

# LNP™ THERMOCOMP™ DF002 compound

Polycarbonate

SABIC Innovative Plastics

## Message:

LNP THERMOCOMP\* DF002 is a compound based on Polycarbonate resin containing 10% Glass Fiber.

Also known as: LNP\* THERMOCOMP\* Compound DF-1002

Product Reorder name: DF002

| General Information                                  |                                  |                   |                     |
|------------------------------------------------------|----------------------------------|-------------------|---------------------|
| UL YellowCard                                        | E121562-101282746                | E121562-101344533 |                     |
| Filler / Reinforcement                               | Glass Fiber,10% Filler by Weight |                   |                     |
| Processing Method                                    | Injection Molding                |                   |                     |
| Physical                                             | Nominal Value                    | Unit              | Test Method         |
| Specific Gravity                                     | 1.29                             | g/cm³             | ASTM D792, ISO 1183 |
| Molding Shrinkage                                    |                                  |                   | ASTM D955           |
| Flow : 24 hr                                         | 0.40 to 0.60                     | %                 |                     |
| Across Flow : 24 hr                                  | 0.60 to 0.80                     | %                 |                     |
| Water Absorption                                     |                                  |                   |                     |
| 24 hr, 50% RH                                        | 0.14                             | %                 | ASTM D570           |
| Equilibrium, 23°C, 50% RH                            | 0.20                             | %                 | ISO 62              |
| Mechanical                                           | Nominal Value                    | Unit              | Test Method         |
| Tensile Modulus                                      |                                  |                   |                     |
| -- <sup>1</sup>                                      | 4250                             | MPa               | ASTM D638           |
| --                                                   | 4170                             | MPa               | ISO 527-2/1         |
| Tensile Strength                                     |                                  |                   |                     |
| Yield <sup>2</sup>                                   | 81.0                             | MPa               | ASTM D638           |
| Yield                                                | 80.0                             | MPa               | ISO 527-2/5         |
| Break <sup>3</sup>                                   | 75.0                             | MPa               | ASTM D638           |
| Break                                                | 74.0                             | MPa               | ISO 527-2/5         |
| Tensile Elongation                                   |                                  |                   |                     |
| Yield <sup>4</sup>                                   | 3.9                              | %                 | ASTM D638           |
| Yield                                                | 3.8                              | %                 | ISO 527-2/5         |
| Break <sup>5</sup>                                   | 5.6                              | %                 | ASTM D638           |
| Break                                                | 5.7                              | %                 | ISO 527-2/5         |
| Flexural Modulus                                     |                                  |                   |                     |
| 50.0 mm Span <sup>6</sup>                            | 4110                             | MPa               | ASTM D790           |
| -- <sup>7</sup>                                      | 3960                             | MPa               | ISO 178             |
| Flexural Strength <sup>8</sup> (Yield, 50.0 mm Span) | 138                              | MPa               | ASTM D790           |
| Impact                                               | Nominal Value                    | Unit              | Test Method         |
| Notched Izod Impact                                  |                                  |                   |                     |
| 23°C                                                 | 81                               | J/m               | ASTM D256           |

|                                                  |                    |                   |             |
|--------------------------------------------------|--------------------|-------------------|-------------|
| 23°C <sup>9</sup>                                | 8.7                | kJ/m <sup>2</sup> | ISO 180/1A  |
| Unnotched Izod Impact                            |                    |                   |             |
| 23°C                                             | 880                | J/m               | ASTM D4812  |
| 23°C <sup>10</sup>                               | 55                 | kJ/m <sup>2</sup> | ISO 180/1U  |
| Instrumented Dart Impact                         |                    |                   |             |
| 23°C, Total Energy                               | 18.4               | J                 | ASTM D3763  |
| --                                               | 10.5               | J                 | ISO 6603-2  |
| Thermal                                          | Nominal Value      | Unit              | Test Method |
| Deflection Temperature Under Load                |                    |                   |             |
| 0.45 MPa, Unannealed, 3.20 mm                    | 146                | °C                | ASTM D648   |
| 0.45 MPa, Unannealed, 64.0 mm Span <sup>11</sup> | 54.9               | °C                | ISO 75-2/Bf |
| 1.8 MPa, Unannealed, 3.20 mm                     | 141                | °C                | ASTM D648   |
| CLTE                                             |                    |                   | ASTM D696   |
| Flow : -30 to 30°C                               | 4.6E-5             | cm/cm/°C          |             |
| Transverse : -30 to 30°C                         | 5.3E-5             | cm/cm/°C          |             |
| Injection                                        | Nominal Value      | Unit              |             |
| Drying Temperature                               | 121                | °C                |             |
| Drying Time                                      | 4.0                | hr                |             |
| Suggested Max Moisture                           | 0.020              | %                 |             |
| Rear Temperature                                 | 293 to 304         | °C                |             |
| Middle Temperature                               | 310 to 321         | °C                |             |
| Front Temperature                                | 321 to 332         | °C                |             |
| Processing (Melt) Temp                           | 304 to 327         | °C                |             |
| Mold Temperature                                 | 82.2 to 110        | °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         |                   |             |

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## Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

