

# Frosting Slides

## FROSTING SLIDES: USER GUIDE

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Audience:	Technicians
Origination date:	4/28/2013
Current version:	7/30/2018
Domain:	Thin Section Lab
System:	Logitech LP50
Keywords:	Frosting Slides

This user guide will help thin section technicians prepare slide for bonding to billets. For more information refer to the [Logitech Thin Rock Section Production](#) manual, available both on a Logitech thumb drive in the Thin Section Lab cabinet and Thin Section Lab computer under the "Manual" folder on the desktop. Or, refer to [Operation and Maintenance of the LP50 Lapping and Polishing Machine](#) manual, located in the black binder in the Thin Section Lab cabinet labeled "LP50, PM5 and Associated Equipment".

### SETTING THE JIG

1. Use the jig labeled "Frost".
2. Clean jig and Logitech scale by wiping them with a kimwipe and isopropyl alcohol.
  - a. Refer to the Logitech LP Set Up user guide for more information on scale use.
3. Set the scale on the jig gently (Fig. 1) and wiggle the scale.
4. The jig should be set to 1217 (just before the 17 is better).
  - a. Use the middle gauge on the scale.
    - i. The small dial (Fig. 1) on the bottom left side should read 12.
    - ii. The large face (Fig. 1) should read 17.
      1. If the jig is not set, put the Tommy bar into the holes on the main post in the middle of the jig to adjust it (Fig. 1).
        - a. Rotating the Tommy bar clockwise will lower the chuck face causing the numbers on the scale to increase.
        - b. Rotating the Tommy bar counterclockwise will raise the chuck face, causing the numbers on the scale to decrease.

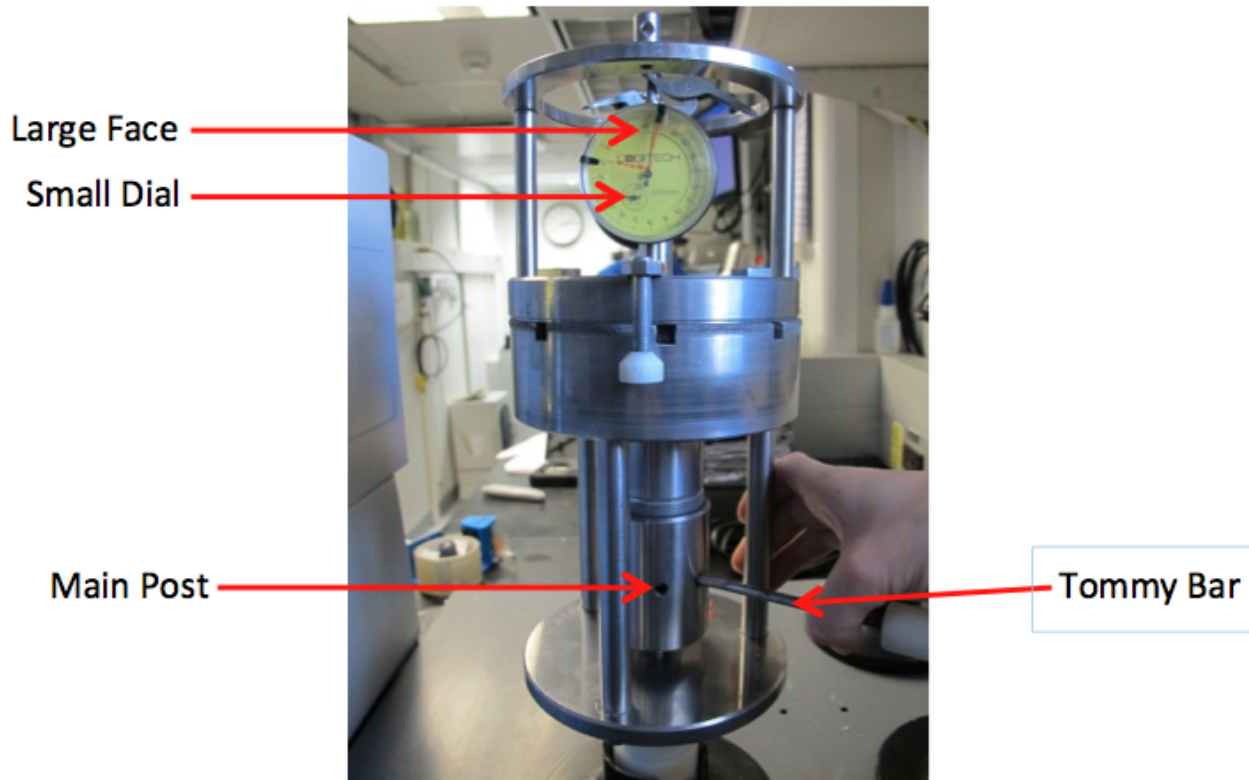
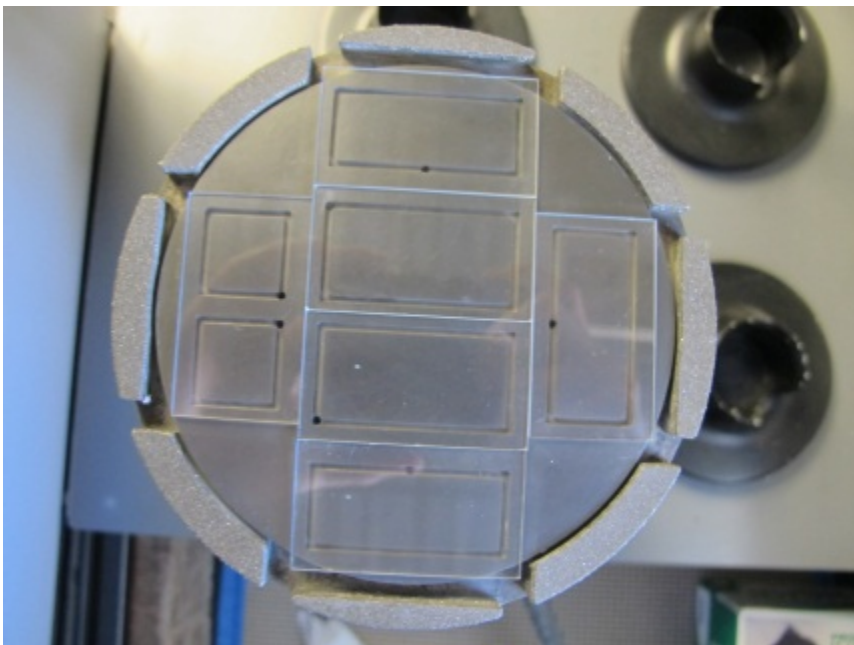


Figure 1

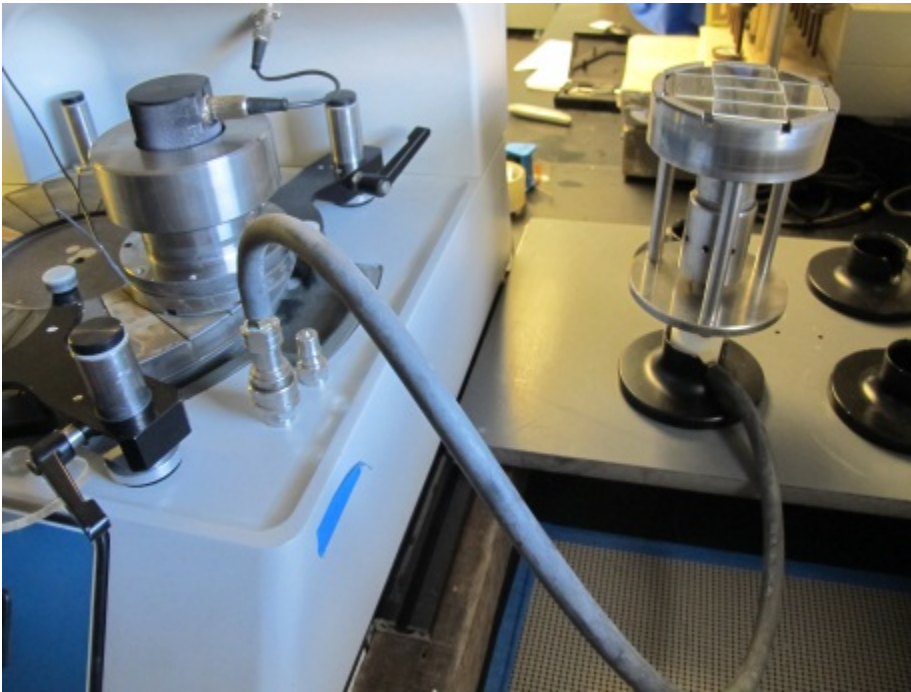
## LAPPING UNFROSTED SLIDES

1. Clean six unfrosted slides by washing them with hot water and wiping them off with a kimwipe and isopropyl alcohol. Then blow dry with the air gun.
  - a. If slides are stuck together, let them soak in hot water. They should separate easily after a day.
2. Set the clean slides on the jig's chuck face over the vacuum grooves. There should be no spaces between any of the sides (Fig. 2).
  - a. If there are spaces the vacuum will not seal properly.



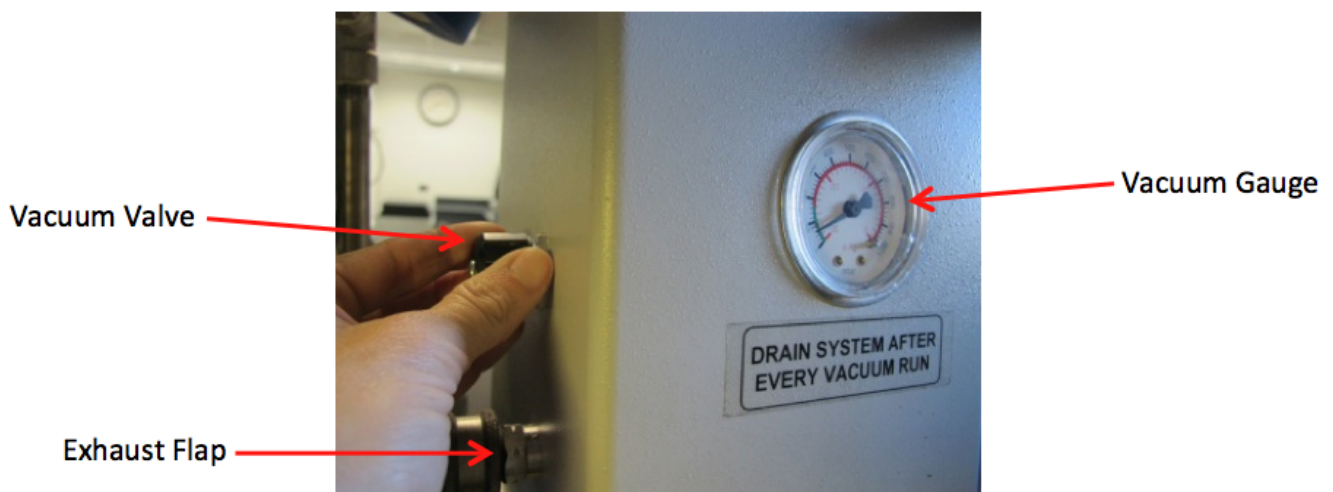
**Figure 2**

3. Connect vacuum hose to the right forward vacuum plugin (Fig. 3).



**Figure 3**

4. Check oil level in the vacuum pump under the counter.
5. Turn on vacuum pump with the button labeled **Vacuum** under the joystick on the LP50.
6. Close valve to the left of the vacuum gauge (Fig. 4).
7. The vacuum is less than 150mbar (Fig. 4). It should be in the green portion of the gauge.



**Figure 4**

- a. If there is not a proper vacuum seal right away try pressing lightly on the slides to help them seal and make sure the exhaust flap (Fig. 4) is clean.
- b. If that does not work, take off the slides and clean them and chuck face again.

8. Gently set the jig upright on the lapping plate, in the forward arm (Fig. 5).

9. The plate monitor can stay in place on the back arm (Fig. 5).



**Figure 5**

10. Turn on the abrasive drum by overriding and make sure it is dripping properly.

11. Reset the timer and set it to 18 minutes.

12. Set the plate speed to 5 rpms.

13. When the plate is wet press **Start**.

14. Increase the plate speed in increments to 58 rpms.

15. The jig should start to spin after a couple of minutes when all the slides even out to the same thickness.

- a. Bungee cords can be added to the vacuum hose to assist in helping the jig spin (Fig. 5).

- b. Do not walk out of the lab as the LP 50 is running.

16. When time is up, press **Stop**.

- a. It is best to bring the speed back down to 5 rpms after the lapping plate is stopped, to help prevent starting it back up at a high speed.

17. Take the jig off of the plate carefully.

18. Open vacuum valve and turn it off.

19. Place jig chuck face up in the sink (Fig. 6).



**Figure 6**

20. Scrub the jig and slides gently with a soft brush to break the vacuum seal.
21. Wash the frosted slides with warm water and blow dry with the air gun. Then, clean them with a kimwipe and isopropyl alcohol.
22. Clean the jig by scrubbing it down with warm water and a soft brush. Then blow through the jig and on the chuck face with the air gun.

## **MEASURING FROSTED SLIDES**

1. Hold the micrometer with your pinkie and ring finger through the "C" part of the micrometer. Your index finger and thumb will move the dial (Fig. 7).



**Figure 7**

2. Clean the micrometer before use by placing a piece of paper in between the two bars and closing it gently (do not apply force). Pull the paper out and repeat.

a. Gently close the micrometer all the way gently. It should read zero.

3. Place the slide in between the two bars and close them gently onto the slide (Fig. 8).



**Figure 8** (This slide is "16")

a. Take a measurement at the middle and sides to make sure that the frosted slide is even all the way across.

b. Uneven slides will cause your sample to be uneven. If this happens put the slide back onto the jig and lap it down longer until it is even.

4. Organize the frosted slides into groups based on slide thickness (Fig. 9).



**Figure 9**

## Credit

Original document was created by Emily Fisher

4/28/2013

# Archive Version

- [Bonding Billets to Frosting Slides 374](#)