

## Westlake Plastics Tempalux® 5000 Polyetherimide

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

### Material Notes:

An amorphous thermoplastic polyetherimide, stock shapes from ULTEM® resin possess a combination of useful characteristics, including high heat resistance, 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. Applications Include: Medical instrument trays Burn-in test sockets Aircraft / Aerospace interiors Connectors Automotive components Valves, electrical fittings Food service (ovenable) Flex Circuits Advantages of Tempalux 5000: Inherent flame resistance Extremely low NBS smoke evolution Superior limiting oxygen index Exceptional flexural and tensile strength Broad chemical resistance UV stable - inherently FDA Compliant Information provided by Westlake Plastics Company.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Westlake-Plastics-Tempalux-5000-Polyetherimide.php](http://www.lookpolymers.com/polymer_Westlake-Plastics-Tempalux-5000-Polyetherimide.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.30 g/cc	1.30 g/cc	ASTM D792
Linear Mold Shrinkage, Flow	0.0050 - 0.0070 cm/cm @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	ASTM D955
Linear Mold Shrinkage, Transverse	0.0050 - 0.0070 cm/cm @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	ASTM D955
Melt Flow	12.5 g/10 min @Load 6.60 kg, Temperature 367 °C	12.5 g/10 min @Load 14.6 lb, Temperature 693 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	96.5 MPa	14000 psi	ASTM D638
Tensile Strength, Yield	96.5 MPa	14000 psi	ASTM D638
Elongation at Break	25 %	25 %	ASTM D638
Elongation at Yield	6.0 %	6.0 %	ASTM D638
Tensile Modulus	3.52 GPa	510 ksi	ASTM D638
Flexural Strength	159 MPa	23100 psi	1.97" span; ASTM D790
Flexural Yield Strength	155 MPa	22500 psi	3.94" span; ASTM D790
Flexural Modulus	3.17 GPa	460 ksi	1.97" span; ASTM D790
	0.694 J/cm	1.30 ft-lb/in	

Izod Impact, Notched Mechanical Properties	Metric @ Temperature 22.8 °C	English @ Temperature 73.0 °F	ASTM D256 Comments
	0.742 J/cm @Temperature -30.0 °C	1.39 ft-lb/in @Temperature -22.0 °F	ASTM D256
Izod Impact, Unnotched	NB	NB	ASTM D256
Dart Drop, Total Energy	33.9 J	25.0 ft-lb	Instrumented; ASTM D3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	50.4 µm/m-°C @Temperature -40.0 - 150 °C	28.0 µin/in-°F @Temperature -40.0 - 302 °F	ASTM E831
CTE, linear, Transverse to Flow	50.4 µm/m-°C @Temperature -40.0 - 150 °C	28.0 µin/in-°F @Temperature -40.0 - 302 °F	ASTM E831
Thermal Conductivity	0.216 W/m-K	1.50 BTU-in/hr-ft <sup>2</sup> -°F	ASTM C177
Deflection Temperature at 0.46 MPa (66 psi)	237 °C @Thickness 6.40 mm	459 °F @Thickness 0.252 in	unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	217 °C @Thickness 3.20 mm	423 °F @Thickness 0.126 in	unannealed; ASTM D648
	230 °C @Thickness 6.40 mm	446 °F @Thickness 0.252 in	unannealed; ASTM D648
Vicat Softening Point	242 °C @Load 5.10 kg	468 °F @Load 11.2 lb	Rate B; ASTM D1525

Optical Properties	Metric	English	Comments
Haze	2.0 %	2.0 %	ASTM D1746
Transmission, Visible	58 %	58 %	Transmittance; ASTM D1003

Electrical Properties	Metric	English	Comments
Dielectric Strength	17.0 kV/mm	432 kV/in	in Oil, 0.126 in; ASTM D149

## Contact Songhan Plastic Technology Co.,Ltd.

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