Laminating Procedure for Cosmetic Tooling

AME 6441-800 PAT and AME VPRO-012 epoxy vinyl ester resins

This document outlines Ashland's suggested tooling procedure. In our experience, this procedure provides the best results for a well cured durable tool that will provide good long-term cosmetics.

1. Apply tooling gel coat per manufacturer's recommendations as to thickness, catalyst level, and cure time.
2. Apply AME VPRO-012 resin to cured tooling gel coat, using 2% MEKP-9 (or equivalent) @ 30 mils final thickness. Cure time should be 1 hour @ 75 °F or until film cured.
3. Using AME 6441-800 PAT resin, apply one layer of 75-80 mils chop skin coat using 1.75%-2.25% MEKP-925H (or equivalent). The catalyst level will depend on ambient temperature. Allow the laminate to cure to a 934 barcol hardness of 30+ or overnight. Inspect tool for air in the skin coat and repair such areas. The skin coat should be lightly sanded to knock down any glass sticking up.
4. After the skin coat has reached the correct 934 barcol hardness (30+) and laminate exotherm has returned to ambient temperature. Repeat step 3.
5. After the second layer reaches the correct 934 Barcol hardness (30+), and the laminate exotherm has returned to ambient temperature. Repeat step 3 for a total of 3 layers of 75-80 mils each.
6. After the total thickness of 225-250 mils have been applied, bulk laminates of 90-120 mils of chop using a MEKP/CHP catalyst can be applied using the same procedure, until the total desired thickness is achieved. The catalyst level will depend on ambient temperature.

All glass laminates should be applied with a glass to resin ratio between 34-40% glass.

After 225-250 mils a filled tooling system can be substituted for the 6441-800. However it should be noted that a laminate that is unfilled will perform equally across the entire laminate. Filled systems may have dissimilar shrink and may not perform equally to unfilled systems.

When ambient temperatures are 85 °F+ a blend of 75% MEKP and 25% CHP catalyst should be considered for steps 4 and above. These catalysts are designed to control exotherm.

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