

# SOP: Specialty Coating Systems G3P-8 Spin Coater

**Purpose:** Spin-coat liquids or polymer solutions, such as PDMS, onto glass coverslips

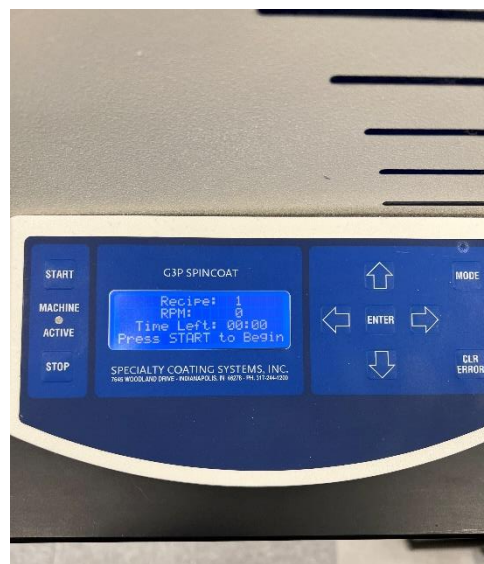
**Location:** BHE B8 (main area benchtop)

**Required PPE:** Flame-resistant lab coat; nitrile gloves; safety goggles; long pants; closed toe shoes

**Safety Precautions:** No additional safety precautions, unless working with hazardous chemicals (e.g. PIPAAm or butanol). In that case, use the spin coater in the chemical fume hood.

## **Protocol for Use:**

1. If not already done, line the bowl of the spin coater with two layers of aluminum foil.
2. Turn on the power to the spincoater by turning the house vacuum fully on and the house air on slowly just until the point when the display screen comes on (**Figure 1**). Turning the air too far can cause the tube to pop off. If this happens, turn the house air off and re-attach the tube before turning the air on again.
3. Place the chuck securely onto the spin coater middle axis. Make sure the chuck is leveled horizontally or the coverslip will not stay on the chuck.
4. Carefully pick up a coverslip with forceps and place it onto the chuck in the spin coater. Center the coverslip on the chuck.
5. Use a small plastic transfer pipette to place a drop of your substance, such as PDMS, onto the center of the coverslip. This drop should cover approximately 1/3 of the surface of the coverslip. It is imperative that you DO NOT spill any substance into the hole on the chuck.
6. Close the spin coater lid and select your recipe (for PDMS, it's Recipe 1) and press "Start". The spin coater should start spinning. Do not open the spin coater until the display reads "Remove Coated Part".
  - a. If you receive a vacuum error, remove your coverslip, and make sure the chuck is clean and that no debris is blocking the vacuum hole, especially from the bottom side. If you continue to get a vacuum error, turn off the vacuum and remove the chuck and use a dull pair of tweezers to pull out any PDMS that is clogging the vacuum line.



**Figure 1:** The display showing the various parameters after the spin coater is powered on.

7. Carefully remove your coated coverslip and repeat the process for as many samples as the protocol indicates.
8. When finished spin coating, remove the chuck and wipe well with 70% ethanol and Kimwipe to remove any excess solution.

**Maintenance Schedule:**

With each use: clean any spilled liquid with a Kimwipe sprayed with 70% ethanol.

**Contact Information:**

Lab Manager: Nathan Cho, BHE B9, (213) 740-2093

Professor: Megan McCain, DRB 140, (213) 821-0791

Company: Specialty Coating Systems, (317) 244-1200, <https://scscoatings.com/contact/>