# LNP™ THERMOCOMP™ Compound 6F006I

## DESCRIPTION

LNP THERMOCOMP 6F006I compound is based on Polycarbonate / Polybutylene Terephthalate (PC/PBT) blend containing 30% glass fiber. Added features of this grade include: Impact Modified.

| GENERAL INFORMATION | |
|---|---|
| **Features** | High stiffness/Strength, Impact resistant, No PFAS intentionally added |
| **Fillers** | Glass Fiber (Total fluorine >50ppm only from inorganic fluorine) |
| **Polymer Types** | Polycarbonate + PBT (PC+PBT) |
| **Processing Techniques** | Injection Molding |

| INDUSTRY | SUB INDUSTRY |
|---|---|
| Building and Construction | Building Component |
| Consumer | Sport/Leisure, Personal Accessory |
| Electrical and Electronics | Mobile Phone - Computer - Tablets |
| Industrial | Electrical |

## TYPICAL PROPERTY VALUES

Revision 20231109

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| MECHANICAL [1] | | | |
| **Tensile Stress, yld, Type I, 5 mm/min** | 97 | MPa | ASTM D638 |
| **Tensile Stress, brk, Type I, 5 mm/min** | 91 | MPa | ASTM D638 |
| **Tensile Strain, yld, Type I, 5 mm/min** | 3 | % | ASTM D638 |
| **Tensile Strain, brk, Type I, 5 mm/min** | 4 | % | ASTM D638 |
| **Tensile Modulus, 5 mm/min** | 9750 | MPa | ASTM D638 |
| **Flexural Stress, yld, 1.3 mm/min, 50 mm span** | 150 | MPa | ASTM D790 |
| **Flexural Stress, brk, 1.3 mm/min, 50 mm span** | 138 | MPa | ASTM D790 |
| **Flexural Modulus, 1.3 mm/min, 50 mm span** | 5370 | MPa | ASTM D790 |
| **Hardness, Rockwell R** | 109 | - | ASTM D785 |
| **Tensile Stress, yield, 5 mm/min** | 105 | MPa | ISO 527 |
| **Tensile Stress, break, 5 mm/min** | 105 | MPa | ISO 527 |
| **Tensile Modulus, 1 mm/min** | 8500 | MPa | ISO 527 |
| **Flexural Stress, yield, 2 mm/min** | 154 | MPa | ISO 178 |
| **Flexural Modulus, 2 mm/min** | 7750 | MPa | ISO 178 |
| **Tensile Strain, yield, 5 mm/min** | 3 | % | ISO 527 |
| **Tensile Strain, break, 5 mm/min** | 3 | % | ISO 527 |
| IMPACT [1] | | | |
| **Izod Impact, unnotched, 23°C** | 640 | J/m | ASTM D4812 |
| **Izod Impact, notched, 23°C** | 170 | J/m | ASTM D256 |
| **Izod Impact, notched, -30°C** | 112 | J/m | ASTM D256 |
| **Instrumented Dart Impact Energy @ peak, 23°C** | 5 | J | ASTM D3763 |

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| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| Instrumented Dart Impact Total Energy, 23°C | 17 | J | ASTM D3763 |
| Izod Impact, notched 80*10*4 +23°C | 10 | kJ/m² | ISO 180/1A |
| Izod Impact, notched 80*10*4 -30°C | 6 | kJ/m² | ISO 180/1A |
| Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm | 9 | kJ/m² | ISO 179/1eA |
| THERMAL [1] | | | |
| Vicat Softening Temp, Rate B/50 | 153 | °C | ASTM D1525 |
| HDT, 1.82 MPa, 3.2mm, unannealed | 163 | °C | ASTM D648 |
| HDT, 0.45 MPa, 6.4 mm, unannealed | 204 | °C | ASTM D648 |
| HDT, 1.82 MPa, 6.4 mm, unannealed | 149 | °C | ASTM D648 |
| CTE, -40°C to 40°C, flow | 2.7E-05 | 1/°C | ASTM E831 |
| CTE, -40°C to 40°C, xflow | 1.1E-04 | 1/°C | ASTM E831 |
| CTE, -40°C to 40°C, flow | 2.7E-05 | 1/°C | ISO 11359-2 |
| CTE, -40°C to 40°C, xflow | 1.1E-04 | 1/°C | ISO 11359-2 |
| CTE, 60°C to 138°C, flow | 1.98E-05 | 1/°C | ASTM E831 |
| Vicat Softening Temp, Rate B/50 | 148 | °C | ISO 306 |
| Vicat Softening Temp, Rate B/120 | 150 | °C | ISO 306 |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm | 155 | °C | ISO 75/Af |
| Relative Temp Index, Elec [2] | 140 | °C | UL 746B |
| Relative Temp Index, Mech w/impact [2] | 130 | °C | UL 746B |
| Relative Temp Index, Mech w/o impact [2] | 140 | °C | UL 746B |
| PHYSICAL [1] | | | |
| Specific Gravity | 1.44 | - | ASTM D792 |
| Specific Volume | 0.7 | cm³/g | ASTM D792 |
| Water Absorption, (23°C/24hrs) | 0.09 | % | ASTM D570 |
| Mold Shrinkage, flow, 0.75-2.3 mm [3] | 0.3 – 0.4 | % | SABIC method |
| Mold Shrinkage, flow, 2.3-4.6 mm [3] | 0.4 – 0.5 | % | SABIC method |
| Mold Shrinkage, xflow, 0.75-2.3 mm [3] | 0.4 – 0.7 | % | SABIC method |
| Mold Shrinkage, xflow, 2.3-4.6 mm [3] | 0.7 – 0.9 | % | SABIC method |
| Melt Flow Rate, 250°C/5.0 kgf | 24 | g/10 min | ASTM D1238 |
| Density | 1.44 | g/cm³ | ASTM D792 |
| Water Absorption, (23°C/saturated) | 0.5 | % | ISO 62-1 |
| Moisture Absorption (23°C / 50% RH) | 0.15 | % | ISO 62 |
| Melt Volume Rate, MVR at 250°C/5.0 kg | 12 | cm³/10 min | ISO 1133 |
| Melt Volume Rate, MVR at 265°C/5.0 kg | 19 | cm³/10 min | ISO 1133 |
| ELECTRICAL [1] | | | |
| Volume Resistivity | 4.8E+15 | Ω.cm | ASTM D257 |
| Dielectric Strength, in air, 3.2 mm | 20 | kV/mm | ASTM D149 |
| Dielectric Strength, in oil, 1.6 mm | 27 | kV/mm | IEC 60243-1 |
| Relative Permittivity, 100 Hz | 4 | - | ASTM D150 |
| Relative Permittivity, 1 MHz | 4 | - | ASTM D150 |
| Dissipation Factor, 100 Hz | 0.003 | - | ASTM D150 |
| Dissipation Factor, 1 MHz | 0.02 | - | ASTM D150 |
| Hot-Wire Ignition (HWI), PLC 1 | ≥3 | mm | UL 746A |
| Hot-Wire Ignition (HWI), PLC 2 | ≥1.5 | mm | UL 746A |
| High Amp Arc Ignition (HAI), PLC 3 | ≥1.5 | mm | UL 746A |

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| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| High Voltage Arc Track Rate {PLC} | 1 | PLC Code | UL 746A |
| Comparative Tracking Index (UL) {PLC} | 2 | PLC Code | UL 746A |
| Arc Resistance, Tungsten {PLC} | 5 | PLC Code | ASTM D495 |
| FLAME CHARACTERISTICS [2] | | | |
| UL Yellow Card Link | E121562-103956403 | - | - |
| UL Yellow Card Link 2 | E207780-103938404 | - | - |
| UL Recognized, 94HB Flame Class Rating | ≥1.5 | mm | UL 94 |
| INJECTION MOLDING [4] | | | |
| Drying Temperature | 110 | °C | |
| Drying Time | 4 – 6 | Hrs | |
| Drying Time (Cumulative) | 8 | Hrs | |
| Maximum Moisture Content | 0.02 | % | |
| Melt Temperature | 260 – 280 | °C | |
| Nozzle Temperature | 255 – 275 | °C | |
| Front - Zone 3 Temperature | 260 – 280 | °C | |
| Middle - Zone 2 Temperature | 255 – 275 | °C | |
| Rear - Zone 1 Temperature | 250 – 270 | °C | |
| Mold Temperature | 65 – 95 | °C | |
| Back Pressure | 0.3 – 0.3 | MPa | |
| Screw Speed | 50 – 50 | rpm | |
| Shot to Cylinder Size | 50 – 80 | % | |
| Vent Depth | 0.013 – 0.02 | mm | |

(1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.

(2) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.

(3) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.

(4) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

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