

# LNP™ LUBRICOMP™ REL22 compound

Polyamide 66

SABIC Innovative Plastics

## Message:

LNP LUBRICOMP REL22 is a compound based on Nylon 66 resin containing 10% Carbon Fiber, 10% PTFE. Added features of this material include: Wear Resistant, Electrically Conductive.

Also known as: LNP\* LUBRICOMP\* Compound RCL-4022

Product reorder name: REL22

| General Information       |                                   |                   |             |
|---------------------------|-----------------------------------|-------------------|-------------|
| Filler / Reinforcement    | Carbon Fiber,10% Filler by Weight |                   |             |
| Additive                  | PTFE Lubricant (10%)              |                   |             |
| Features                  | Electrically Conductive           |                   |             |
|                           | Good Wear Resistance              |                   |             |
|                           | Lubricated                        |                   |             |
| Processing Method         | Injection Molding                 |                   |             |
| Physical                  | Nominal Value                     | Unit              | Test Method |
| Specific Gravity          | 1.25                              | g/cm <sup>3</sup> | ASTM D792   |
| Molding Shrinkage         |                                   |                   | ASTM D955   |
| Flow : 24 hr              | 0.30 to 0.50                      | %                 |             |
| Across Flow : 24 hr       | 1.0 to 3.0                        | %                 |             |
| Water Absorption          |                                   |                   |             |
| 24 hr, 50% RH             | 0.81                              | %                 | ASTM D570   |
| Equilibrium, 23°C, 50% RH | 1.2                               | %                 | ISO 62      |
| Mechanical                | Nominal Value                     | Unit              | Test Method |
| Tensile Modulus           |                                   |                   |             |
| -- <sup>1</sup>           | 10500                             | MPa               | ASTM D638   |
| --                        | 9970                              | MPa               | ISO 527-2/1 |
| Tensile Strength          |                                   |                   |             |
| Yield <sup>2</sup>        | 2.00                              | MPa               | ASTM D638   |
| Break <sup>3</sup>        | 173                               | MPa               | ASTM D638   |
| Break                     | 170                               | MPa               | ISO 527-2/5 |
| Tensile Elongation        |                                   |                   |             |
| Break <sup>4</sup>        | 2.8                               | %                 | ASTM D638   |
| Break                     | 2.6                               | %                 | ISO 527-2/5 |
| Flexural Modulus          |                                   |                   |             |
| 50.0 mm Span <sup>5</sup> | 8260                              | MPa               | ASTM D790   |
| -- <sup>6</sup>           | 7920                              | MPa               | ISO 178     |
| Flexural Stress           |                                   |                   |             |
| --                        | 230                               | MPa               | ISO 178     |

| Break, 50.0 mm Span <sup>7</sup>                 | 241                | MPa                                             | ASTM D790           |
|--------------------------------------------------|--------------------|-------------------------------------------------|---------------------|
| Coefficient of Friction                          |                    |                                                 | ASTM D3702 Modified |
| vs. Itself - Dynamic                             | 0.49               |                                                 |                     |
| vs. Itself - Static                              | 0.49               |                                                 |                     |
| Wear Factor                                      |                    |                                                 | ASTM D3702 Modified |
| Ring                                             | 0.00               | 10 <sup>-10</sup> in <sup>5</sup> -min/ft-lb-hr |                     |
| Washer                                           | 36.0               | 10 <sup>-10</sup> in <sup>5</sup> -min/ft-lb-hr |                     |
| Impact                                           | Nominal Value      | Unit                                            | Test Method         |
| Notched Izod Impact                              |                    |                                                 |                     |
| 23°C                                             | 50                 | J/m                                             | ASTM D256           |
| 23°C <sup>8</sup>                                | 5.2                | kJ/m <sup>2</sup>                               | ISO 180/1A          |
| Unnotched Izod Impact                            |                    |                                                 |                     |
| 23°C                                             | 510                | J/m                                             | ASTM D4812          |
| 23°C <sup>9</sup>                                | 32                 | kJ/m <sup>2</sup>                               | ISO 180/1U          |
| Instrumented Dart Impact                         |                    |                                                 |                     |
| 23°C, Total Energy                               | 6.04               | J                                               | ASTM D3763          |
| --                                               | 1.96               | J                                               | ISO 6603-2          |
| Thermal                                          | Nominal Value      | Unit                                            | Test Method         |
| Deflection Temperature Under Load                |                    |                                                 |                     |
| 0.45 MPa, Unannealed, 3.20 mm                    | 261                | °C                                              | ASTM D648           |
| 0.45 MPa, Unannealed, 64.0 mm Span <sup>10</sup> | 260                | °C                                              | ISO 75-2/Bf         |
| 1.8 MPa, Unannealed, 3.20 mm                     | 253                | °C                                              | ASTM D648           |
| 1.8 MPa, Unannealed, 64.0 mm Span <sup>11</sup>  | 249                | °C                                              | ISO 75-2/Af         |
| CLTE                                             |                    |                                                 | ASTM D696           |
| Flow : -30 to 30°C                               | 3.8E-5             | cm/cm/°C                                        |                     |
| Transverse : -30 to 30°C                         | 7.6E-5             | cm/cm/°C                                        |                     |
| Injection                                        | Nominal Value      | Unit                                            |                     |
| Drying Temperature                               | 82.2               | °C                                              |                     |
| Drying Time                                      | 4.0                | hr                                              |                     |
| Suggested Max Moisture                           | 0.15 to 0.25       | %                                               |                     |
| Rear Temperature                                 | 266 to 277         | °C                                              |                     |
| Middle Temperature                               | 282 to 293         | °C                                              |                     |
| Front Temperature                                | 293 to 304         | °C                                              |                     |
| Processing (Melt) Temp                           | 282 to 304         | °C                                              |                     |
| Mold Temperature                                 | 93.3 to 110        | °C                                              |                     |
| Back Pressure                                    | 0.172 to 0.344     | MPa                                             |                     |
| Screw Speed                                      | 30 to 60           | rpm                                             |                     |
| NOTE                                             |                    |                                                 |                     |
| 1.                                               | 5.0 mm/min         |                                                 |                     |
| 2.                                               | Type I, 5.0 mm/min |                                                 |                     |
| 3.                                               | Type I, 5.0 mm/min |                                                 |                     |
| 4.                                               | Type I, 5.0 mm/min |                                                 |                     |

|     |            |
|-----|------------|
| 5.  | 1.3 mm/min |
| 6.  | 2.0 mm/min |
| 7.  | 1.3 mm/min |
| 8.  | 80*10*4    |
| 9.  | 80*10*4    |
| 10. | 80*10*4 mm |
| 11. | 80*10*4 mm |

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