# LNP™ THERMOCOMP™ Compound RF0039S

RF-1003 FR HS

## DESCRIPTION

LNP THERMOCOMP RF0039S compound is based on Nylon 6/6 resin containing 15% glass fiber. Added features of this grade include: Flame Retardant, Heat Stabilized.

| GENERAL INFORMATION | |
|---|---|
| **Features** | Flame Retardant, Heat Stabilized, High stiffness/Strength, No PFAS intentionally added |
| **Fillers** | Glass Fiber (Total fluorine >50ppm only from inorganic fluorine) |
| **Polymer Types** | Polyamide 66 (Nylon 66) |
| **Processing Techniques** | Injection Molding |

| INDUSTRY | SUB INDUSTRY |
|---|---|
| Building and Construction | Building Component |
| Consumer | Sport/Leisure, Personal Accessory, Home Appliances, Commercial Appliance |
| Electrical and Electronics | Mobile Phone - Computer - Tablets |
| Industrial | Electrical |

## TYPICAL PROPERTY VALUES

Revision 20231109

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| MECHANICAL [1] | | | |
| **Tensile Stress, break** | 100 | MPa | ASTM D638 |
| **Tensile Strain, break** | 3 | % | ASTM D638 |
| **Tensile Modulus, 5 mm/min** | 6060 | MPa | ASTM D638 |
| **Flexural Stress** | 160 | MPa | ASTM D790 |
| **Flexural Modulus** | 5170 | MPa | ASTM D790 |
| **Tensile Stress, break** | 98 | MPa | ISO 527 |
| **Tensile Strain, break** | 2.9 | % | ISO 527 |
| **Tensile Modulus, 1 mm/min** | 6300 | MPa | ISO 527 |
| **Flexural Stress** | 164 | MPa | ISO 178 |
| **Flexural Modulus** | 6000 | MPa | ISO 178 |
| IMPACT [1] | | | |
| **Izod Impact, unnotched, 23°C** | 523 | J/m | ASTM D4812 |
| **Izod Impact, notched, 23°C** | 42 | J/m | ASTM D256 |
| **Instrumented Dart Impact Energy @ peak, 23°C** | 5 | J | ASTM D3763 |
| **Multiaxial Impact** | 1 | J | ISO 6603 |
| **Izod Impact, unnotched 80*10*4 +23°C** | 38 | kJ/m² | ISO 180/1U |
| **Izod Impact, notched 80*10*4 +23°C** | 5 | kJ/m² | ISO 180/1A |
| THERMAL [1] | | | |
| **HDT, 0.45 MPa, 3.2 mm, unannealed** | 251 | °C | ASTM D648 |
| **HDT, 1.82 MPa, 3.2mm, unannealed** | 226 | °C | ASTM D648 |

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| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm | 219 | °C | ISO 75/Af |
| Relative Temp Index, Elec [2] | 130 | °C | UL 746B |
| Relative Temp Index, Mech w/impact [2] | 105 | °C | UL 746B |
| Relative Temp Index, Mech w/o impact [2] | 115 | °C | UL 746B |
| PHYSICAL [1] | | | |
| Density | 1.487 | g/cm³ | ASTM D792 |
| Moisture Absorption, (23°C/50% RH/24 hrs) | 0.49 | % | ASTM D570 |
| Mold Shrinkage, flow, 24 hrs [3] | 0.9 | % | ASTM D955 |
| Mold Shrinkage, xflow, 24 hrs [3] | 1.3 | % | ASTM D955 |
| Mold Shrinkage, flow, 24 hrs [3] | 0.89 | % | ISO 294 |
| Mold Shrinkage, xflow, 24 hrs [3] | 1.29 | % | ISO 294 |
| Density | 1.48 | g/cm³ | ISO 1183 |
| ELECTRICAL [1] | | | |
| Comparative Tracking Index (UL) {PLC} | 3 | PLC Code | UL 746A |
| Hot-Wire Ignition (HWI), PLC 0 | ≥3 | mm | UL 746A |
| Hot-Wire Ignition (HWI), PLC 1 | ≥1.7 | mm | UL 746A |
| High Amp Arc Ignition (HAI), PLC 0 | ≥3 | mm | UL 746A |
| High Amp Arc Ignition (HAI), PLC 1 | ≥1.7 | mm | UL 746A |
| High Voltage Arc Track Rate {PLC} | 1 | PLC Code | UL 746A |
| Arc Resistance, Tungsten {PLC} | 7 | PLC Code | ASTM D495 |
| FLAME CHARACTERISTICS [2] | | | |
| UL Yellow Card Link | E121562-101281598 | - | - |
| UL Recognized, 94V-0 Flame Class Rating | ≥1.7 | mm | UL 94 |
| INJECTION MOLDING [4] | | | |
| Drying Temperature | 80 | °C | |
| Drying Time | 4 | Hrs | |
| Maximum Moisture Content | 0.15 – 0.25 | % | |
| Melt Temperature | 275 – 290 | °C | |
| Front - Zone 3 Temperature | 295 – 305 | °C | |
| Middle - Zone 2 Temperature | 280 – 295 | °C | |
| Rear - Zone 1 Temperature | 265 – 275 | °C | |
| Mold Temperature | 80 – 95 | °C | |
| Back Pressure | 0.2 – 0.3 | MPa | |
| Screw Speed | 30 – 60 | rpm | |

(1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.

(2) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.

(3) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.

(4) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

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