

SABIC Innovative Plastics ULTEM HU2400 PEI (Asia Pacific)

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

Material Notes:

40% Glass fiber filled, standard flow Polyetherimide (Tg 217C). For medical devices and pharmaceutical applications. Healthcare management of change, biocompatible (ISO 10993 or USP Class VI), food contact compliant.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-ULTEM-HU2400-PEI-Asia-Pacific.php

| Physical Properties | Metric | English | Comments |
|--------------------------------|--|--|---|
| Specific Gravity | 1.61 g/cc | 1.61 g/cc | ASTM D792 |
| Density | 1.61 g/cc | 0.0582 lb/in ³ | ISO 1183 |
| Moisture Absorption | 0.400 % | 0.400 % | 23 ^o C / 50% RH; ISO 62 |
| Water Absorption at Saturation | 0.80 % | 0.80 % | ISO 62 |
| Linear Mold Shrinkage, Flow | 0.0010 - 0.0030 cm/cm @Thickness 3.20 mm | 0.0010 - 0.0030 in/in @Thickness 0.126 in | SABIC Method |
| Melt Index of Compound | 5.0 g/10 min @Load 5.00 kg, Temperature 360 ^o C | 5.0 g/10 min @Load 11.0 lb, Temperature 680 ^o F | MVR [cm ³ /10 min]; ISO 1133 |

| Mechanical Properties | Metric | English | Comments |
|---------------------------|-----------|-----------|------------------------------|
| Tensile Strength at Break | 179 MPa | 26000 psi | Type I, 5 mm/min; ASTM D638 |
| | 180 MPa | 26100 psi | 5 mm/min; ISO 527 |
| Tensile Strength, Yield | 179 MPa | 26000 psi | Type I, 5 mm/min; ASTM D638 |
| | 180 MPa | 26100 psi | 5 mm/min; ISO 527 |
| Elongation at Break | 2.0 % | 2.0 % | 5 mm/min; ISO 527 |
| | 2.5 % | 2.5 % | Type I, 5 mm/min; ASTM D638 |
| Elongation at Yield | 2.0 % | 2.0 % | 5 mm/min; ISO 527 |
| | 2.5 % | 2.5 % | Type I, 5 mm/min; ASTM D638 |
| Tensile Modulus | 11.5 GPa | 1670 ksi | 1 mm/min; ISO 527 |
| | 11.72 GPa | 1700 ksi | 5 mm/min; ASTM D638 |
| Flexural Strength | 240 MPa | 34800 psi | 2 mm/min; ISO 178 |
| | 241 MPa | 35000 psi | 1.3 mm/min, 50 mm span; ASTM |

| Flexural Yield Strength Mechanical Properties | Metric | English | D790 Comments |
|--|--------------------------|----------------------------|------------------------------------|
| Flexural Modulus | 10.0 GPa | 1450 ksi | 2 mm/min; ISO 178 |
| | 11.72 GPa | 1700 ksi | 1.3 mm/min, 50 mm span; ASTM D790 |
| Izod Impact, Notched | 1.12 J/cm | 2.10 ft-lb/in | ASTM D256 |
| Izod Impact, Unnotched (ISO) | 35.0 kJ/m ² | 16.7 ft-lb/in ² | 80*10*4; ISO 180/1U |
| | 35.0 kJ/m ² | 16.7 ft-lb/in ² | 80*10*4; ISO 180/1U |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| Charpy Impact Unnotched | 4.00 J/cm ² | 19.0 ft-lb/in ² | Edgew 80*10*4 sp=62mm; ISO 179/1eU |
| | 4.00 J/cm ² | 19.0 ft-lb/in ² | Edgew 80*10*4 sp=62mm; ISO 179/1eU |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| Dart Drop, Total Energy | 28.0 J | 20.7 ft-lb | ASTM D3763 |
| | @Temperature 23.0 °C | @Temperature 73.4 °F | |

| Thermal Properties | Metric | English | Comments |
|--|----------------------------------|---------------------------------|------------------------------------|
| CTE, linear, Parallel to Flow | 14.4 Åµm/m-Å°C | 8.00 Åµin/in-Å°F | ASTM E 831 |
| | @Temperature -40.0 - 40.0 Å°C | @Temperature -40.0 - 104 Å°F | |
| | 15.0 Åµm/m-Å°C | 8.33 Åµin/in-Å°F | ISO 11359-2 |
| | @Temperature 23.0 - 150 Å°C | @Temperature 73.4 - 302 Å°F | |
| CTE, linear, Transverse to Flow | 14.4 Åµm/m-Å°C | 8.00 Åµin/in-Å°F | ASTM E 831 |
| | @Temperature -40.0 - 40.0 Å°C | @Temperature -40.0 - 104 Å°F | |
| | 45.0 Åµm/m-Å°C | 25.0 Åµin/in-Å°F | ISO 11359-2 |
| | @Temperature 23.0 - 150 Å°C | @Temperature 73.4 - 302 Å°F | |
| Deflection Temperature at 1.8 MPa (264 psi) | 210 Å°C | 410 Å°F | Edgew 120*10*4 sp=100mm; ISO 75/Ae |
| | 212 Å°C | 414 Å°F | unannealed; ASTM D648 |
| | @Thickness 3.20 mm | @Thickness 0.126 in | |
| Vicat Softening Point | 217 Å°C | 423 Å°F | Rate B/50; ISO 306 |
| | 225 Å°C | 437 Å°F | Rate B/120; ISO 306 |

| Thermal Properties | Metric 2314°C | English 4234°F | Comments RoHS B/50, ASTM D1525 |
|-----------------------------------|-------------------------------|---------------------------------|-----------------------------------|
| Glass Transition Temp, Tg | 217 Â°C | 423 Â°F | |
| UL RTI, Electrical | 170 Â°C | 338 Â°F | UL 746B |
| UL RTI, Mechanical with Impact | 170 Â°C | 338 Â°F | UL 746B |
| UL RTI, Mechanical without Impact | 170 Â°C | 338 Â°F | UL 746B |
| Oxygen Index | 48 % | 48 % | ISO 4589 |
| Glow Wire Test | 960 Â°C @Thickness 3.20 mm | 1760 Â°F @Thickness 0.126 in | IEC 60695-2-12 |

| Electrical Properties | Metric | English | Comments |
|----------------------------|-------------------------------------|-------------------------------------|---------------------|
| Volume Resistivity | 1.00e+15 ohm-cm | 1.00e+15 ohm-cm | IEC 60093 |
| Surface Resistance | >= 1.00e+15 ohm | >= 1.00e+15 ohm | ROA; IEC 60093 |
| Dielectric Constant | 3.1 @Frequency 1.00e+6 Hz | 3.1 @Frequency 1.00e+6 Hz | IEC 60250 |
| | 3.5 @Frequency 50.0 - 60.0 Hz | 3.5 @Frequency 50.0 - 60.0 Hz | IEC 60250 |
| Dielectric Strength | 16.0 kV/mm @Thickness 3.20 mm | 406 kV/in @Thickness 0.126 in | in oil; IEC 60243-1 |
| | 26.0 kV/mm @Thickness 1.60 mm | 660 kV/in @Thickness 0.0630 in | in oil; IEC 60243-1 |
| | 35.0 kV/mm @Thickness 0.800 mm | 889 kV/in @Thickness 0.0315 in | in oil; IEC 60243-1 |
| Dissipation Factor | 0.0019 @Frequency 1.00e+6 Hz | 0.0019 @Frequency 1.00e+6 Hz | IEC 60250 |
| | 0.0025 @Frequency 50.0 - 60.0 Hz | 0.0025 @Frequency 50.0 - 60.0 Hz | IEC 60250 |
| Comparative Tracking Index | 150 V | 150 V | IEC 60112 |

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