

Property	Spec	Value
Hardness Shore A	DIN 53505	80 ± 5
Density	DIN 53479	1.25 g/cm³
Module 100%	DIN 53504 52	13 MPa
Module 200%	DIN 53504 52	20 MPa
Tensile Strength	DIN 53504 52	20.7 MPa
Elongation at Break	DIN 53504 52	219%
Tear Strength	ISO 34-1 B	59 N/mm
Tear Strength	ISO 34-1 A	6.7 M/mm
Brittleness Point	ASTM D 1329	
TR-TEST TR 10		-18°C
TR-TEST TR 30		-7.6°C
TR-TEST TR 50		-3°C
Compression Set Deformation 15% Temperature 125°C – Time: 24h	ISO 815A	25%

Value Change after Treatment								
Treatment	Method	Time (H)	Temp (°C)	Hardness (Sh. A)	Tensile Strength (%)	Elongation (%)	Volume Change (%)	Weight Change (%)
Air	DIN53508	72	150	+4	+5	-21	-2	-1.3
IRM 901	DIN53521	72	150	-1	+1	-10	-0.8	-1
Lubrizol OS 206304	DIN53521	72	150	-6	-7.5	-3	+4	+2.7
IRM 903	DIN53521	72	150	-11	-3	-2	+13	+10
Diesel	DIN53521	48	23	-5	-7.5	-3	+5	+3.5
Water: G48 (50:50)	DIN53521	168	135	-3	-4	-3	+1.8	+1.8

DESCRIPTION

MN317 is a HNBR material with hardness 90 Shore A. The first commercialization of hydrogenated nitrile elastomer 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, -C=C-, of butadiene in the NBR polymer to form saturated carbon-carbon single bonds -C-C-. Thus HNBR emphasizes two essential features: nitrile, -C=N, 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.