

# LNPT<sup>TM</sup> LUBRICOMPT<sup>TM</sup> COMPOUND RFL46

RFL-4046

## DESCRIPTION

LNP LUBRICOMP RFL46 compound is based on Nylon 6/6 resin containing 30% glass fiber, 20% PTFE. Added features of this grade include: Wear Resistant.

| GENERAL INFORMATION   |                                         |
|-----------------------|-----------------------------------------|
| Features              | Wear resistant, High stiffness/Strength |
| 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

| PROPERTIES                                 | TYPICAL VALUES | UNITS             | TEST METHODS |
|--------------------------------------------|----------------|-------------------|--------------|
| <b>MECHANICAL</b> <sup>(1) (2)</sup>       |                |                   |              |
| Tensile Stress, break, 5 mm/min            | 145            | MPa               | ISO 527      |
| Tensile Strain, break, 5 mm/min            | 2.5            | %                 | ISO 527      |
| Tensile Modulus, 1 mm/min                  | 10400          | MPa               | ISO 527      |
| Flexural Stress, yield, 2 mm/min           | 213            | MPa               | ISO 178      |
| Flexural Modulus, 2 mm/min                 | 8700           | MPa               | ISO 178      |
| Flexural Modulus, 1.3 mm/min, 50 mm span   | 8400           | MPa               | ASTM D790    |
| Flexural Strength, 1.3 mm/min, 50 mm span  | 204            | MPa               | ASTM D790    |
| <b>IMPACT</b> <sup>(2)</sup>               |                |                   |              |
| Izod Impact, notched 80*10*4 +23°C         | 9              | kJ/m <sup>2</sup> | ISO 180/1A   |
| Izod Impact, unnotched 80*10*4 +23°C       | 50             | kJ/m <sup>2</sup> | ISO 180/1U   |
| Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm | 8              | kJ/m <sup>2</sup> | ISO 179/1eA  |
| Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm | 45             | kJ/m <sup>2</sup> | ISO 179/1eU  |
| Izod Impact, notched, 23°C                 | 80             | J/m               | ASTM D256    |
| Izod Impact, unnotched, 23°C               | 760            | J/m               | ASTM D4812   |
| <b>THERMAL</b> <sup>(2)</sup>              |                |                   |              |
| HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm     | 253            | °C                | ISO 75/Bf    |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm      | 262            | °C                | ISO 75/Af    |
| Vicat Softening Temp, Rate B/120           | 251            | °C                | ISO 306      |
| Vicat Softening Temp, Rate A/50            | 254            | °C                | ISO 306      |
| CTE, 23°C to 60°C, flow                    | 2.40E-05       | 1/°C              | ISO 11359-2  |
| CTE, 23°C to 60°C, xflow                   | 9.00E-05       | 1/°C              | ISO 11359-2  |

| PROPERTIES                                     | TYPICAL VALUES | UNITS                                           | TEST METHODS                |
|------------------------------------------------|----------------|-------------------------------------------------|-----------------------------|
| HDT, 0.45 MPa, 3.2 mm, unannealed              | 262            | °C                                              | ASTM D648                   |
| HDT, 1.82 MPa, 3.2mm, unannealed               | 254            | °C                                              | ASTM D648                   |
| PHYSICAL <sup>(2)</sup>                        |                |                                                 |                             |
| Density                                        | 1.54           | g/cm <sup>3</sup>                               | ISO 1183                    |
| Moisture Absorption, (23°C/50% RH/24hrs)       | 0.1 – 0.3      | %                                               | ISO 62-4                    |
| Moisture Absorption, (23°C/50% RH/Equilibrium) | 0.4 – 0.6      | %                                               | ISO 62-4                    |
| Water Absorption, (23°C/24hrs)                 | 0.7 – 0.9      | %                                               | ISO 62-1                    |
| Water Absorption, (23°C/saturated)             | 3.8 – 4.1      | %                                               | ISO 62-1                    |
| Mold Shrinkage, flow <sup>(3)</sup>            | 0.3 – 0.5      | %                                               | SABIC method                |
| Mold Shrinkage, xflow <sup>(3)</sup>           | 1.0 – 1.4      | %                                               | SABIC method                |
| Specific Gravity                               | 1.54           | -                                               | ASTM D792                   |
| Dynamic COF                                    | 0.59           | -                                               | ASTM D3702 Modified: Manual |
| Static COF                                     | 0.9            | -                                               | ASTM D3702 Modified: Manual |
| Wear Factor Washer                             | 16             | 10 <sup>-10</sup> in <sup>3</sup> -min/ft-lb-hr | ASTM D3702 Modified: Manual |
| INJECTION MOLDING <sup>(4)</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                                             |                             |