# LG Chemical NBR 7150 High Acrylonitrile Polymer

**Category :** Polymer , Thermoset , Rubber or Thermoset Elastomer (TSE)

**Material Notes:**

Description: NBR 7150 is a copolymer of butadiene and acrylonitrile manufactured by cold emulsion polymerization technology of Goodyear Tire and Rubber Company, USA. NBR 7150 is a non staining, medium mooney, medium low acrylonitrile polymer designed to aid in processing operations such as transfer and compression molding. NBR 7150 offers good balance of oil and fuel resistance in low temperature and is no need for additional fatty acid for sulfur cure system activation.Applications: NBR 7150 is recommended to use in industrial and automotive parts such as oil hose.CAS No: 9003-18-3Information provided by LG Chemical

Order this product through the following link:
http://www.lookpolymers.com/polymer_LG-Chemical-NBR-7150-High-Acrylonitrile-Polymer.php

| Physical Properties | Metric | English | Comments |
|---|---|---|---|
| Specific Gravity | 0.990 g/cc | 0.990 g/cc | |
| Volatiles | 0.30 % | 0.30 % | |
| Mooney Viscosity | 51.5<br>@Temperature 100 Â°C | 51.5<br>@Temperature 212 Â°F | ML 1+4 |
| Ash | <= 0.50 % | <= 0.50 % | |

| Mechanical Properties | Metric | English | Comments |
|---|---|---|---|
| Hardness, Shore A | 69<br>@Temperature 175 Â°C, Time 1190 sec | 69<br>@Temperature 347 Â°F, Time 0.330 hour | Cured |
| | 71<br>@Temperature 100 Â°C, Time 259000 sec | 71<br>@Temperature 212 Â°F, Time 72.0 hour | Circulating Oven Aging |
| | 45<br>@Treatment Temp. 25.0 Â°C, Time 259000 sec | 45<br>@Treatment Temp. 77.0 Â°F, Time 72.0 hour | Aged fuel C |
| | 65<br>@Treatment Temp. 100 Â°C, Time 259000 sec | 65<br>@Treatment Temp. 212 Â°F, Time 72.0 hour | Aged ASTM D #3 Oil |
| | 71<br>@Treatment Temp. 100 Â°C, Time 259000 sec | 71<br>@Treatment Temp. 212 Â°F, Time 72.0 hour | Aged ASTM D #1 Oil |
| | 18.0 MPa | 2610 psi | |

| Mechanical Properties | Metric | English | Comments |
|---|---|---|---|
| Tensile Stress at Break | @Temperature 175 Â°C, Time 2990 sec | @Temperature 347 Â°F, Time 0.830 hour | Cured |
| | 18.7 MPa<br><br>@Temperature 100 Â°C, Time 259000 sec | 2710 psi<br><br>@Temperature 212 Â°F, Time 72.0 hour | Circulating Oven Aging |
| | 24.6 MPa<br><br>@Temperature 145 Â°C, Time 2990 sec | 3570 psi<br><br>@Temperature 293 Â°F, Time 0.830 hour | cured; ASTM D412 |
| | 12.4 MPa<br><br>@Treatment Temp. 25.0 Â°C, Time 259000 sec | 1800 psi<br><br>@Treatment Temp. 77.0 Â°F, Time 72.0 hour | Aged fuel C |
| | 18.8 MPa<br><br>@Treatment Temp. 100 Â°C, Time 259000 sec | 2730 psi<br><br>@Treatment Temp. 212 Â°F, Time 72.0 hour | Aged ASTM D #3 Oil |
| | 19.1 MPa<br><br>@Treatment Temp. 100 Â°C, Time 259000 sec | 2770 psi<br><br>@Treatment Temp. 212 Â°F, Time 72.0 hour | Aged ASTM D #1 Oil |
| Elongation at Break | 377.3 %<br><br>@Temperature 100 Â°C, Time 259000 sec | 377.3 %<br><br>@Temperature 212 Â°F, Time 72.0 hour | Circulating Oven Aging |
| | 410 %<br><br>@Temperature 175 Â°C, Time 2990 sec | 410 %<br><br>@Temperature 347 Â°F, Time 0.830 hour | Cured |
| | 472 %<br><br>@Temperature 145 Â°C, Time 2990 sec | 472 %<br><br>@Temperature 293 Â°F, Time 0.830 hour | cured; ASTM D412 |
| | 112 %<br><br>@Treatment Temp. 100 Â°C, Time 259000 sec | 112 %<br><br>@Treatment Temp. 212 Â°F, Time 72.0 hour | Aged ASTM D #1 Oil |
| | 347.8 %<br><br>@Treatment Temp. 25.0 Â°C, Time 259000 sec | 347.8 %<br><br>@Treatment Temp. 77.0 Â°F, Time 72.0 hour | Aged fuel C |
| | 389 %<br><br>@Treatment Temp. 100 Â°C, Time 259000 sec | 389 %<br><br>@Treatment Temp. 212 Â°F, Time 72.0 hour | Aged ASTM D #3 Oil |

| Mechanical Properties | Metric | English | Comments |
|---|---|---|---|
| 300% Modulus | 0.0140 GPa<br>@Temperature 145 Â°C, Time 2990 sec | 2.03 ksi<br>@Temperature 293 Â°F, Time 0.830 hour | cured; ASTM D412 |
| Rebound | 47.3 %<br>@Temperature 30.0 Â°C | 47.3 %<br>@Temperature 86.0 Â°F | |
| Abrasion | 0.324 | 0.324 | AKRON |
| Compression Set | 18.3 %<br>@Temperature 100 Â°C, Time 259000 sec | 18.3 %<br>@Temperature 212 Â°F, Time 72.0 hour | 160Â°C x 30 min. Cured) |

| Descriptive Properties | Value | Comments |
|---|---|---|
| Bound AN Content | 0.28 | |
| Color | Tan | |
| Components | HAF (IRB#7) | 40 phr, ASTM D3187 |
| | NBR7150 | 100 phr, ASTM D3187 |
| | Stearic Acid | 1 phr, ASTM D3187 |
| | Sulfur | 1.5 phr, ASTM D3187 |
| | TBBS | 0.7 phr, ASTM D3187 |
| | ZnO | 3 phr, ASTM D3187 |
| Compound Recipe | Antioxidant(3-C) | 1 phr |
| | Antioxidant(RD) | 2 phr |
| | Carbon Black(SRF) | 80 phr |
| | CZ | 2 phr |
| | NBR 7150 | 100 phr |
| | Plasticizer(DOP) | 10 phr |
| | Stearic Acid | 1 phr |
| | Sulfur | 0.5 phr |
| | TT | 1 phr |
| | Zinc Oxide | 5 phr |

| Descriptive Properties | Value | Comments |
|---|---|---|
| Rheometer | 1.2 min | ts1, 160Â°C x 12 min, 1Â° Arc, MDR |
| | 1.8 min | t'50, 160Â°C x 12 min, 1Â° Arc, MDR |
| | 2.6 lb-in | ML, 160Â°C x 12 min, 1Â° Arc, MDR |
| | 2.7 min | t'90, 160Â°C x 12 min, 1Â° Arc, MDR |
| | 27.0 lb-in | MH, 160Â°C x 12 min, 1Â° Arc, MDR |
| Volume Swell | 0.012 | Aged ASTM D #3 Oil (100Â°C x 72hrs) |
| | -0.053 | Aged ASTM D #1 Oil (100Â°C x 72hrs) |
| | 0.562 | Aged fuel C (RTÂ°C x 72hrs) |

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