



ROOM TEMPERATURE TOOLING LAMINATES

FABRICATION OVERVIEW



APPLICATION GUIDE

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GUIDE FOR FABRICATION OF ROOM TEMPERATURE TOOLING LAMINATES USING TRADITIONAL FABRICATION METHODS

1. Properly prepare your model or pattern surface with several coats of an appropriate mold release and a coat of parting agent (if preferred) over the mold release such as Mold Release MR #1 and MR #2.
 - Permeable model surfaces such as wood or plaster require the use of a sealer. Polyester and vinylester faced patterns or molds also require a sealer to prevent chemical leak through.
 - Epoxy or metal surfaces require only release agents and a coat of parting agent applied over the mold release (if preferred).
2. Brush on a .020" - .030" layer of Epoxy Surface Coat that is properly catalyze and thoroughly mixed. Allow to tack.
 - Customer preference may be to apply a single surface coat layer of .060", however applying a single coating at this thickness could result in pinholes on the surface of the mold.
 - Tack refers to a curing phase of the resin as follows; the resin will not stick to your finger when touched, but is soft enough to leave a fingerprint.
3. When the surface coat has reached the tack stage you may begin laminating.
 - Catalyze and mix the Epoxy Laminating Resin by weight according to the Data Sheet instructions.
 - Begin applying Style #7500 10oz Fiberglass Cloth using a brush or laminating roller to gently compact the cloth into the laminating resin, wicking the resin up through the fabric.
 - Make sure the cloth is fully saturated with resin and no air is entrapped between the cloth and surface coat.
 - Continue to apply additional layers of fabric, applying laminating resin as needed until the desired laminate thickness has been reached.
 - A finished laminate will range from ¼" to ½" in thickness depending on the physical demands of the finished tool. This is approximately 16 – 48 plies of Style #7500 10oz Fiberglass Cloth.
 - If you prefer to laminate with heavier Style #7587 20oz Fiberglass Cloth it is best to first use 3 – 4 plies of Style #7500 10oz Cloth against the surface coat to prevent print through from the heavier 20oz weave.
 - Do not apply laminating resin to excess. There should be no areas where pooling of resin occurs.
 - Butt the cloth together when laminating a sharp female radius to prevent air entrapment under the cloth.
4. Allow finished laminate to cure on the model before attaching a support structure to the back of the laminated tool with laminating resin and fiberglass cloth.
 - When bonding against a cured laminate it is necessary to abrade the surface with coarse sandpaper. Commonly used substructure materials are fiberglass tubing, honeycomb panels, composite base stock, plywood or metal tubing.
5. Allow support structure bonds to cure before demolding tool from model or pattern.

PLEASE REFERENCE THE FOLLOWING PRODUCT DATA BULLETINS

Epoxy Surface Coat Options: ES-201PC / ES-218 / TCC-351 / TCC-352 / TCC-353

Epoxy Laminating Resin Options: EL-301 / EL-302PC / TCC-301 / TCC-306

Room Temperature Tooling Laminates/Revised 2/10/10
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