# LNP™ LUBRICOMP™ COMPOUND UL002S

UL-4020 HS

## DESCRIPTION

LNP LUBRICOMP UL002S compound is based on Polyphthalamide (PPA) resin containing 10% PTFE. Added features of this grade include: Heat Stabilized, Wear Resistant.

| GENERAL INFORMATION | |
|---|---|
| **Features** | Heat Stabilized, Wear resistant, High temperature resistance |
| **Fillers** | Unreinforced, PTFE |
| **Polymer Types** | Polyphthalamide (PPA) |
| **Processing Techniques** | Injection Molding |

| INDUSTRY | SUB INDUSTRY |
|---|---|
| Automotive | Automotive Under the Hood |
| Consumer | Home Appliances, Commercial Appliance |
| Electrical and Electronics | Electronic Components, Mobile Phone - Computer - Tablets |

## TYPICAL PROPERTY VALUES

Revision 20231109

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| MECHANICAL [1] | | | |
| **Tensile Stress, yld, Type I, 5 mm/min** | 60 | MPa | ASTM D638 |
| **Tensile Stress, brk, Type I, 5 mm/min** | 60 | MPa | ASTM D638 |
| **Tensile Strain, yld, Type I, 5 mm/min** | 2.2 | % | ASTM D638 |
| **Tensile Strain, brk, Type I, 5 mm/min** | 2.2 | % | ASTM D638 |
| **Tensile Modulus, 50 mm/min** | 3170 | MPa | ASTM D638 |
| **Flexural Stress, yld, 1.3 mm/min, 50 mm span** | 105 | MPa | ASTM D790 |
| **Flexural Stress, brk, 1.3 mm/min, 50 mm span** | 105 | MPa | ASTM D790 |
| **Flexural Modulus, 1.3 mm/min, 50 mm span** | 2980 | MPa | ASTM D790 |
| **Tensile Stress, yield, 5 mm/min** | 58 | MPa | ISO 527 |
| **Tensile Stress, break, 5 mm/min** | 60 | MPa | ISO 527 |
| **Tensile Strain, yield, 5 mm/min** | 2.1 | % | ISO 527 |
| **Tensile Strain, break, 5 mm/min** | 2.2 | % | ISO 527 |
| **Tensile Modulus, 1 mm/min** | 3210 | MPa | ISO 527 |
| IMPACT [1] | | | |
| **Izod Impact, unnotched, 23°C** | 453 | J/m | ASTM D4812 |
| **Izod Impact, notched, 23°C** | 26 | J/m | ASTM D256 |
| **Instrumented Dart Impact Total Energy, 23°C** | 2 | J | ASTM D3763 |
| **Izod Impact, unnotched 80*10*4 +23°C** | 27 | kJ/m² | ISO 180/1U |
| **Izod Impact, notched 80*10*4 +23°C** | 2 | kJ/m² | ISO 180/1A |
| PHYSICAL [1] | | | |
| **Density** | 1.25 | g/cm³ | ASTM D792 |

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| Moisture Absorption, (23°C/50% RH/24 hrs) | 0.47 | % | ASTM D570 |
| Mold Shrinkage, flow, 24 hrs [2] | 0.9 – 2 | % | ASTM D955 |
| Mold Shrinkage, xflow, 24 hrs [2] | 0.7 – 0.9 | % | ASTM D955 |
| Wear Factor Washer | 20 | 10^-10 in^5-min/ft-lb-hr | ASTM D3702 Modified: Manual |
| Wear Factor Ring | -1 | 10^-10 in^5-min/ft-lb-hr | ASTM D3702 Modified: Manual |
| Dynamic COF | 0.26 | - | ASTM D3702 Modified: Manual |
| Static COF | 0.16 | - | ASTM D3702 Modified: Manual |
| Density | 1.26 | g/cm³ | ISO 1183 |
| Moisture Absorption (23°C / 50% RH) | 0.73 | % | ISO 62 |
| FLAME CHARACTERISTICS [3] | | | |
| UL Yellow Card Link | E207780-103093685 | - | - |
| UL Recognized, 94V-2 Flame Class Rating | 1.5 | mm | UL 94 |
| INJECTION MOLDING [4] | | | |
| Drying Temperature | 120 | °C | |
| Drying Time | 4 | Hrs | |
| Maximum Moisture Content | 0.15 | % | |
| Melt Temperature | 315 – 330 | °C | |
| Front - Zone 3 Temperature | 325 – 340 | °C | |
| Middle - Zone 2 Temperature | 315 – 325 | °C | |
| Rear - Zone 1 Temperature | 310 – 320 | °C | |
| Mold Temperature | 150 – 170 | °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) 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.

(3) 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.

(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.

## DISCLAIMER