

RO4700™ (RO4725JXR™, RO4730JXR™ & RO4730G3™)

Antenna Grade 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 hole systems.
Surface Preparation for Photoresist Applications:	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 - 302°F) pre-bake recommended.
Multilayer Adhesive System:	Compatible with RO4400™ prepreg and most thermoset prepregs.
Multilayer Bond Cycle:	Use bond parameters associated with adhesive system.
PTH PREPARATION	
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.
OUTER LAYER/DOUBLE SIDED CIRCUIT PROCESSING	
Outer Layer Imaging:	Photo process, plate and SES as standard.
Final Surfaces:	Compatible with most final metal surfaces and OSP's. Preserve post-etch surface and bake cores prior to application of LPI.
Final Circuitization:	RO4700™ 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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