

# Tempalux® Unfilled

Polyether Imide  
Westlake Plastics Company

## Message:

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. Tempalux rod, slab, and tubular bar are air annealed for stress relief.

### Applications Include:

- Burn-in test sockets
- Connectors
- Automotive components
- Valves, electrical fittings

### Advantages of Tempalux:

- Inherent flame resistance
- Extremely low NBS smoke evolution
- Superior limiting oxygen index
- Exceptional tensile and flexural strength
- Broad chemical resistance
- UV stable
- FDA compliant

General Information	
Features	Amorphous
	Flame Retardant
	Food Contact Acceptable
	Good Chemical Resistance
	Good UV Resistance
	High ESCR (Stress Crack Resist.)
	High Temperature Strength
	High Tensile Strength
	Low Smoke Emission
Uses	Automotive Applications
	Connectors
	Electrical Parts
	Valves/Valve Parts
Agency Ratings	FDA Unspecified Rating
Appearance	Amber
	Colors Available
Forms	Film
	Rod
	Sheet

# Slab

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.27	g/cm <sup>3</sup>	ASTM D792
Water Absorption (24 hr)	0.25	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	109		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2960	MPa	ASTM D638
Tensile Strength (Yield)	105	MPa	ASTM D638
Tensile Elongation			ASTM D638
Yield	7.0	%	
Break	60	%	
Flexural Modulus	3310	MPa	ASTM D790
Flexural Strength (Yield)	152	MPa	ASTM D790
Compressive Modulus	3310	MPa	ASTM D695
Compressive Strength	151	MPa	ASTM D695
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	53	J/m	ASTM D256
Unnotched Izod Impact	1300	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed	210	°C	
1.8 MPa, Unannealed	200	°C	
CLTE - Flow	5.6E-5	cm/cm/°C	ASTM D696
Thermal Conductivity	0.22	W/m/K	ASTM C177
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	1.0E+17	ohms·cm	ASTM D257
Dielectric Strength	33	kV/mm	ASTM D149
Dielectric Constant (1 kHz)	3.15		ASTM D150
Dissipation Factor (1 kHz)	1.3E-3		ASTM D150
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.91 mm)	5VA		UL 94
Oxygen Index	47	%	ASTM D2863

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