

Apprentice Casting Kit

Supplies Included

- 32 oz. of Polyester Casting Resin
- 1.25 oz Hardener
- 8 oz. Measuring Cup
- 5 Pair Latex Gloves
- 5 Stir Sticks
- Casting Mold
- Assorted Tube Stoppers
- Lead Shot

Before Getting Started

1. Read warning label thoroughly.
2. Cover the work area with a disposable covering and keep plenty of paper towels or rags along with mineral spirits nearby for clean up.
3. Ideal working temperature is between 60 - 75 degrees.
4. Avoid bubbles during the casting process as they will show in the finished blank and may cause the blank to fracture while turning.
5. Stir and pour resin very slowly will help minimize bubbles.
6. Before mixing resin, fill the mold to the desired level with water then measure the amount of water to determine how much resin is required to produce the desired blank size.
6. Wipe the mold dry then proceed.

Correct Mixing Ratio

60-69 degrees: 5 drops of hardener to 1 oz. resin

70-75 degrees: 4 drops of hardener to 1 oz. resin

Casting a Pen Blank with a Pen Tube Inside

Casting the first half of the blank

1. Very slowly pour 1 1/2 ounces of resin into a measuring cup. Add hardener (see table above) and mix very slowly using stir stick. Try not to cause air bubbles. When mixed well, carefully remove bubbles with stir stick as needed. Working time is 10 minutes so be sure to mix and pour resin within this time frame or the resin will be ruined.
2. Pour resin slowly into mold until about 1/4" deep. Monitor the resin for 20 minutes or so removing bubbles with the stir stick as needed. Allow 2 hours to cure.

Preparing pen tubes for casting

1. Select stoppers that will fit securely in the end of the pen tubes. Press a stopper in one end of the tube then fill the tube with shot. Note: shot keeps the tube from floating during the casting process. Press a stopper in the other end of the tube. Place the tubes end-to-end on top of the cured plastic.

Casting the remainder of the blank

1. Pour 1 1/2 ounces of resin very slowly into measuring cup. Add hardener (see table above) and mix VERY SLOWLY using stir stick. Pour the resin slowly into the mold until the pen tubes are nearly covered. Gently "roll" the tubes to release any trapped air bubbles. Pour the balance of the mixture into the mold. Remove bubbles with stir stick as needed. Bubbles can be removed until the resin "flashes" (becomes like gel). Do not disturb the resin after it flashes as it will ruin the casting. Allow 24 hours to cure.

Casting a Solid Pen Blank (no Tube Inside)

When casting a solid blank, follow the procedure described for casting a pen blank with a pen tube inside, with the exception being that a single pour is made.

Clean Up

1. Clean stir sticks and measuring cup using mineral spirits. These items can be reused many times if properly cleaned each time.

After Curing

1. Before removing the blank from the mold, make sure the resin is hard (fully cured) by using a stir stick to probe the edges of the blank. When the blank is properly hardened, you can remove the blank from the mold by gently twisting or flexing the ends of the mold until the blank breaks free. Clean the mold as needed for future use.

Preparing Blanks for Turning

1. While preparing blanks, keep in mind that polyester resin is brittle by nature and requires care when cutting. Carefully trim the blank to the desired size leaving plenty of material for turning. Cut the blank in two and trim the ends to expose the stoppers. Using a nail or pin, remove one of the stoppers and remove the shot. Be sure to keep it for future use. Remove the remaining stopper and trim the ends of the blanks to the desired length.

Turning and Finishing Plastics



1. To reduce the likelihood of chipping, use a scraper with a bevel ground on the topside of the tool. This makes the tool less aggressive and easier to control
2. Use cyanoacrylate glue to fill voids in the blank while turning.
3. For a matte finish, wet sand using Micro-Surface abrasives through 600 grit. For a glass-like finish, sand through 12000 then polish using 20/20 Plasti-Polish (042-0020)

Additional Safety Information

For a complete Material Safety Data Sheet see the Apprentice Casting Kit product page at <http://www.woodturnerscatalog.com>.