

# LNPT<sup>TM</sup> LUBRICOMPT<sup>TM</sup> COMPOUND RFL16

RFL-4016

## DESCRIPTION

LNP LUBRICOMP RFL16 compound is based on Nylon 6/6 resin containing 30% glass fiber, 5% 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 <sup>(1)</sup></b>             |                |                   |              |
| Tensile Stress, yield, 5 mm/min              | 188            | MPa               | ISO 527      |
| Tensile Stress, break, 5 mm/min              | 185            | MPa               | ISO 527      |
| Tensile Strain, yield, 5 mm/min              | 2.8            | %                 | ISO 527      |
| Tensile Strain, break, 5 mm/min              | 2.7            | %                 | ISO 527      |
| Tensile Modulus, 1 mm/min                    | 10630          | MPa               | ISO 527      |
| Flexural Modulus, 2 mm/min                   | 8980           | MPa               | ISO 178      |
| Tensile Stress, brk, Type I, 5 mm/min        | 189            | MPa               | ASTM D638    |
| Tensile Strain, brk, Type I, 5 mm/min        | 2.7            | %                 | ASTM D638    |
| Tensile Modulus, 5 mm/min                    | 11020          | 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     | 8920           | MPa               | ASTM D790    |
| <b>IMPACT <sup>(1)</sup></b>                 |                |                   |              |
| Izod Impact, notched 80*10*4 +23°C           | 10             | kJ/m <sup>2</sup> | ISO 180/1A   |
| Izod Impact, unnotched 80*10*4 +23°C         | 62             | kJ/m <sup>2</sup> | ISO 180/1U   |
| Multiaxial Impact                            | 2              | J                 | ISO 6603     |
| Izod Impact, unnotched, 23°C                 | 1070           | J/m               | ASTM D4812   |
| Izod Impact, notched, 23°C                   | 110            | J/m               | ASTM D256    |
| Instrumented Dart Impact Total Energy, 23°C  | 9              | J                 | ASTM D3763   |
| <b>THERMAL <sup>(1)</sup></b>                |                |                   |              |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm        | 251            | °C                | ISO 75/Af    |
| HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm       | 262            | °C                | ISO 75/Bf    |

| PROPERTIES                                          | TYPICAL VALUES                    | UNITS                                           | TEST METHODS                |
|-----------------------------------------------------|-----------------------------------|-------------------------------------------------|-----------------------------|
| HDT, 0.45 MPa, 3.2 mm, unannealed                   | 259                               | °C                                              | ASTM D648                   |
| HDT, 1.82 MPa, 3.2mm, unannealed                    | 249                               | °C                                              | ASTM D648                   |
| CTE, -30°C to 30°C, flow                            | 4.0E-05                           | 1/°C                                            | ASTM D696                   |
| CTE, -30°C to 30°C, xflow                           | 9.2E-05                           | 1/°C                                            | ASTM D696                   |
| Relative Temp Index, Elec <sup>(2)</sup>            | 65                                | °C                                              | UL 746B                     |
| Relative Temp Index, Mech w/impact <sup>(2)</sup>   | 65                                | °C                                              | UL 746B                     |
| Relative Temp Index, Mech w/o impact <sup>(2)</sup> | 65                                | °C                                              | UL 746B                     |
| PHYSICAL <sup>(1)</sup>                             |                                   |                                                 |                             |
| Density                                             | 1.4                               | g/cm³                                           | ISO 1183                    |
| Moisture Absorption (23°C / 50% RH)                 | 0.88                              | %                                               | ISO 62                      |
| Specific Gravity                                    | 1.4                               | -                                               | ASTM D792                   |
| Density                                             | 1.43                              | g/cm³                                           | ASTM D792                   |
| Moisture Absorption, (23°C/50% RH/24 hrs)           | 0.57                              | %                                               | ASTM D570                   |
| Wear Factor Washer                                  | 16                                | 10 <sup>-10</sup> in <sup>4</sup> -min/ft-lb-hr | ASTM D3702 Modified: Manual |
| Wear Factor Ring                                    | 0                                 | 10 <sup>-10</sup> in <sup>4</sup> -min/ft-lb-hr | ASTM D3702 Modified: Manual |
| Dynamic COF                                         | 0.62                              | -                                               | ASTM D3702 Modified: Manual |
| Static COF                                          | 0.53                              | -                                               | ASTM D3702 Modified: Manual |
| FLAME CHARACTERISTICS <sup>(2)</sup>                |                                   |                                                 |                             |
| UL Yellow Card Link                                 | <a href="#">E121562-101282711</a> | -                                               | -                           |
| UL Yellow Card Link 2                               | <a href="#">E207780-103093655</a> | -                                               | -                           |
| UL Recognized, 94HB Flame Class Rating              | 1.5                               | mm                                              | UL 94                       |
| 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                                             |                             |