

## SABIC Innovative Plastics LNP THERMOCOMP PH0400CX\_BK1D466 PA 6

Category : Polymer , Thermoplastic , Nylon , Nylon 6

## Material Notes:

4.0 specific gravity, Nylon 6

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-LNP-THERMOCOMP-PH0400CXBK1D466-PA-6.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-LNP-THERMOCOMP-PH0400CXBK1D466-PA-6.php)

| Physical Properties               | Metric                | English                  | Comments                           |
|-----------------------------------|-----------------------|--------------------------|------------------------------------|
| Density                           | 4.00 g/cc             | 0.145 lb/in <sup>3</sup> | ASTM D792                          |
|                                   | 4.00 g/cc             | 0.145 lb/in <sup>3</sup> | ISO 1183                           |
| Moisture Absorption               | 0.170 %               | 0.170 %                  | 50% RH, 24 hrs; ASTM D570          |
|                                   | 0.260 %               | 0.260 %                  | 23 <sup>o</sup> C / 50% RH; ISO 62 |
| Linear Mold Shrinkage, Flow       | 0.0044 - 0.0046 cm/cm | 0.0044 - 0.0046 in/in    | ASTM D955                          |
|                                   | @Time 86400 sec       | @Time 24.0 hour          |                                    |
| Linear Mold Shrinkage, Transverse | 0.0081 - 0.0083 cm/cm | 0.0081 - 0.0083 in/in    | ASTM D955                          |
|                                   | @Time 86400 sec       | @Time 24.0 hour          |                                    |

| Mechanical Properties     | Metric    | English   | Comments                                  |
|---------------------------|-----------|-----------|-------------------------------------------|
| Tensile Strength at Break | 92.0 MPa  | 13300 psi | 5 mm/min; ISO 527                         |
|                           | 94.0 MPa  | 13600 psi | Type I, 5 mm/min; ASTM D638               |
| Tensile Strength, Yield   | 92.0 MPa  | 13300 psi | 5 mm/min; ISO 527                         |
|                           | 94.0 MPa  | 13600 psi | Type I, 5 mm/min; ASTM D638               |
| Elongation at Break       | 1.3 %     | 1.3 %     | Type I, 5 mm/min; ASTM D638               |
|                           | 1.5 %     | 1.5 %     | 5 mm/min; ISO 527                         |
|                           | 1.6 %     | 1.6 %     | Flexural Strain, break, 2 mm/min; ISO 178 |
| Elongation at Yield       | 1.3 %     | 1.3 %     | Type I, 5 mm/min; ASTM D638               |
|                           | 1.4 %     | 1.4 %     | 5 mm/min; ISO 527                         |
| Tensile Modulus           | 13.98 GPa | 2028 ksi  | 1 mm/min; ISO 527                         |
|                           | 17.7 GPa  | 2570 ksi  | 50 mm/min; ASTM D638                      |
| Flexural Strength         | 157 MPa   | 22800 psi | 1.3 mm/min, 50 mm span; ASTM D790         |

| Flexural Yield Strength<br>Mechanical Properties | 153 MPa<br>Metric                  | 22200 psi<br>English                | 2 mm/min; ISO 178<br>Comments     |
|--------------------------------------------------|------------------------------------|-------------------------------------|-----------------------------------|
|                                                  | 155 MPa                            | 22500 psi                           | 1.3 mm/min, 50 mm span; ASTM D790 |
| Flexural Modulus                                 | 12.9 GPa                           | 1870 ksi                            | 1.3 mm/min, 50 mm span; ASTM D790 |
|                                                  | 13.26 GPa                          | 1923 ksi                            | 2 mm/min; ISO 178                 |
| Izod Impact, Notched                             | 0.710 J/cm                         | 1.33 ft-lb/in                       | ASTM D256                         |
| Izod Impact, Unnotched                           | 4.31 J/cm                          | 8.07 ft-lb/in                       | ASTM D4812                        |
| Izod Impact, Notched (ISO)                       | 7.00 kJ/mÂ²                        | 3.33 ft-lb/inÂ²                     | 80*10*4; ISO 180/1A               |
| Izod Impact, Unnotched (ISO)                     | 27.0 kJ/mÂ²                        | 12.8 ft-lb/inÂ²                     | 80*10*4; ISO 180/1U               |
| Dart Drop, Total Energy                          | 14.0 J<br>@Temperature 23.0<br>Â°C | 10.3 ft-lb<br>@Temperature 73.4 Â°F | ASTM D3763                        |

| Thermal Properties                             | Metric                                             | English                                              | Comments                         |
|------------------------------------------------|----------------------------------------------------|------------------------------------------------------|----------------------------------|
| CTE, linear, Parallel to Flow                  | 26.1 Âµm/m-Â°C<br>@Temperature -30.0 -<br>30.0 Â°C | 14.5 Âµin/in-Â°F<br>@Temperature -22.0 -<br>86.0 Â°F | ASTM E 831                       |
| CTE, linear, Transverse to Flow                | 40.1 Âµm/m-Â°C<br>@Temperature -30.0 -<br>30.0 Â°C | 22.3 Âµin/in-Â°F<br>@Temperature -22.0 -<br>86.0 Â°F | ASTM E 831                       |
| Deflection Temperature at 1.8 MPa<br>(264 psi) | 197 Â°C                                            | 387 Â°F                                              | Flatw 80*10*4 sp=64mm; ISO 75/Af |
|                                                | 195 Â°C<br>@Thickness 3.20 mm                      | 383 Â°F<br>@Thickness 0.126 in                       | unannealed; ASTM D648            |

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