



ISO 9001 Registered Quality System.
Burlington, Ontario, Canada QMI File # 004008

Positive Presensitized Copper Clad Boards 600 Series Technical Data Sheet

600-Series

Description

The 600 Series *Positive Presensitized Copper Clad Boards* are made of a translucent laminate consisting of a continuous woven glass cloth impregnated with epoxy resin. The boards are made of FR4, which is a flame retardant version of G-10 material.

The boards are ideal for prototyping and small production runs. It is used by the circuit processing industries and students.

Benefits and Features

- **1 oz copper boards (1.37 mil, 35 µm)**
- **Flammability meets UL 94V-0 (file # E98983)**
- **High heat resistance**
- **UV blocking**
- **Comes in single-sided and double-sided boards of 1/16" (1.60 mm) and 1/32" (0.80 mm) thicknesses**

Properties

<i>Physical Properties</i>	<i>Method</i>	<i>Specification</i>	<i>Typical Value</i>
Moisture Absorption Flammability	IPC-TM-650 2.6.2.1 UL-94	<0.35% Meets	0.05-0.3% 94V-0
<i>Mechanical Properties</i>	<i>Method</i>	<i>Specification</i>	<i>Typical Value</i>
Peel Strength, 1 oz	IPC-TM-650 2.4.8	>6 lb/in	10-14 lb/in
<i>Thermal Properties</i>	<i>Method</i>	<i>Specification</i>	<i>Typical Value</i>
Glass Transition Temperature (T _g)	IPC-TM-650 2.4.25	—	130-145 °C
CTE prior T _g , Z-axis	IPC-TM-650 2.4.24	—	50-70 ppm/°C
CTE after T _g , Z-axis	"	—	250-350 ppm/°C
Dimensional Stability, X-Y axis	IPC-TM-650 2.4.39	<0.05%	0.005-0.03%
Thermal Stress	IPC-TM-650 2.4.13.1	>10 s	>200 s
Decomposition Temperature @5% weight loss	IPC-TM-650 2.4.24.6	—	310 °C



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<i>Electrical Properties</i>	<i>Method</i>	<i>Specification</i>	<i>Typical Value</i>
Dielectric Breakdown	IPC-TM-650 2.5.6	>40 kV	>60 kV
Volume Resistivity	IPC-TM-650 2.5.17	>10 ⁶	5 x 10 ⁸ to 5 x 10 ⁹ mΩ·cm
Surface Resistivity	"	>10 ⁴	5 x 10 ⁶ to 5 x 10 ⁷ mΩ·cm
Arc Resistance	IPC-TM-650 2.5.1	>60 s	>120 s
Dielectric Constant @1 MHz	IPC-TM-650 2.5.5.9	<5.4	4.2-4.7
@1 GHz	"	—	3.8-4.2
Dissipation Factor @1 MHz	"	<0.035	0.015-0.020
@1 GHz	"	—	0.012-0.014

Note: Typical values for reference only. Values tested with 0.020-0.062" sample.

Storage and Shelf Life

Store at around room temperature 18 to 27 °C [65 to 80 °F] and protect from direct heat or sunlight. Keep sealed in an air tight container, away from humidity.

Health and Safety

Please see the *600 Series Positive Presensitized Copper Clad Boards Safety Data Sheet* (SDS) for more details on transportation, storage, handling and other security guidelines.

Packaging and Supporting Products

Available Sizes

FR4 1/16" (1.60 mm), double sided

<i>Cat. No.</i>	<i>Metric</i>	<i>Imperial</i> ^{a)}
660	152 x 230 mm	6" x 9"

FR4 1/32" (0.80 mm), single sided

<i>Cat. No.</i>	<i>Metric</i>	<i>Imperial</i> ^{a)}
689	150 x 230 mm	6" x 9"

FR4 1/32" (0.80 mm), double sided

<i>Cat. No.</i>	<i>Metric</i>	<i>Imperial</i> ^{a)}
690	150 x 230 mm	6" x 9"

a) Sizes are approximate

Supporting Products

- *Positive Presensitized Copper Clad Boards 600 Series*
- *Copper Clad boards (Half Ounce) 500 Series (Half Ounce)*



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Technical Support

Contact us regarding any questions, improvement suggestions, or problems with this product. Application notes, instructions, and FAQs are located at www.mgchemicals.com.

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Disclaimer

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