

# LNPT<sup>™</sup> LUBRICOMP<sup>™</sup> COMPOUND RL004S

RL-4040 HS

REGION AMERICAS

## DESCRIPTION

LNP LUBRICOMP RL004S compound is based on Nylon 6/6 resin containing 20% PTFE. Added features of this grade include: Heat Stabilized, Wear Resistant.

### GENERAL INFORMATION

|                       |                                 |
|-----------------------|---------------------------------|
| Features              | Heat Stabilized, Wear resistant |
| Fillers               | Unreinforced, PTFE              |
| Polymer Types         | Polyamide 66 (Nylon 66)         |
| Processing Techniques | Injection Molding               |

### INDUSTRY

Building and Construction  
Consumer  
Electrical and Electronics  
Industrial

### SUB INDUSTRY

Building Component  
Sport/Leisure, Personal Accessory, Home Appliances, Commercial Appliance  
Mobile Phone - Computer - Tablets  
Electrical

## TYPICAL PROPERTY VALUES

Revision 20231109

| PROPERTIES                                   | TYPICAL VALUES | UNITS             | TEST METHODS |
|----------------------------------------------|----------------|-------------------|--------------|
| <b>MECHANICAL <sup>(1)</sup></b>             |                |                   |              |
| Tensile Stress, yield                        | 63             | MPa               | ASTM D638    |
| Tensile Stress, break                        | 63             | MPa               | ASTM D638    |
| Tensile Strain, yield                        | 5.4            | %                 | ASTM D638    |
| Tensile Strain, break                        | 6.2            | %                 | ASTM D638    |
| Tensile Modulus, 50 mm/min                   | 2480           | MPa               | ASTM D638    |
| Flexural Stress                              | 88             | MPa               | ASTM D790    |
| Flexural Modulus                             | 2270           | MPa               | ASTM D790    |
| Tensile Stress, yield                        | 55             | MPa               | ISO 527      |
| Tensile Stress, break                        | 55             | MPa               | ISO 527      |
| Tensile Strain, yield                        | 6.7            | %                 | ISO 527      |
| Tensile Strain, break                        | 7.2            | %                 | ISO 527      |
| Tensile Modulus, 1 mm/min                    | 2600           | MPa               | ISO 527      |
| Flexural Stress                              | 84             | MPa               | ISO 178      |
| Flexural Modulus                             | 2400           | MPa               | ISO 178      |
| <b>IMPACT <sup>(1)</sup></b>                 |                |                   |              |
| Izod Impact, unnotched, 23°C                 | 571            | J/m               | ASTM D4812   |
| Izod Impact, notched, 23°C                   | 42             | J/m               | ASTM D256    |
| Instrumented Dart Impact Energy @ peak, 23°C | 3              | J                 | ASTM D3763   |
| Izod Impact, unnotched 80°10°4 +23°C         | 39             | kJ/m <sup>2</sup> | ISO 180/1U   |
| Izod Impact, notched 80°10°4 +23°C           | 4              | kJ/m <sup>2</sup> | ISO 180/1A   |

© 2023 Copyright by SABIC. All rights reserved

CHEMISTRY THAT MATTERS<sup>™</sup>

| PROPERTIES                                   | TYPICAL VALUES | UNITS                                          | TEST METHODS                |
|----------------------------------------------|----------------|------------------------------------------------|-----------------------------|
| <b>THERMAL <sup>(1)</sup></b>                |                |                                                |                             |
| HDT, 1.82 MPa, 3.2mm, unannealed             | 70             | °C                                             | ASTM D648                   |
| CTE, -40°C to 40°C, flow                     | 7.92E-05       | 1/°C                                           | ASTM E831                   |
| CTE, -40°C to 40°C, xflow                    | 9.72E-05       | 1/°C                                           | ASTM E831                   |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm        | 70             | °C                                             | ISO 75/Af                   |
| <b>PHYSICAL <sup>(1)</sup></b>               |                |                                                |                             |
| Density                                      | 1.27           | g/cm <sup>3</sup>                              | ASTM D792                   |
| Moisture Absorption, (23°C/50% RH/24 hrs)    | 0.55           | %                                              | ASTM D570                   |
| Mold Shrinkage, flow, 24 hrs <sup>(2)</sup>  | 1.9 – 3.3      | %                                              | ASTM D955                   |
| Mold Shrinkage, xflow, 24 hrs <sup>(2)</sup> | 1.9 – 3.3      | %                                              | ASTM D955                   |
| Mold Shrinkage, flow, 24 hrs <sup>(2)</sup>  | 1.88 – 3.29    | %                                              | ISO 294                     |
| Mold Shrinkage, xflow, 24 hrs <sup>(2)</sup> | 1.88 – 3.29    | %                                              | ISO 294                     |
| Wear Factor Washer                           | 16             | 10 <sup>-4</sup> in <sup>3</sup> -min/ft-lb-hr | ASTM D3702 Modified: Manual |
| Dynamic COF                                  | 0.32           | -                                              | ASTM D3702 Modified: Manual |
| Static COF                                   | 0.21           | -                                              | ASTM D3702 Modified: Manual |
| Density                                      | 1.27           | g/cm <sup>3</sup>                              | ISO 1183                    |
| <b>INJECTION MOLDING <sup>(3)</sup></b>      |                |                                                |                             |
| 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                                            |                             |

(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) 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

Any sale by SABIC, its subsidiaries and affiliates (each a "seller"), is made exclusively under seller's standard conditions of sale (available upon request) unless agreed otherwise in writing and signed on behalf of the seller. While the information contained herein is given in good faith, SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND NON-INFRINGEMENT OF INTELLECTUAL PROPERTY, NOR ASSUMES ANY LIABILITY, DIRECT OR INDIRECT, WITH RESPECT TO THE PERFORMANCE, SUITABILITY OR FITNESS FOR INTENDED USE OR PURPOSE OF THESE PRODUCTS IN ANY APPLICATION. Each customer must determine the suitability of seller materials for the customer's particular use through appropriate testing and analysis. No statement by seller concerning a possible use of any product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right.