

# LNPT<sup>™</sup> THERMOTUF<sup>™</sup> COMPOUND D1000FRD

## DESCRIPTION

LNP THERMOTUF D1000FRD compound is based on Polycarbonate (PC) resin. Added features of this grade include: impact modified, good Low temperature ductility in combination with medium flow characteristics, excellent surface aesthetics, excellent knit line strength and excellent processability with opportunities for shorter IM cycle times compared to standard IM PC resins. This is a general purpose product available for wide range of opaque colors and may be an excellent candidate for a broad range of applications.

### GENERAL INFORMATION

|                       |                                                                                                                       |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------|
| Features              | Good Processability, Aesthetics/Visual effects, Impact resistant, Low temperature impact, No PFAS intentionally added |
| Fillers               | Unreinforced                                                                                                          |
| Polymer Types         | Polycarbonate (PC)                                                                                                    |
| Processing Techniques | Injection Molding                                                                                                     |

### INDUSTRY

Building and Construction  
Consumer  
Electrical and Electronics

### SUB INDUSTRY

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

## TYPICAL PROPERTY VALUES

Revision 20231109

| PROPERTIES                                   | TYPICAL VALUES | UNITS             | TEST METHODS   |
|----------------------------------------------|----------------|-------------------|----------------|
| <b>MECHANICAL <sup>(1)</sup></b>             |                |                   |                |
| Tensile Stress, yld, Type I, 50 mm/min       | 58             | MPa               | ASTM D638      |
| Tensile Stress, brk, Type I, 50 mm/min       | 57             | MPa               | ASTM D638      |
| Tensile Strain, yld, Type I, 50 mm/min       | 5              | %                 | ASTM D638      |
| Tensile Strain, brk, Type I, 50 mm/min       | 90             | %                 | ASTM D638      |
| Tensile Modulus, 50 mm/min                   | 2200           | MPa               | ASTM D638      |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 85             | MPa               | ASTM D790      |
| Flexural Modulus, 1.3 mm/min, 50 mm span     | 2100           | MPa               | ASTM D790      |
| <b>IMPACT <sup>(1)</sup></b>                 |                |                   |                |
| Izod Impact, notched, 23°C                   | 750            | J/m               | ASTM D256      |
| Izod Impact, notched, -30°C                  | 600            | J/m               | ASTM D256      |
| <b>THERMAL <sup>(1)</sup></b>                |                |                   |                |
| HDT, 1.82 MPa, 3.2mm, unannealed             | 117            | °C                | ASTM D648      |
| Ball Pressure Test, 125°C +/- 2°C            | pass           | -                 | IEC 60695-10-2 |
| Vicat Softening Temp, Rate B/120             | 138            | °C                | ISO 306        |
| <b>PHYSICAL <sup>(1)</sup></b>               |                |                   |                |
| Specific Gravity                             | 1.18           | -                 | ASTM D792      |
| Mold Shrinkage, flow, 3.2 mm <sup>(2)</sup>  | 0.4 – 0.8      | %                 | SABIC method   |
| Mold Shrinkage, xflow, 3.2 mm <sup>(2)</sup> | 0.4 – 0.8      | %                 | SABIC method   |
| Melt Flow Rate, 300°C/ 1.2 kgf               | 14             | g/10 min          | ASTM D1238     |
| Density                                      | 1.19           | g/cm <sup>3</sup> | ISO 1183       |

© 2023 Copyright by SABIC. All rights reserved

CHEMISTRY THAT MATTERS<sup>™</sup>

| PROPERTIES                              | TYPICAL VALUES | UNITS                    | TEST METHODS |
|-----------------------------------------|----------------|--------------------------|--------------|
| Water Absorption, (23°C/saturated)      | 0.12           | %                        | ISO 62-1     |
| Moisture Absorption (23°C / 50% RH)     | 0.09           | %                        | ISO 62       |
| Melt Volume Rate, MVR at 300°C/ 1.2 kg  | 13             | cm <sup>3</sup> / 10 min | ISO 1133     |
| <b>INJECTION MOLDING <sup>(3)</sup></b> |                |                          |              |
| Drying Temperature                      | 120            | °C                       |              |
| Drying Time                             | 3 – 4          | Hrs                      |              |
| Drying Time (Cumulative)                | 48             | Hrs                      |              |
| Maximum Moisture Content                | 0.02           | %                        |              |
| Melt Temperature                        | 295 – 315      | °C                       |              |
| Nozzle Temperature                      | 290 – 310      | °C                       |              |
| Front - Zone 3 Temperature              | 295 – 315      | °C                       |              |
| Middle - Zone 2 Temperature             | 280 – 305      | °C                       |              |
| Rear - Zone 1 Temperature               | 270 – 295      | °C                       |              |
| Mold Temperature                        | 70 – 95        | °C                       |              |
| Back Pressure                           | 0.3 – 0.7      | MPa                      |              |
| Screw Speed                             | 40 – 70        | rpm                      |              |
| Shot to Cylinder Size                   | 40 – 60        | %                        |              |
| 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) 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.

## DISCLAIMER

Any sale by SABIC, its subsidiaries and affiliates (each a "seller"), is made exclusively under seller's standard conditions of sale (available upon request) unless agreed otherwise in writing and signed on behalf of the seller. While the information contained herein is given in good faith, SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND NON-INFRINGEMENT OF INTELLECTUAL PROPERTY, NOR ASSUMES ANY LIABILITY, DIRECT OR INDIRECT, WITH RESPECT TO THE PERFORMANCE, SUITABILITY OR FITNESS FOR INTENDED USE OR PURPOSE OF THESE PRODUCTS IN ANY APPLICATION. Each customer must determine the suitability of seller materials for the customer's particular use through appropriate testing and analysis. No statement by seller concerning a possible use of any product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right.