

## SABIC Innovative Plastics Ultem DT1810EV PEI Blend (Europe-Africa-Middle East)

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

### Material Notes:

Improved ductility, transparent, enhanced flow Polyetherimide blend (Tg 200C) with internal mold release and enhanced ductility. ECO Conforming, UL94 V0 listed. This data was supplied by SABIC-IP for the Europe-Africa-Middle East region.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-Ultem-DT1810EV-PEI-Blend-Europe-Africa-Middle-East.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Ultem-DT1810EV-PEI-Blend-Europe-Africa-Middle-East.php)

| Physical Properties                | Metric  | English   | Comments   |
|------------------------------------|---|---|--|
| Specific Gravity                   | 1.28 g/cc   | 1.28 g/cc   | ASTM D 792   |
| Density                            | 1.28 g/cc   | 0.0462 lb/in <sup>3</sup>                                       | ISO 1183   |
| Moisture Absorption at Equilibrium | 0.080 %   | 0.080 %   | 23 <sup>o</sup> C / 50% RH; ISO 62                   |
| Water Absorption at Saturation     | 0.36 %<br>@Temperature 23.0 <sup>o</sup> C                      | 0.36 %<br>@Temperature 73.4 <sup>o</sup> F                      | ISO 62   |
| Linear Mold Shrinkage, Flow        | 0.0050 - 0.0070 cm/cm<br>@Thickness 3.20 mm                     | 0.0050 - 0.0070 in/in<br>@Thickness 0.126 in                    | SABIC Method   |
| Melt Flow                          | 43 g/10 min<br>@Load 6.60 kg,<br>Temperature 337 <sup>o</sup> C | 43 g/10 min<br>@Load 14.6 lb,<br>Temperature 639 <sup>o</sup> F | ASTM D 1238  |
|                                    | 56 g/10 min<br>@Load 5.00 kg,<br>Temperature 360 <sup>o</sup> C | 56 g/10 min<br>@Load 11.0 lb,<br>Temperature 680 <sup>o</sup> F | [cm <sup>3</sup> /10 min] Melt Volume Rate; ISO 1133 |

| Mechanical Properties     | Metric   | English   | Comments                     |
|---------------------------|----------|-----------|------------------------------|
| Tensile Strength at Break | 80.0 MPa | 11600 psi | 5 mm/min; ISO 527            |
|                           | 85.0 MPa | 12300 psi | Type I, 5 mm/min; ASTM D 638 |
| Tensile Strength, Yield   | 98.0 MPa | 14200 psi | 5 mm/min; ISO 527            |
|                           | 103 MPa  | 14900 psi | Type I, 5 mm/min; ASTM D 638 |
| Elongation at Break       | 80 %     | 80 %      | Type I, 5 mm/min; ASTM D 638 |
|                           | 80 %     | 80 %      | 5 mm/min; ISO 527            |
| Elongation at Yield       | 7.0 %    | 7.0 %     | Type I, 5 mm/min; ASTM D 638 |

| Mechanical Properties      | 7.0%<br>Metric                                     | 7.0%<br>English   | 5 mm/min: ISO 527<br>Comments                    |
|----------------------------|--|---|--|
| Tensile Modulus            | 2.50 GPa   | 363 ksi   | 1 mm/min; ISO 527                                |
|                            | 3.21 GPa   | 466 ksi   | 5 mm/min; ASTM D 638                             |
| Flexural Yield Strength    | 135 MPa  | 19600 psi   | 2 mm/min; ISO 178                                |
|                            | 145 MPa  | 21000 psi   | 1.3 mm/min, 50 mm span; ASTM D 790               |
| Flexural Modulus           | 3.10 GPa   | 450 ksi   | 2 mm/min; ISO 178                                |
|                            | 3.32 GPa   | 482 ksi   | 1.3 mm/min, 50 mm span; ASTM D 790               |
| Izod Impact, Notched       | 0.320 J/cm<br>@Temperature 23.0<br>°C              | 0.599 ft-lb/in<br>@Temperature 73.4 °F                  | ASTM D 256                                       |
|                            | 0.350 J/cm<br>@Temperature -30.0<br>°C             | 0.656 ft-lb/in<br>@Temperature -22.0<br>°F              | ASTM D 256                                       |
| Izod Impact, Unnotched     | NB<br>@Temperature 23.0<br>°C                      | NB<br>@Temperature 73.4 °F                              | ASTM D 4812                                      |
|                            | NB<br>@Temperature -30.0<br>°C                     | NB<br>@Temperature -22.0<br>°F                          | ASTM D 4812                                      |
| Izod Impact, Notched (ISO) | 2.00 kJ/m <sup>2</sup><br>@Temperature 23.0<br>°C  | 0.952 ft-lb/in <sup>2</sup><br>@Temperature 73.4 °F     | 80*10*4; ISO 180/1A                              |
|                            | 2.00 kJ/m <sup>2</sup><br>@Temperature -30.0<br>°C | 0.952 ft-lb/in <sup>2</sup><br>@Temperature -22.0<br>°F | 80*10*4; ISO 180/1A                              |
| Charpy Impact, Notched     | 0.200 J/cm <sup>2</sup><br>@Temperature 23.0<br>°C | 0.952 ft-lb/in <sup>2</sup><br>@Temperature 73.4 °F     | V-notch Edgew 80*10*4 sp=62mm;<br>ISO 179/1eA    |
| Impact Test                | 48.0 J<br>@Temperature 23.0<br>°C                  | 35.4 ft-lb<br>@Temperature 73.4 °F                      | Instrumented Impact Total Energy;<br>ASTM D 3763 |

| Thermal Properties            | Metric         | English          | Comments    |
|-------------------------------|----------------|------------------|-------------|
| CTE, linear, Parallel to Flow | 55.0 Åµm/m-Å°C | 30.6 Åµin/in-Å°F | ISO 11359-2 |

| Thermal Properties                             | Metric<br>@Temperature 23.0 -<br>150 Â°C | English<br>@Temperature 73.4 -<br>302 Â°F | Comments                              |
|--|--|---|---------------------------------------|
|  | 60.0 Âµm/m-Â°C                           | 33.3 Âµin/in-Â°F                          | ASTM E 831                            |
|  | @Temperature -40.0 -<br>150 Â°C          | @Temperature -40.0 -<br>302 Â°F           |                                       |
| CTE, linear, Transverse to Flow                | 55.0 Âµm/m-Â°C                           | 30.6 Âµin/in-Â°F                          | ISO 11359-2                           |
|  | @Temperature 23.0 -<br>150 Â°C           | @Temperature 73.4 -<br>302 Â°F            |                                       |
|  | 60.0 Âµm/m-Â°C                           | 33.3 Âµin/in-Â°F                          | ASTM E 831                            |
|  | @Temperature -40.0 -<br>150 Â°C          | @Temperature -40.0 -<br>302 Â°F           |                                       |
| Deflection Temperature at 1.8 MPa<br>(264 psi) | 168 Â°C                                  | 334 Â°F                                   | Edgew 120*10*4 sp=100mm; ISO<br>75/Ae |
|  | 173 Â°C                                  | 343 Â°F                                   | unannealed; ASTM D 648                |
|  | @Thickness 3.20 mm                       | @Thickness 0.126 in                       |                                       |
|  | 178 Â°C                                  | 352 Â°F                                   | unannealed; ASTM D 648                |
|  | @Thickness 6.40 mm                       | @Thickness 0.252 in                       |                                       |
| Vicat Softening Point                          | 192 Â°C                                  | 378 Â°F                                   | Rate B/50; ASTM D 1525                |
|  | 192 Â°C                                  | 378 Â°F                                   | Rate B/50; ISO 306                    |
|  | 195 Â°C                                  | 383 Â°F                                   | Rate B/120; ISO 306                   |
| Glass Transition Temp, Tg                      | 200 Â°C                                  | 392 Â°F                                   |                                       |

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

## Contact Songhan Plastic Technology Co.,Ltd.

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