# LNP™ THERMOCOMP™ Compound RC008H

FORMERLY KNOWN AS "RC-1008"

## DESCRIPTION

LNP THERMOCOMP RC008H compound is based on Nylon 6/6 resin containing 40% carbon fiber. Added features of this grade include: Electrically Conductive, Healthcare.

| GENERAL INFORMATION | |
|---|---|
| **Features** | Electrically Conductive, Healthcare/Formula lock, Carbon fiber filled, High stiffness/Strength, No PFAS intentionally added (PCR contains <50ppm total organic fluorine content) |
| **Fillers** | Carbon Fiber |
| **Polymer Types** | Polyamide 66 (Nylon 66) |
| **Processing Techniques** | Injection Molding |

| INDUSTRY | SUB INDUSTRY |
|---|---|
| Hygiene and Healthcare | Pharmaceutical Packaging and Drug Delivery, Surgical devices, General Healthcare, Patient Testing |
| Packaging | Industrial Packaging |

## TYPICAL PROPERTY VALUES

Revision 20241017

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| MECHANICAL [1] | | | |
| **Tensile Stress, brk, Type I, 5 mm/min** | 288 | MPa | ASTM D638 |
| **Tensile Strain, brk, Type I, 5 mm/min** | 1.8 | % | ASTM D638 |
| **Tensile Modulus, 5 mm/min** | 32000 | MPa | ASTM D638 |
| **Flexural Stress, brk, 2.6 mm/min, 100 mm span** | 429 | MPa | ASTM D790 |
| **Flexural Modulus, 2.6 mm/min, 100 mm span** | 26100 | MPa | ASTM D790 |
| IMPACT [1] | | | |
| **Izod Impact, unnotched, 23°C** | 1219 | J/m | ASTM D4812 |
| **Izod Impact, notched, 23°C** | 108 | J/m | ASTM D256 |
| **Multiaxial Impact** | 4 | J | ISO 6603 |
| **Instrumented Dart Impact Total Energy, 23°C** | 15 | J | ASTM D3763 |
| **Izod Impact, unnotched 80*10*4 +23°C** | 71 | kJ/m² | ISO 180/1U |
| **Izod Impact, notched 80*10*4 +23°C** | 10 | kJ/m² | ISO 180/1A |
| THERMAL [1] | | | |
| **HDT, 1.82 MPa, 3.2mm, unannealed** | 255 | °C | ASTM D648 |
| **CTE, -30°C to 30°C, flow** | 1.1E-05 | 1/°C | ASTM D696 |
| **CTE, -30°C to 30°C, xflow** | 3.7E-05 | 1/°C | ASTM D696 |
| **HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm** | 261 | °C | ISO 75/Bf |
| **HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm** | 252 | °C | ISO 75/Af |
| **Relative Temp Index, Elec** [2] | 65 | °C | UL 746B |
| **Relative Temp Index, Mech w/impact** [2] | 65 | °C | UL 746B |
| **Relative Temp Index, Mech w/o impact** [2] | 65 | °C | UL 746B |

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| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| **PHYSICAL** [1] | | | |
| Specific Gravity | 1.33 | - | ASTM D792 |
| Moisture Absorption, (23°C/50% RH/24 hrs) | 0.54 | % | ASTM D570 |
| Mold Shrinkage, flow, 24 hrs [3] | 0.2 – 0.4 | % | ASTM D955 |
| Mold Shrinkage, xflow, 24 hrs [3] | 0.4 – 0.6 | % | ASTM D955 |
| Density | 1.34 | g/cm³ | ISO 1183 |
| Moisture Absorption (23°C / 50% RH) | 0.78 | % | ISO 62 |
| **FLAME CHARACTERISTICS** [2] | | | |
| UL Yellow Card Link | E121562-101282584 | - | - |
| UL Recognized, 94HB Flame Class Rating | 1.5 | mm | UL 94 |
| **INJECTION MOLDING** [4] | | | |
| Drying Temperature | 80 | °C | |
| Drying Time | 4 | Hrs | |
| Maximum Moisture Content | 0.15 – 0.25 | % | |
| Melt Temperature | 280 – 305 | °C | |
| Front - Zone 3 Temperature | 295 – 305 | °C | |
| Middle - Zone 2 Temperature | 280 – 295 | °C | |
| Rear - Zone 1 Temperature | 265 – 275 | °C | |
| Mold Temperature | 95 – 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) 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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