

# LNPT<sup>™</sup> THERMOCOMP<sup>™</sup> COMPOUND DX10311X

## DESCRIPTION

LNP THERMOCOMP DX10311X compound is based on Polycarbonate (PC) resin containing 30% glass fiber. Added features of this grade include: High Modulus and Good Ductility.

### GENERAL INFORMATION

|                       |                                                                        |
|-----------------------|------------------------------------------------------------------------|
| Features              | High stiffness/Strength, Impact resistant, No PFAS intentionally added |
| Fillers               | Glass Fiber                                                            |
| Polymer Types         | Polycarbonate (PC)                                                     |
| Processing Techniques | Injection Molding                                                      |

### INDUSTRY

Building and Construction  
Consumer  
Electrical and Electronics  
Industrial

### SUB INDUSTRY

Building Component  
Personal Accessory  
Mobile Phone - Computer - Tablets  
Electrical

## TYPICAL PROPERTY VALUES

Revision 20231109

| PROPERTIES                            | TYPICAL VALUES | UNITS             | TEST METHODS |
|---------------------------------------|----------------|-------------------|--------------|
| <b>MECHANICAL <sup>(1)</sup></b>      |                |                   |              |
| Tensile Stress, brk, Type I, 5 mm/min | 114            | MPa               | ASTM D638    |
| Tensile Strain, brk, Type I, 5 mm/min | 2.5            | %                 | ASTM D638    |
| Tensile Modulus, 5 mm/min             | 8690           | MPa               | ASTM D638    |
| Flexural Stress                       | 180            | MPa               | ASTM D790    |
| Flexural Modulus                      | 7410           | MPa               | ASTM D790    |
| Tensile Stress, break, 5 mm/min       | 115            | MPa               | ISO 527      |
| Tensile Strain, break, 5 mm/min       | 2.5            | %                 | ISO 527      |
| Tensile Modulus, 1 mm/min             | 8610           | MPa               | ISO 527      |
| Flexural Stress, yield, 2 mm/min      | 172            | MPa               | ISO 178      |
| Flexural Stress, break, 2 mm/min      | 180            | MPa               | ISO 178      |
| Flexural Modulus, 2 mm/min            | 7450           | MPa               | ISO 178      |
| <b>IMPACT <sup>(1)</sup></b>          |                |                   |              |
| Charpy Impact, unnotched, 23°C        | 45             | kJ/m <sup>2</sup> | ISO 179/2C   |
| Izod Impact, unnotched, 23°C          | 715            | J/m               | ASTM D4812   |
| Izod Impact, notched, 23°C            | 165            | J/m               | ASTM D256    |
| Charpy Impact, notched, 23°C          | 17             | kJ/m <sup>2</sup> | ISO 179/2C   |
| <b>THERMAL <sup>(1)</sup></b>         |                |                   |              |
| HDT, 0.45 MPa, 3.2 mm, unannealed     | 125            | °C                | ASTM D648    |
| CTE, -40°C to 40°C, flow              | 2.1E-05        | 1/°C              | ASTM E831    |
| CTE, -40°C to 40°C, xflow             | 6.8E-05        | 1/°C              | ASTM E831    |
| <b>PHYSICAL <sup>(1)</sup></b>        |                |                   |              |

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| PROPERTIES                                   | TYPICAL VALUES | UNITS                   | TEST METHODS |
|----------------------------------------------|----------------|-------------------------|--------------|
| Specific Gravity                             | 1.43           | -                       | ASTM D792    |
| Mold Shrinkage, flow, 3.2 mm <sup>(2)</sup>  | 0.1 – 0.4      | %                       | SABIC method |
| Mold Shrinkage, xflow, 3.2 mm <sup>(2)</sup> | 0.2 – 0.5      | %                       | SABIC method |
| Melt Volume Rate, MVR at 300°C/2.16 kg       | 9              | cm <sup>3</sup> /10 min | ISO 1133     |
| INJECTION MOLDING <sup>(3)</sup>             |                |                         |              |
| Drying Temperature                           | 90 – 110       | °C                      |              |
| Drying Time                                  | 3 – 5          | Hrs                     |              |
| Melt Temperature                             | 280 – 320      | °C                      |              |
| Nozzle Temperature                           | 280 – 320      | °C                      |              |
| Front - Zone 3 Temperature                   | 280 – 320      | °C                      |              |
| Middle - Zone 2 Temperature                  | 280 – 320      | °C                      |              |
| Rear - Zone 1 Temperature                    | 250 – 280      | °C                      |              |
| Mold Temperature                             | 90 – 120       | °C                      |              |
| Back Pressure                                | 1 – 5          | MPa                     |              |
| Screw Speed                                  | 30 – 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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