This machine is used by many users. Particle generation and thin film damage due to friction is probable. Cross contamination of different types of polyimide materials is also highly possible. This area should not be assumed to be a clean area, and great care should be taken to inspect important surfaces after rubbing and additional cleaning steps taken if necessary before proceeding to cell assembly. Also, great care should always be taken to clean rub blocks before and after use, and to use a rub block that is specifically reserved for the polyimide of your choice. Do not use a rub block that has been used for a different polyimide as this may cause alignment problems for not only your samples, but for users of that block thereafter.

1. After selecting the rub block you require, install a blocking plate that at least the width of your rub block by placing it against the rear metal ruler, and using tab tapes to lock it to the baseplate. One piece of tape on each side is enough. This blocking plate must be wide enough to allow the entire rub block to rest on top of it after completely passing off your substrate and also not allowing the rub block to drag over the ruler. Blocking plates for our standard rub blocks are located at this work station for your use.

2. Place your first substrate against the blocking plate.

3. Place another blocking plate against your substrate and tape down as with the first blocking plate. All pieces of tape should have folded over tabs at one end to facilitate removal. But, affix the tape so that it will not interfere with rubbing. Generally tabs facing the rear is best.

4. If your substrate is small, blocking plates may need to be installed to the left and right of your plate. The idea here is to prevent the rub cloth from dragging over any 90 degree cut glass edges which can tear off the rub cloth fibers.

5. Once everything is blocked as needed, bring the push arm all the way toward you. Set the rub block on the first blocking plate with the rub direction arrow marked on the block pointing toward the rear. Grab the push
arm on the aluminum main block but between the two guide bushings. If you push anywhere but here, the arm will bind on the rails. Pushing away from you is much better than pulling toward you.

6. Bring the arm into contact with the rub block and then in one fluid motion, push the block all the way across your sample until it completely clears the sample plate.

7. Pull the push arm all the way back, and then pick up the rub block and return it to the starting position.

8. Repeat this for fully cured polyimides from 10-15 times per plate for best alignment results. If you notice upon further optical inspection that you are getting scratches in your PI surfaces, you may choose to rub fewer times, to cure your PI at a higher temperature, or to use a lighter rub block.

9. Once you are done rubbing a plate, remove the rub block, turn it upside down and set it on the table to prevent contamination to the important surface. Never touch the rub surface with anything. Only use DI compressed air to blow off particles. Do not use solvents to clean rub blocks.

10. Remove the tape from your second main blocking piece and remove the blocking.

11. Remove your plate and place off to the side.

12. Repeat steps 2-11 until all plates are done.

13. When finished, remove all blocking plates and place back in the storage boat. Remove all tape and discard. Blow off the rub block with DI air and return to the storage box. Return any other items used to their proper storage locations. Wipe down the entire rub station and surrounding table with IPA.

If you notice a damaged rub cloth, or need to have one built, please let me know.

Report any questions or issues to Bentley Wall  330-221-7048 cell
Hand Rub Station at rest.

Blocking plate 1 installed.

Base Plate, ready for blocking plate 1.

Substrates in place.
Blocking plate 2 installed.

Rub block in place.

Hand position.

Hand position.

Rub operation stop point.

Push arm retracted.
Rub block repositioned.