

Resin Casting

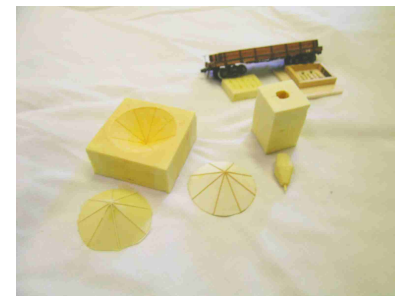
Basic Techniques for a One Piece Mold

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Why do castings? It's an easy way to make many exact copies of a complicated piece such as roof supports, windows, and car parts.
Save Time - Sometime

What You Need

A Master	Tooth picks	Waste bag
Rubber cement	Clear Coat	Rags
tape	Talcum powder	Safety glasses
Clay	Vaseline	LATEX GLOVES
Scale	Plastic wrap	Mold making material RTV
Measuring tools	Wax Paper	Two part Resin
Mixing pot	Piece of glass	
Stirring tools	NEWSPAPER	
		Safety: Use eye protection & Gloves. This stuff can blind and cause allergic reactions.



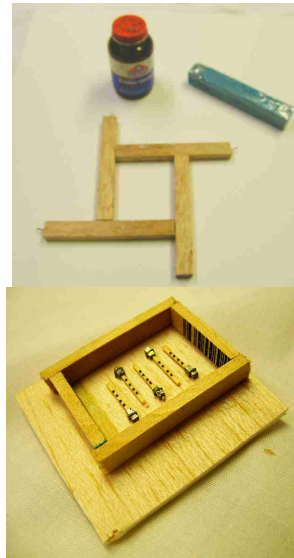
The Mold Process

* Master – as perfect as you can make it. When satisfied crystal coat.

* For the Mold Box

- Rubber cement
- Tape
- Foam core board, balsa wood, styrene

- Clay
- Attach master to base – use CAA, or rubber cement
- Use clay to ensure there are no gaps between base & master for the rubber to get under
- Build form around master – minimum ¼” on sides and ¼” above the master – hold together with tape or rubber cement.



* To measure, you will use

- Scale – Mom’s food scale (if you’re careful)
- Measuring tools
- Mixing pot – plastic throw aways
- Stirring tools – popsicle sticks, scrap wood, etc.
- Tooth picks



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- * Determine volume of rubber to fill mold – fill with water and immediately dump into a measuring utensil and mark it.
- * Dry everything.
- * PUT ON GLOVES. RTV is not as bad as Resin but you still don’t want it on you.
- * Pour the correct amount of rubber into marked measuring utensil.
- * Zero scale and weigh rubber.
- * Weigh out 1/10 by weight of catalyst
- * Mix Rubber and catalyst. - Take your time, do this gently, slowly, idea is to introduce as little air as possible.
- * Depending on complexity – paint master with rubber then pour rubber in thin stream from one corner to top of mold form.
- * Tap bottom of mold for several minutes to get bubbles out. Take off the gloves now.
- * Set on a level surface and don’t mess with it for 24 hours (yeah I know it says 4 hours leave it for 24 hours)

* AFTER 24 HOURS check to see that the mold has hardened. If so, tear the forms off and pull the master from your completed mold.

Casting the parts

* To cast, you will use

- Crystal Coat (any brand)
- Talcum powder
- Vaseline
- Plastic wrap
- Wax Paper
- Piece of glass, ceramic tile
- NEWSPAPER
- Waste bag
- Rags



* Determine volume of resin to fill mold – fill with water and immediately dump into a measuring utensil and mark it.

* Dry everything.

* Select 2 measuring utensils and mark for ½ of the total resin required. You must use these utensils only for part A or B keep them separate.

* Prepare casting area – Newspaper, lots of newspaper – cover with wax paper - good ventilation

* Coat cover with Vaseline or cover with Plastic wrap

* Coat interior with release agent – Crystal Coat (let Dry), Talcum powder

* Mold in Microwave for 1 minute on high

* PUT ON GLOVES. Resin is nasty

* Measure part A & B into their respective measuring utensil

* Pour Part A & B into the mixing pot.

* Mix thoroughly – 25-30 seconds with a stir stick

* Depending on the mold, partially fill the mold then use a toothpick or like object to coat all undercuts or hard to fill areas – get the air bubbles out.

* Finish filling mold. If you have extra resin pour into another mold even if it doesn't fill it or let it set you can discard later.

* Place cover over mold and weight.

* Clean off stir stick & toothpick for future use.

* You may take the Gloves off now

* Wait till Resin Kicks – Large parts this will be in the set time give on the resin package, for small parts it will take longer.

- * Peel the cover off the mold. Depending on whether the casting comes out with the cover or stays in the mold separate it from what it stuck to.
- * Casting will still be soft if you have any bubbles this is the time to cut them off or make any other corrections. – If you wait the stuff gets really hard.
- * Let the casting set for 24 hours then clean with warm soapy water to remove any release agent.
- * Your castings are ready to use

Tip – always make 10-15% more castings than you think you will need. You are going to get some that will not be usable no matter how careful you are.

Tip – If you use clear coat as a mold release your casting will be primed when you remove it from the mold.

Other types of molds:

Squish

Two part

Split mold

Sources Mold Rubber and Resin

Alumilite - Granddad's keeps in stock

Micro Mark in NJ

Direct from, Freeman, Smooth-on, and Alumilite

Resources for help and more details

Many how tos and tips are available at these sites

Freeman has a DVD that is excellent available on ebay

Alumilite <http://www.alumilite.com/> select How To

Smooth-on <http://www.smoothon.com/> select How To

Freeman's new hobby site <http://www.hobbycast.net/>

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