



NUMBER 5

Nova Scotia Museum 1747 Spring Garden Street
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Clear-cast Plastic Resin

MATERIALS LIST FOR CLEAR CASTING

<u>Product</u>	<u>Supplier</u>
Clear Cast Resin	Supplier of Plastic Products
Catalyst or Hardener	Supplier of Plastic Products
Medicine eye dropper	Drug Supplier
Mixing cups (glass or paper)	Supermarket
Wooden stir sticks	Supermarket
Toothpicks	Supermarket
Molds	Homemade, Hobby Shops
Masking Tape	Supermarket
Paste wax for mold release	Supermarket
Styrene	Supplier of Plastic Products
Acetone	Supplier of Plastic Products
Formalin 40%	Fisher Scientific or Canlab
Isopropyl Alcohol	Fisher Scientific or Canlab
Ethylene Glycol	Fisher Scientific or Canlab
Sandpaper (med. & fine)	Hardware
Polishing Compound (Tripilee)	Supplier of Plastic or Jewelers Products
Mirror Glaze Polish (MGM3)	Supplier of Plastic Products
Fisher Scientific: 21 Gurholt Dr. Dartmouth, N.S. B3B 1J8	902-469-9891
Canlab: Bank of Commerce Tower 8th Floor, 73 Tacoma Dr. Dartmouth, N.S.	902-434-5380

METHOD

1. Molds may be of glass, enamel or polyethylene plastic. Choose a suitable mold and wax it with paste wax.
2. Make sure the object to be placed in resin contains no water. Any moisture left on or within the specimen will cause a fog to form around the object when the resin sets.
3. Mix in a glass or paper cup enough resin to pour a foundation layer in the mold .6 cm. thick. Use 3 to 9 drops of Catalyst per 100 ml. of resin. The larger the volume of resin the less catalyst is needed. Stir slowly. Keep the stir stick in the resin as you stir to prevent air bubbles.
4. Slowly pour the base layer in the mold. This layer keeps the specimen you intend to place in resin from sinking to the bottom of the mold. Allow this layer to become tacky. This usually takes 1-2 hours. (If a glass is used for mixing it should be washed immediately in hot water and detergent.)
5. Mix more resin, using 1 drop of catalyst per 100 ml. of resin; add 25 ml. of styrene and stir. Place the dried specimen to be embedded in this mixture to soak. This will remove any air which is trapped within the specimen. Soak 30 min. to 1 hr. but do not remove until ready to place in mold.
6. When the foundation layer becomes tacky mix more resin as in Step 3 and pour .25 cm. over foundation layer. Then place the specimen in this layer. This is the holding layer. Be sure to pour only enough resin to hold the specimen and not cause the specimen to float. Remove any air bubbles by bringing them to the surface with a toothpick. Allow this layer to become tacky.
7. When the holding layer is tacky mix more resin using 3 to 6 drops of catalyst per 100 ml. of resin. Pour slowly directly over the specimen, filling the mold to the desired depth. There should be at least .6 cm. of resin over the specimen. Steps 1 to 7 take approximately 5 hours to complete.
8. Allow the embedded specimen to stay in the mold for 2 days to completely harden. The top surface will stay tacky for some time due to air drying. If the mold is filled to the top, a piece of acetate film may be laid over the top of the mold, making contact with the liquid resin, and allowed to harden this way. When the acetate is peeled off after the resin hardens you will have a smooth, hard surface.
9. If you have trouble releasing the plastic block from the mold, place the mold and its contents in the freezer for 30 minutes. This should free the plastic block from the mold. If it doesn't, then take the mold directly from the freezer and place it in hot water.
10. After the plastic block is cured, sand smooth and polish clear, using several grades of sandpaper and polishing compounds. Start with the coarse grades and work down to the finer papers and compounds until the desired luster is obtained. A lot of time and work is required to sand and polish by hand. Power sanders and a buffing wheel will cut the time requirements in half.

Edward Claridge