

MEC 211 Polishing Guidelines

Buehler Roll Grinder Handimet 2

1. To change paper: Push the paper roll forward and tear off the excess.
2. Turn the black knob to start the water running.

Buehler EcoMet3000 Variable Speed Grinder/Polisher

1. Use your own lab's polishing paper.
2. Turn on the polisher and move water nozzle so it is hitting the wheel, then turn on the water.
3. Adjust speed of the wheel to fit your procedure (Speed Range: 10-500 rpm).
4. Change your paper when the grit has worn down and throw old paper away.
5. WHEN USING SLURRY PADS: Make sure that the slurry you are using corresponds to the pad you are using (i.e., use 1 μm alumina slurry on the 1 μm alumina pad)
6. Make sure to turn off, wipe down, and cover the polisher when you are done using it.

Allied M-Prep 3

1. Use your own lab's polishing paper.
2. Turn on the polisher and move water nozzle so it is hitting the wheel, then turn on the water.
3. Adjust speed of the wheel to fit your procedure (Speed Range: 0-500 rpm).
4. Change your paper when the grit has worn down and throw old paper away.
5. WHEN USING SLURRY PADS: Make sure that the slurry you are using corresponds to the pad you are using (i.e., use 1 μm alumina slurry on the 1 μm alumina pad)
6. Make sure to turn off, wipe down, and cover the polisher when you are done using it.

Buehler VibroMet 2:

RULES:

1. In order to use the vibratory, you must be trained by an approved trainer.
2. You must use the sample sign in sheet.
3. **Never** leave the cover off the vibratory polisher.
4. Your sample must be mounted properly in the metal mounts :
 - a. Mounting Wax is not acceptable.
 - b. Ask if you are not sure.
5. Only those who are certified may change the pad and slurry. DO NOT ADD SLURRY IF THE WATER LEVEL IS LOW, ADD NANO PURE WATER

PROCEDURE:

1. Make sure your sample does not have any loose particles that may contaminate the vibratory.
2. Check the condition of the slurry and pad:

- a. If it needs changed ask someone for help.
 - b. If the water level is below the black ring on the sample holder when placed in the slurry, add NANOPURE WATER (not slurry) until the level is at the black ring.
3. Turn Vibratory on. Push the white button with arrows on it to turn on the vibrations. Increase the intensity with the blue arrow buttons.
4. Mount your sample in the metal sample holder (add weights if necessary), located in drawer below polisher.
5. Mark the top of your sample with a marker (1, 2, 3, etc.).
6. Fill out the sample sign in sheet with the necessary information.
7. Place your sample near the edge of the vibratory and set the vibratory amplitude so that your sample(s) rotate about 7 rpm.
8. Check your samples periodically to make sure everything is working properly.
9. REMOVING SAMPLES: Wash your sample and the mount off with DI water. Remove your sample from mount, thoroughly clean and dry mount, place mount back in drawer below vibratory, and sign out of the vibratory log sheet.
10. If the slurry is ALUMINA (white/grey color), turn vibratory OFF when you are done. If the slurry is SILICA (blue), always leave vibratory ON.

Failure to follow any of these guidelines will result in immediate removal of your sample from vibratory polisher, and in extreme cases, your lab access will be revoked.

Please check the box below for any instrument you plan to use in MEC 211. Please indicate in the box to the right who trained you and on what date.

INSTRUMENT	PLAN TO USE?	TRAINED BY	DATE
Grinders and polishers			
Vibratory polisher			
Optical microscope			
Hardness tester			
Other (please specify):			

By signing below, I agree that I have read and will abide by these guidelines. If I am found to be using equipment incorrectly, or to leave behind a mess, I understand that I might lose access to the lab.

NAME (printed): _____

Signature: _____

Date: _____

Student ID + 5 digit code: _____

Research advisor: _____