# LNP™ LUBRICOMP™ COMPOUND RFL33

RFL-4033

## DESCRIPTION

LNP LUBRICOMP RFL33 compound is based on Nylon 6/6 resin containing 15% glass fiber, 15% PTFE. Added features of this grade include: Wear Resistant.

| GENERAL INFORMATION | |
|---|---|
| **Features** | Wear resistant |
| **Fillers** | Glass Fiber, PTFE |
| **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 Modulus, 5 mm/min** | 6890 | MPa | ASTM D638 |
| **Tensile Stress, break** | 119 | MPa | ASTM D638 |
| **Tensile Strain, break** | 3.1 | % | ASTM D638 |
| **Flexural Stress** | 179 | MPa | ASTM D790 |
| **Flexural Modulus** | 5510 | MPa | ASTM D790 |
| **Tensile Modulus, 1 mm/min** | 6200 | MPa | ISO 527 |
| **Tensile Stress, break, 5 mm/min** | 122 | MPa | ISO 527 |
| **Tensile Strain, break, 5 mm/min** | 3.5 | % | ISO 527 |
| **Flexural Modulus, 2 mm/min** | 5200 | MPa | ISO 178 |
| **Flexural Strength, 2 mm/min** | 178 | MPa | ISO 178 |
| IMPACT [1] | | | |
| **Izod Impact, unnotched, 23°C** | 571 | J/m | ASTM D4812 |
| **Izod Impact, notched, 23°C** | 64 | J/m | ASTM D256 |
| **Instrumented Dart Impact Energy @ peak, 23°C** | 7 | J | ASTM D3763 |
| **Multiaxial Impact** | 2 | J | ISO 6603 |
| **Izod Impact, unnotched 80*10*4 +23°C** | 35 | kJ/m² | ISO 180/1U |
| **Izod Impact, notched 80*10*4 +23°C** | 6 | kJ/m² | ISO 180/1A |
| THERMAL [1] | | | |
| **HDT, 0.45 MPa, 3.2 mm, unannealed** | 261 | °C | ASTM D648 |
| **HDT, 1.82 MPa, 3.2mm, unannealed** | 247 | °C | ASTM D648 |
| **CTE, -40°C to 40°C, flow** | 3.9E-05 | 1/°C | ASTM E831 |

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| CTE, -40°C to 40°C, xflow | 8.3E-05 | 1/°C | ASTM E831 |
| CTE, -40°C to 40°C, flow | 3.9E-05 | 1/°C | ISO 11359-2 |
| CTE, -40°C to 40°C, xflow | 8.3E-05 | 1/°C | ISO 11359-2 |
| CTE, 23°C to 60°C, flow | 3.9E-05 | 1/°C | ISO 11359-2 |
| CTE, 23°C to 60°C, xflow | 9.5E-05 | 1/°C | ISO 11359-2 |
| HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm | 260 | °C | ISO 75/Bf |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm | 243 | °C | ISO 75/Af |
| Relative Temp Index, Elec [2] | 120 | °C | UL 746B |
| Relative Temp Index, Mech w/impact [2] | 65 | °C | UL 746B |
| Relative Temp Index, Mech w/o impact [2] | 65 | °C | UL 746B |
| PHYSICAL [1] | | | |
| Density | 1.37 | g/cm³ | ASTM D792 |
| Moisture Absorption, (23°C/50% RH/24 hrs) | 0.6 | % | ASTM D570 |
| Mold Shrinkage, flow, 24 hrs [3] | 0.5 – 0.7 | % | ASTM D955 |
| Mold Shrinkage, xflow, 24 hrs [3] | 1.6 – 1.8 | % | ASTM D955 |
| Mold Shrinkage, flow, 24 hrs [3] | 0.64 | % | ISO 294 |
| Mold Shrinkage, xflow, 24 hrs [3] | 1.7 | % | ISO 294 |
| Wear Factor Washer | 19 | 10^-10 in^5-min/ft-lb-hr | ASTM D3702 Modified: Manual |
| Dynamic COF | 0.39 | - | ASTM D3702 Modified: Manual |
| Static COF | 0.45 | - | ASTM D3702 Modified: Manual |
| Density | 1.36 | g/cm³ | ISO 1183 |
| FLAME CHARACTERISTICS [2] | | | |
| UL Yellow Card Link | E121562-101344610 | - | - |
| UL Yellow Card Link 2 | E207780-101282824 | - | - |
| UL Yellow Card Link 3 | E45329-101344595 | - | - |
| UL Recognized, 94HB Flame Class Rating | ≥0.75 | mm | UL 94 |
| INJECTION MOLDING [4] | | | |
| Drying Temperature | 80 | °C | |
| Drying Time | 4 | Hrs | |
| Maximum Moisture Content | 0.15 – 0.25 | % | |
| Melt Temperature | 280 – 305 | °C | |
| Front - Zone 3 Temperature | 295 – 305 | °C | |
| Middle - Zone 2 Temperature | 280 – 295 | °C | |
| Rear - Zone 1 Temperature | 265 – 275 | °C | |
| Mold Temperature | 95 – 110 | °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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