

Tail Light Casting w/Equipment

Products used in this How To:

- * Mold
- * Alumilite Water Clear Casting Resin
- * Vacuum Chamber
- * Pressure Pot
- * Gram Scale
- * Microwave or Oven
- * Excel Knife
- * Marker
- * Rubber Band
- * Stir Stick
- * Mixing Cups



We are going to take a look at the process for casting clear lenses with the use of equipment. This process will walk you through each and every step.



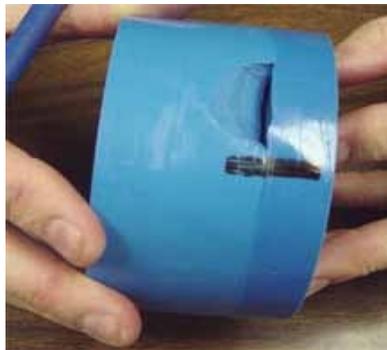
The first thing you will want to do is preheat your mold. You can either place your mold in a microwave for 1 minute on high per lb of rubber or place the mold in a conventional oven at 150 F for 15 minutes. The mold should be warm to the touch but not so hot that you can not hold onto it.



The next thing we suggest doing is to use a permanent marker to draw a line that will help you visually line up the mold much quicker than trying to match up the locators you cut in the rubber every time you need to put the mold back together.



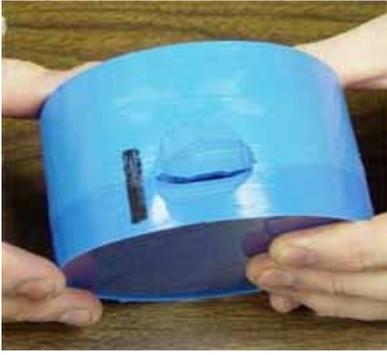
Now you are ready to cut your pour hole in the rubber mold. Take one half of the rubber mold and cut a channel that will act as the pour hole and reservoir for the resin to fill the mold. Cut it on an angle so you only have a small slit that is in contact with the part and a bigger area where you will pour the resin.



When you place the mold back together, you can see the inlet into the lense cavity.



Now cut the other half the same way. This will create a nice reservoir to hold the extra resin needed for pressure casting to make sure you do not have a short pour.



Now when you place the two halves back together, you can see the pour hole/reservoir you have just created.



Use a rubber band or tape to hold the mold together in place. Do not over tighten to prevent distorting the rubber and your part. Simply hold it together so the locators prevent the two halves from sliding or separating.



Measure equal amounts by weight of A & B of Alumilite's Water Clear. Use a container much bigger than needed to hold the resin due to the fact that it will expand as you vacuum it similar to the mold making rubber.



If you need help calculating the volume of resin your part will require, visit the [Calculations](#) page to help you accurately estimate the amount of resin you will need to fill your part.



Stir the resin thoroughly until absolutely no swirls are seen. Be sure to scrape the sides and bottom well.



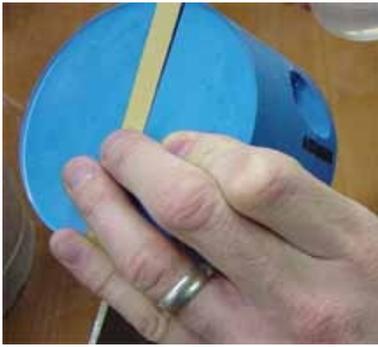
Place the mixed Water Clear resin in the vacuum chamber and turn on the pump.



Watch the material rise in volume and then collapse. Once the material collapses, you have removed 98% of all the air you mixed in. Allow the resin to vacuum for another 30 seconds (as long as you are not closing in on the 15 minute gel time).



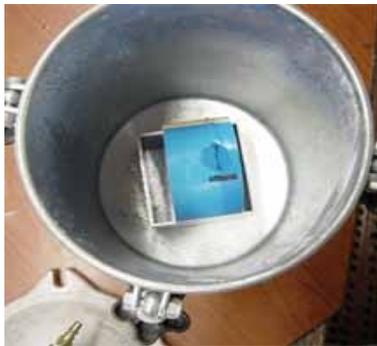
Use something to hold the mold upright which will enable you to pour the resin in without having to hold it.



After you have poured approximately half of the resin required to fill the mold, pick it up and tilt the mold from side to side to help the air bubbles dislodge from the mold and find their way to the top.



Then stand the mold upright again and continue pouring the mold until you have filled the mold and the entire reservoir.



Place the entire mold and support into the pressure pot. The key to using pressure is that it must be under 40-50 psi before the resin starts to gel (within the open time which for the Water Clear is 15 minutes).



Clamp the lid down tightly.



SAFETY: MAKE SURE YOUR POT IS RATED FOR AT LEAST 30-40 PSI AND MAKE SURE THERE IS A SAFETY RELEASE VALVE IN PLACE SO THAT YOUR POT NEVER TAKES IN MORE AIR PRESSURE THAN WHAT IT IS RATED FOR. Then connect your air source making sure your regulator is set for 40-50 psi. If you have a small compressor it may be a good idea to have the air compressor filled with air so it doesn't take too long to fill the tank with the required pressure.



Wait approximately 2-3 hours (depending on the mass of the part being cast and mold temperature) and remove the air pressure from your pot. Then remove the lid.



Take your mold out of the pot and touch the resin in the reservoir to make sure it has fully cured. (Because the resin is Water Clear, it is difficult to see the casting in the next few pictures.)



Then separate the mold. The lense is actually on the male half of the mold (the one closest to the bottom of the picture in the person's left hand).



If the mold or part is still warm, you may wish to leave the mold open for 10 minutes to cool. As the cast piece cools, it will harden.



Then remove your Water Clear cast replica.



Here you can see some of the flash along with the resin that cured in the pour hole/reservoir that the person is holding onto.



Use an Exacto knife to remove any flash. It is also a good idea to remove any flash that is left on the mold surface before starting the process over. The left over flash may make your parting line bigger and may even distort your part if it is not removed.



Here you can see the original lense next to a Water Clear cast replica. To achieve the red lense look, simply repeat the process and add a small amount of Alumilite's Red Dye to make the part a beautiful translucent red.