

Material Properties

General Purpose NBR (N70, Nitrile 70 Duro, Buna)

Material code: 101

Nitrile is the most commonly used rubber material. This is due to Nitrile's compatibility with most environments as well as its relative cost compared to other rubber materials. It is a general purpose copolymer of butadiene and acrylonitrile. This compound has relatively high acrylo content, making it exceptionally resistant to petroleum base oils and hydrocarbon fuels. Nitrile has good mechanical properties when compared with other elastomers and high wear resistance. Unless they are specially compounded, Nitrile is not resistant to weathering, sunlight and ozone.

| Physical Properties | ASTM Method | Typical Values |
|--|-----------------|----------------|
| Specific Gravity | D297 | 1.20 gr/cm 3 |
| Water Absorption (24 hrs. @ 74°F) | D570 | 0.01 % |
| Color | N/A | Black |
| Mechanical Properties | | |
| Tensile Strength | D412 | 2200 psi |
| Elongation | D412 | |
| • At 410 psi | | 100% |
| • At Break | | 300% |
| Compression Set | D395 | |
| • 22 hrs. at 212°F | | 12% |
| • 300 hrs. at 212°F | | 18% |
| Hardness | Shore A | 70 |
| Shear Modulus, G | | 400 psi |
| Youngs Modulus, E | | 1211 psi |
| Aging Resistance | | |
| Heat Resistance (70 hrs. at 212°F) | D573 | |
| Hardness change | Shore A | +5 |
| Tensile Strength change | | +8% |
| Elongation Change | | -10% |
| Water Immersion Resistance | | |
| Hardness Change | Shore A | -4 |
| Elongation Change | | +3% |
| ASTM Fuel A-EF11 Resistance (70 hrs. at 74°F) | | |
| Hardness Change | D471 Shore A | 0 |
| Tensile Strength Change | | -16 psi |
| Elongation Change | | -10% max. |
| Volume Change | | 0% |
| ASTM IRM 901 #1 Oil-E014 Resistance (70 hours at 212°F) | | |
| Hardness Change | D471 Shore A | +2 |
| Tensile Strength Change | | -10% |
| Elongation Change | | -8% |
| Volume Change | | -4 |



Note: *Property values should be interpreted as typical rather than minimum value.* All technical information and recommendations are presented in good faith, and based upon laboratory and real-world tests believe to be reliable and practical. However, K.C. Seals, Inc. cannot guarantee the accuracy or completeness of this information, and it is the customers' responsibility to determine product suitability to any given application.



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