Copper Clad Boards

500 Series

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 1.34mil thick (0.0341mm, 34.1 microns). The boards are made of FR4 which is a flame retardant version of G-10 material.

Developed specifically for the circuit processing industries' requirements. Complies with UL #E214381 (select boards comply to UL #E213990). Provides ultraviolet blocking and fluorescence when using automated optical inspection (AOI).

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Treatment Condition</th>
<th>Unit</th>
<th>FR-4 Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peel Strength (As received)</td>
<td>A</td>
<td>Ib/in</td>
<td>&gt;= 8.0</td>
</tr>
<tr>
<td>Peel Strength (After thermal stress)</td>
<td>A</td>
<td>Ib/in</td>
<td>&gt;= 8.0</td>
</tr>
<tr>
<td>Surface Resistivity at elevated temp</td>
<td>E-24/125</td>
<td>M Ohm</td>
<td>&gt;= 10³</td>
</tr>
<tr>
<td>Volume Resistivity</td>
<td>E-24/125</td>
<td>M Ohm · cm</td>
<td>&gt;= 10³</td>
</tr>
<tr>
<td>Water Absorption (0.1-0.77MM)</td>
<td>E-1/105+des+D-24/23</td>
<td>%</td>
<td>&lt;= 0.8</td>
</tr>
<tr>
<td>Water Absorption (0.78-3.20MM)</td>
<td>E-1/105+des+D-24/23</td>
<td>%</td>
<td>&lt;= 0.35</td>
</tr>
<tr>
<td>Flexural Strength (Lengthwise)</td>
<td>A</td>
<td>Mpa</td>
<td>&gt;= 410</td>
</tr>
<tr>
<td>Flexural Strength (Crosswise)</td>
<td>A</td>
<td>Mpa</td>
<td>&lt;= 340</td>
</tr>
<tr>
<td>Dielectric Breakdown Parallel to laminate</td>
<td>D-48/50+D-0.5/23</td>
<td>KV</td>
<td>&gt;= 40</td>
</tr>
</tbody>
</table>
### Dielectric Constant
Permittivity at 1MHz

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td></td>
<td>C-40/23/50</td>
<td>&lt;=5.4</td>
</tr>
</tbody>
</table>

### Bow and Twist
(Double sided)

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<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>&lt;=1.0</td>
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</table>

### Flammability Rating

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</thead>
<tbody>
<tr>
<td></td>
<td>A&amp;E-1/105+des</td>
<td>UL 94 V-0</td>
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</tbody>
</table>

### Thermal stress(288°C, 20 seconds)

<p>| | | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Unetched</td>
<td>A</td>
<td>No defect</td>
</tr>
<tr>
<td>After etched</td>
<td>A</td>
<td>No defect</td>
</tr>
</tbody>
</table>

### Pressure vessel thermal stress

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</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>No defect</td>
</tr>
</tbody>
</table>

### Dimensional stability

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<tbody>
<tr>
<td>E-4/105+des+E-2/150</td>
<td>Um/em</td>
<td>+/-5.0</td>
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</tbody>
</table>

### TG

<p>| | | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td></td>
<td>DSC</td>
<td>°C</td>
</tr>
<tr>
<td></td>
<td>&gt;= 130°C</td>
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</tr>
</tbody>
</table>

### TD

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td></td>
<td>°C</td>
<td>300-310°C</td>
</tr>
<tr>
<td></td>
<td>( °C/TGA 5% wt loss)</td>
<td></td>
</tr>
</tbody>
</table>

### Available Sizes

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Plain (metric)</th>
<th>(approx. in imperial)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FR4 1/16&quot; (1.60mm), single sided</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>503</td>
<td>76 x 172 mm</td>
<td>3&quot; x 5&quot;</td>
</tr>
<tr>
<td>506</td>
<td>101 x 152 mm</td>
<td>4&quot; x 6&quot;</td>
</tr>
<tr>
<td>509</td>
<td>152 x 152 mm</td>
<td>6&quot; x 6&quot;</td>
</tr>
<tr>
<td>512</td>
<td>152 x 228 mm</td>
<td>6&quot; x 9&quot;</td>
</tr>
<tr>
<td>515</td>
<td>203 x 254 mm</td>
<td>8&quot; x 10&quot;</td>
</tr>
<tr>
<td>521</td>
<td>304 x 304 mm</td>
<td>12&quot; x 12&quot;</td>
</tr>
<tr>
<td>573</td>
<td>304 x 457 mm</td>
<td>12&quot; x 18&quot; (BULK - 25 pack)</td>
</tr>
<tr>
<td>575</td>
<td>609 x 914 mm</td>
<td>24&quot; x 36&quot;</td>
</tr>
<tr>
<td>580</td>
<td>914 x 1219 mm</td>
<td>36&quot; x 48&quot;</td>
</tr>
<tr>
<td><strong>FR4 1/16&quot; (1.60mm), double sided</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>550</td>
<td>152 x 152 mm</td>
<td>6&quot; x 6&quot;</td>
</tr>
<tr>
<td>555</td>
<td>304 x 304 mm</td>
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</tr>
<tr>
<td>576</td>
<td>609 x 914 mm</td>
<td>24&quot; x 36&quot;</td>
</tr>
<tr>
<td>585</td>
<td>914 x 1219 mm</td>
<td>36&quot; x 48&quot;</td>
</tr>
<tr>
<td><strong>FR4 1/32&quot; (0.80mm), single sided</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>586</td>
<td>101 x 152 mm</td>
<td>4&quot; x 6&quot;</td>
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<td>596</td>
<td>914 x 1219 mm</td>
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</tr>
<tr>
<td><strong>FR4 1/64&quot; (0.40mm), single sided</strong></td>
<td></td>
<td></td>
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<tr>
<td>597</td>
<td>152 x 228 mm</td>
<td>6&quot; x 9&quot;</td>
</tr>
<tr>
<td><strong>FR4 1/64&quot; (0.40mm), double sided</strong></td>
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<tr>
<td>598</td>
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Prototyping: Copper Clad Boards

**Standard**

*500 SERIES*

A 1/16", 1/32", 1/64" laminate with 1 ounce copper. This flame retardant laminate is made of continuous woven glass cloth impregnated with epoxy resin. Developed specifically for the circuit processing industries’ requirements. Provides ultraviolet blocking and fluorescence when using automated optical inspection (AOI).

**Positive Presensitized**

*600 SERIES*

Available in 1/16" (62 mil) and 1/32" (30 mil) laminate with 1 ounce copper. Provides high resolution and excellent fine line control. Ideal for prototypes, small production runs, student training.

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</tr>
</tbody>
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**Paper Phenolic**

**Positive Presensitized CCB**

1/32" laminate with 1 ounce copper. Easily cut this material into custom sizes. Score on both sides with a utility knife and snap in half.