

Mold Casting System Instructions

#CAST7M
4 Chamber
7mm



#CASTEV
2 Chamber
.86" x 5"



#CASTEV4
4 Chamber
.86" x 5"



#CASTEV4
4 Chamber
.86" x 5"

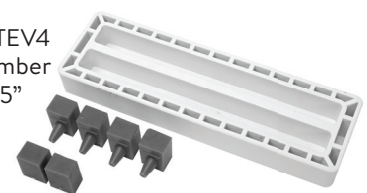


Table A Type of Mold

Supports	#CAST7M (*) 4up 7mm Pen Mold	#CASTEV 2up .86" x 5" Mold	#CASTEV4 4up .86" x 5" Mold	#PKMOLD18 2up ¾" x 9" Mold
Small Supports	Integrated in mold	4	4	4
Large Supports	N/A	4	4	
Blank Blocks	N/A	2	4	2

(*) Note: Mold #CAST7M is a Silicon mold with integrated tube supports that will work for Simline, Trimline, Comfort 7mm tubes.

Important Note: Note that PSI the casting mold sets are compatible with many types of Polyester Resins, Alumilite, Epoxy and other mold making materials some of which require a pressure pot for eliminating bubbles in your blanks.

Items used for casting blanks

- Molds (above) #CAST7M, #CASTEV, #CASTEV4, #PKMOLD18
- Resins: Alumilite #CASTALx (3 sizes available), Polyester #CASTRF2 (32oz+hardner)
- Eye Candy® Coloring (multiple choices): Powders #EC01xxx, Pastes #EC05xxx
- California Air Pressure Pots: 2.5gal #CASTPPP25, 5.0gal #CASTPPP50
- Gram Scale: #CASTSCALE
- Mole Release: Spray #CASTMR, Liquid brush on #CASTEVMR
- Final fine finishing sandpaper: #PKFINKIT
- Other: Lathe, Lathe mandrel to mount blanks, Lathe chisels, Drill to drill holes through blanks, Mod Podge® glue/sealer

Before Starting

Make sure the work area is clean and well ventilated. Work on a disposable tabletop cover (i.e. newspaper), keep plenty of paper towels available to wipe up. Wear the rubber gloves if possible. Have mineral spirits available for cleaning up. Work with room temperatures between 60-75 degrees.

Preparation of your mold for resin

The first step is to liberally apply or spray a coat of Mold Release wax or spray to the cavities of your mold being used – this will allow for easy removal of your finished / casted blanks. Allow to dry for about 2 minutes.

How much resin to pour

A ¾" x 5" pen blank will require about 2oz (56 grams), Estimate the amount of resin you will need for your pour (refer to Table B). if your blank(s) are shorter, measure a proportional amount of resin. Pour/ measure the resin into measuring cups. If measuring by weight, use a scale to measure each part. Pour parts A and B together (if using Polyester pour drops into resin). Mix thoroughly and slowly for about 4 minutes (avoid making bubbles).

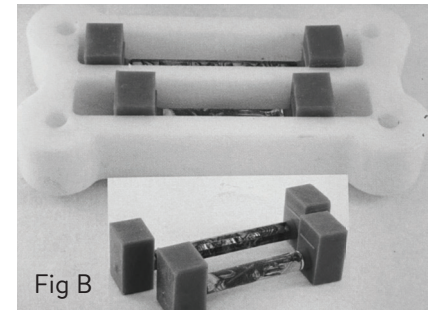
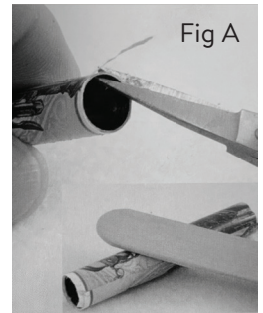
TABLE B Type of resin used to make ¾" x 5" Blank in ¾" Channels molds

	Equal By Volume Resin	Equal By Weight	Polyester
Part A	1oz	Alumilite Slow Resin	Casting Resin Refill
Part B	1oz	29 grams	2oz
Hardner		29 grams	
Working Time	Subject to Instructions		12 drops
Curing Time	Subject to Instructions	12 minutes	15-20 minutes
Bubbles when curing	Subject to Instructions	3 hours	24 hours
		Yes (Pressure pot needed)	No

Note: The 4 chamber 7mm silicone mold #CAST7M will use about 1/2oz or 15 Grams of resin per chamber

Making a decorated pen tube

1. To decorate your pen tubes. (Fig A) Wrap the brass pen tube with decorative paper or material, or paint your tubes. Use Craft papers, wall papers, playing cards, small photos or wrapping paper or any other paper with an attractive design. Apply an adhesive on the paper then attach or wrap the paper around the tube. Note that the resin may seep into the paper during casting so it is advised to seal the papered tube with a glue or sealer on the round and end surfaces (i.e. Mod-Podge® is a good sealer). After wrapping trim any excess from the tube ends so that all material glued to the brass does not extend past the brass. Apply more than one application of sealer if necessary. Allow the sealer to dry. If you're artistic, paint a design or apply stickers or glitter to achieve the final effect.
2. Press your decorated tubes firmly onto the Silicone tube mounts appropriate for the I.D. size of your tubes (Fig B). 8mm to 27/64" use the smaller supports. 10.5mm to 12.5mm use the larger supports. Press firmly into the mold chamber you are using with the resin.
3. Brush or spray a "mold release" agent into the mold to simplify extracting the blank.
4. Slowly pour your mixed resin over your blank and into the mold. Avoid bubbles – bubbles will distort the final cast and create the potential for blowout when turning. Place in a 70-75 degree low humidity dustless area to cure. Some resins require curing in a pressure pot to avoid bubbles. Curing time is subject to manufacturing specifications.



Making a solid pen blank (multiple colors)

1. Press blank blocks into the channel of the mold to the final sizes of your blanks. This will save using more resin than necessary.
2. Pour your mixed (clear) resin into separate cups (paper or plastic) in proportion to the amount of each color you will be using. i.e. for 3 colors you will have 3 nearly equal cups of resin.
3. Add Eye Candy® color powder or paste concentrate into each of the cups. Mix each color well until homogeneous. Note: the powders and pastes are very concentrated and only a very small amount is necessary.
4. Allow the mixed resin to partially cure (depends on resin type). Pour thin layers of each color into the mold when done give the mixture a quick "S" swirl. (DO NOT MIX! or colors will blend). There are many techniques available beyond the scope of these instructions to make interesting multi-colored effects – practice and test different color and layer / swishing techniques to refine your techniques.

Final Processing

1. Eliminating Bubbles. Many resins create bubbles when they cure. If the cured blank has bubbles, you will see obvious "blowouts" in the tube when turning. In this case it is advisable to put the mold in a pressure Pot from 40-60psi during curing.
2. It is fully cured when it feels dry to your touch. Note that the cavity with mixed colors will take longer to cure for some resins – perhaps up to hours.
3. When cured Remove the casting from the mold – It may require tapping the mold against a solid surface removing the rubber feet for access to the bottom of the mold for punching out the blank. Use a flat end screwdriver to pry out if necessary.
4. **Cleaning up.** Wipe down the stir sticks and inside of the measuring cup with a paper towel. Use mineral spirits to clean away any excess or stains. Make an effort to preserve the measuring cup and stir sticks for future projects.
5. **Turning.** Drill (Solid blanks) and mount the blanks as you would any other plastic materials. Turn carefully not to expose any underlying decorative materials. You may have to leave a small amount of material above the bushing to not "blow out" the blanks at the edges. Taper the ends of the blanks slightly and it usually will not affect the beauty or function of the kits. Sand to 600 grit then use #PKFINKIT or PSI One-step polish. Assemble and press your pen together the same as you would for any other pre-fabricated plastic blank.