

## SABIC Innovative Plastics ULTEM 2200F PEI (Europe-Africa-Middle East)

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

### Material Notes:

20% Glass fiber filled, standard flow Polyetherimide (Tg 217C). Resin is RoHS compliant. US FDA and European Food Contact approved.

Effective June, 2007 this grade will no longer be supported with biocompatibility information and should not be used for medical applications which require biocompatibility. Alternative grade HU2200.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-ULTEM-2200F-PEI-Europe-Africa-Middle-East.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-ULTEM-2200F-PEI-Europe-Africa-Middle-East.php)

| Physical Properties            | Metric                                                           | English                                                          | Comments                                |
|--------------------------------|------------------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------|
| Density                        | 1.42 g/cc                                                        | 0.0513 lb/in <sup>3</sup>                                        | ISO 1183                                |
| Moisture Absorption            | 0.550 %                                                          | 0.550 %                                                          | 23 <sup>o</sup> C / 50% RH; ISO 62      |
| Water Absorption at Saturation | 1.0 %                                                            | 1.0 %                                                            | ISO 62                                  |
| Linear Mold Shrinkage, Flow    | 0.0030 - 0.0050 cm/cm                                            | 0.0030 - 0.0050 in/in                                            | on Tensile Bar; SABIC Method            |
| Melt Index of Compound         | 7.0 g/10 min<br>@Load 5.00 kg,<br>Temperature 360 <sup>o</sup> C | 7.0 g/10 min<br>@Load 11.0 lb,<br>Temperature 680 <sup>o</sup> F | MVR [cm <sup>3</sup> /10 min]; ISO 1133 |

| Mechanical Properties        | Metric                                                         | English                                                            | Comments                           |
|------------------------------|----------------------------------------------------------------|--------------------------------------------------------------------|------------------------------------|
| Hardness, H358/30            | 150 MPa                                                        | 21800 psi                                                          | ISO 2039-1                         |
| Tensile Strength at Break    | 140 MPa                                                        | 20300 psi                                                          | 5 mm/min; ISO 527                  |
| Elongation at Break          | 2.0 %                                                          | 2.0 %                                                              | 5 mm/min; ISO 527                  |
| Tensile Modulus              | 6.80 GPa                                                       | 986 ksi                                                            | 1 mm/min; ISO 527                  |
| Flexural Strength            | 210 MPa                                                        | 30500 psi                                                          | 2 mm/min; ISO 178                  |
| Flexural Modulus             | 6.50 GPa                                                       | 943 ksi                                                            | 2 mm/min; ISO 178                  |
| Izod Impact, Unnotched (ISO) | 30.0 kJ/m <sup>2</sup>                                         | 14.3 ft-lb/in <sup>2</sup>                                         | 80*10*4; ISO 180/1U                |
|                              | 30.0 kJ/m <sup>2</sup><br>@Temperature -30.0<br><sup>o</sup> C | 14.3 ft-lb/in <sup>2</sup><br>@Temperature -22.0<br><sup>o</sup> F | 80*10*4; ISO 180/1U                |
| Charpy Impact Unnotched      | 3.50 J/cm <sup>2</sup>                                         | 16.7 ft-lb/in <sup>2</sup>                                         | Edgew 80*10*4 sp=62mm; ISO 179/1eU |
|                              | 3.50 J/cm <sup>2</sup><br>@Temperature -30.0<br><sup>o</sup> C | 16.7 ft-lb/in <sup>2</sup><br>@Temperature -22.0<br><sup>o</sup> F | Edgew 80*10*4 sp=62mm; ISO 179/1eU |

| Mechanical Properties          | Metric | English | Comments                  |
|--------------------------------|--------|---------|---------------------------|
| Taber Abrasion, mg/1000 Cycles | 17     | 17      | CS-17, 1 kg; SABIC Method |

| Thermal Properties                          | Metric                                                 | English                                                   | Comments                           |
|---------------------------------------------|--------------------------------------------------------|-----------------------------------------------------------|------------------------------------|
| CTE, linear, Parallel to Flow               | 25.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$ | 13.9 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$  | ISO 11359-2                        |
|                                             | @Temperature 23.0 - 150 $\text{Å}^\circ\text{C}$       | @Temperature 73.4 - 302 $\text{Å}^\circ\text{F}$          |                                    |
| CTE, linear, Transverse to Flow             | 60.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$ | 33.3 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$  | ISO 11359-2                        |
|                                             | @Temperature 23.0 - 150 $\text{Å}^\circ\text{C}$       | @Temperature 73.4 - 302 $\text{Å}^\circ\text{F}$          |                                    |
| Thermal Conductivity                        | 0.280 W/m-K                                            | 1.94 BTU-in/hr-ft $\text{Å}^2\cdot\text{Å}^\circ\text{F}$ | ISO 8302                           |
| Deflection Temperature at 0.46 MPa (66 psi) | 210 $\text{Å}^\circ\text{C}$                           | 410 $\text{Å}^\circ\text{F}$                              | Edgew 120*10*4 sp=100mm; ISO 75/Be |
| Deflection Temperature at 1.8 MPa (264 psi) | 205 $\text{Å}^\circ\text{C}$                           | 401 $\text{Å}^\circ\text{F}$                              | Edgew 120*10*4 sp=100mm; ISO 75/Ae |
| Vicat Softening Point                       | 212 $\text{Å}^\circ\text{C}$                           | 414 $\text{Å}^\circ\text{F}$                              | Rate B/50; ISO 306                 |
|                                             | 218 $\text{Å}^\circ\text{C}$                           | 424 $\text{Å}^\circ\text{F}$                              | Rate B/120; ISO 306                |
|                                             | 223 $\text{Å}^\circ\text{C}$                           | 433 $\text{Å}^\circ\text{F}$                              | Rate A/50; ISO 306                 |
| Glass Transition Temp, Tg                   | 217 $\text{Å}^\circ\text{C}$                           | 423 $\text{Å}^\circ\text{F}$                              |                                    |
| Oxygen Index                                | 46 %                                                   | 46 %                                                      | ISO 4589                           |
| Glow Wire Test                              | 960 $\text{Å}^\circ\text{C}$                           | 1760 $\text{Å}^\circ\text{F}$                             | IEC 60695-2-12                     |
|                                             | @Thickness 3.20 mm                                     | @Thickness 0.126 in                                       |                                    |

| Electrical Properties | Metric                     | English                    | Comments            |
|-----------------------|----------------------------|----------------------------|---------------------|
| Volume Resistivity    | 1.00e+15 ohm-cm            | 1.00e+15 ohm-cm            | IEC 60093           |
| Surface Resistance    | $\geq 1.00\text{e}+15$ ohm | $\geq 1.00\text{e}+15$ ohm | ROA; IEC 60093      |
| Dielectric Constant   | 3.0                        | 3.0                        | IEC 60250           |
|                       | @Frequency 1.00e+6 Hz      | @Frequency 1.00e+6 Hz      |                     |
|                       | 3.1                        | 3.1                        | IEC 60250           |
|                       | @Frequency 50.0 - 60.0 Hz  | @Frequency 50.0 - 60.0 Hz  |                     |
| Dielectric Strength   | 16.0 kV/mm                 | 406 kV/in                  | in oil; IEC 60243-1 |
|                       | @Thickness 3.20 mm         | @Thickness 0.126 in        |                     |

| Electrical Properties      | Metric<br>34.0 kV/mm      | English<br>864 kV/in      | Comments            |
|----------------------------|---------------------------|---------------------------|---------------------|
|                            | @Thickness 1.60 mm        | @Thickness 0.0630 in      | in oil; IEC 60243-1 |
|                            | 34.0 kV/mm                | 864 kV/in                 | in oil; IEC 60243-1 |
|                            | @Thickness 0.800 mm       | @Thickness 0.0315 in      |                     |
| Dissipation Factor         | 0.00080                   | 0.00080                   | IEC 60250           |
|                            | @Frequency 50.0 - 60.0 Hz | @Frequency 50.0 - 60.0 Hz |                     |
|                            | 0.0025                    | 0.0025                    | IEC 60250           |
|                            | @Frequency 1.00e+6 Hz     | @Frequency 1.00e+6 Hz     |                     |
|                            | 0.0049                    | 0.0049                    | IEC 60250           |
|                            | @Frequency 2.45e+9 Hz     | @Frequency 2.45e+9 Hz     |                     |
| Comparative Tracking Index | >= 100 V                  | >= 100 V                  | IEC 60112           |
|                            | 150 V                     | 150 V                     | IEC 60112           |

| Descriptive Properties              | Value  | Comments       |
|-------------------------------------|--------|----------------|
| Ball Pressure Test, 125Â°C +/- 2Â°C | PASSES | IEC 60695-10-2 |

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