

# LNPTM THERMOCOMPTM COMPOUND LF004E

LF-1004 EM  
REGION ASIA

## DESCRIPTION

LNP THERMOCOMP LF004E compound is based on Polyetheretherketone (PEEK) resin containing 20% glass fiber. Added features of this grade include: Easy Molding.

| GENERAL INFORMATION        |   |
|----------------------------|---|
| Features                   | Good Processability, High stiffness /Strength, High temperature resistance, No PFAS intentionally added |
| Fillers                    | Glass Fiber   |
| Polymer Types              | Polyetheretherketone (PEEK)   |
| Processing Techniques      | Injection Molding   |
| INDUSTRY                   | SUB INDUSTRY  |
| Consumer                   | Commercial Appliance  |
| Electrical and Electronics | Electronic Components, Mobile Phone - Computer - Tablets  |
| Industrial                 | Electrical, Material Handling   |

## TYPICAL PROPERTY VALUES

Revision 20231109

| PROPERTIES                                   | TYPICAL VALUES | UNITS             | TEST METHODS |
|--|----------------|-------------------|--------------|
| <b>MECHANICAL <sup>(1)</sup></b>             |                |                   |              |
| Tensile Stress, yield                        | 126            | MPa               | ASTM D638    |
| Tensile Stress, break                        | 126            | MPa               | ASTM D638    |
| Tensile Strain, yield                        | 2.2            | %                 | ASTM D638    |
| Tensile Strain, break                        | 2.2            | %                 | ASTM D638    |
| Tensile Modulus, 50 mm/min                   | 7580           | MPa               | ASTM D638    |
| Flexural Stress                              | 213            | MPa               | ASTM D790    |
| Flexural modulus                             | 6890           | MPa               | ASTM D790    |
| Tensile Stress, yield                        | 114            | MPa               | ISO 527      |
| Tensile Stress, break                        | 114            | MPa               | ISO 527      |
| Tensile Strain, yield                        | 1.8            | %                 | ISO 527      |
| Tensile Strain, break                        | 1.8            | %                 | ISO 527      |
| Tensile Modulus, 1 mm/min                    | 7630           | MPa               | ISO 527      |
| Flexural Stress                              | 207            | MPa               | ISO 178      |
| Flexural Modulus                             | 7000           | MPa               | ISO 178      |
| <b>IMPACT <sup>(1)</sup></b>                 |                |                   |              |
| Izod Impact, unnotched, 23°C                 | 505            | J/m               | ASTM D4812   |
| Izod Impact, notched, 23°C                   | 42             | J/m               | ASTM D256    |
| Instrumented Dart Impact Energy @ peak, 23°C | 8              | J                 | ASTM D3763   |
| Multiaxial Impact                            | 1              | J                 | ISO 6603     |
| Izod Impact, unnotched 80*10*4 +23°C         | 30             | kJ/m <sup>2</sup> | ISO 180/1U   |

| PROPERTIES                                   | TYPICAL VALUES | UNITS             | TEST METHODS |
|--|----------------|-------------------|--------------|
| Izod Impact, notched 80*10*4 +23°C           | 4              | kJ/m <sup>2</sup> | ISO 180/1A   |
| <b>THERMAL <sup>(1)</sup></b>                |                |                   |              |
| HDT, 0.45 MPa, 3.2 mm, unannealed            | 335            | °C                | ASTM D648    |
| HDT, 1.82 MPa, 3.2mm, unannealed             | 286            | °C                | ASTM D648    |
| CTE, -40°C to 40°C, flow                     | 3.42E-05       | 1/°C              | ASTM E831    |
| CTE, -40°C to 40°C, xflow                    | 4.50E-05       | 1/°C              | ASTM E831    |
| CTE, -40°C to 40°C, flow                     | 3.30E-05       | 1/°C              | ISO 11359-2  |
| CTE, -40°C to 40°C, xflow                    | 4.50E-05       | 1/°C              | ISO 11359-2  |
| HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm       | 332            | °C                | ISO 75/Bf    |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm        | 261            | °C                | ISO 75/Af    |
| <b>PHYSICAL <sup>(1)</sup></b>               |                |                   |              |
| Density                                      | 1.42           | g/cm <sup>3</sup> | ASTM D792    |
| Mold Shrinkage, flow, 24 hrs <sup>(2)</sup>  | 0.3 – 0.5      | %                 | ASTM D955    |
| Mold Shrinkage, xflow, 24 hrs <sup>(2)</sup> | 0.5 – 0.7      | %                 | ASTM D955    |
| Mold Shrinkage, flow, 24 hrs <sup>(2)</sup>  | 0.44           | %                 | ISO 294      |
| Mold Shrinkage, xflow, 24 hrs <sup>(2)</sup> | 0.58           | %                 | ISO 294      |
| Density                                      | 1.42           | g/cm <sup>3</sup> | ISO 1183     |
| <b>INJECTION MOLDING <sup>(3)</sup></b>      |                |                   |              |
| Drying Temperature                           | 120 – 150      | °C                |              |
| Drying Time                                  | 4              | Hrs               |              |
| Maximum Moisture Content                     | 0.1            | %                 |              |
| Melt Temperature                             | 380 – 390      | °C                |              |
| Front - Zone 3 Temperature                   | 380 – 395      | °C                |              |
| Middle - Zone 2 Temperature                  | 365 – 375      | °C                |              |
| Rear - Zone 1 Temperature                    | 350 – 360      | °C                |              |
| Mold Temperature                             | 140 – 165      | °C                |              |
| Back Pressure                                | 0.3 – 0.7      | MPa               |              |
| Screw Speed                                  | 60 – 100       | 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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