

# XENYO<sup>TM</sup> RESIN 1760E

REGION AMERICAS

## DESCRIPTION

11% Glass Reinforced alloy. Impact/chemical resistant. Excellent physical property retention in automotive exteriors. High flow version of XENYO 1760 resin.

## TYPICAL PROPERTY VALUES

Revision 20190925

| PROPERTIES                                   | TYPICAL VALUES | UNITS             | TEST METHODS |
|----------------------------------------------|----------------|-------------------|--------------|
| MECHANICAL                                   |                |                   |              |
| Tensile Stress, yld, Type I, 5 mm/min        | 84             | MPa               | ASTM D 638   |
| Tensile Stress, brk, Type I, 5 mm/min        | 84             | MPa               | 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                    | 5310           | MPa               | ASTM D 638   |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 131            | MPa               | ASTM D 790   |
| Flexural Modulus, 1.3 mm/min, 50 mm span     | 3910           | MPa               | ASTM D 790   |
| Tensile Stress, yield, 5 mm/min              | 84             | MPa               | ISO 527      |
| Tensile Stress, break, 5 mm/min              | 84             | MPa               | ISO 527      |
| Tensile Strain, yield, 5 mm/min              | 3              | %                 | ISO 527      |
| Tensile Strain, break, 5 mm/min              | 3              | %                 | ISO 527      |
| Tensile Modulus, 1 mm/min                    | 4800           | MPa               | ISO 527      |
| Flexural Stress, yield, 2 mm/min             | 133            | MPa               | ISO 178      |
| Flexural Modulus, 2 mm/min                   | 4010           | MPa               | ISO 178      |
| IMPACT                                       |                |                   |              |
| Izod Impact, notched, 23°C                   | 63             | J/m               | ASTM D 256   |
| Izod Impact, notched, -30°C                  | 60             | J/m               | ASTM D 256   |
| Instrumented Impact, Energy @ peak, -20°C    | 4              | J                 | ASTM D 3763  |
| Instrumented Impact Energy @ peak, -30       | 3              | J                 | ASTM D 3763  |
| Instrumented Impact Total Energy, 23°C       | 8              | J                 | ASTM D 3763  |
| Instrumented Impact Total Energy, -30°C      | 3              | J                 | ASTM D 3763  |
| Izod Impact, notched 80*10*4 +23°C           | 3              | kJ/m <sup>2</sup> | ISO 180/1A   |
| Izod Impact, notched 80*10*4 -30°C           | 3              | kJ/m <sup>2</sup> | ISO 180/1A   |
| Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm   | 12             | kJ/m <sup>2</sup> | ISO 179/1eA  |
| THERMAL                                      |                |                   |              |
| Vicat Softening Temp, Rate B/50              | 121            | °C                | ASTM D 1525  |
| HDT, 1.82 MPa, 3.2mm, unannealed             | 125            | °C                | ASTM D 648   |
| HDT, 1.82 MPa, 6.4 mm, unannealed            | 116            | °C                | ASTM D 648   |
| CTE, -40°C to 40°C, flow                     | 3.9E-05        | 1/°C              | ASTM E 831   |
| CTE, -40°C to 40°C, xflow                    | 7.6E-05        | 1/°C              | ASTM E 831   |
| CTE, -40°C to 40°C, flow                     | 3.9E-05        | 1/°C              | ISO 11359-2  |
| CTE, -40°C to 40°C, xflow                    | 7.6E-05        | 1/°C              | ISO 11359-2  |
| Vicat Softening Temp, Rate B/50              | 135            | °C                | ISO 306      |
| Vicat Softening Temp, Rate B/120             | 130            | °C                | ISO 306      |



| PROPERTIES                            | TYPICAL VALUES | UNITS                   | TEST METHODS |
|---------------------------------------|----------------|-------------------------|--------------|
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm | 101            | °C                      | ISO 75/Af    |
| PHYSICAL                              |                |                         |              |
| Specific Gravity                      | 1.3            | -                       | ASTM D 792   |
| Mold Shrinkage, flow, 3.2 mm          | 0.4 – 0.6      | %                       | SABIC method |
| Mold Shrinkage, xflow, 3.2 mm         | 0.4 – 0.6      | %                       | SABIC method |
| Melt Flow Rate, 250°C/5.0 kgf         | 15             | g/10 min                | ASTM D 1238  |
| Density                               | 1.3            | g/cm <sup>3</sup>       | ISO 1183     |
| Water Absorption, (23°C/sat)          | 0.5            | %                       | ISO 62       |
| Moisture Absorption (23°C / 50% RH)   | 0.15           | %                       | ISO 62       |
| Melt Volume Rate, MVR at 265°C/5.0 kg | 27             | cm <sup>3</sup> /10 min | ISO 1133     |
| INJECTION MOLDING                     |                |                         |              |
| Drying Temperature                    | 110            | °C                      |              |
| Drying Time                           | 4 – 6          | hrs                     |              |
| Drying Time (Cumulative)              | 8              | hrs                     |              |
| Maximum Moisture Content              | 0.02           | %                       |              |
| Melt Temperature                      | 260 – 280      | °C                      |              |
| Nozzle Temperature                    | 255 – 275      | °C                      |              |
| Front - Zone 3 Temperature            | 260 – 280      | °C                      |              |
| Middle - Zone 2 Temperature           | 255 – 275      | °C                      |              |
| Rear - Zone 1 Temperature             | 250 – 270      | °C                      |              |
| Mold Temperature                      | 65 – 95        | °C                      |              |
| Back Pressure                         | 0.3 – 0.6      | MPa                     |              |
| Screw Speed                           | 50 – 80        | rpm                     |              |
| Shot to Cylinder Size                 | 50 – 80        | %                       |              |
| Vent Depth                            | 0.013 – 0.02   | mm                      |              |

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