

# Tempalux 5000

(polyetherimide)

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.

The following physical property information is based on typical values of the base polyetherimide resin (PEI).

	Units	ASTM Test	Result
<b>Mechanical</b>			
Tensile Strength @yield	psi	D638	14,000
Tensile Strength @break	psi	D638	14,000
Tensile Modulus	psi	D638	510,000
Tensile Elongation @yield	%	D638	6.0
Tensile Elongation @break	%	D638	25
Flexural Strength @yield (3.94 in Span)	psi	D790	22,500
Flexural Strength @break (1.97 in Span)	psi	D790	23,100
Flexural Modulus (1.97 in Span)	psi	D790	460,000
Notched Izod Impact			
(-22°F)	ft•lbs/in	D256	1.39
(73°F)	ft•lbs/in	D256	1.30
Un-Notched Izod Impact (73°F)	ft•lbs/in	D256	No Break
Instrumented Dart Impact (73°F)	in-lb	D3763	300
<b>Thermal</b>			
DTUL @264psi - Unannealed			
(0.126 in)	°F	D648	423
(0.252 in)	°F	D648	446
DTUL @66psi - Unannealed (0.252 in)	°F	D648	459
Vicat Softening Point (Rate B, Loading 2 ( 50 N))	°F	D1525	468
CLTE, Flow (TMA) (-40 to 302°F (-40 to 150°C))	in/in/°F	E831	2.8E-005
CLTE, Transverse (TMA) (-40 to 302°F (-40 to 150°C))	in/in/°F	E831	2.8E-005
Thermal Conductivity	BTU-in/hr/ft²°F	C177	1.5
<b>Electrical</b>			
Dielectric Strength (in Oil, 0.126 in)	V/mil	D149	432
<b>Optical</b>			
Haze	%	D1003	2.0
Transmittance	%	D1003	58.0
<b>Other</b>			
Density - Specific Gravity	sp gr 23/23°C	D792	1.30
Melt Mass-Flow Rate (MFR) (367°C/6.6 kg)	g/10 min	D1238	12.5
Mold Shrink, Linear-Flow (0.126 in)	in/in	D955	0.0050 to 0.0070
Mold Shrink, Linear-Trans (0.126 in)	in/in	D955	0.0050 to 0.0070

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## Westlake Product Bulletin



### 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 tensile and flexural strength
- Broad chemical resistance
- UV stable - inherently
- FDA compliant

### Manufacturing Capabilities:

- Rod:** 1/4" to 8" diameter  
**Sheet:** .035" to 1/4" thick  
**Film:** .001" to .029" thick  
**Slab:** 3/8" to 4" thick

### Colors/Grades:

Amber

\*In addition to our standard capabilities, Westlake also has the ability to process custom resins in various sizes and colors with some exceptions.

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