

Natural Rubber, Not Vulcanized (NR, IR, Polyisoprene)

Categories: [Polymer](#); [Thermoset](#); [Rubber or Thermoset Elastomer \(TSE\)](#)

Material Notes: Natural rubber is polyisoprene. Chemical and environmental resistance and mechanical properties are improved through crosslinking (vulcanizing), usually through treatment with sulfur.

Natural rubber usually withstands polar organic solvents (alcohols, ketones, aldehydes), organic acids, and mild chemicals. Its is adversely affected by most hydrocarbons, oil/grease/fat, strong acid, and ozone.

Vendors: No vendors are listed for this material. Please [click here](#) if you are a supplier and would like information on how to add your listing to this material.

| Physical Properties | Metric | English | Comments |
|----------------------------------|-------------------------------------|---------------------------------------|------------------------|
| Density | 0.930 g/cc | 0.0336 lb/in ³ | Uncompounded |
| Mechanical Properties | Metric | English | Comments |
| Hardness, Shore A | 30 - 90 | 30 - 90 | Depends on compounding |
| Tensile Strength, Ultimate | >= 27.6 MPa | >= 4000 psi | Reinforced |
| Elongation at Break | 500 % | 500 % | Reinforced |
| Electrical Properties | Metric | English | Comments |
| Electrical Resistivity | 1.00e+15 ohm-cm | 1.00e+15 ohm-cm | |
| Dielectric Constant | 2.6 @Frequency 1000 Hz | 2.6 @Frequency 1000 Hz | |
| Dielectric Strength | 17.0 kV/mm | 432 kV/in | |
| Dissipation Factor | 0.0020 @Frequency 1000 Hz | 0.0020 @Frequency 1000 Hz | |
| Thermal Properties | Metric | English | Comments |
| CTE, linear | 666 µm/m-°C @Temperature 20.0 °C | 370 µin/in-°F @Temperature 68.0 °F | |
| Specific Heat Capacity | 0.450 J/g-°C | 0.108 BTU/lb-°F | |
| Thermal Conductivity | 0.140 W/m-K | 0.972 BTU-in/hr-ft ² -°F | |
| Maximum Service Temperature, Air | 50.0 °C | 122 °F | |
| Minimum Service Temperature, Air | -50.0 °C | -58.0 °F | |
| Glass Transition Temp, Tg | -70.0 °C | -94.0 °F | |
| Optical Properties | Metric | English | Comments |
| Refractive Index | 1.519 | 1.519 | |

[References](#) for this datasheet.

Some of the values displayed above may have been converted from their original units and/or rounded in order to display the information in a consistent format. Users requiring more precise data for scientific or engineering calculations can click on the property value to see the original value as well as raw conversions to equivalent units. We advise that you only use the original value or one of its raw conversions in your calculations to minimize rounding error. We also ask that you refer to MatWeb's [terms of use](#) regarding this information. [Click here](#) to view all the property values for this datasheet as they were originally entered into MatWeb.