

# LNP™ LUBRICOMP™ LL002 compound

Polyetheretherketone  
SABIC Innovative Plastics

Message:

LNP LUBRICOMP LL002 is a compound based on Polyetheretherketone containing 10% PTFE. Added feature of this material is: Wear Resistant.  
Also known as: LNP\* LUBRICOMP\* Compound LL-4020  
Product reorder name: LL002

| General Information       |                      |                   |                     |
|---------------------------|----------------------|-------------------|---------------------|
| Additive                  | PTFE Lubricant (10%) |                   |                     |
| Features                  | Good Wear Resistance |                   |                     |
|                           | Lubricated           |                   |                     |
| Processing Method         | Injection Molding    |                   |                     |
| Physical                  | Nominal Value        | Unit              | Test Method         |
| Specific Gravity          | 1.37                 | g/cm <sup>3</sup> | ASTM D792, ISO 1183 |
| Molding Shrinkage         |                      |                   | ASTM D955           |
| Flow : 24 hr              | 0.30 to 0.50         | %                 |                     |
| Across Flow : 24 hr       | 0.70 to 0.90         | %                 |                     |
| Water Absorption          |                      |                   |                     |
| 24 hr, 50% RH             | 0.080                | %                 | ASTM D570           |
| Equilibrium, 23°C, 50% RH | 0.10                 | %                 | ISO 62              |
| Mechanical                | Nominal Value        | Unit              | Test Method         |
| Tensile Modulus           |                      |                   |                     |
| -- <sup>1</sup>           | 3330                 | MPa               | ASTM D638           |
| --                        | 3280                 | MPa               | ISO 527-2/1         |
| Tensile Strength          |                      |                   |                     |
| Yield <sup>2</sup>        | 77.0                 | MPa               | ASTM D638           |
| Yield                     | 76.0                 | MPa               | ISO 527-2/5         |
| Break <sup>3</sup>        | 79.0                 | MPa               | ASTM D638           |
| Break                     | 73.0                 | MPa               | ISO 527-2/5         |
| Tensile Elongation        |                      |                   |                     |
| Yield <sup>4</sup>        | 5.3                  | %                 | ASTM D638           |
| Yield                     | 5.1                  | %                 | ISO 527-2/5         |
| Break <sup>5</sup>        | 52                   | %                 | ASTM D638           |
| Break                     | 18                   | %                 | ISO 527-2/5         |
| Flexural Modulus          |                      |                   |                     |
| 50.0 mm Span <sup>6</sup> | 3070                 | MPa               | ASTM D790           |
| -- <sup>7</sup>           | 3130                 | MPa               | ISO 178             |
| Flexural Stress           | 103                  | MPa               | ISO 178             |
| Coefficient of Friction   |                      |                   | ASTM D3702 Modified |

| vs. Itself - Dynamic                             | 0.40               |                                                 |                     |
|--------------------------------------------------|--------------------|-------------------------------------------------|---------------------|
| vs. Itself - Static                              | 0.35               |                                                 |                     |
| Wear Factor                                      |                    |                                                 | ASTM D3702 Modified |
| Ring                                             | -0.100             | 10 <sup>-10</sup> in <sup>5</sup> -min/ft-lb-hr |                     |
| Washer                                           | 21.0               | 10 <sup>-10</sup> in <sup>5</sup> -min/ft-lb-hr |                     |
| Impact                                           | Nominal Value      | Unit                                            | Test Method         |
| Notched Izod Impact                              |                    |                                                 |                     |
| 23°C                                             | 84                 | J/m                                             | ASTM D256           |
| 23°C <sup>8</sup>                                | 6.4                | kJ/m <sup>2</sup>                               | ISO 180/1A          |
| Unnotched Izod Impact                            |                    |                                                 |                     |
| 23°C                                             | 3000               | J/m                                             | ASTM D4812          |
| 23°C <sup>9</sup>                                | 160                | kJ/m <sup>2</sup>                               | ISO 180/1U          |
| Instrumented Dart Impact                         |                    |                                                 |                     |
| 23°C, Total Energy                               | 5.40               | J                                               | ASTM D3763          |
| --                                               | 1.90               | J                                               | ISO 6603-2          |
| Thermal                                          | Nominal Value      | Unit                                            | Test Method         |
| Deflection Temperature Under Load                |                    |                                                 |                     |
| 0.45 MPa, Unannealed, 3.20 mm                    | 166                | °C                                              | ASTM D648           |
| 0.45 MPa, Unannealed, 64.0 mm Span <sup>10</sup> | 155                | °C                                              | ISO 75-2/Bf         |
| 1.8 MPa, Unannealed, 3.20 mm                     | 149                | °C                                              | ASTM D648           |
| 1.8 MPa, Unannealed, 64.0 mm Span <sup>11</sup>  | 149                | °C                                              | ISO 75-2/Af         |
| Injection                                        | Nominal Value      | Unit                                            |                     |
| Drying Temperature                               | 150                | °C                                              |                     |
| Drying Time                                      | 4.0 to 6.0         | hr                                              |                     |
| Rear Temperature                                 | 370 to 380         | °C                                              |                     |
| Middle Temperature                               | 380 to 400         | °C                                              |                     |
| Front Temperature                                | 380 to 400         | °C                                              |                     |
| Mold Temperature                                 | 175 to 190         | °C                                              |                     |
| Back Pressure                                    | 0.300 to 0.700     | MPa                                             |                     |
| Screw Speed                                      | 60 to 100          | rpm                                             |                     |
| NOTE                                             |                    |                                                 |                     |
| 1.                                               | 50 mm/min          |                                                 |                     |
| 2.                                               | Type I, 5.0 mm/min |                                                 |                     |
| 3.                                               | Type I, 5.0 mm/min |                                                 |                     |
| 4.                                               | Type I, 5.0 mm/min |                                                 |                     |
| 5.                                               | Type I, 5.0 mm/min |                                                 |                     |
| 6.                                               | 1.3 mm/min         |                                                 |                     |
| 7.                                               | 2.0 mm/min         |                                                 |                     |
| 8.                                               | 80*10*4            |                                                 |                     |
| 9.                                               | 80*10*4            |                                                 |                     |
| 10.                                              | 80*10*4 mm         |                                                 |                     |
| 11.                                              | 80*10*4 mm         |                                                 |                     |

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