ROGERS CORPORATION

Processing Notes

RO4003C™/RO4350B™/RO4835™ Laminates Quick Reference Processing Guide

Material Description:	Copper clad, glass reinforced, ceramic filled hydrocarbon resin composite material
Storage:	Ambient
INNER LAYER PREPARATION	
Tooling:	Compatible with most round and slotted pinning systems.
Surface Preparation for Photoresist Applications:	Process as-is or uses chemical or mechanical preparation depending upon core thickness.
Photoresist Applications:	Standard film and liquid resists & procedures
DES Processing:	Standard processing - Thin cores may require leaders.
Oxide Treatment:	Use procedures associated with oxide or oxide alternative of choice.
BONDING	
Final Preparation:	125°C to 150°C (257°F to 302°F) Pre-bake recommended
Multi-layer Adhesive System:	Compatible with RO4400™ series bond-plies and most thermoset prepregs.
Multi-layer Bond Cycle:	Use bond parameters associated with adhesive system.
PTH AND OUTER LAYER/DOUBLE SIDED CIRCUIT PROCESSING	
Drilling:	Standard entry/exit materials such as sheeted aluminum and pressed phenolic. Use new drills. Controlled infeeds, speeds, and retract rates. Inspect holes to determine tool life.
Deburring:	Mechanical debur/scrub acceptable for thicker cores/builds.
Hole Preparation:	Chemical or plasma desmear may be required. Etchback is not recommended.
Metallization:	Electroless copper or direct deposit processes
PTH PLATING AND OUTER LAYER IMAGING	
Final Surfaces:	Compatible with most final metal surfaces and organic solderability preservatives (OSP's). Preserve post-etch surface and bake cores prior to application of liquid photoimageable soldermask (LPI).
Final Circuitization:	RO4003C™/RO4350B™/RO4835™ laminates can be routed, punched, or V-scored. Diamond-cut or multi-fluted chipbreaker router bits are recommended. V-score depth should be <½ of the material thickness or less. Deeper cuts could result in pre-mature breakaway.

Prolonged exposure in an oxidative environment may cause changes to the dielectric properties of hydrocarbon based materials. The rate of change increases at higher temperatures and is highly dependent on the circuit design. Although Rogers' high frequency materials have been used successfully in innumerable applications and reports of oxidation resulting in performance problems are extremely rare, Rogers recommends that the customer evaluate each material and design combination to determine fitness for use over the entire life of the end product.

The information in this processing guideline is intended to assist you in designing with Rogers' circuit materials. It is not intended to and does not create any warranties express or implied, including any warranty of merchantability or fitness for a particular purpose or that the results shown on this processing guideline will be achieved by a user for a particular purpose. The user should determine the suitability of Rogers' circuit materials for each application.

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