Request a Quote

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Marco Compound # R1002
80 Durometer, Black, HNBR Nitrile
Technical Datasheet

Common Names:
HNBR (Hydrogenated acrylonitrile butadiene rubber), Hydrogenated Nitrile

General Description:
Hydrogenated Nitrile was specifically developed for increased temperature resistance and better compatibility with new automotive fuels. Hydrogenated Nitrile also offers higher strength and minimal degradation at high temperatures. Please contact engineering@marcorubber.com for assistance in selecting a specialized compound when increased resistance to temperature, lubricants, or physical properties is required.

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.

Limitations:
- Ozone, direct sunlight, UV, weathering, aromatic fuels, glycol-based brake fluids, polar solvents, non-flammable hydraulic fluids (HFD), aromatic/chlorinated hydrocarbons, ketones, esters, and aldehydes.

Cure System:
Peroxide

Service Temperature:
-30 to 325° F

Specification:
ASTM D2000 M3DH810 A26 B16 EO16 EO36

PHYSICAL PROPERTY STANDARDS

ORIGINAL PROPERTIES	ASTM D2000 Requirements	Typical Test Results
Hardness, Shore A	80 +/- 5	81
Color	Black	Black
Tensile Strength, MPa (psi)	10 (1,440) min.	18.6 (2,680)
Ultimate Elongation, %	175 min.	336

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HEAT RESISTANCE – A26, ASTM D 573 (70 hrs. @ 150°C)	ASTM D2000 Requirements	Typical Test Results
Hardness Change, points	+ 10	+6
Tensile Strength Change, %	- 25	-2
Ultimate Elongation Change, %	-30	-28

COMPRESSION SET – B16, ASTM D 325 Method B (22 hrs. @ 150°C)	ASTM D2000 Requirements	Typical Test Results
Permanent Set %	30 max.	14

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.	-13
Ultimate Elongation Change, %	-30 max.	-28
Volume Change, %	+/- 5	-3

FLUID RESISTANCE – ASTM #1 Oil, -EO36, ASTM D 471 (70 hrs. @ 100°C)	ASTM D2000 Requirements	Typical Test Results
Hardness Change, points	-15 max.	-10
Tensile Strength Change, %	-30 max.	-3
Ultimate Elongation Change, %	-30 max.	+12
Volume Change, %	+25 max.	+15