ROGERS CORPORATION

Processing Notes

TMM® Laminates
Quick Reference Processing Guide

Material Description:	Very High modulus thermoset ceramic filled polymer system. Typically used in single and double sided applications and simple multilayer constructions.
Storage:	Ambient
Material Handling:	Careful handling is required to avoid cracking or fracturing the material. This is especially important in thinner constructions.
PTH AND DOUBLE-SIDED CIRCUIT PROCESSING	
Pinning/Tooling:	Pinning/Tooling holes must be drilled and should never be punched.
Drilling:	Ceramic fillers are abrasive on drill bits and will result in shorter tool life. Extensive drill recommendations can be found under the Fabrication Guidelines TMM High Frequency Laminates – Drilling Guidelines document on the Rogers' website.
Surface Preparation:	Chemical preparation of surfaces is preferred over mechanical scrub/deburr. If mechanical scrub/deburr is required, a hand scrub is preferred.
Hole Preparation:	Special treatment of hole wall is not required prior to deposition. Chemical desmear process can improve post drilled hole wall topography. Etch back is not recommended.
Metallization:	Electroless copper or direct deposit processes are both adequate.
Outer Layer Processing:	With proper handling, materials are compatible with traditional SES processing.
Final Surfaces:	Compatible with most final metal surfaces and organic solderability preservatives (OSP's).
Final Circuitization:	Routing is the preferred method for final circuitization. Extensive routing recommendations can be found under Fabrication Guidelines TMM High Frequency Laminates – Routing Guidelines on the Rogers' website. Edge quality issues can result from other circuitization methods such as punching and scoring.
Compatible Multilayer Adhesive Systems	Compatible with a variety of adhesive systems including CuClad® 6250/6700, FEP, FR-4 prepreg. Adhesive choice may affect plated through hole preparation and processing.

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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