

# LNP™ LUBRICOMP™ LCL33 compound

Polyetheretherketone

SABIC Innovative Plastics

## Message:

LNP LUBRICOMP LCL33 is a compound based on Polyetheretherketone resin containing 15% Carbon Fiber, 15% PTFE. Added features of this material include: Wear Resistant.

Also known as: LNP\* LUBRICOMP\* Compound LCL-4033

Product reorder name: LCL33

| General Information              |                                   |                   |                      |
|----------------------------------|-----------------------------------|-------------------|----------------------|
| Filler / Reinforcement           | Carbon Fiber,15% Filler by Weight |                   |                      |
| Additive                         | PTFE Lubricant (15%)              |                   |                      |
| Features                         | Good Wear Resistance              |                   |                      |
|                                  | Lubricated                        |                   |                      |
| Processing Method                | Injection Molding                 |                   |                      |
| Physical                         | Nominal Value                     | Unit              | Test Method          |
| Specific Gravity                 | 1.43                              | g/cm <sup>3</sup> | ASTM D792, ISO 1183  |
| Molding Shrinkage                |                                   |                   |                      |
| Flow : 24 hr                     | 0.10 to 0.30                      | %                 | ASTM D955, ISO 294-4 |
| Across Flow : 24 hr              | 0.40 to 0.70                      | %                 | ASTM D955            |
| Across Flow : 24 hr              | 0.30 to 0.70                      | %                 | ISO 294-4            |
| Water Absorption (24 hr, 50% RH) | 0.070                             | %                 | ASTM D570            |
| Mechanical                       | Nominal Value                     | Unit              | Test Method          |
| Tensile Modulus                  |                                   |                   |                      |
| -- <sup>1</sup>                  | 16600                             | MPa               | ASTM D638            |
| --                               | 14700                             | MPa               | ISO 527-2/1          |
| Tensile Strength                 |                                   |                   |                      |
| Break                            | 179                               | MPa               | ASTM D638            |
| Break                            | 187                               | MPa               | ISO 527-2            |
| Tensile Elongation               |                                   |                   |                      |
| Break                            | 1.7                               | %                 | ASTM D638            |
| Break                            | 1.6                               | %                 | ISO 527-2            |
| Flexural Modulus                 |                                   |                   |                      |
| --                               | 13000                             | MPa               | ASTM D790            |
| --                               | 14700                             | MPa               | ISO 178              |
| Flexural Strength                |                                   |                   |                      |
| --                               | 262                               | MPa               | ASTM D790            |
| --                               | 276                               | MPa               | ISO 178              |
| Coefficient of Friction          |                                   |                   | ASTM D3702 Modified  |
| vs. Itself - Dynamic             | 0.35                              |                   |                      |

|                                                |                      |                                                 |                     |
|------------------------------------------------|----------------------|-------------------------------------------------|---------------------|
| vs. Itself - Static                            | 0.28                 |                                                 |                     |
| Wear Factor - Washer                           | 13.0                 | 10 <sup>-10</sup> in <sup>5</sup> -min/ft-lb-hr | ASTM D3702 Modified |
| <b>Impact</b>                                  | <b>Nominal Value</b> | <b>Unit</b>                                     | <b>Test Method</b>  |
| Notched Izod Impact                            |                      |                                                 |                     |
| 23°C                                           | 64                   | J/m                                             | ASTM D256           |
| 23°C <sup>2</sup>                              | 6.6                  | kJ/m <sup>2</sup>                               | ISO 180/1A          |
| Unnotched Izod Impact                          |                      |                                                 |                     |
| 23°C                                           | 480                  | J/m                                             | ASTM D4812          |
| 23°C <sup>3</sup>                              | 35                   | kJ/m <sup>2</sup>                               | ISO 180/1U          |
| Instrumented Dart Impact                       |                      |                                                 |                     |
| 23°C, Energy at Peak Load                      | 9.00                 | J                                               | ASTM D3763          |
| --                                             | 9.00                 | J                                               | ISO 6603-2          |
| <b>Thermal</b>                                 | <b>Nominal Value</b> | <b>Unit</b>                                     | <b>Test Method</b>  |
| Deflection Temperature Under Load              |                      |                                                 |                     |
| 1.8 MPa, Unannealed, 3.20 mm                   | > 299                | °C                                              | ASTM D648           |
| 1.8 MPa, Unannealed, 64.0 mm Span <sup>4</sup> | > 240                | °C                                              | ISO 75-2/Af         |
| CLTE                                           |                      |                                                 |                     |
| Flow : -40 to 40°C                             | 2.3E-5               | cm/cm/°C                                        | ASTM E831           |
| Flow : -40 to 40°C                             | 2.4E-5               | cm/cm/°C                                        | ISO 11359-2         |
| Transverse : -40 to 40°C                       | 4.1E-5               | cm/cm/°C                                        | ASTM E831           |
| Transverse : -40 to 40°C                       | 4.2E-5               | cm/cm/°C                                        | ISO 11359-2         |
| <b>Injection</b>                               | <b>Nominal Value</b> | <b>Unit</b>                                     |                     |
| 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                                             |                     |
| <b>NOTE</b>                                    |                      |                                                 |                     |
| 1.                                             | 50 mm/min            |                                                 |                     |
| 2.                                             | 80*10*4              |                                                 |                     |
| 3.                                             | 80*10*4              |                                                 |                     |
| 4.                                             | 80*10*4 mm           |                                                 |                     |

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