

SABIC Innovative Plastics Ultem 1010V PEI (Asia Pacific)

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

Material Notes:

Transparent, enhanced flow Polyetherimide (Tg 217C). ECO Conforming, UL94 V0 and 5VA listing; color dependant, see UL Yellow Card. US FDA and EU Food Contact compliant, NSF 51 listing. This data was supplied by SABIC-IP for the Asia Pacific region.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Ultem-1010V-PEI-Asia-Pacific.php

| Physical Properties | Metric | English | Comments |
|------------------------------------|---|---|--|
| Specific Gravity | 1.27 g/cc | 1.27 g/cc | ASTM D 792 |
| Density | 1.27 g/cc | 0.0459 lb/in ³ | ISO 1183 |
| Moisture Absorption at Equilibrium | 0.70 % | 0.70 % | 23 ^o C / 50% RH; ISO 62 |
| Water Absorption at Saturation | 1.25 % @Temperature 23.0 ^o C | 1.25 % @Temperature 73.4 ^o F | ISO 62 |
| Linear Mold Shrinkage, Flow | 0.0050 - 0.0070 cm/cm @Thickness 3.20 mm | 0.0050 - 0.0070 in/in @Thickness 0.126 in | SABIC Method |
| Melt Flow | 17.8 g/10 min @Load 6.60 kg, Temperature 337 ^o C | 17.8 g/10 min @Load 14.6 lb, Temperature 639 ^o F | ASTM D 1238 |
| | 25 g/10 min @Load 5.00 kg, Temperature 220 ^o C | 25 g/10 min @Load 11.0 lb, Temperature 428 ^o F | [cm ³ /10 min] Melt Volume Rate; ISO 1133 |

| Mechanical Properties | Metric | English | Comments |
|---------------------------|----------|-----------|------------------------------|
| Tensile Strength at Break | 85.0 MPa | 12300 psi | 5 mm/min; ISO 527 |
| | 105 MPa | 15200 psi | Type I, 5 mm/min; ASTM D 638 |
| Tensile Strength, Yield | 105 MPa | 15200 psi | 5 mm/min; ISO 527 |
| | 110 MPa | 16000 psi | Type I, 5 mm/min; ASTM D 638 |
| Elongation at Break | 60 % | 60 % | Type I, 5 mm/min; ASTM D 638 |
| | 60 % | 60 % | 5 mm/min; ISO 527 |
| Elongation at Yield | 6.0 % | 6.0 % | 5 mm/min; ISO 527 |
| | 7.0 % | 7.0 % | Type I, 5 mm/min; ASTM D 638 |

| Tensile Modulus Mechanical Properties | 3.20 GPa Metric | 464 ksi English | 1 mm/min; ISO 527 Comments |
|--|--|--|--|
| | 3.58 GPa | 519 ksi | 5 mm/min; ASTM D 638 |
| Flexural Yield Strength | 160 MPa | 23200 psi | 2 mm/min; ISO 178 |
| | 174 MPa | 25200 psi | 1.3 mm/min, 50 mm span; ASTM D 790 |
| Flexural Modulus | 3.30 GPa | 479 ksi | 2 mm/min; ISO 178 |
| | 3.42 GPa | 496 ksi | 1.3 mm/min, 50 mm span; ASTM D 790 |
| Izod Impact, Notched | 0.320 J/cm @Temperature 23.0 Â°C | 0.599 ft-lb/in @Temperature 73.4 Â°F | ASTM D 256 |
| | 0.350 J/cm @Temperature -30.0 Â°C | 0.656 ft-lb/in @Temperature -22.0 Â°F | ASTM D 256 |
| Izod Impact, Unnotched | 13.35 J/cm @Temperature 23.0 Â°C | 25.01 ft-lb/in @Temperature 73.4 Â°F | ASTM D 4812 |
| Izod Impact, Notched (ISO) | 5.00 kJ/mÂ² @Temperature 23.0 Â°C | 2.38 ft-lb/inÂ² @Temperature 73.4 Â°F | 80*10*4; ISO 180/1A |
| | 5.00 kJ/mÂ² @Temperature -30.0 Â°C | 2.38 ft-lb/inÂ² @Temperature -22.0 Â°F | 80*10*4; ISO 180/1A |
| Charpy Impact, Notched | 0.300 J/cmÂ² @Temperature 23.0 Â°C | 1.43 ft-lb/inÂ² @Temperature 73.4 Â°F | V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA |
| Impact Test | 33.0 J @Temperature 23.0 Â°C | 24.3 ft-lb @Temperature 73.4 Â°F | Instrumented Impact Total Energy; ASTM D 3763 |

| Thermal Properties | Metric | English | Comments |
|-------------------------------|--|---|-------------|
| CTE, linear, Parallel to Flow | 50.0 Âµm/m-Â°C @Temperature -40.0 - 40.0 Â°C | 27.8 Âµin/in-Â°F @Temperature -40.0 - 104 Â°F | ISO 11359-2 |
| | 55.8 Âµm/m-Â°C @Temperature -20.0 - 150 Â°C | 31.0 Âµin/in-Â°F @Temperature -4.00 - 302 Â°F | ASTM E 831 |

| Thermal Properties | 50.0 Åµm/m-Å°C Metric | 27.8 Åµin/in-Å°F English | Comments ASTM E 831 |
|---|-------------------------------|------------------------------|----------------------------------|
| CTE, linear, transverse to Flow | @Temperature -40.0 - 40.0 Å°C | @Temperature -40.0 - 104 Å°F | |
| | 50.0 Åµm/m-Å°C | 27.8 Åµin/in-Å°F | ISO 11359-2 |
| | @Temperature -40.0 - 40.0 Å°C | @Temperature -40.0 - 104 Å°F | |
| Deflection Temperature at 1.8 MPa (264 psi) | 193 Å°C | 379 Å°F | Flatw 80*10*4 sp=64mm; ISO 75/Af |
| | 198 Å°C | 388 Å°F | unannealed; ASTM D 648 |
| | @Thickness 6.40 mm | @Thickness 0.252 in | |
| Vicat Softening Point | 211 Å°C | 412 Å°F | Rate B/50; ISO 306 |
| | 212 Å°C | 414 Å°F | Rate B/120; ISO 306 |
| | 218 Å°C | 424 Å°F | Rate B/50; ASTM D 1525 |
| Glass Transition Temp, Tg | 217 Å°C | 423 Å°F | |
| Flammability, UL94 | V-1 | V-1 | UL 94 |
| | @Thickness 0.750 mm | @Thickness 0.0295 in | |
| | V-0 | V-0 | UL 94 |
| | @Thickness 0.750 mm | @Thickness 0.0295 in | |
| | 5VA | 5VA | UL 94 |
| | @Thickness 3.00 mm | @Thickness 0.118 in | |
| NBS Smoke Density | 2.0 | 2.0 | Flaming, Ds; ASTM E 662 |
| | @Time 240 sec | @Time 0.0667 hour | |
| Oxygen Index | 44 % | 44 % | LOI; ASTM D 2863 |

| Optical Properties | Metric | English | Comments |
|-----------------------|--------|---------|---------------------------------------|
| Transmission, Visible | 90 % | 90 % | transparent; thickness not quantified |

| Electrical Properties | Metric | English | Comments |
|-----------------------|--------------------|----------------------|--------------------|
| Volume Resistivity | 1.00e+17 ohm-cm | 1.00e+17 ohm-cm | ASTM D 257 |
| Dielectric Constant | 3.15 | 3.15 | ASTM D 150 |
| | @Frequency 1000 Hz | @Frequency 1000 Hz | |
| Dielectric Strength | 27.9 kV/mm | 709 kV/in | in oil; ASTM D 149 |
| | @Thickness 1.60 mm | @Thickness 0.0630 in | |

| Electrical Properties | Metric ¹ /mm | English ⁱⁿ | Comments |
|--------------------------------------|-------------------------|-----------------------|----------------------------------|
| | @Thickness 1.60 mm | @Thickness 0.0630 in | in air, ASTM D 149 |
| Dissipation Factor | 0.0013 | 0.0013 | ASTM D 150 |
| | @Frequency 1000 Hz | @Frequency 1000 Hz | |
| | 0.0025 | 0.0025 | ASTM D 150 |
| | @Frequency 2.45e+9 Hz | @Frequency 2.45e+9 Hz | |
| Arc Resistance | 120 - 180 sec | 120 - 180 sec | Tungsten, PLC code 5; ASTM D 495 |
| Comparative Tracking Index | 100 - 175 V | 100 - 175 V | PLC code 4; UL 746A |
| Hot Wire Ignition, HWI | 60 - 120 sec | 60 - 120 sec | PLC code 1; UL 746A |
| High Amp Arc Ignition, HAI | 15 - 30 arcs | 15 - 30 arcs | surface, PLC code 3; UL 746A |
| High Voltage Arc-Tracking Rate, HVTR | 25.4 - 80.0 mm/min | 1.00 - 3.15 in/min | PLC code 2; UL 746A |

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China