

SABIC Innovative Plastics LNP Thermocomp TX88477 PU

Category : Polymer , Thermoplastic , Polyurethane, TP

Material Notes:

LNP* Thermocomp* TX88447 is a compound based on Polyurethane resin containing proprietary fillers. This data was supplied by SABIC-IP for the Americas region.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-LNP-Thermocomp-TX88477-PU.php

| Physical Properties | Metric | English | Comments |
|------------------------------------|--|--|-----------------------|
| Density | 1.50 g/cc | 0.0542 lb/in ³ | ASTM D 792 |
| | 1.50 g/cc | 0.0542 lb/in ³ | ISO 1183 |
| Moisture Absorption at Equilibrium | 0.23 % | 0.23 % | 23°C / 50% RH; ISO 62 |
| | 0.17 % @Time 86400 sec | 0.17 % @Time 24.0 hour | 50% RH; ASTM D 570 |
| Linear Mold Shrinkage, Flow | 0.020 - 0.040 cm/cm @Time 86400 sec | 0.020 - 0.040 in/in @Time 24.0 hour | ASTM D 955 |
| | 0.020 - 0.040 cm/cm @Time 86400 sec | 0.020 - 0.040 in/in @Time 24.0 hour | ASTM D 955 |

| Mechanical Properties | Metric | English | Comments |
|---------------------------|----------|-----------|------------------------------|
| Tensile Strength at Break | 71.0 MPa | 10300 psi | 5 mm/min; ISO 527 |
| | 72.0 MPa | 10400 psi | Type I, 5 mm/min; ASTM D 638 |
| Tensile Strength, Yield | 73.0 MPa | 10600 psi | 5 mm/min; ISO 527 |
| | 76.0 MPa | 11000 psi | Type I, 5 mm/min; ASTM D 638 |
| Elongation at Break | 9.6 % | 9.6 % | Type I, 5 mm/min; ASTM D 638 |
| | 10 % | 10 % | 5 mm/min; ISO 527 |
| Elongation at Yield | 6.7 % | 6.7 % | Type I, 5 mm/min; ASTM D 638 |
| | 6.9 % | 6.9 % | 5 mm/min; ISO 527 |
| Tensile Modulus | 4.32 GPa | 627 ksi | 1 mm/min; ISO 527 |
| | 5.79 GPa | 840 ksi | 50 mm/min; ASTM D 638 |
| Flexural Strength | 77.0 MPa | 11200 psi | ISO 178 |

| Flexural Modulus Mechanical Properties | 3.31 GPa Metric | 480 ksi English | 2 mm/min* ISO 178 Comments |
|---|--|--|--|
| | 3.34 GPa | 484 ksi | 1.3 mm/min, 50 mm span; ASTM D 790 |
| Izod Impact, Notched | 1.60 J/cm @Temperature 23.0 °C | 3.00 ft-lb/in @Temperature 73.4 °F | ASTM D 256 |
| Izod Impact, Unnotched | 11.9 J/cm @Temperature 23.0 °C | 22.3 ft-lb/in @Temperature 73.4 °F | ASTM D 4812 |
| Izod Impact, Notched (ISO) | 15.0 kJ/m ² @Temperature 23.0 °C | 7.14 ft-lb/in ² @Temperature 73.4 °F | 80*10*4; ISO 180/1A |
| Izod Impact, Unnotched (ISO) | 73.0 kJ/m ² @Temperature 23.0 °C | 34.7 ft-lb/in ² @Temperature 73.4 °F | 80*10*4; ISO 180/1U |
| Impact Test | 5.00 J | 3.69 ft-lb | Multiaxial Impact; ISO 6603 |
| | 16.0 J @Temperature 23.0 °C | 11.8 ft-lb @Temperature 73.4 °F | Instrumented Impact Total Energy; ASTM D 3763 |

| Thermal Properties | Metric | English | Comments |
|--|---|---|----------------------------------|
| CTE, linear, Parallel to Flow | 33.5 µm/m-°C @Temperature -30.0 - 30.0 °C | 18.6 µin/in-°F @Temperature -22.0 - 86.0 °F | ASTM D 696 |
| CTE, linear, Transverse to Flow | 138 µm/m-°C @Temperature -30.0 - 30.0 °C | 76.7 µin/in-°F @Temperature -22.0 - 86.0 °F | ASTM D 696 |
| Deflection Temperature at 0.46 MPa (66 psi) | 187 °C | 369 °F | Flatw 80*10*4 sp=64mm; ISO 75/Bf |
| | 189 °C @Thickness 3.20 mm | 372 °F @Thickness 0.126 in | unannealed; ASTM D 648 |
| Deflection Temperature at 1.8 MPa (264 psi) | 138 °C | 280 °F | Flatw 80*10*4 sp=64mm; ISO 75/Af |
| | 101 °C @Thickness 3.20 mm | 214 °F @Thickness 0.126 in | unannealed; ASTM D 648 |

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