

# LNPT<sup>TM</sup> THERMOCOMP<sup>TM</sup> COMPOUND EC004XXC

EC-1004

## DESCRIPTION

LNP THERMOCOMP EC004XXC compound is based on Polyetherimide (PEI) resin containing 20% carbon fiber. Added features of this grade include: Electrically Conductive.

### GENERAL INFORMATION

|                       |                                                                                                                                 |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Features              | Electrically Conductive, Carbon fiber filled, High stiffness/Strength, High temperature resistance, No PFAS intentionally added |
| Fillers               | Carbon Fiber                                                                                                                    |
| Polymer Types         | Polyetherimide (PEI)                                                                                                            |
| Processing Techniques | Injection Molding                                                                                                               |

### INDUSTRY

Automotive  
Building and Construction  
Consumer  
Electrical and Electronics  
Industrial

### SUB INDUSTRY

Aerospace  
Building Component  
Sport/Leisure, Personal Accessory, Home Appliances, Commercial Appliance  
Mobile Phone - Computer - Tablets  
Electrical, Defense

## TYPICAL PROPERTY VALUES

Revision 20231109

| PROPERTIES                           | TYPICAL VALUES | UNITS             | TEST METHODS |
|--------------------------------------|----------------|-------------------|--------------|
| <b>MECHANICAL <sup>(1)</sup></b>     |                |                   |              |
| Tensile Stress, break                | 170            | MPa               | ASTM D638    |
| Tensile Strain, break                | 2              | %                 | ASTM D638    |
| Flexural Stress                      | 259            | MPa               | ASTM D790    |
| Flexural Modulus                     | 12330          | MPa               | ASTM D790    |
| Tensile Stress, break                | 175            | MPa               | ISO 527      |
| Tensile Strain, break                | 2              | %                 | ISO 527      |
| Tensile Modulus, 1 mm/min            | 14500          | MPa               | ISO 527      |
| Flexural Stress                      | 250            | MPa               | ISO 178      |
| Flexural Modulus                     | 12000          | MPa               | ISO 178      |
| <b>IMPACT <sup>(1)</sup></b>         |                |                   |              |
| Izod Impact, unnotched, 23°C         | 534            | J/m               | ASTM D4812   |
| Izod Impact, notched, 23°C           | 53             | J/m               | ASTM D256    |
| Izod Impact, unnotched 80°10°4 +23°C | 30             | kJ/m <sup>2</sup> | ISO 180/1U   |
| Izod Impact, notched 80°10°4 +23°C   | 7              | kJ/m <sup>2</sup> | ISO 180/1A   |
| <b>THERMAL <sup>(1)</sup></b>        |                |                   |              |
| HDT, 1.82 MPa, 3.2mm, unannealed     | 212            | °C                | ASTM D648    |
| CTE, -40°C to 40°C, flow             | 1.E-05         | 1/°C              | ISO 11359-2  |
| CTE, -40°C to 40°C, xflow            | 6.E-05         | 1/°C              | ISO 11359-2  |

| PROPERTIES                                            | TYPICAL VALUES  | UNITS             | TEST METHODS      |
|-------------------------------------------------------|-----------------|-------------------|-------------------|
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm                 | 210             | °C                | ISO 75 /Af        |
| <b>PHYSICAL <sup>(1)</sup></b>                        |                 |                   |                   |
| Density                                               | 1.34            | g/cm <sup>3</sup> | ASTM D792         |
| Mold Shrinkage, flow, 24 hrs <sup>(2)</sup>           | 0.1 – 0.3       | %                 | ASTM D955         |
| Mold Shrinkage, xflow, 24 hrs <sup>(2)</sup>          | 0.3 – 0.5       | %                 | ASTM D955         |
| Mold Shrinkage, flow, 24 hrs <sup>(2)</sup>           | 0.1 – 0.3       | %                 | ISO 294           |
| Mold Shrinkage, xflow, 24 hrs <sup>(2)</sup>          | 0.3 – 0.5       | %                 | ISO 294           |
| Density                                               | 1.34            | g/cm <sup>3</sup> | ISO 1183          |
| Moisture Absorption (23°C / 50% RH)                   | 0.2             | %                 | ISO 62            |
| <b>ELECTRICAL <sup>(1)</sup></b>                      |                 |                   |                   |
| Surface Resistivity                                   | 1.E+02 – 1.E+06 | Ω                 | ASTM D257         |
| <b>FLAME CHARACTERISTICS <sup>(1)</sup></b>           |                 |                   |                   |
| UL Compliant, 94V-0 Flame Class Rating <sup>(3)</sup> | 0.5             | mm                | UL 94 by SABIC-IP |
| <b>INJECTION MOLDING <sup>(4)</sup></b>               |                 |                   |                   |
| Drying Temperature                                    | 150             | °C                |                   |
| Drying Time                                           | 4 – 6           | Hrs               |                   |
| Maximum Moisture Content                              | 0.02            | %                 |                   |
| Melt Temperature                                      | 360 – 400       | °C                |                   |
| Rear - Zone 1 Temperature                             | 360 – 380       | °C                |                   |
| Middle - Zone 2 Temperature                           | 370 – 390       | °C                |                   |
| Front - Zone 3 Temperature                            | 380 – 400       | °C                |                   |
| Nozzle Temperature                                    | 390 – 400       | °C                |                   |
| Mold Temperature                                      | 140 – 180       | °C                |                   |
| Back Pressure                                         | 0.3 – 0.7       | MPa               |                   |
| Screw speed (Circumferential speed)                   | 0.2 – 0.3       | m/s               |                   |
| Vent Depth                                            | 0.025 – 0.076   | 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) 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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