

## SABIC Innovative Plastics LNP Thermocomp YF005

Category : Polymer

### Material Notes:

LNP\* Thermocomp\* YF005 is a compound based on TPEE resin containing Glass Fiber. 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-YF005.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-LNP-Thermocomp-YF005.php)

| Physical Properties                | Metric                | English                   | Comments                           |
|------------------------------------|-----------------------|---------------------------|------------------------------------|
| Specific Gravity                   | 1.40 g/cc             | 1.40 g/cc                 | ASTM D 792                         |
| Density                            | 1.40 g/cc             | 0.0506 lb/in <sup>3</sup> | ASTM D 792                         |
| Moisture Absorption at Equilibrium | 0.41 %                | 0.41 %                    | 23 <sup>o</sup> C / 50% RH; ISO 62 |
|                                    | 0.31 %                | 0.31 %                    | 50% RH; ASTM D 570                 |
| Linear Mold Shrinkage, Flow        | 0.0050 - 0.0070 cm/cm | 0.0050 - 0.0070 in/in     | ASTM D 955                         |
|                                    | @Time 86400 sec       | @Time 24.0 hour           |                                    |
| Linear Mold Shrinkage, Transverse  | 0.010 - 0.030 cm/cm   | 0.010 - 0.030 in/in       | ASTM D 955                         |
|                                    | @Time 86400 sec       | @Time 24.0 hour           |                                    |

| Mechanical Properties     | Metric   | English  | Comments                     |
|---------------------------|----------|----------|------------------------------|
| Tensile Strength at Break | 45.0 MPa | 6530 psi | 5 mm/min; ISO 527            |
|                           | 46.0 MPa | 6670 psi | Type I, 5 mm/min; ASTM D 638 |
| Tensile Strength, Yield   | 46.0 MPa | 6670 psi | 5 mm/min; ISO 527            |
|                           | 47.0 MPa | 6820 psi | Type I, 5 mm/min; ASTM D 638 |
| Elongation at Break       | 8.3 %    | 8.3 %    | Type I, 5 mm/min; ASTM D 638 |
|                           | 10.3 %   | 10.3 %   | 5 mm/min; ISO 527            |
| Elongation at Yield       | 9.5 %    | 9.5 %    | 5 mm/min; ISO 527            |
|                           | 9.9 %    | 9.9 %    | Type I, 5 mm/min; ASTM D 638 |
| Tensile Modulus           | 2.36 GPa | 342 ksi  | 1 mm/min; ISO 527            |
|                           | 2.37 GPa | 344 ksi  | 50 mm/min; ASTM D 638        |
| Flexural Strength         | 53.0 MPa | 7690 psi | ISO 178                      |

| Mechanical Properties        | Metric                                  | English                                  | Comments                                         |
|------------------------------|-----------------------------------------|------------------------------------------|--------------------------------------------------|
|                              | 2.12 GPa                                | 307 ksi                                  | 2 mm/min; ISO 178                                |
| Izod Impact, Notched         | 3.31 J/cm<br>@Temperature 23.0<br>Â°C   | 6.20 ft-lb/in<br>@Temperature 73.4 Â°F   | ASTM D 256                                       |
| Izod Impact, Unnotched       | 9.98 J/cm<br>@Temperature 23.0<br>Â°C   | 18.7 ft-lb/in<br>@Temperature 73.4 Â°F   | ASTM D 4812                                      |
| Izod Impact, Notched (ISO)   | 29.0 kJ/mÂ²<br>@Temperature 23.0<br>Â°C | 13.8 ft-lb/inÂ²<br>@Temperature 73.4 Â°F | 80*10*4; ISO 180/1A                              |
| Izod Impact, Unnotched (ISO) | 76.0 kJ/mÂ²<br>@Temperature 23.0<br>Â°C | 36.2 ft-lb/inÂ²<br>@Temperature 73.4 Â°F | 80*10*4; ISO 180/1U                              |
| Impact Test                  | 7.00 J                                  | 5.16 ft-lb                               | Multiaxial Impact; ISO 6603                      |
|                              | 15.0 J<br>@Temperature 23.0<br>Â°C      | 11.1 ft-lb<br>@Temperature 73.4 Â°F      | Instrumented Impact Total Energy;<br>ASTM D 3763 |

| Thermal Properties                             | Metric                                             | English                                              | Comments                          |
|------------------------------------------------|----------------------------------------------------|------------------------------------------------------|-----------------------------------|
| CTE, linear, Parallel to Flow                  | 36.0 Âµm/m-Â°C<br>@Temperature -30.0 -<br>30.0 Â°C | 20.0 Âµin/in-Â°F<br>@Temperature -22.0 -<br>86.0 Â°F | ASTM D 696                        |
| CTE, linear, Transverse to Flow                | 177 Âµm/m-Â°C<br>@Temperature -30.0 -<br>30.0 Â°C  | 98.3 Âµin/in-Â°F<br>@Temperature -22.0 -<br>86.0 Â°F | ASTM D 696                        |
| Deflection Temperature at 0.46 MPa<br>(66 psi) | 180 Â°C                                            | 356 Â°F                                              | Flatw 80*10*4 sp=64mm; ISO 75/Bf  |
|                                                | 186 Â°C<br>@Thickness 3.20 mm                      | 367 Â°F<br>@Thickness 0.126 in                       | unannealed; ASTM D 648            |
| Deflection Temperature at 1.8 MPa<br>(264 psi) | 142 Â°C                                            | 288 Â°F                                              | Flatw 80*10*4 sp=64mm; ISO 75/ Af |
|                                                | 152 Â°C<br>@Thickness 3.20 mm                      | 306 Â°F<br>@Thickness 0.126 in                       | unannealed; ASTM D 648            |

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