

LNPT[™] THERMOCOMP[™] COMPOUND DC006

DC-1006

DESCRIPTION

LNP THERMOCOMP DC006 compound is based on Polycarbonate (PC) resin containing 30% carbon fiber. Added features of this grade include: Electrically Conductive.

| GENERAL INFORMATION | |
|-----------------------|--|
| Features | Electrically Conductive, Carbon fiber filled, High stiffness/Strength, No PFAS intentionally added |
| Fillers | Carbon Fiber |
| Polymer Types | Polycarbonate (PC) |
| Processing Techniques | Injection Molding |

| INDUSTRY | SUB INDUSTRY |
|----------------------------|-----------------------------------|
| Building and Construction | Building Component |
| Consumer | 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, yield, 5 mm/min | 141 | MPa | ISO 527 |
| Tensile Stress, break, 5 mm/min | 141 | MPa | ISO 527 |
| Tensile Strain, yield, 5 mm/min | 1.8 | % | ISO 527 |
| Tensile Strain, break, 5 mm/min | 1.8 | % | ISO 527 |
| Tensile Modulus, 1 mm/min | 15780 | MPa | ISO 527 |
| Flexural Stress, yield, 2 mm/min | 192 | MPa | ISO 178 |
| Flexural Modulus, 2 mm/min | 14300 | MPa | ISO 178 |
| Tensile Stress, yld, Type I, 5 mm/min | 141 | MPa | ASTM D638 |
| Tensile Stress, brk, Type I, 5 mm/min | 141 | MPa | ASTM D638 |
| Tensile Strain, yld, Type I, 5 mm/min | 1.9 | % | ASTM D638 |
| Tensile Strain, brk, Type I, 5 mm/min | 1.9 | % | ASTM D638 |
| Tensile Modulus, 50 mm/min | 15870 | MPa | ASTM D638 |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 195 | MPa | ASTM D790 |
| IMPACT ⁽¹⁾ | | | |
| Izod Impact, notched 80*10*4 +23°C | 6 | kJ/m ² | ISO 180/1A |
| Izod Impact, unnotched 80*10*4 +23°C | 44 | kJ/m ² | ISO 180/1U |
| Multiaxial Impact | 4 | J | ISO 6603 |
| Izod Impact, notched, 23°C | 69 | J/m | ASTM D256 |
| Izod Impact, unnotched, 23°C | 587 | J/m | ASTM D4812 |
| Instrumented Dart Impact Energy @ peak, 23°C | 12 | J | ASTM D3763 |

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|--|----------------|-------------------|--------------|
| THERMAL ⁽¹⁾ | | | |
| HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm | 148 | °C | ISO 75/Bf |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm | 143 | °C | ISO 75/Af |
| CTE, 23°C to 60°C, flow | 2.00E-05 | 1/°C | ISO 11359-2 |
| CTE, 23°C to 60°C, xflow | 4.40E-05 | 1/°C | ISO 11359-2 |
| HDT, 0.45 MPa, 3.2 mm, unannealed | 147 | °C | ASTM D648 |
| HDT, 1.82 MPa, 3.2mm, unannealed | 142 | °C | ASTM D648 |
| CTE, -40°C to 40°C, flow | 1.1E-05 | 1/°C | ASTM E831 |
| CTE, -40°C to 40°C, xflow | 2.4E-05 | 1/°C | ASTM E831 |
| PHYSICAL ⁽¹⁾ | | | |
| Density | 1.33 | g/cm ³ | ISO 1183 |
| Density | 1.33 | g/cm ³ | ASTM D792 |
| Moisture Absorption, (23°C/50% RH/24 hrs) | 0.12 | % | ASTM D570 |
| Mold Shrinkage, flow, 24 hrs ⁽²⁾ | 0.1 – 0.2 | % | ASTM D955 |
| Mold Shrinkage, xflow, 24 hrs ⁽²⁾ | 0.2 – 0.4 | % | ASTM D955 |
| Mold Shrinkage, flow ⁽²⁾ | 0.09 | % | SABIC method |
| Mold Shrinkage, xflow ⁽²⁾ | 0.33 | % | SABIC method |
| INJECTION MOLDING ⁽³⁾ | | | |
| Drying Temperature | 120 | °C | |
| Drying Time | 4 | Hrs | |
| Maximum Moisture Content | 0.02 | % | |
| Melt Temperature | 305 – 325 | °C | |
| Front - Zone 3 Temperature | 320 – 330 | °C | |
| Middle - Zone 2 Temperature | 310 – 320 | °C | |
| Rear - Zone 1 Temperature | 295 – 305 | °C | |
| Mold Temperature | 80 – 110 | °C | |
| Back Pressure | 0.2 – 0.3 | MPa | |
| Screw Speed | 30 – 60 | rpm | |

(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) 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.

(3) 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.

ADDITIONAL PRODUCT NOTES

No PFAS intentionally added: The grade listed in this document does not contain PFAS intentionally added during Seller's manufacturing process and is not expected to contain unintentional PFAS impurities. Each user is responsible for evaluating the presence of unintentional PFAS impurities.

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