

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

## DESCRIPTION

LNP THERMOCOMP OMCOE compound is a mineral reinforced polyphenylene sulfide. Added feature of this material include: high dielectric constant, low dissipation factor, good flame and chemical resistance, low moisture absorption.

### GENERAL INFORMATION

|                       |                                                                                |
|-----------------------|--------------------------------------------------------------------------------|
| Features              | Flame Retardant, Chemical Resistance, Dielectrics, No PFAS intentionally added |
| Fillers               | Mineral                                                                        |
| Polymer Types         | Polyphenylene Sulfide, Linear (PPS, Linear)                                    |
| Processing Techniques | Injection Molding                                                              |

### INDUSTRY

Automotive  
Electrical and Electronics

### SUB INDUSTRY

Automotive Interiors  
Electronic Components, Wireless Communication

## 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      | 73             | MPa               | ASTM D638    |
| Tensile Strain, brk, Type I, 5 mm/min      | 1.0            | %                 | ASTM D638    |
| Tensile Modulus, 5 mm/min                  | 10200          | MPa               | ASTM D638    |
| Flexural Strength, 1.3 mm/min, 50 mm span  | 103            | MPa               | ASTM D790    |
| Flexural Modulus, 1.3 mm/min, 50 mm span   | 9800           | MPa               | ASTM D790    |
| Tensile Stress, break, 5 mm/min            | 74             | MPa               | ISO 527      |
| Tensile Strain, break, 5 mm/min            | 1.0            | %                 | ISO 527      |
| Tensile Modulus, 1 mm/min                  | 10300          | MPa               | ISO 527      |
| Flexural Strength, 2 mm/min                | 105            | MPa               | ISO 178      |
| Flexural Modulus, 2 mm/min                 | 10000          | MPa               | ISO 178      |
| <b>IMPACT <sup>(1)</sup></b>               |                |                   |              |
| Izod Impact, notched, 23°C                 | 34             | J/m               | ASTM D256    |
| Izod Impact, unnotched, 23°C               | 270            | J/m               | ASTM D4812   |
| Izod Impact, notched 80°10°4 +23°C         | 3.6            | kJ/m <sup>2</sup> | ISO 180/1A   |
| Izod Impact, notched 80°10°4 0°C           | 3.5            | kJ/m <sup>2</sup> | ISO 180/1A   |
| Izod Impact, notched 80°10°4 -20°C         | 3.4            | kJ/m <sup>2</sup> | ISO 180/1A   |
| Izod Impact, unnotched 80°10°4 +23°C       | 16             | kJ/m <sup>2</sup> | ISO 180/1U   |
| Izod Impact, unnotched 80°10°4 0°C         | 16             | kJ/m <sup>2</sup> | ISO 180/1U   |
| Izod Impact, unnotched 80°10°4 -20°C       | 14             | kJ/m <sup>2</sup> | ISO 180/1U   |
| Charpy 23°C, V-notch Edgew 80°10°4 sp=62mm | 3              | kJ/m <sup>2</sup> | ISO 179/1eA  |
| Charpy 23°C, Unnotch Edgew 80°10°4 sp=62mm | 20             | kJ/m <sup>2</sup> | ISO 179/1eU  |
| <b>THERMAL <sup>(1)</sup></b>              |                |                   |              |
| HDT, 0.45 MPa, 3.2 mm, unannealed          | 220            | °C                | ASTM D648    |

© 2023 Copyright by SABIC. All rights reserved

CHEMISTRY THAT MATTERS™

| PROPERTIES                               | TYPICAL VALUES | UNITS    | TEST METHODS |
|------------------------------------------|----------------|----------|--------------|
| HDT, 1.82 MPa, 3.2mm, unannealed         | 195            | °C       | ASTM D648    |
| HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm   | 220            | °C       | ISO 75/Bf    |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm    | 205            | °C       | ISO 75/Af    |
| <b>CTE</b>                               |                |          |              |
| -40°C to 90°C, flow                      | 4.0E-5         | 1/°C     | ASTM E831    |
| -40°C to 90°C, xflow                     | 4.0E-5         | 1/°C     | ASTM E831    |
| -40°C to 40°C, flow                      | 3.3E-5         | 1/°C     | ISO 11359-2  |
| -40°C to 40°C, xflow                     | 3.3E-5         | 1/°C     | ISO 11359-2  |
| -40°C to 90°C, flow                      | 4.0E-5         | 1/°C     | ISO 11359-2  |
| -40°C to 90°C, xflow                     | 4.0E-5         | 1/°C     | ISO 11359-2  |
| -40°C to 125°C, flow                     | 4.9E-5         | 1/°C     | ISO 11359-2  |
| -40°C to 125°C, xflow                    | 4.9E-5         | 1/°C     | ISO 11359-2  |
| <b>PHYSICAL <sup>(1)</sup></b>           |                |          |              |
| Specific Gravity                         | 2.46           | -        | ASTM D792    |
| Water Absorption, (23°C/24hrs)           | 0.02           | %        | ISO 62-1     |
| Moisture Absorption, (23°C/50% RH/24hrs) | 0.01           | %        | ISO 62-4     |
| Melt Flow Rate, 315°C/5.0 kgf            | 25             | g/10 min | ASTM D1238   |
| Mold Shrinkage, flow <sup>(2)</sup>      | 0.7            | %        | SABIC method |
| Mold Shrinkage, xflow <sup>(2)</sup>     | 0.7            | %        | SABIC method |
| <b>ELECTRICAL <sup>(1)</sup></b>         |                |          |              |
| Dielectric Constant, 1.1 GHz             | 11.1           | -        | SABIC method |
| Dissipation Factor, 1.1 GHz              | 0.0016         | -        | SABIC method |
| Dielectric Constant, 1.9 GHz             | 11             | -        | SABIC method |
| Dissipation Factor, 1.9 GHz              | 0.0018         | -        | SABIC method |
| Dielectric Constant, 5 GHz               | 10.85          | -        | SABIC method |
| Dissipation Factor, 5 GHz                | 0.0022         | -        | SABIC method |
| <b>INJECTION MOLDING <sup>(3)</sup></b>  |                |          |              |
| Drying Temperature                       | 120 – 140      | °C       |              |
| Drying Time                              | 3 – 4          | Hrs      |              |
| Melt Temperature                         | 310 – 330      | °C       |              |
| Nozzle Temperature                       | 310 – 330      | °C       |              |
| Front - Zone 3 Temperature               | 310 – 330      | °C       |              |
| Middle - Zone 2 Temperature              | 300 – 320      | °C       |              |
| Rear - Zone 1 Temperature                | 290 – 310      | °C       |              |
| Mold Temperature                         | 135 – 160      | °C       |              |
| Back Pressure                            | 0.3 – 0.7      | MPa      |              |
| Screw Speed                              | 50 – 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.

#### 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.