

# LNPT<sup>TM</sup> LUBRICOMPT<sup>TM</sup> COMPOUND RFP38

RFL-4538

## DESCRIPTION

LNP LUBRICOMP RFP38 compound is based on Nylon 6/6 resin containing 40% glass fiber, 15% PTFE/silicone. Added features of this grade include: Wear Resistant.

| GENERAL INFORMATION   |                                         |
|-----------------------|-----------------------------------------|
| Features              | Wear resistant, High stiffness/Strength |
| Fillers               | Glass Fiber, PTFE/Silicone              |
| 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

| PROPERTIES                                   | TYPICAL VALUES | UNITS | TEST METHODS |
|----------------------------------------------|----------------|-------|--------------|
| MECHANICAL <sup>(1)</sup>                    |                |       |              |
| Tensile Stress, brk, Type I, 5 mm/min        | 173            | MPa   | ASTM D638    |
| Tensile Strain, brk, Type I, 5 mm/min        | 2.4            | %     | ASTM D638    |
| Tensile Modulus, 5 mm/min                    | 13380          | MPa   | ASTM D638    |
| Flexural Stress, brk, 1.3 mm/min, 50 mm span | 263            | MPa   | ASTM D790    |
| Flexural Modulus, 1.3 mm/min, 50 mm span     | 11600          | MPa   | ASTM D790    |
| Tensile Stress, break, 5 mm/min              | 174            | MPa   | ISO 527      |
| Tensile Strain, break, 5 mm/min              | 2.5            | %     | ISO 527      |
| Tensile Modulus, 1 mm/min                    | 13140          | MPa   | ISO 527      |
| Flexural Strength, 2 mm/min                  | 263            | MPa   | ISO 178      |
| Flexural Modulus, 2 mm/min                   | 11940          | MPa   | ISO 178      |
| IMPACT <sup>(1)</sup>                        |                |       |              |
| Izod Impact, unnotched, 23°C                 | 911            | J/m   | ASTM D4812   |
| Izod Impact, notched, 23°C                   | 121            | J/m   | ASTM D256    |
| Multiaxial Impact                            | 3              | J     | ISO 6603     |
| Instrumented Dart Impact Total Energy, 23°C  | 8              | J     | ASTM D3763   |
| Izod Impact, unnotched 80°10°4 +23°C         | 58             | kJ/m² | ISO 180/1U   |
| Izod Impact, notched 80°10°4 +23°C           | 12             | kJ/m² | ISO 180/1A   |
| THERMAL <sup>(1)</sup>                       |                |       |              |
| HDT, 0.45 MPa, 3.2 mm, unannealed            | 257            | °C    | ASTM D648    |
| HDT, 1.82 MPa, 3.2mm, unannealed             | 248            | °C    | ASTM D648    |

| PROPERTIES                                   | TYPICAL VALUES | UNITS                                            | TEST METHODS                |
|----------------------------------------------|----------------|--------------------------------------------------|-----------------------------|
| CTE, -30°C to 30°C, flow                     | 2.5E-05        | 1/°C                                             | ASTM D696                   |
| CTE, -30°C to 30°C, xflow                    | 3.3E-05        | 1/°C                                             | ASTM D696                   |
| HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm       | 257            | °C                                               | ISO 75/Bf                   |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm        | 243            | °C                                               | ISO 75/Af                   |
| PHYSICAL <sup>(1)</sup>                      |                |                                                  |                             |
| Specific Gravity                             | 1.5            | -                                                | ASTM D792                   |
| Density                                      | 1.6            | g/cm³                                            | ASTM D792                   |
| Moisture Absorption, (23°C/50% RH/24 hrs)    | 0.57           | %                                                | ASTM D570                   |
| Mold Shrinkage, flow, 24 hrs <sup>(2)</sup>  | 0.7 – 0.9      | %                                                | ASTM D955                   |
| Mold Shrinkage, xflow, 24 hrs <sup>(2)</sup> | 1 – 3          | %                                                | ASTM D955                   |
| Wear Factor Washer                           | 14             | 10 <sup>-10</sup> in <sup>4</sup> 5-min/ft-lb-hr | ASTM D3702 Modified: Manual |
| Wear Factor Ring                             | 0              | 10 <sup>-10</sup> in <sup>4</sup> 5-min/ft-lb-hr | ASTM D3702 Modified: Manual |
| Dynamic COF                                  | 0.65           | -                                                | ASTM D3702 Modified: Manual |
| Static COF                                   | 0.61           | -                                                | ASTM D3702 Modified: Manual |
| Moisture Absorption (23°C / 50% RH)          | 0.86           | %                                                | ISO 62                      |
| INJECTION MOLDING <sup>(3)</sup>             |                |                                                  |                             |
| 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                                              |                             |