

## R-5775K and R-5670K Megtron 6 PPO Blend Resin System

**R-5775, or Megtron 6** is a High-Speed, Low-Loss multilayer laminate system that has superb Thermal performance characteristics. Its electrical properties are close to those of PTFE. Also, it has the industry's highest rating for LEAD-FREE ASSEMBLY REQUIREMENTS.

### Material Storage

Laminate should be stored in a cool dry environment. Avoid bending or scratching the laminate surface. When possible, store the laminate in its original packaging and protect the surface. Prepreg should be stored flat in a temperature controlled environment (cool and dry) : 68°F (21°C) and less and 50% RH. For prolonged storage, keep prepreg at a reduced temperature of 40°F (4.5°C). Open bags should be resealed when not in use. Megtron 6 prepreg should not be exposed to open environments for more than 8 hours total cumulatively.

### Laminate Surface Preparation

Regular shiny copper can be cleaned using industry standard chemical clean or mechanical clean. Reverse treat copper should be cleaned using industry standard chemical clean.

### Inner Layer Bond Treatment

Black or Brown Oxide with reduction (DMAB) or equilant can be used. Alternative Oxide Treatment using Peroxide / Sulfuric Etch technology can also be used. Note that black and brown (especially brown) oxide treatments often have lower thermal resistance.

### Drying

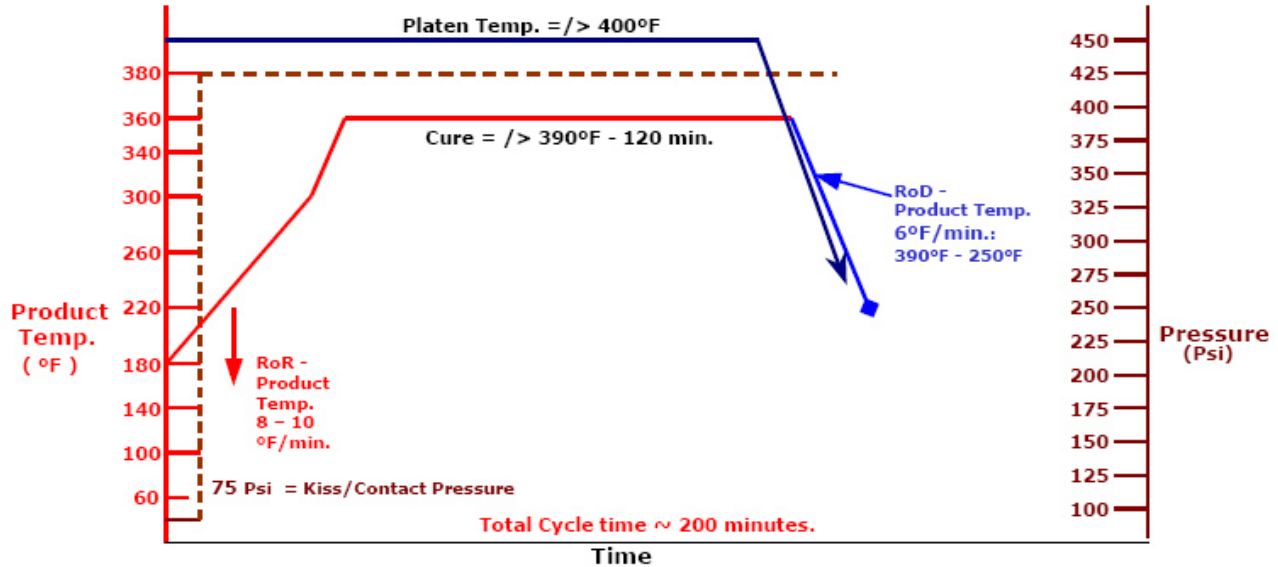
Dry finished inner layers completely to remove any absorbed moisture or surface moisture. A racked back at 225°F (105°C) for 20-30 minutes is preferred for black and brown oxide. For conveyORIZED alternative oxide processing, some equipment have sufficient drying capability, however, a similar rack bake is suggested.

### Lamination Cycle

	US	Metric
Pre-Vacuum	10 minutes prior to application of heat or pressure 28.5 inches Hg minimum	724 mm Hg minimum
Heat Rise Rate	8 – 10°F per minute	4 – 5°C per minute
Range for Heat Rise	180 – 280°F	80 – 140°C
Pressure	425 psi	30 Kg/cm <sup>2</sup>
Cure Time and Temperature	120 minutes @ 390°F	120 minutes @ 198°C
Cool Down Rate	Less than 7°F per minute until parts reach 250°F	Less than 3.5°C per minute until parts reach 120°C

**\*Note** : Vacuum should not exceed a total of 40 minutes. Vacuum should be turned off 30 minutes after the pre-vacuum period.

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**Multilayer Lamination Cycle - (US)**

### Hole Preparation and Smear Removal

Standard Permanganate desmear is adequate in most cases. Plasma may be used as a more aggressive etchback, however, a standard permanganate process should follow the plasma process. Desmear parameters should be adjusted depending on board thickness, stack count and stack thickness. Contact our Technical Service Group for more information.

### Drilling

Drilling parameters should be adjusted depending on hole size, layer count, panel thickness and stack height. Below are the base-line drilling parameters. Please contact our Technical Service Department for more information. Hans Vandervelde is our Carbide Drill and Router engineer and can be reached at 1-858-342-9852.

	US		Metric	
Drill Size	0.010" – 0.018"	0.020" – 0.055"	0.25 – 0.46 mm	0.5 – 1.4 mm
Surface speed	260 – 450 SFM	450 – 600 SFM	80 – 130 m/min	140 – 180 m/min
Chip Load	0.5 – 1.0 mils/rev	1.0 – 2.75mils/rev	12 – 25 µ/rev	25 – 70 µ/rev
Hit Count (Max)	500 - 1500	1500 - 1750	500 - 1500	1500 - 1750