

## Marco Compound # M1000

### 70 Durometer, Black, AMS-P-25732 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. M1000 is formulated to provide value with balance cost and performance. Please contact [sales@marcorubber.com](mailto:sales@marcorubber.com) for assistance in selecting a specialized compound when increased resistance to temperature, lubricants, or physical properties is required.

#### **Features:**

- Meets AMS-P-25732 (MS28775)
- Meets low temperature requirements for hydraulics in military aircraft
- 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, glycol-based brake fluids, polar solvents, non-flammable hydraulic fluids (HFD), aromatic/chlorinated hydrocarbons, ketones, esters, and aldehydes, 15 year shelf life.

#### **Service Temperature:**

-65 to 275° F

#### **Specification:**

ASTM D2000 M2BG706 B14 EO14 EO34 F17

### PHYSICAL PROPERTY STANDARDS

| ORIGINAL PROPERTIES    | ASTM D2000 Requirements | Typical Test Results |
|------------------------|-------------------------|----------------------|
| Hardness, Shore A      | 70 +/- 5                | 72                   |
| Color                  | Black                   | Black                |
| Tensile Strength, psi  | 870 min.                | 1,900                |
| Ultimate Elongation, % | 150 min.                | 180                  |

| <b>HEAT RESISTANCE – A14, ASTM D 573 (70 hrs. @ 100°C)</b> | <b>ASTM D2000 Requirements</b> | <b>Typical Test Results</b> |
|--|--------------------------------|-----------------------------|
| Hardness Change, points                                    | +/- 15                         | +3                          |
| Tensile Strength Change, %                                 | +/- 30                         | +6                          |
| Ultimate Elongation Change, %                              | -50 max.                       | -15                         |

| <b>COMPRESSION SET – B14, ASTM D 325 Method B (22 hrs. @ 100°C)</b> | <b>ASTM D2000 Requirements</b> | <b>Typical Test Results</b> |
|---|--------------------------------|-----------------------------|
| Permanent Set %   | 25 max.                        | 13                          |

| <b>FLUID RESISTANCE – ASTM Oil #1 – EO14, ASTM D 471(70 hrs. @ 100°C)</b> | <b>ASTM D2000 Requirements</b> | <b>Typical Test Results</b> |
|---|--------------------------------|-----------------------------|
| Hardness Change, points   | -5 to +10                      | 10                          |
| Tensile Strength Change, %  | -25 max.                       | 15                          |
| Ultimate Elongation Change, %   | -45 max.                       | -17                         |
| Volume Change, %  | -10 to +5                      | -10                         |

| <b>FLUID RESISTANCE – IRM 903 Oil – EO34, ASTM D 471 (70 hrs. @ 100°C)</b> | <b>ASTM D2000 Requirements</b> | <b>Typical Test Results</b> |
|--|--------------------------------|-----------------------------|
| Hardness Change, points  | -10 to +5                      | -8                          |
| Tensile Strength Change, %   | -45 max.                       | +15                         |
| Ultimate Elongation Change, %  | -45 max                        | -9                          |
| Volume Change, %   | 0 to +25                       | +9                          |

| <b>LOW TEMPERATURE RESISTANCE – F17, ASTM D 2137 Method A, 9.3.2</b> | <b>ASTM D2000 Requirements</b> | <b>Typical Test Results</b> |
|--|--------------------------------|-----------------------------|
| Non-brittle after 3 minutes at -40° C                                | Pass                           | Pass                        |

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