

# LNP™ LUBRICOMP™ Noryl\_NWR5810

## compound

Polyphenylene Ether + PS

SABIC Innovative Plastics

### Message:

LNP LUBRICOMP NORYL\_NWR5810 compound is a 10% PTFE filled PPE+PS. High flow and good impact. Applications requiring wear resistance/lubricity. Electronics.

| General Information                   |                                                              |
|---------------------------------------|--------------------------------------------------------------|
| Additive                              | PTFE Lubricant (10%)                                         |
| Features                              | Good Impact Resistance                                       |
|                                       | Good Wear Resistance                                         |
|                                       | High Flow                                                    |
|                                       | Lubricated                                                   |
| Uses                                  | Electrical/Electronic Applications                           |
| Processing Method                     | Injection Molding                                            |
| Multi-Point Data                      | Coefficient of Thermal Expansion vs. Temperature (ASTM E831) |
|                                       | Flexural DMA (ASTM D4065)                                    |
|                                       | Pressure-Volume-Temperature (PVT - Zoller Method)            |
|                                       | Shear DMA (ASTM D4065)                                       |
|                                       | Specific Heat vs. Temperature (ASTM D3417)                   |
|                                       | Tensile Fatigue                                              |
|                                       | Tensile Stress vs. Strain (ASTM D638)                        |
|                                       | Thermal Conductivity vs. Temperature (ASTM E1530)            |
| Viscosity vs. Shear Rate (ASTM D3835) |                                                              |

| Physical                                 | Nominal Value | Unit              | Test Method     |
|------------------------------------------|---------------|-------------------|-----------------|
| Specific Gravity                         | 1.11          | g/cm <sup>3</sup> | ASTM D792       |
| Melt Mass-Flow Rate (MFR) (260°C/5.0 kg) | 5.5           | g/10 min          | ASTM D1238      |
| Molding Shrinkage                        |               |                   | Internal Method |
| Flow : 3.20 mm                           | 0.55 to 0.70  | %                 |                 |
| Across Flow : 3.20 mm                    | 0.45 to 0.70  | %                 |                 |
| Mechanical                               | Nominal Value | Unit              | Test Method     |
| Tensile Modulus <sup>1</sup>             | 2170          | MPa               | ASTM D638       |
| Tensile Strength <sup>2</sup>            |               |                   | ASTM D638       |
| Yield                                    | 39.3          | MPa               |                 |
| Break                                    | 37.9          | MPa               |                 |
| Tensile Elongation <sup>3</sup>          |               |                   | ASTM D638       |

|                                               |                   |          |                         |
|-----------------------------------------------|-------------------|----------|-------------------------|
| Yield                                         | 2.8               | %        |                         |
| Break                                         | 55                | %        |                         |
| Flexural Modulus                              |                   |          | ASTM D790               |
| 50.0 mm Span <sup>4</sup>                     | 2070              | MPa      |                         |
| 100 mm Span <sup>5</sup>                      | 2000              | MPa      |                         |
| Flexural Strength                             |                   |          | ASTM D790               |
| Yield, 50.0 mm Span <sup>6</sup>              | 61.4              | MPa      |                         |
| Yield, 100 mm Span <sup>7</sup>               | 57.2              | MPa      |                         |
| Impact                                        | Nominal Value     | Unit     | Test Method             |
| Notched Izod Impact (23°C)                    | 230               | J/m      | ASTM D256               |
| Unnotched Izod Impact (23°C)                  | 2200              | J/m      | ASTM D4812              |
| Instrumented Dart Impact (23°C, Total Energy) | 32.2              | J        | ASTM D3763              |
| Thermal                                       | Nominal Value     | Unit     | Test Method             |
| Deflection Temperature Under Load             |                   |          | ASTM D648               |
| 0.45 MPa, Unannealed, 3.20 mm                 | 113               | °C       |                         |
| 0.45 MPa, Unannealed, 6.40 mm                 | 117               | °C       |                         |
| 1.8 MPa, Unannealed, 3.20 mm                  | 97.2              | °C       |                         |
| 1.8 MPa, Unannealed, 6.40 mm                  | 106               | °C       |                         |
| Vicat Softening Temperature                   | 110               | °C       | ASTM D1525 <sup>8</sup> |
| CLTE                                          |                   |          | ASTM E831               |
| Flow : -40 to 60°C                            | 6.5E-5            | cm/cm/°C |                         |
| Transverse : -40 to 60°C                      | 7.4E-5            | cm/cm/°C |                         |
| Injection                                     | Nominal Value     | Unit     |                         |
| Drying Temperature                            | 93.3 to 98.9      | °C       |                         |
| Drying Time                                   | 3.0 to 4.0        | hr       |                         |
| Drying Time, Maximum                          | 8.0               | hr       |                         |
| Suggested Max Moisture                        | 0.020             | %        |                         |
| Suggested Shot Size                           | 30 to 70          | %        |                         |
| Rear Temperature                              | 227 to 277        | °C       |                         |
| Middle Temperature                            | 238 to 282        | °C       |                         |
| Front Temperature                             | 249 to 288        | °C       |                         |
| Nozzle Temperature                            | 260 to 288        | °C       |                         |
| Processing (Melt) Temp                        | 260 to 288        | °C       |                         |
| Mold Temperature                              | 71.1 to 93.3      | °C       |                         |
| Back Pressure                                 | 0.345 to 0.689    | MPa      |                         |
| Screw Speed                                   | 20 to 100         | rpm      |                         |
| Vent Depth                                    | 0.038 to 0.051    | mm       |                         |
| NOTE                                          |                   |          |                         |
| 1.                                            | 50 mm/min         |          |                         |
| 2.                                            | Type I, 50 mm/min |          |                         |
| 3.                                            | Type I, 50 mm/min |          |                         |

|    |                                    |
|----|------------------------------------|
| 4. | 1.3 mm/min                         |
| 5. | 2.6 mm/min                         |
| 6. | 1.3 mm/min                         |
| 7. | 2.6 mm/min                         |
| 8. | Rate B (120°C/h), Loading 2 (50 N) |

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