Ultem® 1000 Material Specifications

Ultem® resin is an amorphous thermoplastic polytherimide used in medical, aircraft, aerospace, electronics manufacturing, and communications. This material has outstanding high heat resistance, high strength and rigidity at elevated temperatures and long term heat resistance. TPI stocks Ultem® 1000 available in two colors translucent amber (natural) and black. Other Ultem® grades are available call or email your request.

Physical Properties	Units	Test	1000
Density	lb/in³ g/cm³	D792	0.046 1.28
Water Absorption, 24 hrs.	%	D570	0.25
Water Absorption, Saturation	%	D570	1.25

Mechanical Properties	Units	Test	1000
Tensile Strength	psi	D638	16,500
Tensile Modules	psi	D638	500,000
Tensile Elongation at Break	%	D638	80
Flexural Strength	psi	D790	20,000
Flexural Modulus	psi	D790	500,000
Compressive Strength	psi	D695	22,000
Compressive Modulus	psi	D695	480,000
Hardness Rockwell	-	D785	M112 / R125
Izod Impact Notched	ft-lb/in	D256	0.5

Thermal Properties	Units	Test	1000
Coefficient of Linear Thermal Expansion	X 10^{-5} in./in./°F	D696	3.1
Heat Deflection Temperature	@264 psi °F/°C	D648	400 / 204
Glass Transition Temperature	ºF/ºC	D3418	410 / 210
Max. Use Temperature	ºF/ºC	-	340 / 171
Thermal Conductivity	BTU- in/ft^2-hr.-°F x 10^{-4} cal/cm-sec-°C	C177	0.85 2.93
Flammability Rating	-	UL94	V-0

Electrical Properties	Units	Test	1000
Dielectric Strength	(V/mil) short time, 1/8" thick	D149	830
Dielectric Constant	@1 KHz	D150	3.15
Dissipation Factor	@1 KHz	D150	0.0013
Surface Resistivity	ohms/square	EOS/ESD S.11.11	>10^{13}

**The information provided in this table is a compilation of publicly available data. This information is provided for comparison purposes only, and is not intended to be warrantable. Further, *Technical Products, Inc.* disclaims any and all liability from errors, in accuracies, or omissions.