

PSI Pen Tube Cast-a-Kit Instructions

Item # PKCASTKIT

List of Materials Included

32oz High performance Resin	5 pair of Latex Gloves
5ea stir sticks	1ea 1-1/4 oz Plastic bottle Hardening additive
1ea Casting Mold	1ea 8 oz measuring cup
Assorted cork and rubber stoppers:	1pack Buckshot pellets

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 rubber gloves. Have mineral spirits available for cleaning up. Work with room temperatures between 60-75 degrees. Remove the metal seal on the can of resin, puncture and pry out carefully.

1) Decorate your pen tubes

This process is only limited by your imagination. It is advised to rough sand the tube with 120 grit or coarser sand paper prior to any decorating so that adhesives or paints will stick to them.

Decorating the brass pen tubes:

- a) **Wrap with decorative paper or material.** Use Craft papers, wall papers, 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. 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.
- b) **Allow the sealed tube to dry.** The sealing process will also render the decorated tube into its final color so you can decide prior to casting whether or not you will achieve the desired final effect. If you're using fabrics, sealing the material will avoid air bubbles during the curing process.
- c) **Other decorating ideas:** Paint and decorate the tube. First apply a base coat to the tube (white always works well) and let dry. Then decorate. If you're artistic, paint a design or apply stickers or glitter to achieve the final effect. You may spray paint a textured paint (i.e. Plasti-Kote Stone Touch or Rustoleum crackle designs give great results and offer a large variety of color variations).

2) Pour a base layer of Resin

Note: Hardener to Resin ratio:

60-69 degrees - 5 drops for every 1oz of Resin

70-75 degrees - 4 drops for every 1 oz of Resin

Note it is important to avoid bubbles during the casting process - bubbles will distort the final cast and possibly created blowout when turning. Avoid shaking the can or pouring too quickly into the mold

Slowly pour about 1-1/2oz of High Performance Resin into the measuring cup. Add 6 drops of hardener for temperature from 70-75 degrees. Slowly mix with a stirring stick for about 2 minutes - avoid creating any bubbles. If there are bubbles, use the stirring stick to remove the bubbles and wipe on the newspaper or a paper towel. Working time is about 10 minutes.

Pour the mixture into the mold. It should cover the bottom to a depth of about 3/16". Again be careful not to create any bubbles and remove any bubbles that form. Watch the mix for the next 15 or 20 minutes and remove any new bubbles that form. Put the mixture in a clean dry area. Allow 2 hours to cure before the next step ... test the hardness around the edges so as not to mark the cured plastic.

3) Prepare your tubes for Casting

Locate stoppers appropriate for your tube using the following as a guide:

Small Cork:	for 7mm & 8mm tubes
Medium Cork:	for 8mm & 3/8" tubes

Small Rubber Stopper: for 10mm&11mm tubes
Medium Rubber Stopper: for tubes over 11mm

Put in the first stopper then fill the tube with shot. Note that the shot will stop the tube from floating during the casting process. Seal the other side of the tube with a second stopper. Lay the tubes into the mold on top of the cured plastic. Position the tubes so they can be cut apart with sufficient space between them - and suitable for turning.

4) Cover the tubes with resin

In the measuring cup, mix 2 ozs of resin with 10 drops of hardener at 70-75 degrees. (8 drops at 60-69 degrees). Again be careful not to create bubbles. Pour the resin into the mold over and around the tubes until the tubes are nearly covered. Gently "roll" the tubes (while the resin is still liquid) to release any air bubbles that may be trapped. Remove bubbles (as in the previous casting step). Any bubbles left will be a part of your finished work and can ruin your project.

While the mixture is still liquid (i.e. in the first 10 minutes) pour the balance of the mixture over the tube, the tubes should be submerged about 3/16" to 1/4". Continue to remove bubbles. The bubbles can be removed and the tubes moved until the resin will "flash" (becomes gel like). As soon as the resin begins to flash, do not disturb it any longer or it will ruin your cast!

5) 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.

6) After Curing.

Let the resin cure for 24 hours. After curing the resin should be hard and dry to the touch of the stir stick. Check by touching the stick an area near the edge of the mold. Remove the now hardened mixture from the mold by twisting (flexing) the ends of the mold until the mold "pops" out. Note that the mold can be used many times (if not destroyed in this process). The mold should be free from residue.

7) Preparing your blanks

Cut the tubes out of the resin being careful to leave sufficient space around each tube for the turning process. Do not force the band saw to cut the resin or it may crack the resin.

Make an additional bandsaw cut at the tube ends to expose the stoppers. Cut near, but not into the brass tubes. With a sharp pin or nail remove the stoppers and pour out the shot and preserve for your next project.

Your pen blanks are now ready for turning.

8) Turning

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 micromesh or PSI One-step polish.

9) Assemble your Pen Kit with your new blanks !

Additional Tips

- If your project uses small tubes or a single tubes, place a plastic spacer in the mold to reduce the amount of resin you will consume. A good spacer is plastic that has been cut off from previous projects.
- Use CA glue to fill in any voids or "blowouts" during the turning process.
- Don't decorate your tubes with materials that are too thick or it may protrude though your finished turning.
- Use water to test for the amount of resin you will need prior to mixing the resin - this will help you maximize your resin.
- Color your resin with one of various products specially formulated to mix with and color resin