

Grade UTS 141 & 1478

Flame-Resistant Electrical Insulation Laminates

- NEMA GPO-2
- High Strength
- Flame-Resistant
Meets UL94 V0
- Cost-Effective
- Outstanding Punchability
- Asbestos-Free

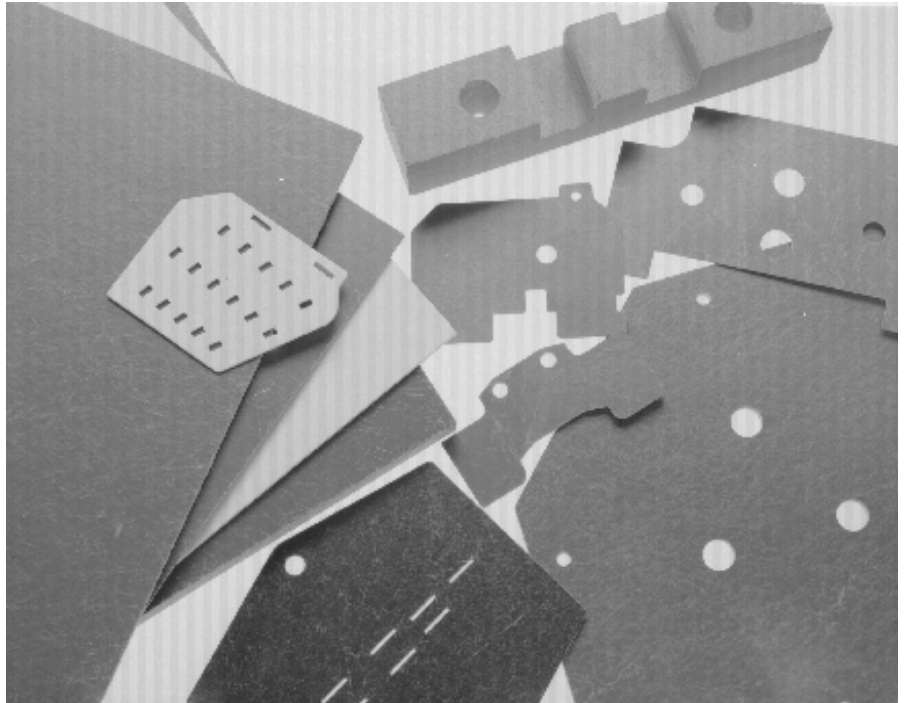
Glastic® Grade UTS 141 & 1478 are NEMA GPO-2 fiberglass-reinforced laminates. Both Electrical Insulation Laminates are UL94 V0, and are ideal for applications requiring flame and heat resistance, as well as applications requiring higher retention of properties after heat aging.

Grade UTS 141 is a UL Recognized material with a temperature index of 130° C Electrical and 130° C Mechanical.

Grade UTS 1478 is a UL Recognized material with a temperature index of 130° C Electrical and 160° C Mechanical.

They are both available in a standard red color. Both grades are easily fabricated, offering an exceptional capability for punching in their thinner thicknesses. Glastic Grade 141 is available from 1/32 through 1/16 inch. Grade 1478 is available in thicknesses from 3/32 through 1/2 inch thick.

Glastic Grade Laminates 141 & 1478 are ideal for a wide variety of applications, including intricate punchings for switches, switch plates, controls, control panels, and terminal boards.



Grade UTS 141 & 1478

GLASTIC LAMINATES PROPERTY TABLE

TYPICAL AVERAGE VALUES¹

GENERAL INFORMATION	UNIT	ASTM/UL NUMBER	GLASTIC GRADE UTS	GLASTIC GRADE UTS
Part Number			1478	141
Color, Standard			Red	Red
MECHANICAL PROPERTIES				
NEMA Grade			GPO-2/GPO-2P	GPO-2
Military Specification	—	—	L-P 509/GPO-2	—
Tensile Strength	Psi	D638	8,900	8,000
Tensile Modulus	Psi x 10 ⁶	D638	1.9	1.3
Flexural Strength	Psi	D790	24,600	18,000
Flexural Strength - 130° C	Psi	D790	14,900	6,000
Flexural Modulus	Psi x 10 ⁶	D790	—	1.2
Compressive Strength	Psi	D695	39,000	30,000
Shear Strength	Psi	D732	13,400	14,000
IZOD Impact Strength (notched)	ft.lb./in.	D256	10.7	8.0
Water Absorption	% by wt.	D570	0.6	0.8
Specific Gravity	—	D792	1.8	1.8
ELECTRICAL PROPERTIES				
Electrical Strength - Perpendicular S/T in air	Vpm	D149	433	300
Strength - Perpendicular S/T in oil	Vpm	D149	567	—
Electrical Strength - Parallel S/S in oil	kV	D149	51	40
Arc Resistance	Sec.	D495	130	130
IEC Track Resistance (CTI)	V.	UL746A	500+	—
UL High Voltage Track Rate	In./Min.	UL746A	0	—
Permittivity, 60 Hz	—	D150	4.1	4.5
Dissipation Factor, 60 Hz	—	D150	0.011	0.05
Permittivity, MHz	—	D150	3.9	—
Dissipation Factor, MHz	—	D150	0.010	—
Insulation Resistance	Ohm x 10 ¹²	D257	270.0	—
FLAME-RESISTANCE PROPERTIES				
UL Subject 94	—	UL94	VO	VO
UL Hot Wire Ignition	Sec.	UL746A	300+	—
UL High Amp Ignition	#Exposure	UL746A	200+	—
Oxygen Index	%O ₂	D2863	36.0	—
Ignition Time	Min.	—	81	75
Burn Time	Min.	—	48	85
THERMAL PROPERTIES				
Coefficient of Thermal Expansion	In/In/° C x 10 ⁻⁵	D696	2.0	2.0
Thermal Conductivity	BTU/Hr/Ft ² /In/° F	C177	1.8	—
UL Temperature Index				
- Electrical	° C	UL 746B	130	130
- Mechanical	° C	UL 746B	160	130
UL Recognition File Number	—	—	E81928	E23525

¹ Typical average values for testing 0.063 inch thick material. Values will vary somewhat from thickness to thickness within a material grade.