



Marco Compound # B1136

90 Durometer, Black, Extended Temperature Buna-N

Technical Datasheet

Common Names:

NBR (acrylonitrile butadiene rubber), **Buna-N**, Nitrile.

General Description:

NBR is the most commonly used general purpose o-ring material because of relative low cost, good mechanical properties, and basic resistance to many common lubricants. Specific physical and chemical resistances vary by compound formulation. Marco compound B1136 is a 90 durometer material formulated for extended low and high temperature resistance. 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 low and high temperature range
- Relative low cost.
- Good/Excellent resistance to compression set and tear/abrasion.
- Good/Excellent resistance to many petroleum oils/greases, hydraulic fluids, alcohol, ambient water, silicone greases, Di-ester base lubricants and ethylene-glycol based fluids.

Limitations:

- Ozone, direct sunlight, UV, weathering
- Aromatic fuels, polar solvents, non-flammable hydraulic fluids (HFD), aromatic/chlorinated hydrocarbons,
- Ketones, esters, and aldehydes
- Glycol-based brake fluids
- 15 year shelf life

Service Temperature:

-45 to 275°F (-43 to 135°C)

Specification:

ASTM 2000 M3CH910 A25 B14 EO16 EO36 F17

PHYSICAL PROPERTY STANDARDS

ORIGINAL PROPERTIES	ASTM D2000 Requirements	Typical Test Results
Hardness, Shore A	90 +/- 5	87
Color	Black	Black
Tensile Strength, MPa (psi)	10 (1450) min.	16.1 (2335)
Ultimate Elongation, %	100 min.	145

HEAT RESISTANCE – A25, ASTM D 573 (70 hrs. @ 125°C)	ASTM D2000 Requirements	Typical Test Results
Hardness Change, points	0 to + 15	+3
Tensile Strength Change, %	- 25	+1
Ultimate Elongation Change, %	-50 max.	-20

COMPRESSION SET – B14, ASTM D 325 Method B (22 hrs. @ 100°C)	ASTM D2000 Requirements	Typical Test Results
Permanent Set %	25 max.	11

FLUID RESISTANCE, ASTM NO. 1 OIL – E015, ASTM D 471 (70 hrs. @ 150°C)	ASTM D2000 Requirements	Typical Test Results
Hardness Change, points	0 to +10	+2
Tensile Strength Change, %	-20 max.	+9
Ultimate Elongation Change, %	-40 max.	-16
Volume Change, %	-15 to +5	-2

FLUID RESISTANCE – IRM 903 Oil, -EO35, ASTM D 471 (70 hrs. @ 150°C)	ASTM D2000 Requirements	Typical Test Results
Hardness Change, points	+/-10	-7
Tensile Strength Change, %	-35	-20
Ultimate Elongation Change, %	-35	-19
Volume Change, %	0 to +25	+20

LOW TEMPERATURE RESISTANCE – F19, ASTM D 2137	ASTM D2000 Requirements	Typical Test Results
Non-brittle after 3 min. @ -40°C	Pass	Pass

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