

TECHNICAL DATA SHEET

Glastic Laminates®

Glastic® laminates offer a superior combination of electrical and mechanical properties such as dielectric strength, flame resistance, arc and track resistance, high-flexural strength and high-impact strength. These sheets are fiberglass-reinforced thermoset polyester. They will not melt under heat and have excellent overall electrical properties. All grades are UL® recognized. Glastic laminates also have superior consistency in thickness, punchability and property control.

Glastic laminates property table — typical average values*										
General Information	UNIT	ASTM/UL Test Number	Grade TSF	Grade UTS	Grade UTR	Grade 1580	Grade SG-200	Grade FHT	Grade T-160	Grade T-160
Part Number	---	---	1312	1478	141	1494	1580	1906	1800	1360
Color — Standard	---	---	Brown	Red	Red	Red	White	Natural/Tan	Natural/Cream	White
MECHANICAL PROPERTIES										
NEMA Grade	---	---	GPO-1/GPO-1P	GPO-2/GPO-2P	GPO-2/GPO-2P	GPO-3/GPO-3P	GPO-3	GPO-1	---	GPO-1
Military Specification	---	---	---	L-P 509/GP O-2	L-P 509/GP O-2	---	---	---	---	---
Tensile Strength	Psi	D638	9,400	8,900	8,000	7,800	8,400	12,500	10,500	14,000
Flexural Strength	Psi	D790	22,300	24,600	18,000	22,100	24,600	29,000	---	29,000
Compressive Strength	Psi	D695	38,900	39,000	30,000	33,100	31,200	36,000	14,000	56,000
Shear Strength	Psi	D732	13,400	13,400	14,000	11,600	12,000	11,100	---	---
IZOD Impact Strength (notched)	Ft. lb./in.	D256	8.0	10.7	8.0	8.9	8.9	12.0	10.0	12.0
Water Absorption	% by wt.	D570	0.3	0.6	0.8	0.4	0.2	0.3	1.1	0.3
Specific Gravity	---	D792	1.78	1.8	1.8	1.81	1.83	1.70	1.60	1.90
ELECTRICAL PROPERTIES										
Electric Strength Perpendicular S/T in air	Vpm	D149	417	433	300	450	425	500	450	500
Electric Strength Perpendicular S/T in oil	Vpm	D149	493	567	---	584	577	625	570	412
Arc Resistance	Sec.	D495	127	130	130	180	181	120/1802	139	140
IEC Track Resistance (CTI)	V.	UL746A	---	500+	---	500+	500+	500+	500+	---
Dissipation Factor, 60 Hz	---	D150	0.0095	0.011	0.05	0.013	0.011	0.037	0.070	---
Dissipation Factor, MHz	---	D150	4.2	0.010	---	0.010	0.010	0.013	0.033	---
Insulation Resistance	Ohm x 1012	D257	2.4	270.0	---	3.1	823.0	145.0	---	---
FLAME-RESISTANCE PROPERTIES										
UL Subject 94	---	UL94	HB	VO	VO	1/16" & below HB	---	---	---	---
Over 1/16" VO	VO	HB	HB	---	---	---	---	---	---	---
UL Hot Wire Ignition	Sec.	UL746A	---	300+	---	---	300+	0.028 in./350.058 in./39	0.028 in./490.058 in./102	---
UL High Amp Ignition	# Exposure	UL746A	---	200+	---	---	200+	200+	200+	---
UL Standard 723 Flame Spread	---	E84	---	---	---	---	---	---	---	---
Oxygen Index	%O2	D2863	21.8	36.0	---	35.0	39.0	21.8	21.8	---
Ignition Time	Min.	---	---	81	75	85	84	---	---	---
Burn Time	Min.	---	---	48	85	49	23	---	---	---
THERMAL PROPERTIES										
Coefficient of Thermal Expansion	In/In/Cx10-5	D696	2.2	2.0	2.0	2.0	2.0	2.0	---	---
Thermal Conductivity	BTU/Hr/Ft2/In/F	C177	1.8	1.8	---	1.9	1.9	1.7	---	---
UL Temperature Index Electrical/Mechanical	°C/°F	UL746B/UL746B	130/130	130/160	130/130	130/160	120/140	210/210	electrical 0.028 in./1900.058 in./200mechanical 0.028 in./1900.058 in./200	---
UL Recognition File Number/UL Classification Number	---	---	E23525	E81928	E23525	E81928	E81928	E81928	E81928	---

Electrical Insulation
All Glastic insulating laminates have inherently good dielectrics. The various grades of Glastic laminates featured here have been engineered to maximize the specific properties required for a wide range of electrical and electronic applications.

Benefits

- Flame Resistance
- Mechanical Strength
- High-impact Resistance
- Moisture Resistant and Light Weight
- Good Electrical Insulation Capabilities
- High Mechanical Strength and Abrasion Resistant
- Good Machinability

Applications

- Industrial lift magnet layer insulation
- Automotive heater and air conditioner control circuits
- Switch plate for fractional horsepower electric motor

SHAPE AVAILABLE



Glastic is a registered trademark of Glastic Corporation

*Typical average values for testing 0.063 inch thick materials. Values will vary somewhat depending on material grade thickness.

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All values at 73°F (23°C) unless otherwise noted.