

LNPT[™] THERMOCOMP[™] COMPOUND RC003SXS

RC-1003 HS

DESCRIPTION

LNP THERMOCOMP RC003SXS compound is based on Nylon 6/6 resin containing 15% carbon fiber. Added features of this grade include: Electrically Conductive, Heat Stabilized.

| GENERAL INFORMATION | |
|-----------------------|---|
| Features | Electrically Conductive, Heat Stabilized, Carbon fiber filled, High stiffness/Strength, No PFAS intentionally added |
| Fillers | Carbon Fiber |
| Polymer Types | Polyamide 66 (Nylon 66) |
| Processing Techniques | Injection Molding |

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

TYPICAL PROPERTY VALUES

Revision 20231109

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|--|----------------|-------------------|--------------|
| MECHANICAL ⁽¹⁾ | | | |
| Tensile Stress, break, 5 mm/min | 170 | MPa | ISO 527 |
| Tensile Strain, break, 5 mm/min | 2 | % | ISO 527 |
| Tensile Modulus, 1 mm/min | 13000 | MPa | ISO 527 |
| Flexural Stress, break, 2 mm/min | 230 | MPa | ISO 178 |
| Flexural Modulus, 2 mm/min | 10000 | MPa | ISO 178 |
| Hardness, Rockwell L | 105 | - | ISO 2039-2 |
| IMPACT ⁽¹⁾ | | | |
| Izod Impact, notched 80*10*4 +23°C | 5 | kJ/m ² | ISO 180/1A |
| Izod Impact, notched 80*10*4 -20°C | 4 | kJ/m ² | ISO 180/1A |
| Izod Impact, notched 80*10*4 -40°C | 3 | kJ/m ² | ISO 180/1A |
| Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm | 45 | kJ/m ² | ISO 179/1eU |
| THERMAL ⁽¹⁾ | | | |
| CTE, 23°C to 60°C, flow | 2.E-05 | 1/°C | ISO 11359-2 |
| CTE, 23°C to 60°C, xflow | 1.1E-04 | 1/°C | ISO 11359-2 |
| Vicat Softening Temp, Rate B/120 | 255 | °C | ISO 306 |
| HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm | 252 | °C | ISO 75/Be |
| HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm | 250 | °C | ISO 75/Ae |
| PHYSICAL ⁽¹⁾ | | | |
| Mold Shrinkage on Tensile Bar, flow ⁽²⁾ | 0.1 – 0.2 | % | SABIC method |

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|--|----------------|-------------------|-------------------|
| Density | 1.19 | g/cm ³ | ISO 1183 |
| Water Absorption, (23°C/saturated) | 5.5 | % | ISO 62-1 |
| ELECTRICAL ⁽¹⁾ | | | |
| Volume Resistivity | 1.78E+05 | Ω.cm | IEC 60093 |
| Surface Resistivity, ROA | 1.78E+05 | Ω | IEC 60093 |
| FLAME CHARACTERISTICS | | | |
| UL Compliant, 94HB Flame Class Rating ⁽³⁾ | 1.6 | mm | UL 94 by SABIC-IP |
| Oxygen Index (LOI) | 28 | % | ISO 4589 |
| INJECTION MOLDING ⁽⁴⁾ | | | |
| Drying Temperature | 120 | °C | |
| Drying Time | 2 – 4 | Hrs | |
| Maximum Moisture Content | 0.02 | % | |
| Melt Temperature | 320 – 360 | °C | |
| Nozzle Temperature | 280 – 320 | °C | |
| Front - Zone 3 Temperature | 320 – 360 | °C | |
| Middle - Zone 2 Temperature | 320 – 360 | °C | |
| Rear - Zone 1 Temperature | 280 – 320 | °C | |
| Hopper Temperature | 60 – 90 | °C | |
| Mold Temperature | 80 – 100 | °C | |

- (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) UL rating shown here is based on internal measurements.
- (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.

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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