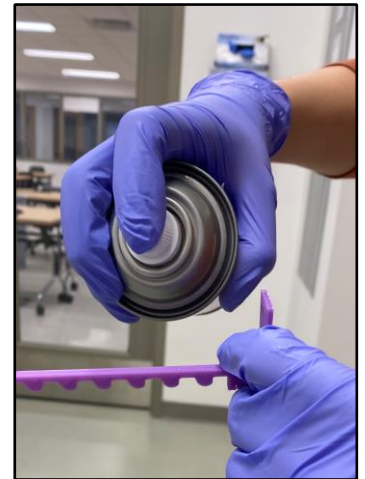
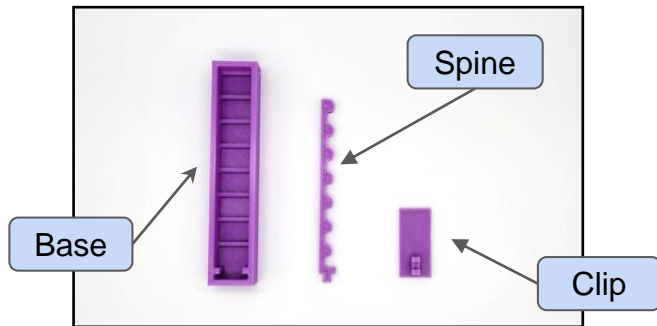


SIA Pneumatic Actuator Instructions

Day 2

1. Spray a heavy coat of mold release over the entire inside surface of the base mold, the spine, and the clip.

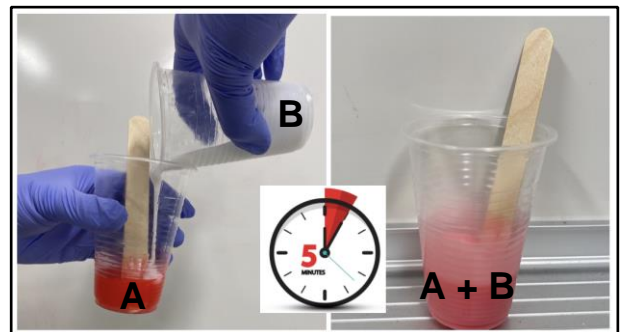
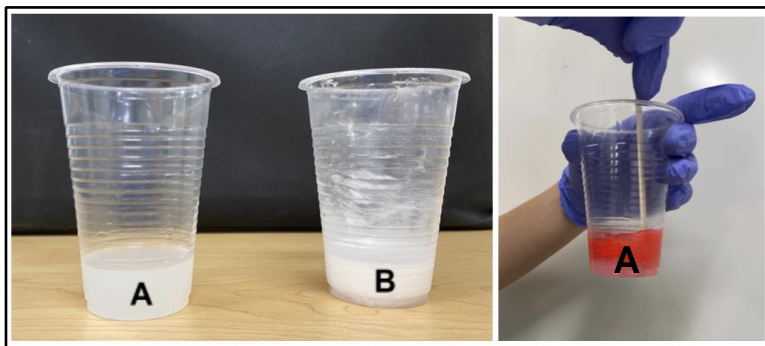


2. Place the clip into its designated slot in the base mold. Make sure that spine is straight and no part of the spine is touching any part of the base mold.

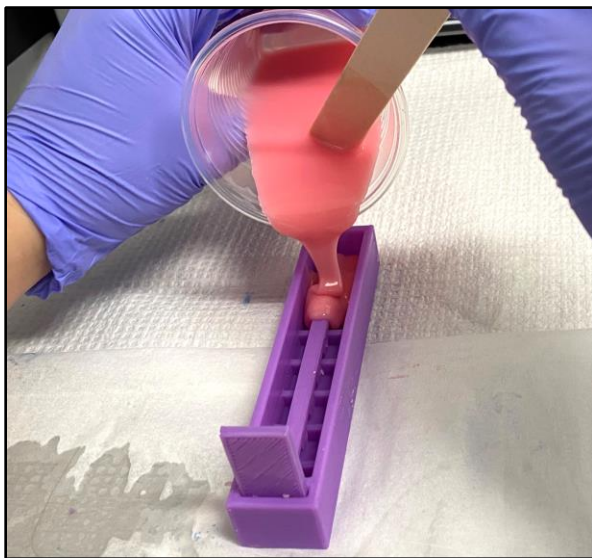
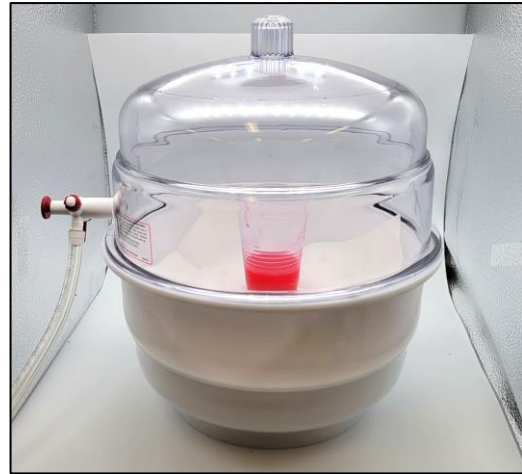


3. Spray the entire mold with the inserted spine once more.

4. Mix equal parts of EcoFlex 30 A and B until well combined in one cup with popsicle stick. Stir continuously for at least 5 minutes. Before mixing, you may add dye to cup A. Only add one small drop of dye, too much dye will cause issues later on.



5. Once mixed well, take your silicone mixture to vacuum to be degassed. Continue to degas until all the bubbles are eliminated.



6. Remove cup from vacuum chamber and pour the silicone mixture into the mold. Fill it up close to the brim of the mold but do NOT fill it up all the way. A thin layer will be added on top in a later step. Ensure the spine stays straight while pouring.

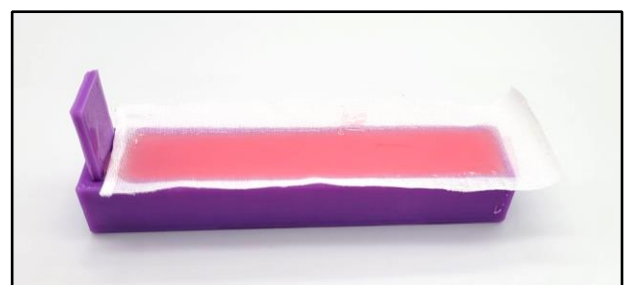


7. Obtain a rectangle piece of fabric that is slightly larger than the size of the mold and place it on top of the uncured silicone. Gently push the fabric into silicone to ensure it is making full contact with the silicone.



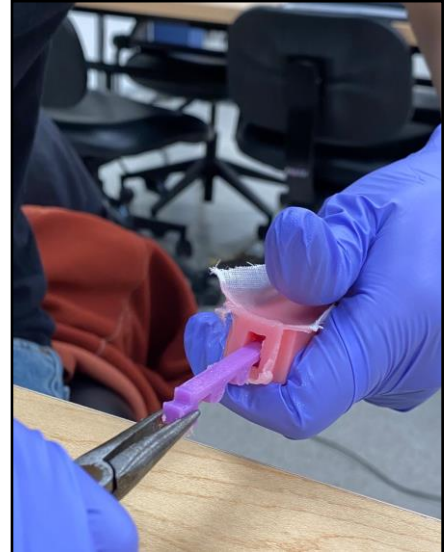
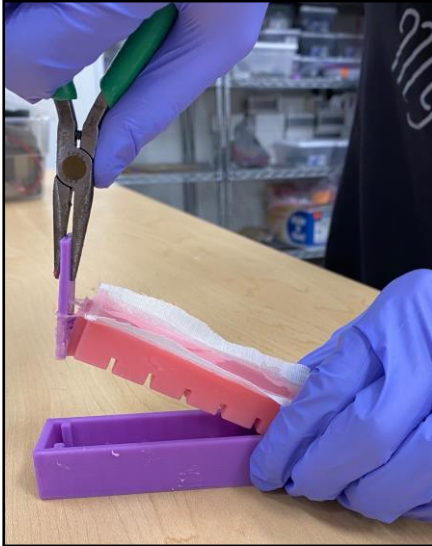
8. Add a thin layer of silicone on top of the fabric to secure it in the mold.

9. Let the silicone cure at room temp. This process may take up to 24 hours.



Day 3

10. Demold the actuator by pulling on the clip or lifting the finger up and out with the fabric. If unable to remove with your hands, pliers may be used to pull out the spine holding piece. Once the silicone finger is pulled out of the mold, carefully pull the spine out with pliers.



11. Insert the nozzle of the hand pump into the opening of the finger. The nozzle should be inserted 2 inches into the finger.

12. Use a zip tie and tighten it around the finger so that no air escapes when inflating the finger. When inflating the finger, make sure the silver nozzle on the hand pump is tightened. To release air from the finger/pump, loosen the silver nozzle.

