

Plain Copper Clad Boards

500 Series

Product Description

We offer 1/16", 1/32" and 1/64" FR4 laminate with 1 ounce copper per square foot. This flame retardant laminate is translucent in color and made of continuous woven glass cloth impregnated with epoxy resin. The copper on 1 ounce boards is 1.34 mil thick (0.0341 mm, 34.1 microns). The boards are made of FR4 which is a flame retardant version of G-10 material.



500 series (plain)

Developed specifically for the circuit processing industries' requirements. Complies with UL #E214381 (select boards comply to UL #E213990).

Our presensitized boards provide high resolution and excellent fine line control. They are ideal for prototypes, small production runs, and student training.

Easy Cutting!! We also offer a large thin (12" x 18" x 1/32 inch) cat#675 paper phenolic presensitized board, perfect for cutting into smaller boards with no special equipment - perfect for the classroom.

Specifications

Property		Pre-treatment	Unit	Property data	
				Index	Typical value
Surface resistance	After moisture resistance	F	Mega Ohm	$\geq 10^4$	5.5×10^7
	At elevated temperatures	E-24/125		$\geq 10^2$	5.5×10^6
Volume resistance	After moisture resistance	F	Mega Ohm	$\geq 10^3$	4.8×10^8
	At elevated temperatures	E-24/125		$\geq 10^3$	4.8×10^6
Dielectric breakdown (parallel laminations)		D-48/50+D-0.5/23	KV	≥ 40	42
Permittivity at 1 MHz		C-40/23/50	-	≤ 5.4	4.6
Loss tangent at 1 MHz		C-40/23/50	-	≤ 0.035	0.02
Arc resistance		D-48/50+D-0.5/23	S	≥ 60	120
Peel strength 35 micron copper	As received	A	N/mm	≥ 1.40	1.9
	After thermal stress	A		≥ 1.40	1.7
Solder limits		288 °C, 20S	-	No delamination	No delamination
Glass transition temperature (TG by DSC)		A	°C	≥ 128	135
Flexural strength	Length direction	A	Mpa	≥ 410	600
	Cross direction	A		≥ 340	500
Water absorption		E-1/105+des+D-	%	0.10-0.77 \leq 0.80	0.20

		24/23		0.7B- 3.20<=0.35	0.15
Flammability		A&E-1/105+des	-	94V-0	94V-0
Dimensional stability		E- 4/105+DES+E- 2/150°C	PPM	+/- 300	+/- 150
Z-axis CTE	Before Tg	TMA	µm/m°C	-	65
	After Tg	TMA	µm/m°C	-	310
	50-260	TMA	%	-	4.5
Decomposition temperature (TD)		10°C/min, N ₂ 5% WT loss	°C	-	310
Thermal resistance (copper removed)	T260	TMA	Min	-	13
	T288	TMA	Min	-	<1

Availability

Cat.No.	Plain (metric)	(approx. in imperial)
FR4 1/16" (1.60mm), single sided		
503	76 x 127 mm	3" x 5"
506	101 x 152 mm	4" x 6"
509	152 x 152 mm	6" x 6"
512	152 x 228 mm	6" x 9"
515	203 x 254 mm	8" x 10"
521	304 x 304 mm	12" x 12"
573	304 x 457 mm	12" x 18" (BULK - 25 pack)
575	609 x 914 mm	24" x 36"
580	914 x 1219 mm	36" x 48"
FR4 1/16" (1.60mm), double sided		
540	152 x 152 mm	3" x 5"
550	76 x 127 mm	6" x 6"
555	304 x 304 mm	12" x 12"
576	609 x 914 mm	24" x 36"
585	914 x 1219 mm	36" x 48"
FR4 1/32" (0.80mm), single sided		
586	101 x 152 mm	4" x 6"
588	152 x 228 mm	6" x 9"
590	304 x 304 mm	12" x 12"
FR4 1/32" (0.80mm), double sided		
587	101 x 152 mm	4" x 6"
589	152 x 228 mm	6" x 9"
591	304 x 304 mm	12" x 12"

Note:

This information is believed to be accurate. It is intended for professional end users having the skills to evaluate and use the data properly. M.G. Chemicals Ltd. Does not guarantee the accuracy of the data and assumes no liability in connection with damages incurred while using it.