

MATERIAL SPECIFICATION

G10 / FR4

General Description

G10/FR4 is a versatile, all-around electrically insulating material. G10/FR4 is an epoxy impregnated laminate which meets UL94-V0 requirements. G10/FR4 can be machined or die-cut to meet any custom requirement.

PROPERTIES	UNITS	VALUE
Tensile Strength	Lengthwise, psi	40,000
	Crosswise, psi	35,000
Compressive Strength	Flatwise, psi	60,000
	Edgewise, psi	35,000
Flexural Strength	Lengthwise, psi	55,000
	Edgewise, psi	45,000
Modulus of Elasticity in Flex	Lengthwise, psi x 10 ⁶	2.7
	Crosswise, psi x 10 ⁶	2.2
Shear Strength, psi		19,000
Izod Impact	Flatwise, ft/lb per inch of notch	7
	Edgewise, ft/lb per inch of notch	5.5
Rockwell Hardness M Scale		110
Specific Gravity		1.82
Coefficient of Thermal Expansion	Cm/cm deg C x 10 ⁻⁵	.9
Water Absorption	0.062 in. thick, % per 24 hours	0.25
	0.125 in. thick, % per 24 hours	0.15
	0.500 in. thick, % per 24 hours	0.10
Dielectric Strength (volts/mil)	0.062 in thick (perpendicular to laminations; short)	500
	0.125 in thick (perpendicular to laminations; short)	400
Dissipation Factor	Condition A, 1 megacycle	0.025
Dielectric Constant	Condition A, 1 megacycle	5.2
Insulation Resistance	Condition; 96 hrs at 90% relative humidity (mega ohms)	200,000

Flame Resistance	Underwriters Labs, Classification	94V-0
Bond Strength	lbs	2,000
Max Continuous Operating Temp.	Approximate degrees °F	285