



**ULTEM™ Resin 2110EPR**  
**Americas: COMMERCIAL**

10% Glass fiber filled, high flow Polyetherimide (Tg 217C) with internal mold release and enhanced electroplatability. ECO Conforming, UL94 V0 and 5VA listing.

| TYPICAL PROPERTIES <sup>1</sup>               | TYPICAL VALUE | Unit                | Standard    |
|-----------------------------------------------|---------------|---------------------|-------------|
| <b>MECHANICAL</b>                             |               |                     |             |
| Tensile Stress, yld, Type I, 5 mm/min         | 1210          | kgf/cm <sup>2</sup> | ASTM D 638  |
| Tensile Stress, brk, Type I, 5 mm/min         | 1210          | kgf/cm <sup>2</sup> | ASTM D 638  |
| Tensile Strain, yld, Type I, 5 mm/min         | 3             | %                   | ASTM D 638  |
| Tensile Strain, brk, Type I, 5 mm/min         | 3             | %                   | ASTM D 638  |
| Tensile Modulus, 5 mm/min                     | 53400         | kgf/cm <sup>2</sup> | ASTM D 638  |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span  | 2030          | kgf/cm <sup>2</sup> | ASTM D 790  |
| Flexural Stress, brk, 2.6 mm/min, 100 mm span | 1960          | kgf/cm <sup>2</sup> | ASTM D 790  |
| Flexural Modulus, 1.3 mm/min, 50 mm span      | 4900          | kgf/cm <sup>2</sup> | ASTM D 790  |
| Flexural Modulus, 2.6 mm/min, 100 mm span     | 52700         | kgf/cm <sup>2</sup> | ASTM D 790  |
| <b>IMPACT</b>                                 |               |                     |             |
| Izod Impact, unnotched, 23°C                  | 54            | cm-kgf/cm           | ASTM D 4812 |
| Izod Impact, notched, 23°C                    | 7             | cm-kgf/cm           | ASTM D 256  |
| Instrumented Impact Total Energy, 23°C        | 110           | cm-kgf              | ASTM D 3763 |
| <b>THERMAL</b>                                |               |                     |             |
| Vicat Softening Temp, Rate B/50               | 210           | °C                  | ASTM D 1525 |
| HDT, 0.45 MPa, 3.2 mm, unannealed             | 210           | °C                  | ASTM D 648  |
| HDT, 1.82 MPa, 3.2mm, unannealed              | 205           | °C                  | ASTM D 648  |
| HDT, 0.45 MPa, 6.4 mm, unannealed             | 212           | °C                  | ASTM D 648  |
| HDT, 1.82 MPa, 6.4 mm, unannealed             | 207           | °C                  | ASTM D 648  |
| CTE, -40°C to 40°C, flow                      | 3.6E-05       | 1/°C                | ASTM E 831  |
| CTE, -40°C to 40°C, xflow                     | 8.1E-05       | 1/°C                | ASTM E 831  |
| Relative Temp Index, Elec                     | 105           | °C                  | UL 746B     |
| Relative Temp Index, Mech w/impact            | 105           | °C                  | UL 746B     |





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| TYPICAL PROPERTIES <sup>1</sup>             | TYPICAL VALUE | Unit     | Standard     |
|---------------------------------------------|---------------|----------|--------------|
| <b>THERMAL</b>                              |               |          |              |
| Relative Temp Index, Mech w/o impact        | 105           | °C       | UL 746B      |
| <b>PHYSICAL</b>                             |               |          |              |
| Specific Gravity                            | 1.35          | -        | ASTM D 792   |
| Mold Shrinkage, flow, 3.2 mm (5)            | 0.7 - 0.9     | %        | SABIC Method |
| Mold Shrinkage, xflow, 3.2 mm (5)           | 0.6 - 0.8     | %        | SABIC Method |
| Melt Flow Rate, 337°C/6.6 kgf               | 19            | g/10 min | ASTM D 1238  |
| <b>ELECTRICAL</b>                           |               |          |              |
| Arc Resistance, Tungsten {PLC}              | 6             | PLC Code | ASTM D 495   |
| Hot Wire Ignition {PLC}                     | 1             | PLC Code | UL 746A      |
| High Voltage Arc Track Rate {PLC}           | 3             | PLC Code | UL 746A      |
| High Ampere Arc Ign, surface {PLC}          | 3             | PLC Code | UL 746A      |
| Comparative Tracking Index (UL) {PLC}       | 4             | PLC Code | UL 746A      |
| <b>FLAME CHARACTERISTICS</b>                |               |          |              |
| UL Recognized, 94V-0 Flame Class Rating (3) | 0.4           | mm       | UL 94        |





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| PROCESSING PARAMETERS       | TYPICAL VALUE | Unit |
|-----------------------------|---------------|------|
| <b>Injection Molding</b>    |               |      |
| Drying Temperature          | 150           | °C   |
| Drying Time                 | 4 - 6         | hrs  |
| Drying Time (Cumulative)    | 24            | hrs  |
| Maximum Moisture Content    | 0.02          | %    |
| Melt Temperature            | 350 - 400     | °C   |
| Nozzle Temperature          | 345 - 400     | °C   |
| Front - Zone 3 Temperature  | 345 - 400     | °C   |
| Middle - Zone 2 Temperature | 340 - 400     | °C   |
| Rear - Zone 1 Temperature   | 330 - 400     | °C   |
| Mold Temperature            | 135 - 165     | °C   |
| Back Pressure               | 0.3 - 0.7     | MPa  |
| Screw Speed                 | 40 - 70       | rpm  |
| Shot to Cylinder Size       | 40 - 60       | %    |
| Vent Depth                  | 0.025 - 0.076 | mm   |

