

N7083

ENGINEERED POLYMER FOR CHALLENGING APPLICATIONS

A 70 durometer, NBR elastomer. The properties of the nitrile rubber depend mainly on the ACN content which ranges between 18 % and 50 %. In general it has good mechanical properties with an operating temperature range of between -30 °C and +100 °C. NBR is mostly used with mineral based oils and greases and is a good choice for standard applications.

ELASTOMER BASE ISO 1629

NBR

COLOUR

Black

PROJECTED SERVICE TEMPERATURES

Minimum* -30°C

Maximum* +100°C

*) Maximum and minimum service temperature are given only as indication and can vary strongly on product shape and application conditions.

TYPICAL APPLICATIONS

Mainly used as energizing element. In accordance with ISO 3601-5 : 2015 (Test Sheet and O-Ring size ISO 3601-1-214).

INDUSTRY SPECIFICATION / ASTM CALLOUTS

M 2 BG 714 B14 EA14 EO14 EO34 EF11 EF21 F17 2*)

1*) Material is approved according to ASTM testing

2*) Material was tested independent of ASTM methods.

Results are only to be considered as similar

ADDITIONAL CODES

None

MATERIAL REFERENCE

None



PROPERTIES

Test Criteria*	Unit	Test Specification	Requirements	Test Result**
Hardness	Shore A	DIN ISO 48-4	70 +/- 5	66
Density	g/cm ³	DIN EN ISO 1183-1	1.24 +/-0.02	1.23
Tensile Strength	MPa	DIN 53 504	≥ 14.0	15.9
Modulus at 100% Elongation	N/A	DIN 53 504	N/A	3.1
Elongation at Break	%	DIN 53 504	≥ 200	441

Compression Set

24h / +100°C	%	DIN ISO 815-1 A	≤25	15
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Low temperature behaviour

TR10 (TMA)	°C	N/A	N/A	-27
TR (DMA)	°C	N/A	N/A	-28
Glass transition point Tg (DSC)	°C	ISO 11357-1/-2	N/A	-29

AGEING IN Air (DIN 53 508) 72h / +100°C

Test Criteria* (Test Specification)	Unit	Requirements	Test Result**
Hardness	Shore A	N/A	69
Hardness Change	Shore A	N/A	4
Tensile Strength	MPa	N/A	17.1
Tensile Change	%	N/A	8.0
Elongation at Break	%	N/A	360
Elongation Change	%	N/A	-18
Weight Change	%	N/A	1
Volume Change	%	N/A	1

AGEING IN ASTM-Oil No. 1 (DIN ISO 1817) 72h / +100°C

Test Criteria* (Test Specification)	Unit	Requirements	Test Result**
Hardness	Shore A	N/A	70
Hardness Change	Shore A	N/A	4
Tensile Strength	MPa	N/A	16.7
Tensile Change	%	N/A	5.0
Elongation at Break	%	N/A	371
Elongation Change	%	N/A	-16
Weight Change	%	N/A	-4
Volume Change	%	N/A	-5

AGEING IN ASTM-Oil IRM 903 (DIN ISO 1817) 72h / +100°C

Test Criteria* (Test Specification)	Unit	Requirements	Test Result**
Hardness	Shore A	N/A	64
Hardness Change	Shore A	N/A	-3
Tensile Strength	MPa	N/A	16.8
Tensile Change	%	N/A	6.0
Elongation at Break	%	N/A	413
Elongation Change	%	N/A	-6
Weight Change	%	N/A	5
Volume Change	%	N/A	6

* All tests were carried out on standard samples cured on specified conditions. Values can vary on final product.

** Typical values are given only as indication and actual results may vary depending on material batch, cure and post-cure conditions as well as on sample's geometry.

Time within () means the test has been performed after that duration. For e.g. (25H) means test was performed after 25H.

N/A: Value is not available.

