

Glastic UTR

Grade 1494 Arc/Track & Flame Resistant Laminate

- 1,000 Minutes Track Resistance
- Electrically Insulating
- Highly Flame Resistant
- Low Smoke & Smoke Toxicity
- UL® Recognized
- NEMA Grade GPO-3

Glastic® Grade 1494 is a fiberglass reinforced thermoset polyester material. It is available in sheet form as well as a wide selection of channel, angle, and tube sizes. These materials are the industry standard for flame and arc/track resistant electrical insulation. In addition, the excellent combination of high strength, flame resistance, and low smoke generation has given it application in many other areas such as transit and marine where safe, yet economical materials are required. Additional information and samples can be obtained through Glastic Customer Service or your local Glastic authorized distributor.

GENERAL INFORMATION	UNIT	PROCEDURE	TYPICAL VALUE ¹
Part Number			1494
Standard Color			Red
NEMA Grade		NEMA LI-1	GPO-3
MECHANICAL PROPERTIES			
Tensile Strength	Psi	ASTM D 638	8,000
Tensile Modulus	Psi x 10 ⁶	ASTM D 638	1.7
Flexural Strength	Psi	ASTM D 790	22,100
Flexural Strength at 130° C	Psi	ASTM D 790	13,100
Compressive Strength	Psi	ASTM D 695	33,100
Shear Strength	Psi	ASTM D 732	11,600
IZOD Impact Strength (notched)	Ft. lb./in.	ASTM D 256	8.9
Water Absorption	% by wt.	ASTM D 570	0.4
Specific Gravity		ASTM D 792	1.81
ELECTRICAL PROPERTIES			
Electric Strength – Perpendicular S/T in Air	Vpm	ASTM D 149	450
Electric Strength – Perpendicular S/T in Oil	Vpm	ASTM D 149	584
Electric Strength – Parallel S/S in Oil	kV	ASTM D 149	47
Arc Resistance	Sec.	ASTM D 495	180
Inclined Plane Track Resistance – 1/8" thick	Min.	ASTM D 2303	1,000
IEC Track Resistance (CTI)	V	UL 746A	> 500
UL High Voltage Track Rate	In./Min.	UL 746A	0
Permittivity, 60 Hz		ASTM D 150	4.1
Permittivity, 1 Hz		ASTM D 150	4.1
Dissipation Factor, 60 Hz		ASTM D 150	0.013
Dissipation Factor, 1 MHz		ASTM D 150	0.010
Insulation Resistance	Ohm x 10 ¹²	ASTM D 257	3.1



Low-Profile Switchgear Cabinet

Interphase and end barriers are fabricated from Glastic Grade UTR Laminate.



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FLAME & SMOKE CHARACTERISTICS			
UL Subject 94	.094" and thicker	UL 94	V-0
	less than .093"		HB
Oxygen Index	Percent Oxygen	ASTM D 2863	35.0
Flame Resistance		ASTM D 229-II	
Ignition Time	Sec.		85
Burn Time	Sec.		49
Tunnel Test		ASTM E 84/UL 723	
Flame Spread			25
Smoke Density			115
Fuel Contributed			0
Cone Calorimeter		ASTM E 1354	
Time to Ignition	Sec.		109
Peak Rate of Heat Release	kW / m ²		168.6
Heat Release Rate @ 300 sec.	kW / m ²		77.2
Caloric Content	MJ / kg		7.13
Average Smoke Extinction Area	m ² / kg		336.1
Radiant Panel Flame Spread		ASTM E 162	11
COMPOSITION OF SMOKE			
Procedure reported in U.S. Testing Co. report #83413 of the Bureau of Ships, and referenced in MIL-M-14G	Material		
	Hydrogen Chloride	ppm	0
	Aldehydes as HCHO	ppm	4
	Ammonia	ppm	0
	Carbon Monoxide	ppm	220
	Carbon Dioxide	ppm	3275
	Oxides of Nitrogen as NO ₂	ppm	10
Cyanides of HCN	ppm	0	
THERMAL PROPERTIES			
Coefficient of Thermal Expansion	In/In/° C x 10 ⁻⁵	ASTM D 696	2.0
Thermal Conductivity	BTU/Hr/Ft ² /IN/° F	ASTM C 177	1.9
UL Temperature Index			
Electrical	° C	UL 746B	130
Mechanical	° C	UL 746B	160
UL Recognition File Number			E81928

¹ Typical average values for 0.063 inch thick laminate. Properties vary with material thickness and form.



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