

Investment Procedure

1. WEIGH YOUR MODEL!!!! WRITE THAT WEIGHT DOWN!!!!
2. Fix your model into your flask base. Ensure that your flask and base make good contact (water tight) and your model to be cast should not touch the side of your flask when it is assembled. Use wide tape to fix a “sleeve” on the top edge of you flask to make sure your investment does not rise over the edge of the flask during vacuuming.
3. Fill flask with very cold water roughly 90% of the way up your model (so that the very top of your model is sticking out about 1 cm.) Pour water in mixing bowl and add investment; whisk until it is the consistency of a thicker pancake batter. As soon as the water and investment touch, you are “on the clock” and have about ten minutes to get everything done before the investment sets.
4. Vacuum the investment in the mixing bowl (DO NOT pour into your flask... yet) We vacuum for 1 minute. ***The investment will NEVER appear to be “bubble free”-- we strictly stick to the one minute of vacuum time***
5. Carefully pour the investment into the flask ensuring that you are pouring to the side of your model so as not to dislodge your model from the base.
6. Vacuum (this is the second time and we are again going to stick strictly to the one minute rule.)
7. All done! The investment will set in about ten minutes and then you can mark it with a sharp tool for identification later.

Tips for spruing

1. Take all your objects to be invested and fix a 10 gauge (smaller) sprue wire to each item, about 1 cm long. If you have very long organic items like a twig, it does not necessarily need a small sprue.
2. Have your flask base ready with a piece of heavy sprue wire fixed to it, the length of said wax depends on how many pieces we are going to invest.
3. Working from the top down is easiest. We want to use as little wax as possible so by arranging our items in a close cluster is best (but they should absolutely not touch)
 - The technique that works well is if you take your hot tool and “stab” a hole in the large sprue wire and then push the smaller sprue wire into that hole. When it is set you can touch up around the join with the hot tool to sort of seal it up.
 - Finer items do best at the top of the tree with the heavier or coarser ones at the bottom.
 - Think of a real tree and how it grows. The branches spread upwards and slightly out, this is also how to arrange your tree.
 - If you find that your wax is over heating, just slow down, building a tree requires patience. If it is really slumping and giving you a hard time, put it in the fridge for a few minutes to set the wax.
4. Cut your large sprue about 2 cm long measuring from your lowest item to be cast.
5. **WEIGH YOUR MODEL!!!! WRITE THE WEIGHT DOWN!!!!**

Casting Procedure (to be done with a qualified instructor at Bedrock Supply)

1. Have your metal weighed. By using your wax weight, we do this formula:

$(\text{Wax weight})(12)+5 = \text{Weight in sterling silver}$

-When doing organics, we have to do a bit of guesswork as this formula is only 100% reliable when investment waxes are being used.

2. Open the centrifuge. Make sure the automatic start toggle is on. DO NOT close the centrifuge lid after that switch is engaged. The cradle that the flask is to sit in has to be the same size as the flask. Ensure this is so prior to set up. Place your metal in the crucible.

3. Place flask in the cradle. Be sure that the crucible opening lines up with the flask opening.

4. Start the torch with a high neutral flame. Heat metal evenly by holding the torch over the metal about one inch from the lip of the crucible. The temptation is to move the torch by circling and waving it around but the best way to retain an even heat is to hold the torch still to create an “oven” sort of effect.

4. When metal is molten, we add the flux. It will look like mercury and blob up into one big fat puddle. By holding the counter weight of the centrifuge arm, shake the crucible a bit in order to mix the metal around in the flux. Add more flux if your metal seems to still have a “skin” on it.

5. Swiftly close the centrifuge lid fully as you remove the torch flame, keeping the heat on the metal until the very last second. Let the centrifuge spin for about 20 seconds and turn the automatic start toggle off. Do not open the centrifuge until the belts have finishing rotating.

6. A successful cast usually displays these things

- There is no metal that has remained in the crucible
- Your flask has a visible button sitting on the entry point.

7. Let your flask air cool until the button is not glowing at all. Sometimes this is hard to identify because the class is brightly lit. Hold your hand above the flask button to be sure that there isn't even the slightest glow.

8. Quench in the water bucket fully and quickly, a half in and out flask with blow hot, muddy investment everywhere, even on you.

9. Clean as much investment off as you can at the bucket, it should not go down the sink. Pickle your model for a while, up to 30 minutes. The pickle will help to loosen residual investment.