Tempalux® 5000

Polyether Imide

Westlake Plastics Company

Message:

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 instument 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

General Information	
Features	Amorphous
	Flame Retardant
	Food Contact Acceptable
	Good Chemical Resistance
	Good UV Resistance
	High ESCR (Stress Crack Resist.)
	High Heat Resistance
	High Temperature Strength
	High Tensile Strength
	Low Smoke Emission
Uses	Aerospace Applications
	Aircraft Applications
	Automotive Applications
	Connectors
	Electrical Parts
	Medical/Healthcare Applications
	Non-specific Food Applications
	Valves/Valve Parts

Agency Ratings	FDA Unspecified Rating
Appearance	Amber
Forms	Film
	Rod
	Sheet
	Slab

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.30	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (367°C/6.6 kg)	13	g/10 min	ASTM D1238
Molding Shrinkage			ASTM D955
Flow : 3.20 mm	0.50 to 0.70	%	
Across Flow : 3.20 mm	0.50 to 0.70	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	3520	MPa	ASTM D638
Tensile Strength			ASTM D638
Yield	96.5	MPa	
Break	96.5	MPa	
Tensile Elongation			ASTM D638
Yield	6.0	%	
Break	25	%	
Flexural Modulus (50.0 mm Span)	3170	MPa	ASTM D790
Flexural Strength			ASTM D790
Yield, 100 mm Span	155	MPa	
Broak 50.0 mm Span	150	N 45	
bleak, 50.0 mm Span	159	МРа	
Impact	Nominal Value	MPa Unit	Test Method
Impact Notched Izod Impact	Nominal Value	Unit	Test Method ASTM D256
Impact Notched Izod Impact -30°C	Nominal Value 74	MPa Unit J/m	Test Method ASTM D256
Impact Notched Izod Impact -30°C 23°C	Nominal Value 74 69	J/m J/m	Test Method ASTM D256
Impact Impact -30°C 23°C Unnotched Izod Impact (23°C)	Nominal Value 74 69 No Break	MPa Unit J/m J/m	Test Method ASTM D256 ASTM D256
Impact Impact -30°C 23°C Unnotched Izod Impact (23°C) Instrumented Dart Impact (23°C)	Nominal Value 74 69 No Break 33.9	MPa Unit J/m J/m	Test Method ASTM D256 ASTM D256 ASTM D3763
Impact Notched Izod Impact -30°C 23°C Unnotched Izod Impact (23°C) Instrumented Dart Impact (23°C) Thermal	Nominal Value 74 69 No Break 33.9 Nominal Value	MPa Unit J/m J/m J J Unit	Test Method ASTM D256 ASTM D256 ASTM D256 ASTM D3763 Test Method
Impact Impact -30°C 23°C Unnotched Izod Impact (23°C) Instrumented Dart Impact (23°C) Thermal Deflection Temperature Under Load	Nominal Value 74 69 No Break 33.9 Nominal Value	MPa Unit J/m J/m J Unit	Test Method ASTM D256 ASTM D256 ASTM D256 ASTM D3763 Test Method ASTM D648
Impact Notched Izod Impact -30°C 23°C Unnotched Izod Impact (23°C) Instrumented Dart Impact (23°C) Thermal Deflection Temperature Under Load 0.45 MPa, Unannealed, 6.40 mm	Nominal Value 74 69 No Break 33.9 Nominal Value 237	MPa Unit J/m J/m J J Unit C	Test Method ASTM D256 ASTM D256 ASTM D256 ASTM D3763 Test Method ASTM D648
Impact Notched Izod Impact -30°C 23°C Unnotched Izod Impact (23°C) Instrumented Dart Impact (23°C) Thermal Deflection Temperature Under Load 0.45 MPa, Unannealed, 6.40 mm 1.8 MPa, Unannealed, 3.20 mm	Nominal Value 74 69 No Break 33.9 Nominal Value 237 217	MPa Unit J/m J/m J Unit C	Test Method ASTM D256 ASTM D256 ASTM D3763 Test Method ASTM D648
Impact Notched Izod Impact -30°C 23°C Unnotched Izod Impact (23°C) Instrumented Dart Impact (23°C) Thermal Deflection Temperature Under Load 0.45 MPa, Unannealed, 6.40 mm 1.8 MPa, Unannealed, 6.40 mm	Nominal Value 74 69 No Break 33.9 Nominal Value 237 217 230	MPa Unit J/m J/m J Unit C °C	Test Method ASTM D256 ASTM D256 ASTM D3763 Test Method ASTM D648
Impact Notched Izod Impact -30°C 23°C Unnotched Izod Impact (23°C) Instrumented Dart Impact (23°C) Thermal Deflection Temperature Under Load 0.45 MPa, Unannealed, 6.40 mm 1.8 MPa, Unannealed, 3.20 mm 1.8 MPa, Unannealed, 6.40 mm Vicat Softening Temperature	Nominal Value 74 69 No Break 33.9 Nominal Value 237 217 230 242	MPa Unit J/m J/m J Unit Unit °C °C °C	Test Method ASTM D256 ASTM D256 ASTM D3763 Test Method ASTM D648
Impact Notched Izod Impact -30°C 23°C Unnotched Izod Impact (23°C) Instrumented Dart Impact (23°C) Thermal Deflection Temperature Under Load 0.45 MPa, Unannealed, 6.40 mm 1.8 MPa, Unannealed, 6.40 mm 1.8 MPa, Unannealed, 6.40 mm Vicat Softening Temperature CLTE	Nominal Value 74 69 No Break 33.9 Nominal Value 237 217 230 242	MPa Unit J/m J/m J Unit C C C C C	Test Method ASTM D256 ASTM D256 ASTM D3763 Test Method ASTM D648 ASTM D648
Impact Notched Izod Impact -30°C 23°C Unnotched Izod Impact (23°C) Instrumented Dart Impact (23°C) Thermal Deflection Temperature Under Load 0.45 MPa, Unannealed, 6.40 mm 1.8 MPa, Unannealed, 6.40 mm Vicat Softening Temperature CLTE Flow : -40 to 150°C	Nominal Value 74 69 No Break 33.9 Nominal Value 237 217 230 242 5.0E-5	MPa Unit J/m J/m J Unit Unit °C °C °C °C °C	Test Method ASTM D256 ASTM D256 ASTM D3763 Test Method ASTM D648 ASTM D648
Impact Notched Izod Impact -30°C 23°C Unnotched Izod Impact (23°C) Instrumented Dart Impact (23°C) Thermal Deflection Temperature Under Load 0.45 MPa, Unannealed, 6.40 mm 1.8 MPa, Unannealed, 6.40 mm 1.8 MPa, Unannealed, 6.40 mm Vicat Softening Temperature CLTE Flow : -40 to 150°C Transverse : -40 to 150°C	Nominal Value 74 69 No Break 33.9 Nominal Value 237 217 230 242 5.0E-5 5.0E-5	MPa Unit J/m J/m J/m Unit Unit C C C C C C C C C C C C C C C C C C C	Test Method ASTM D256 ASTM D256 ASTM D3763 Test Method ASTM D648 ASTM D648 ASTM D1525 ¹ ASTM E831
ImpactImpact-30°C23°CUnnotched Izod Impact (23°C)Instrumented Dart Impact (23°C)ThermalDeflection Temperature Under Load0.45 MPa, Unannealed, 6.40 mm1.8 MPa, Unannealed, 6.40 mm1.8 MPa, Unannealed, 6.40 mmVicat Softening TemperatureCLTEFlow : -40 to 150°CThermal Conductivity	Nominal Value 74 69 No Break 33.9 Nominal Value 237 217 230 242 5.0E-5 5.0E-5 0.22	MPa Unit J/m J/m J J Unit Unit C C C C C C C C C C C C C C C C C C C	Test Method ASTM D256 ASTM D256 ASTM D256 ASTM D3763 Test Method ASTM D648 ASTM D1525 ¹ ASTM E831 ASTM C1777

Dielectric Strength (3.20 mm, In Oil)	17	kV/mm	ASTM D149
Optical	Nominal Value	Unit	Test Method
Transmittance	58.0	%	ASTM D1003
Haze	2.0	%	ASTM D1003
NOTE			
1.	Rate B (120°C/h), Loading 2 (50 N)		

The information and data on this page are provided by manufacturers and document providers. SHANGHAI SUSHENG assumes no legal liability. It is strongly recommended to verify all technical data with material suppliers before final material selection. All rights belong to the original authors. If any infringement occurs, please contact us immediately.

Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

