

## Phenolic G-11 Material Specifications

Phenolic Laminates physical strength, resiliency, ease and versatility of fabrication, and excellent electrical properties make Phenolics useful in a wide range of mechanical and electrical applications.

Physical Properties	Units	Test	G-11
Density	lb/in <sup>3</sup> g/cm <sup>3</sup>	D792	0.065 1.80
Water Absorption, 24 hrs.	%	D570	0.20

Mechanical Properties	Units	Test	G-11
Tensile Strength -lengthwise -crosswise	psi	D638	43,000 37,000
Flexural Strength -lengthwise -crosswise	psi	D790	80,000 70,000
Flexural Modulus -lengthwise -crosswise	psi	D790	3,000 2,700
Compressive Strength	psi	D695	63,000
Hardness Rockwell M	-	D785	M112
Izod Impact Notched -lengthwise -crosswise	ft-lb/in	D256	12.0 9.0

Thermal Properties	Units	Test	G-11
Coefficient of Linear Thermal Expansion -lengthwise -crosswise	X 10 <sup>-5</sup> in./in./°F	D696	0.72 0.83
Max. Operating Temperature	°F/°C	-	329 / 165
Thermal Conductivity	BTU- in/ft <sup>2</sup> -hr.-°F x 10 <sup>-4</sup> cal/cm-sec-°C	C177	2.0 7.0
Flammability Rating	-	UL94	H-B

Electrical Properties	Units	Test	G-11
Dielectric Strength	(V/mil) short time, 1/8" thick	D149	900
Dielectric Constant	@1 MHz	D150	4.5
Dissipation Factor	@1 MHz	D150	0.020
Arc Resistance	sec	D495	120

\*\*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.