# LNP™ THERMOCOMP™ Compound LF002

## Americas: COMMERCIAL

**Also known as: LNP™ THERMOCOMP™ Compound LF-1002**
**Product reorder name: LF002**

LNP THERMOCOMP LF002 is a compound based on Polyetheretherketone resin containing 10% Glass Fiber.

| TYPICAL PROPERTIES[1] | TYPICAL VALUE | Unit | Standard |
|---|---|---|---|
| **MECHANICAL** | | | |
| Tensile Stress, yld, Type I, 5 mm/min | 1220 | kgf/cm² | ASTM D 638 |
| Tensile Stress, brk, Type I, 5 mm/min | 1160 | kgf/cm² | ASTM D 638 |
| Tensile Strain, yld, Type I, 5 mm/min | 3.3 | % | ASTM D 638 |
| Tensile Strain, brk, Type I, 5 mm/min | 4.2 | % | ASTM D 638 |
| Tensile Modulus, 5 mm/min | 61900 | kgf/cm² | ASTM D 638 |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 2060 | kgf/cm² | ASTM D 790 |
| Flexural Modulus, 1.3 mm/min, 50 mm span | 61200 | kgf/cm² | ASTM D 790 |
| Tensile Stress, yield, 5 mm/min | 125 | MPa | ISO 527 |
| Tensile Stress, break, 5 mm/min | 122 | MPa | ISO 527 |
| Tensile Strain, yield, 5 mm/min | 3.4 | % | ISO 527 |
| Tensile Strain, break, 5 mm/min | 4 | % | ISO 527 |
| Tensile Modulus, 1 mm/min | 6490 | MPa | ISO 527 |
| Flexural Modulus, 2 mm/min | 5660 | MPa | ISO 178 |
| **IMPACT** | | | |
| Izod Impact, unnotched, 23°C | 87 | cm-kgf/cm | ASTM D 4812 |
| Izod Impact, notched, 23°C | 5 | cm-kgf/cm | ASTM D 256 |
| Multiaxial Impact | 25 | cm-kgf | ISO 6603 |
| Instrumented Impact Total Energy, 23°C | 89 | cm-kgf | ASTM D 3763 |
| Izod Impact, unnotched 80*10*4 +23°C | 49 | kJ/m² | ISO 180/1U |
| Izod Impact, notched 80*10*4 +23°C | 4 | kJ/m² | ISO 180/1A |
| **THERMAL** | | | |
| HDT, 0.45 MPa, 3.2 mm, unannealed | 326 | °C | ASTM D 648 |
| HDT, 1.82 MPa, 3.2mm, unannealed | 169 | °C | ASTM D 648 |

(1) Typical values only. Variations within normal tolerances are possible for various colors. All values are measured after at least 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume and melt flow rates, are measured on injection molded samples. All samples tested under ISO test standards are prepared according to ISO 294.

(2) Only typical data for selection purposes. Not to be used for part or tool design.
(3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.
(4) Internal measurements according to UL standards.
(5) 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.
(6) Needs hard coat to consistently pass 60 sec Vertical Burn.

Source GMD, last updated:

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| TYPICAL PROPERTIES[1] | TYPICAL VALUE | Unit | Standard |
|---|---|---|---|
| **THERMAL** | | | |
| CTE, -30°C to 30°C, flow | 3.52E+01 | 1/°C | ASTM D 696 |
| CTE, -30°C to 30°C, xflow | 4.35E+01 | 1/°C | ASTM D 696 |
| HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm | 285 | °C | ISO 75/Bf |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm | 171 | °C | ISO 75/Af |
| **PHYSICAL** | | | |
| Density | 1.37 | g/cm³ | ASTM D 792 |
| Moisture Absorption, 50% RH, 24 hrs | 0.07 | % | ASTM D 570 |
| Mold Shrinkage, flow, 24 hrs (5) | 0.3 - 0.6 | % | ASTM D 955 |
| Mold Shrinkage, xflow, 24 hrs (5) | 0.5 - 0.8 | % | ASTM D 955 |
| Density | 1.37 | g/cm³ | ISO 1183 |
| Moisture Absorption (23°C / 50% RH) | 0.12 | % | ISO 62 |

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| PROCESSING PARAMETERS | TYPICAL VALUE | Unit |
|---|---|---|
| **Injection Molding** | | |
| Drying Temperature | 150 | °C |
| Drying Time | 4 - 6 | hrs |
| Front - Zone 3 Temperature | 380 - 400 | °C |
| Middle - Zone 2 Temperature | 380 - 400 | °C |
| Rear - Zone 1 Temperature | 370 - 380 | °C |
| Mold Temperature | 175 - 190 | °C |
| Back Pressure | 0.3 - 0.7 | MPa |
| Screw Speed | 60 - 100 | rpm |

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