

# LNPT<sup>TM</sup> LUBRICOMP<sup>TM</sup> COMPOUND RAP22

RAL-4522

## DESCRIPTION

LNP LUBRICOMP RAP22 compound is based on Nylon 6/6 resin containing 10% aramid fiber, 10% PTFE/silicone. Added features of this grade include: Wear Resistant.

| GENERAL INFORMATION   |                             |
|-----------------------|-----------------------------|
| Features              | Wear resistant              |
| Fillers               | Aramid 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, yld, Type I, 5 mm/min       | 51             | MPa               | ASTM D638    |
| Tensile Stress, brk, Type I, 5 mm/min       | 49             | MPa               | ASTM D638    |
| Tensile Strain, yld, Type I, 5 mm/min       | 2.6            | %                 | ASTM D638    |
| Tensile Strain, brk, Type I, 5 mm/min       | 2.6            | %                 | ASTM D638    |
| Tensile Modulus, 50 mm/min                  | 3390           | MPa               | ASTM D638    |
| Flexural Modulus, 1.3 mm/min, 50 mm span    | 3260           | MPa               | ASTM D790    |
| Tensile Stress, yield, 5 mm/min             | 71             | MPa               | ISO 527      |
| Tensile Stress, break, 5 mm/min             | 71             | MPa               | ISO 527      |
| Tensile Strain, yield, 5 mm/min             | 5.9            | %                 | ISO 527      |
| Tensile Strain, break, 5 mm/min             | 6              | %                 | ISO 527      |
| Tensile Modulus, 1 mm/min                   | 3420           | MPa               | ISO 527      |
| Flexural Stress                             | 103            | MPa               | ISO 178      |
| Flexural Modulus, 2 mm/min                  | 3250           | MPa               | ISO 178      |
| IMPACT <sup>(1)</sup>                       |                |                   |              |
| Izod Impact, unnotched, 23°C                | 342            | J/m               | ASTM D4812   |
| Izod Impact, notched, 23°C                  | 29             | J/m               | ASTM D256    |
| Instrumented Dart Impact Total Energy, 23°C | 4              | J                 | ASTM D3763   |
| Izod Impact, unnotched 80°10°4 +23°C        | 24             | kJ/m <sup>2</sup> | ISO 180/1U   |
| Izod Impact, notched 80°10°4 +23°C          | 3              | kJ/m <sup>2</sup> | ISO 180/1A   |
| THERMAL <sup>(1)</sup>                      |                |                   |              |

| PROPERTIES                                   | TYPICAL VALUES | UNITS                                           | TEST METHODS                |
|----------------------------------------------|----------------|-------------------------------------------------|-----------------------------|
| HDT, 1.82 MPa, 3.2mm, unannealed             | 189            | °C                                              | ASTM D648                   |
| CTE, -30°C to 30°C, flow                     | 4.9E-05        | 1/°C                                            | ASTM D696                   |
| CTE, -30°C to 30°C, xflow                    | 8.7E-05        | 1/°C                                            | ASTM D696                   |
| HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm       | 224            | °C                                              | ISO 75/Bf                   |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm        | 100            | °C                                              | ISO 75/Af                   |
| PHYSICAL <sup>(1)</sup>                      |                |                                                 |                             |
| Density                                      | 1.2            | g/cm <sup>3</sup>                               | ASTM D792                   |
| Moisture Absorption, (23°C/50% RH/24 hrs)    | 0.71           | %                                               | ASTM D570                   |
| Mold Shrinkage, flow, 24 hrs <sup>(2)</sup>  | 1 – 3          | %                                               | ASTM D955                   |
| Mold Shrinkage, xflow, 24 hrs <sup>(2)</sup> | 2 – 4          | %                                               | ASTM D955                   |
| Wear Factor Washer                           | 23             | 10 <sup>-10</sup> in <sup>4</sup> -min/ft-lb-hr | ASTM D3702 Modified: Manual |
| Wear Factor Ring                             | -1 --1         | 10 <sup>-10</sup> in <sup>4</sup> -min/ft-lb-hr | ASTM D3702 Modified: Manual |
| Dynamic COF                                  | 0.37           | -                                               | ASTM D3702 Modified: Manual |
| Static COF                                   | 0.26           | -                                               | ASTM D3702 Modified: Manual |
| Density                                      | 1.2            | g/cm <sup>3</sup>                               | ISO 1183                    |
| Moisture Absorption (23°C / 50% RH)          | 1.1            | %                                               | ISO 62                      |
| INJECTION MOLDING <sup>(3)</sup>             |                |                                                 |                             |
| Drying Temperature                           | 80             | °C                                              |                             |
| Drying Time                                  | 4              | Hrs                                             |                             |
| Maximum Moisture Content                     | 0.15 – 0.25    | %                                               |                             |
| Melt Temperature                             | 275 – 290      | °C                                              |                             |
| Front - Zone 3 Temperature                   | 295 – 305      | °C                                              |                             |
| Middle - Zone 2 Temperature                  | 280 – 295      | °C                                              |                             |
| Rear - Zone 1 Temperature                    | 265 – 275      | °C                                              |                             |
| Mold Temperature                             | 80 – 95        | °C                                              |                             |
| Back Pressure                                | 0.2 – 0.3      | MPa                                             |                             |
| Screw Speed                                  | 30 – 60        | rpm                                             |                             |