



## Leica EM GP2 Independence Test Evaluator Checklist – CryoEM Merit Badges

Supervising Staff: \_\_\_\_\_

Date: \_\_\_\_\_

Trainee: \_\_\_\_\_

### Preparing the LeicaEM GP2

- Identify the following:
  - Power Switch
  - Screen
  - Humidifier
  - Environmental Chamber
  - Freezing Station
- Turn on the Leica EM GP2.
- Fill humidifier with \_\_\_ mL water (until prompt turns off).
- Close the valve on the humidifier hose and store on clip.
- Empty the drip/drain tray.
- Place the cryogen cups in the freezing station.
- Add LN2 to the freezing station until the temperature reaches -175°C.
- Fill the ethane cup using the ethane fill lid.
- Place new filter paper on the blotting pad.
- Set humidity, temperature, and process parameters:
  - Humidity: \_\_\_% RH
  - Temperature: \_\_\_ °C
  - Cryogen Temperature: \_\_\_ °C
  - Cryogen GN2 flow: \_\_\_ %
  - Blotting Time: \_\_\_ s
  - Horizontal blot position: \_\_\_
  - Vertical blot position: \_\_\_
  - Rotation: \_\_\_
  - Test blot parameters with blank grid

Evaluator Notes:

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### Freezing Cycle

- Add more LN2 to cooling chamber when needed.
- Check that temperature and humidity have reached target.
- Check that lids are removed from cryogen cups before plunging.
- Place new grid-box under LN2, in holder.
- Pick up glow-discharged grid with the EM GP2 tweezers.
- Press “Load Forceps” and attach tweezers in the correct orientation to the plunge-rod.
- Press “Load specimen” to lower the chamber to the blotting position.
- Apply sample to the grid by placing pipette through loading port on the side of freezing chamber.
- Press “Blot” to start the automated blotting process.
- If you did not enable automated plunging, press “Plunge” to plunge the grid.
- After the environmental chamber lifts, remove the tweezers from the plunge rod and transfer the grid to the LN2 cup and into your grid box.
- Repeat for all grids.



Evaluator Notes:

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**Cleaning Up**

- Ensure the Leica EM GP2 tweezers are clean, dry and stored with the tip protector attached.
- Empty the humidifier by aspirating with an empty syringe through the fill tubing.
- Empty the drip tray.
- Remove and dispose of the used filter papers and store the magnetic ring.
- Remove and store the cryogen containers in the appropriate location.
- Start the bake out.
- After bake out is complete, power down the instrument (or ask staff to do this for you).

Evaluator Notes:

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Overall Evaluator Notes:

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