

## SABIC Innovative Plastics EXTEM XH1005 TPI Resin (Europe-Africa-Middle East)

Category : Polymer , Thermoplastic , Polyimide, Thermoplastic

### Material Notes:

Thermoplastic Polyimide Extem\* XH1005 Resin.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-EXTEM-XH1005-TPI-Resin-Europe-Africa-Middle-East.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-EXTEM-XH1005-TPI-Resin-Europe-Africa-Middle-East.php)

| Physical Properties            | Metric   | English  | Comments     |
|--------------------------------|--|--|--------------|
| Specific Gravity               | 1.31 g/cc  | 1.31 g/cc  | ASTM D792    |
| Density                        | 1.31 g/cc  | 0.0473 lb/in <sup>3</sup>                            | ISO 1183     |
| Water Absorption               | 0.60 %<br>@Time 173000 sec                           | 0.60 %<br>@Time 48.0 hour                            | ASTM D570    |
| Water Absorption at Saturation | 2.3 %  | 2.3 %  | ISO 62       |
| Linear Mold Shrinkage, Flow    | 0.010 - 0.012 cm/cm<br>@Thickness 3.20 mm            | 0.010 - 0.012 in/in<br>@Thickness 0.126 in           | SABIC Method |
| Melt Flow                      | 6.0 g/10 min<br>@Load 6.60 kg,<br>Temperature 367 °C | 6.0 g/10 min<br>@Load 14.6 lb,<br>Temperature 693 °F | ASTM D1238   |

| Mechanical Properties     | Metric   | English   | Comments                    |
|---------------------------|----------|-----------|-----------------------------|
| Tensile Strength at Break | 70.0 MPa | 10200 psi | 5 mm/min; ISO 527           |
|                           | 96.0 MPa | 13900 psi | Type I, 5 mm/min; ASTM D638 |
| Tensile Strength, Yield   | 101 MPa  | 14600 psi | 5 mm/min; ISO 527           |
|                           | 103 MPa  | 14900 psi | Type I, 5 mm/min; ASTM D638 |
| Elongation at Break       | 6.0 %    | 6.0 %     | 5 mm/min; ISO 527           |
|                           | 15 %     | 15 %      | Type I, 5 mm/min; ASTM D638 |
| Elongation at Yield       | 6.0 %    | 6.0 %     | 5 mm/min; ISO 527           |
|                           | 7.0 %    | 7.0 %     | Type I, 5 mm/min; ASTM D638 |
| Tensile Modulus           | 3.16 GPa | 458 ksi   | 1 mm/min; ISO 527           |
|                           | 3.42 GPa | 496 ksi   | 5 mm/min; ASTM D638         |
| Flexural Yield Strength   | 150 MPa  | 21800 psi | 2 mm/min; ISO 178           |

| Mechanical Properties      | Metric                         | English                            | Comments                           |
|----------------------------|--------------------------------|------------------------------------|------------------------------------|
|                            | 163 MPa                        | 24400 psi                          | 1.3 mm/min, 50 mm span; ASTM D790  |
| Flexural Modulus           | 2.85 GPa                       | 413 ksi                            | 2 mm/min; ISO 178                  |
|                            | 3.13 GPa                       | 454 ksi                            | 1.3 mm/min, 50 mm span; ASTM D790  |
| Izod Impact, Notched       | 0.430 J/cm                     | 0.806 ft-lb/in                     | ASTM D256                          |
| Izod Impact, Notched (ISO) | 4.00 kJ/m <sup>2</sup>         | 1.90 ft-lb/in <sup>2</sup>         | 80*10*4; ISO 180/1A                |
| Charpy Impact, Notched     | 2.10 J/cm <sup>2</sup>         | 9.99 ft-lb/in <sup>2</sup>         | Edgew 80*10*4 sp=62mm; ISO 179/1eA |
| Dart Drop, Total Energy    | 20.0 J<br>@Temperature 23.0 °C | 14.8 ft-lb<br>@Temperature 73.4 °F | ASTM D3763                         |

| Thermal Properties                          | Metric                                     | English                                      | Comments                         |
|---|--|--|----------------------------------|
| CTE, linear, Parallel to Flow               | 50.0 µm/m-°C<br>@Temperature 23.0 - 150 °C | 27.8 µin/in-°F<br>@Temperature 73.4 - 302 °F | ISO 11359-2                      |
| CTE, linear, Transverse to Flow             | 51.0 µm/m-°C<br>@Temperature 23.0 - 150 °C | 28.3 µin/in-°F<br>@Temperature 73.4 - 302 °F | ISO 11359-2                      |
| Deflection Temperature at 0.46 MPa (66 psi) | 250 °C<br>@Thickness 3.20 mm               | 482 °F<br>@Thickness 0.126 in                | unannealed; ASTM D648            |
| Deflection Temperature at 1.8 MPa (264 psi) | 225 °C                                     | 437 °F                                       | Flatw 80*10*4 sp=64mm; ISO 75/Af |
|   | 235 °C<br>@Thickness 3.20 mm               | 455 °F<br>@Thickness 0.126 in                | unannealed; ASTM D648            |
|   | 237 °C<br>@Thickness 6.40 mm               | 459 °F<br>@Thickness 0.252 in                | unannealed; ASTM D648            |
| Vicat Softening Point                       | 252 °C                                     | 486 °F                                       | Rate B/50; ISO 306               |
|   | 252 °C                                     | 486 °F                                       | Rate B/120; ISO 306              |
|   | 260 °C                                     | 500 °F                                       | Rate B/50; ASTM D1525            |

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