

# LNP™ LUBRICOMP™ WAL34 compound

Polybutylene Terephthalate

SABIC Innovative Plastics

## Message:

LNP LUBRICOMP WAL34 is a compound based on (PBT resin containing 15% PTFE, 20% Aramid Fiber. Added features of this material include: Wesr Resistant.

Also known as: LNP\* LUBRICOMP\* Compound WAL-4034

Product reorder name: WAL34

| General Information       |                                   |                   |             |
|---------------------------|-----------------------------------|-------------------|-------------|
| Filler / Reinforcement    | Aramid Fiber,20% Filler by Weight |                   |             |
| Additive                  | PTFE Lubricant (15%)              |                   |             |
| Features                  | Lubricated                        |                   |             |
| Processing Method         | Injection Molding                 |                   |             |
| Physical                  | Nominal Value                     | Unit              | Test Method |
| Specific Gravity          |                                   |                   | ASTM D792   |
| --                        | 1.43                              | g/cm <sup>3</sup> |             |
| --                        | 1.42                              | g/cm <sup>3</sup> |             |
| Molding Shrinkage         |                                   |                   | ASTM D955   |
| Flow : 24 hr              | 1.3                               | %                 |             |
| Across Flow : 24 hr       | 2.2                               | %                 |             |
| Water Absorption          |                                   |                   |             |
| 24 hr, 50% RH             | 0.090                             | %                 | ASTM D570   |
| Equilibrium, 23°C, 50% RH | 0.090                             | %                 | ISO 62      |
| Mechanical                | Nominal Value                     | Unit              | Test Method |
| Tensile Modulus           |                                   |                   |             |
| -- <sup>1</sup>           | 5490                              | MPa               | ASTM D638   |
| --                        | 4520                              | MPa               | ISO 527-2/1 |
| Tensile Strength          |                                   |                   |             |
| Yield <sup>2</sup>        | 46.0                              | MPa               | ASTM D638   |
| Yield                     | 44.0                              | MPa               | ISO 527-2/5 |
| Break <sup>3</sup>        | 46.0                              | MPa               | ASTM D638   |
| Break                     | 44.0                              | MPa               | ISO 527-2/5 |
| Tensile Elongation        |                                   |                   |             |
| Yield <sup>4</sup>        | 1.5                               | %                 | ASTM D638   |
| Yield                     | 1.3                               | %                 | ISO 527-2/5 |
| Break <sup>5</sup>        | 1.5                               | %                 | ASTM D638   |
| Break                     | 1.3                               | %                 | ISO 527-2/5 |
| Flexural Modulus          |                                   |                   |             |
| 50.0 mm Span <sup>6</sup> | 4390                              | MPa               | ASTM D790   |
| -- <sup>7</sup>           | 4100                              | MPa               | ISO 178     |

|                                                  |                    |                                                 |                     |
|--------------------------------------------------|--------------------|-------------------------------------------------|---------------------|
| Flexural Strength <sup>8</sup>                   |                    |                                                 | ASTM D790           |
| Yield, 50.0 mm Span                              | 78.1               | MPa                                             |                     |
| Break, 50.0 mm Span                              | 78.1               | MPa                                             |                     |
| Coefficient of Friction                          |                    |                                                 | ASTM D3702 Modified |
| vs. Itself - Dynamic                             | 0.25               |                                                 |                     |
| vs. Itself - Static                              | 0.21               |                                                 |                     |
| Wear Factor - Washer                             | 6.00               | 10 <sup>-10</sup> in <sup>5</sup> -min/ft-lb-hr | ASTM D3702 Modified |
| Impact                                           | Nominal Value      | Unit                                            | Test Method         |
| Notched Izod Impact                              |                    |                                                 |                     |
| 23°C                                             | 32                 | J/m                                             | ASTM D256           |
| 23°C <sup>9</sup>                                | 3.7                | kJ/m <sup>2</sup>                               | ISO 180/1A          |
| Unnotched Izod Impact                            |                    |                                                 |                     |
| 23°C                                             | 130                | J/m                                             | ASTM D4812          |
| 23°C <sup>10</sup>                               | 9.9                | kJ/m <sup>2</sup>                               | ISO 180/1U          |
| Instrumented Dart Impact                         |                    |                                                 |                     |
| 23°C, Total Energy                               | 3.90               | J                                               | ASTM D3763          |
| --                                               | 0.900              | J                                               | ISO 6603-2          |
| Thermal                                          | Nominal Value      | Unit                                            | Test Method         |
| Deflection Temperature Under Load                |                    |                                                 |                     |
| 0.45 MPa, Unannealed, 6.40 mm                    | 215                | °C                                              | ASTM D648           |
| 0.45 MPa, Unannealed, 64.0 mm Span <sup>11</sup> | 206                | °C                                              | ISO 75-2/Bf         |
| 1.8 MPa, Unannealed, 3.20 mm                     | 182                | °C                                              | ASTM D648           |
| 1.8 MPa, Unannealed, 64.0 mm Span <sup>12</sup>  | 130                | °C                                              | ISO 75-2/Af         |
| CLTE                                             |                    |                                                 | ASTM D696           |
| Flow : -30 to 30°C                               | 5.1E-5             | cm/cm/°C                                        |                     |
| Transverse : -30 to 30°C                         | 8.4E-5             | cm/cm/°C                                        |                     |
| Injection                                        | Nominal Value      | Unit                                            |                     |
| Drying Temperature                               | 121                | °C                                              |                     |
| Drying Time                                      | 4.0                | hr                                              |                     |
| Suggested Max Moisture                           | 0.050              | %                                               |                     |
| Rear Temperature                                 | 221 to 232         | °C                                              |                     |
| Middle Temperature                               | 243 to 254         | °C                                              |                     |
| Front Temperature                                | 260 to 271         | °C                                              |                     |
| Processing (Melt) Temp                           | 238 to 266         | °C                                              |                     |
| Mold Temperature                                 | 82.2 to 98.9       | °C                                              |                     |
| Back Pressure                                    | 0.172 to 0.344     | MPa                                             |                     |
| Screw Speed                                      | 30 to 60           | 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.  | 1.3 mm/min         |
| 9.  | 80*10*4            |
| 10. | 80*10*4            |
| 11. | 80*10*4 mm         |
| 12. | 80*10*4 mm         |

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