

# LNP™ THERMOCOMP™ EC006 compound

Polyether Imide

SABIC Innovative Plastics

## Message:

LNP THERMOCOMP\* EC006 is a compound based on Polyetherimide resin containing 30% Carbon Fiber. Added features of this material include:  
Electrically Conductive.

Also known as: LNP\* THERMOCOMP\* Compound EC-1006

Product reorder name: EC006

| General Information       |                                   |                   |                     |
|---------------------------|-----------------------------------|-------------------|---------------------|
| UL YellowCard             | E121562-101344539                 |                   |                     |
| Filler / Reinforcement    | Carbon Fiber,30% Filler by Weight |                   |                     |
| Features                  | Electrically Conductive           |                   |                     |
| Processing Method         | Injection Molding                 |                   |                     |
| Physical                  | Nominal Value                     | Unit              | Test Method         |
| Specific Gravity          | 1.39                              | g/cm <sup>3</sup> | ASTM D792, ISO 1183 |
| Molding Shrinkage         |                                   |                   |                     |
| Flow : 24 hr              | 0.10 to 0.30                      | %                 | ASTM D955           |
| Across Flow : 24 hr       | 0.30 to 0.50                      | %                 | ASTM D955           |
| Across Flow : 24 hr       | 0.39                              | %                 | ISO 294-4           |
| Flow : 24 hr              | 0.10                              | %                 | ISO 294-4           |
| Water Absorption          |                                   |                   |                     |
| 24 hr, 50% RH             | 0.20                              | %                 | ASTM D570           |
| Equilibrium, 23°C, 50% RH | 0.29                              | %                 | ISO 62              |
| Mechanical                | Nominal Value                     | Unit              | Test Method         |
| Tensile Modulus           |                                   |                   |                     |
| -- <sup>1</sup>           | 19400                             | MPa               | ASTM D638           |
| --                        | 20900                             | MPa               | ISO 527-2/1         |
| Tensile Strength          |                                   |                   |                     |
| Break                     | 197                               | MPa               | ASTM D638           |
| Break                     | 183                               | MPa               | ISO 527-2           |
| Tensile Elongation        |                                   |                   |                     |
| Break                     | 1.3                               | %                 | ASTM D638           |
| Break                     | 1.1                               | %                 | ISO 527-2           |
| Flexural Modulus          |                                   |                   |                     |
| --                        | 18200                             | MPa               | ASTM D790           |
| --                        | 17900                             | MPa               | ISO 178             |
| Flexural Strength         |                                   |                   |                     |
| --                        | 280                               | MPa               | ASTM D790           |
| --                        | 269                               | MPa               | ISO 178             |
| Coefficient of Friction   |                                   |                   | ASTM D3702 Modified |

|                                                |                  |                                                 |                        |
|------------------------------------------------|------------------|-------------------------------------------------|------------------------|
| vs. Itself - Dynamic                           | 0.52             |                                                 |                        |
| vs. Itself - Static                            | 0.48             |                                                 |                        |
| Wear Factor - Washer                           | 75.0             | 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                                           | 43               | J/m                                             | ASTM D256              |
| 23°C <sup>2</sup>                              | 5.2              | kJ/m <sup>2</sup>                               | ISO 180/1A             |
| Unnotched Izod Impact                          |                  |                                                 |                        |
| 23°C                                           | 370              | J/m                                             | ASTM D4812             |
| 23°C <sup>3</sup>                              | 26               | kJ/m <sup>2</sup>                               | ISO 180/1U             |
| Instrumented Dart Impact                       |                  |                                                 |                        |
| 23°C, Energy at Peak Load                      | 7.80             | J                                               | ASTM D3763             |
| --                                             | 2.47             | J                                               | ISO 6603-2             |
| Thermal                                        | Nominal Value    | Unit                                            | Test Method            |
| Deflection Temperature Under Load              |                  |                                                 |                        |
| 1.8 MPa, Unannealed, 3.20 mm                   | 218              | °C                                              | ASTM D648              |
| 1.8 MPa, Unannealed, 64.0 mm Span <sup>4</sup> | 219              | °C                                              | ISO 75-2/Af            |
| CLTE                                           |                  |                                                 |                        |
| Flow : -40 to 40°C                             | 3.6E-5           | cm/cm/°C                                        | ASTM E831, ISO 11359-2 |
| Transverse : -40 to 40°C                       | 2.2E-5           | cm/cm/°C                                        | ASTM E831              |
| Transverse : -40 to 40°C                       | 2.3E-5           | cm/cm/°C                                        | ISO 11359-2            |
| Electrical                                     | Nominal Value    | Unit                                            | Test Method            |
| Surface Resistivity                            | 1.0E+2 to 1.0E+6 | ohms                                            | ASTM D257              |
| Injection                                      | Nominal Value    | Unit                                            |                        |
| Drying Temperature                             | 121 to 149       | °C                                              |                        |
| Drying Time                                    | 4.0 to 6.0       | hr                                              |                        |
| Suggested Max Moisture                         | 0.020            | %                                               |                        |
| Rear Temperature                               | 343 to 354       | °C                                              |                        |
| Middle Temperature                             | 354 to 366       | °C                                              |                        |
| Front Temperature                              | 366 to 377       | °C                                              |                        |
| Processing (Melt) Temp                         | 360 to 366       | °C                                              |                        |
| Mold Temperature                               | 121 to 149       | °C                                              |                        |
| Back Pressure                                  | 0.344 to 0.689   | MPa                                             |                        |
| Screw Speed                                    | 60 to 100        | rpm                                             |                        |
| NOTE                                           |                  |                                                 |                        |
| 1.                                             | 50 mm/min        |                                                 |                        |
| 2.                                             | 80*10*4          |                                                 |                        |
| 3.                                             | 80*10*4          |                                                 |                        |
| 4.                                             | 80*10*4 mm       |                                                 |                        |

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