

Puma Polymers

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MASTER WORKS™ Tooling with Epoxy Gelcoat M1



1 Introduction

This is a guideline for the use of epoxy gelcoat to create an M1 tooling laminate with epoxy gelcoat. Most epoxy compounds will work but the user will have to assess on a case by case basis.

This type of tool is suitable for components produced by open lay up, vacuum bag or closed mould resin infusion.

Having firstly prepared the master, sealed and applied an appropriate release, prepare the appropriate amount of epoxy gelcoat in accordance with the manufacturers instructions.



2 First Gelcoat Layer

Apply an even layer, circa 0.5mm thick, over all areas of the master.

Allow sufficient time for the gelcoat to become “tack ready”. This can be determined by touching the gelcoat with your knuckle and pulling away sharply, you will hear a distinct “click” when ready.



3 Second Gelcoat Layer

Mix sufficient epoxy for a second coat and apply as before.

Then prepare the M1 material for the laminate and apply to the back of the wet epoxy allowing the two materials to mix together.

DISCLAIMER OF LIABILITY

The information above is given in good faith as a guide for material use. However it remains at all times the responsibility of the customer to ensure that the material is fit for the particular purpose intended. The Master Works Trade Mark is the property of the Rohm and Haas Corporation.

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4 Back up with M1 Paste and Laminate

Prepare sufficient M1 paste containing 3-5% 6mm chopped e-glass. Apply a layer, 2-5mm thick and round off any corners and acute internal angles. Allow this to set.

Prepare more M1 for the laminate.

Apply an even 1-2mm layer of M1 and pre-cut Master Works™ triaxial reinforcement fabric to the wet M1.



5 Spacer Layer

Separate an appropriate amount of M1 and mix in by hand 5% 6mm chopped glass strand to create a workable paste.

Apply a thick but even coat of the paste to the back of the first layer of fabric, the thickness should be 5-8mm. The larger the tool, the thicker the spacer layer needs to be as a thicker sandwich layer will create a stiffer laminate.

Care should be taken to apply an even radius of paste to internal angles.

This will minimise any potential bridging with the second reinforcement layer.



6 Second Reinforcement Layer

When this is complete and has reached an initial set prepare more M1 for the final reinforced layer.

Brush another 1-2mm coat over the back of the paste and apply the second pre-cut triaxial reinforcement layer.

Ensure reinforcement is "wet out" thoroughly.

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7 Completion

The process is now complete. Any other fixings or stiffening ribs can be added at this point.



8 Demoulding

This tool will be ready for demoulding in 24 hours. Curing is assisted if the mould is left in a warm dry place.

Trimming is recommended after this 24 hour curing cycle.



9 Mould Use

Prepare for use with selected release system.

This type of mould is suitable for resin laminates produced by open lay up, vacuum bag or resin infusion.

If using a “pre-preg” fabric do not exceed operating temperatures of 95°C

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