

Hydrogenated Nitrile (HNBR) was specifically developed for increased temperature resistance and better compatibility with new automotive fuels. Please contact engineering@marcorubber.com for assistance in selecting a specialized compound when increased resistance to temperature, lubricants, or physical properties is required.

ABOUT #R1003

R1003 is a general use, 90A durometer HNBR. Hydrogenated Nitrile offers higher strength and minimal degradation at high temperatures. Specific physical and chemical resistances vary by compound formulation.

FEATURES

- Extended temperature capabilities.
- Enhanced chemical compatibility with new automotive fuels.
- Good/Excellent resistance to compression set and tear/abrasion.
- Good/Excellent resistance to many petroleum oils/greases, H₂S, hydraulic fluids, alcohol, ambient water, silicone greases, Di-ester base lubricants, CO₂ and ethylene-glycol based fluids.

APPLICATION EXAMPLES

Applications involving many petroleum oils/greases, H₂S, hydraulic fluids, alcohol, ambient water, silicone greases, Di-ester base lubricants, CO₂ and ethylene-glycol based fluids.

ADDITIONAL INFORMATION

- Service Temperature of -30° to 325°F
- Cure System: Peroxide
- Spec: ASTM D2000 M4DH920 A26 B16 E016 E036 C12 F16

This information is accurate and reliable to the best of our knowledge. However, Marco Rubber makes no warranty, expressed or implied, that parts manufactured from this material will perform satisfactorily in the customer's application. It is the customer's responsibility to evaluate parts prior to use.

PHYSICAL PROPERTIES

ORIGINAL PROPERTIES	ASTM D2000 Requirements	Typical Test Results
Hardness, Shore A	90 +/- 5	88
Color	Black	Black
Tensile Strength, psi	2,900 min.	3500
Ultimate Elongation, %	100 min.	150
HEAT RESISTANCE – A26, ASTM D 573 (70 hrs. @ 150°C)	ASTM D2000 Requirements	Typical Test Results
Hardness Change, points	10	3
Tensile Strength Change, %	-15	-9
Ultimate Elongation Change, %	-25	-22
COMPRESSION SET – B16, ASTM D 325 Method B (22 hrs. @ 150°C)	ASTM D2000 Requirements	Typical Test Results
Permanent Set %	30 max.	18
FLUID RESISTANCE –ASTM #1 Oil – EO16, ASTM D 471 (70 hrs. @ 150°C)	ASTM D2000 Requirements	Typical Test Results
Hardness Change, points	+ 5 to + 10	+2
Tensile Strength Change, %	-20 max.	+5
Ultimate Elongation Change, %	-30 max.	-18
Volume Change, %	-10 to +5	+3
FLUID RESISTANCE – ASTM #903 Oil, -EO36, ASTM D 471 (70 hrs. @ 100°C)	ASTM D2000 Requirements	Typical Test Results
Hardness Change, points	-15 max.	-8
Tensile Strength Change, %	-40 max.	-15
Ultimate Elongation Change, %	-30 max.	-23
Volume Change, %	+25 max.	+14
OZONE RESISTANCE – 50 ppm, -C12, (70 hrs. @ 40°C)	ASTM D2000 Requirements	Test Results
Test Results	No Crack	No Crack
LOW TEMPERATURE RESISTANCE – F16, ASTM D2137, Method A,9.3.2	ASTM D2000 Requirements	Test Results
Nonbrittle after 3 min. at -35°C	Pass	Passed