

Rosenheim Lab Tube Preparation Protocol

Setup/Supplies needed:

- Pyrex and quartz rods are located in long cardboard box underneath low bench opposite the Dirt Burner
- Scorer is in the drawer closest to the oven
- Copper oxide and silver wire are located in cabinet above sample desiccators

Making tubes:

1. Mark the rod with a sharpie so that it is divided into 6 even lengths using the pre-marked tape on the bench.
2. Score the rod and snap at every other sharpie mark, so that there are 3 lengths of cut tube.
3. Set torch at a low flame for Pyrex, or high flame for quartz and secure to manifold apparatus.
4. Wearing the proper eye protection, flame-seal a separated length of rod in the center (should be on a sharpie mark):
 - a. Holding the rod at each end, aim the center over the flame and slowly move the rod into the flame, twisting as you get closer to ensure even heating. The tube will glow when it begins to melt.
5. Once the flame-seal has produced two separate tubes, round-off the newly sealed bottom of each tube by pointing it towards the flame and twisting. Be sure not to keep it in the flame too long or the bottom of the tube will bulge and become unstable, and unsuitable for use (mainly a concern for Pyrex).
6. Soften the edges of the open side of each tube by pointing them into the flame and twisting to ensure even heating. Do not leave the tube in the flame for too long or the opening will begin to close and the tube will be unusable.
7. Set the new tubes on the bench to cool and repeat steps 4-7 until you have created the number of desired tubes.
8. If making quartz tubes that do not need to be loaded, stop here and combust the tubes in the oven at 900°C for 4 hours. Store tubes in radiocarbon-clean cabinet.

Loading tubes:

1. Weigh out 150 mg of copper oxide and cut 1 cm of silver wire for each tube to be loaded.
2. Load copper oxide and silver wire into each tube (using a small funnel made of weigh paper is very effective at getting the copper oxide into the tube).
3. Wrap loaded Pyrex tubes in aluminum foil and combust in the oven at 525°C for 4 hours.
4. Store package of tubes in the radiocarbon-clean cabinet.