

Westlake Plastics Tempalux® 30% GF Polyetherimide

Category : Polymer , Thermoplastic , Polyetherimide (PEI) , Polyetherimide (PEI), 30% Glass Fiber

Material Notes:

An amorphous thermoplastic polyetherimide, stock shapes from ULTEM® resin possess a combination of useful characteristics, including high strength at elevated temperatures, high modulus, and broad chemical resistance. Tempalux stock shapes are inherently flame resistant with low smoke emission. Tempalux stock shapes display property retention and resistance to environmental stress cracking when exposed to a wide variety of chemicals. The standard color of Tempalux stock shapes is light amber. Glass filled grades appear tan or greenish in color. Information provided by Westlake Plastics.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Westlake-Plastics-Tempalux-30-GF-Polyetherimide.php

| Physical Properties | Metric | English | Comments |
|---------------------|-----------|---------------------------|--------------------|
| Density | 1.51 g/cc | 0.0546 lb/in ³ | ASTM D792 |
| Water Absorption | 0.16 % | 0.16 % | ASTM D570; 24 hrs. |

| Mechanical Properties | Metric | English | Comments |
|----------------------------|-----------|---------------|------------|
| Hardness, Rockwell M | 114 | 114 | ASTM D7852 |
| Tensile Strength at Break | 169 MPa | 24500 psi | ASTM D638 |
| Elongation at Break | 3.0 % | 3.0 % | ASTM D638 |
| Tensile Modulus | 8.96 GPa | 1300 ksi | ASTM D638 |
| Flexural Strength | 228 MPa | 33000 psi | ASTM D790 |
| Flexural Modulus | 8.96 GPa | 1300 ksi | ASTM D790 |
| Compressive Yield Strength | 212 MPa | 30700 psi | ASTM D695 |
| Compressive Modulus | 6.47 GPa | 938 ksi | ASTM D695 |
| Izod Impact, Notched | 1.07 J/cm | 2.00 ft-lb/in | ASTM D256 |
| Izod Impact, Unnotched | 4.27 J/cm | 8.00 ft-lb/in | ASTM D256 |

| Thermal Properties | Metric | English | Comments |
|---|----------------------|------------------------------------|-----------|
| CTE, linear | 19.8 µm/m-°C | 11.0 µin/in-°F | ASTM D696 |
| | @Temperature 20.0 °C | @Temperature 68.0 °F | |
| Thermal Conductivity | 0.259 W/m-K | 1.80 BTU-in/hr-ft ² -°F | ASTM C177 |
| Deflection Temperature at 0.46 MPa (66 psi) | 212 °C | 414 °F | ASTM D648 |

| Thermal Properties <small>Deflection Temperature at 1.8 MPa (264 psi)</small> | Metric | English | Comments |
|--|----------------------------|-----------------------------|------------|
| Flammability, UL94 | V-0 @Thickness 0.406 mm | V-0 @Thickness 0.0160 in | |
| Oxygen Index | 50 % | 50 % | ASTM D2863 |

| Electrical Properties | Metric | English | Comments |
|-----------------------|------------------------------|------------------------------|-----------|
| Volume Resistivity | 3.00e+16 ohm-cm | 3.00e+16 ohm-cm | ASTM D257 |
| Dielectric Constant | 3.7 @Frequency 1000 Hz | 3.7 @Frequency 1000 Hz | ASTM D150 |
| Dielectric Strength | 30.3 kV/mm | 770 kV/in | ASTM D149 |
| Dissipation Factor | 0.0025 @Frequency 1000 Hz | 0.0025 @Frequency 1000 Hz | ASTM D150 |

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