



Endless Possibilities ...

Kirsch
notes

Block
Trimming
for TEM

Block Trimming

Whether you are working with BEEM capsules, gelatin capsules, or flat embedment molds, the first order of business is removing excess resin to expose the tissue. For samples nearer the tip, you can use either a diamond trim tool, older diamond knife, or glass knife. However, if the sample is deeper in the resin and a significant amount of resin needs to be removed, start with a razor blade.

Equipment Used

- Microtome

Directions

1. Secure the block in appropriate specimen chuck.
2. Connect to microtome.

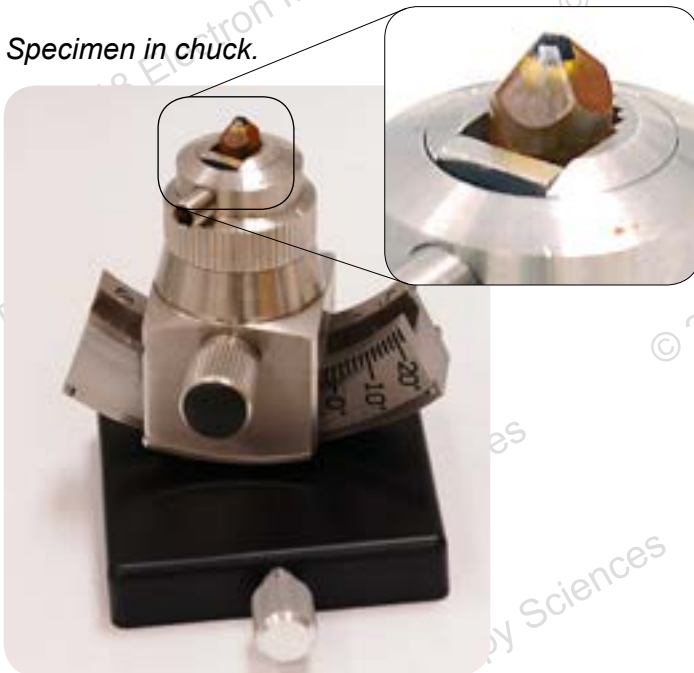
Diatome Supplies

- Diatome 6 mm Histo Diamond Knife (Catalog #60 HIS)
- Diatome Trim Tool 45 (Catalog #TT-45)

EMS Supplies

- Single Edge Blades (Catalog #71974)
- Long Blades (Catalog #71930)
- 3 mm Perfect Scale (Catalog #70617-10)

Specimen in chuck.

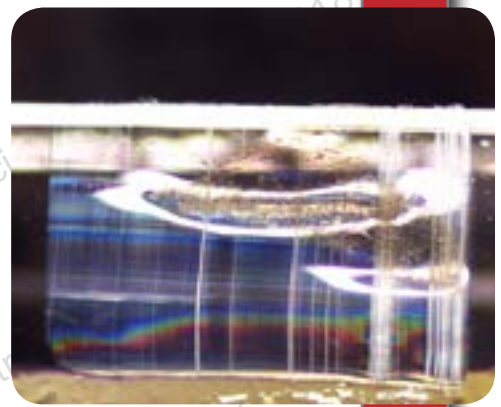
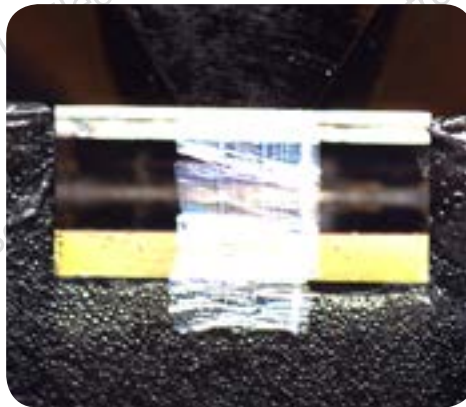
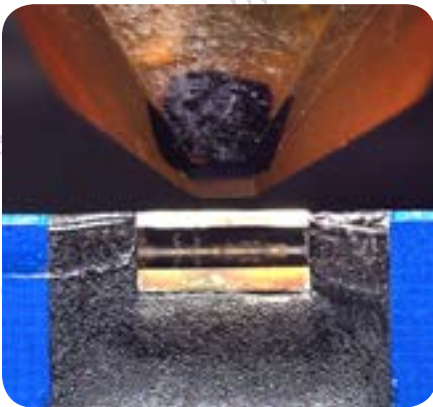


Chuck attached to microtome.

3. If the sample is near the surface use ...

- ☞ a diamond trim tool,
- ☞ an older diamond knife or
- ☞ a glass knife

... to expose the sample, then **proceed directly to Step #8.**



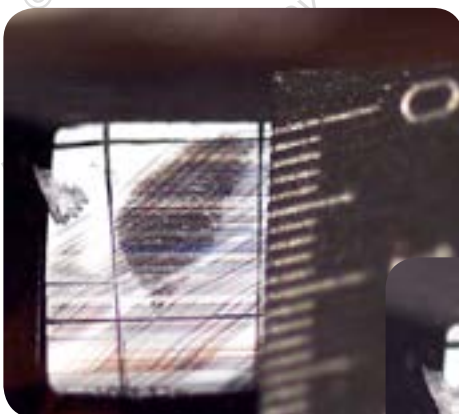
Images show using older diamond knife to trim.

4. If the sample is deeper use a razor blade to get down to the sample by cutting thin, flat sections from the top until the sample is exposed.

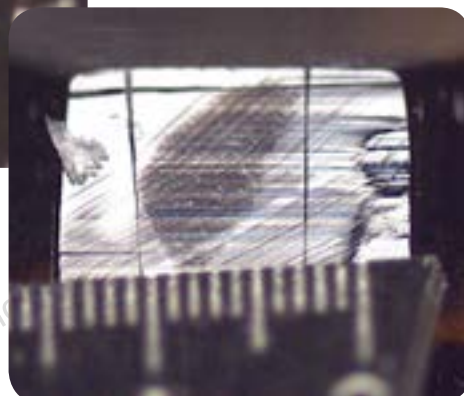
5. If a razor blade was used the block face must be faced off with sectioning knife.



Left to Right: Trimming sequence, from beginning, with no specimen, to the last one, slicing into specimen.



Observing block face to determine orientation.



6. Mount sample chuck and knife in the microtome and set specimen and knife arcs to 0°

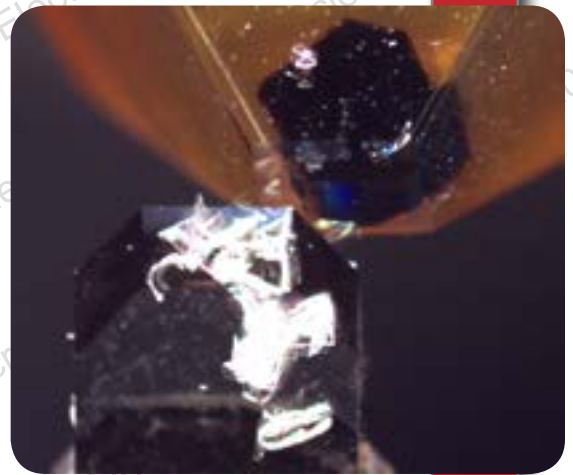
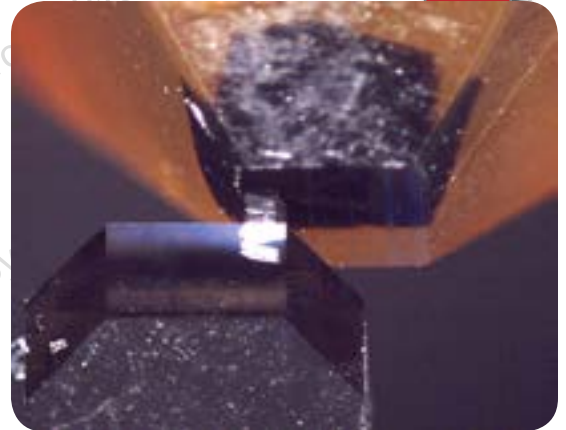
7. Slowly, using the manual knife advance, cut into the block take cuts until the entire block face is smooth.

8. Observing the block face and determine where you want to take the thick section from. Decide on size and orientation, top, bottom, width, and height.

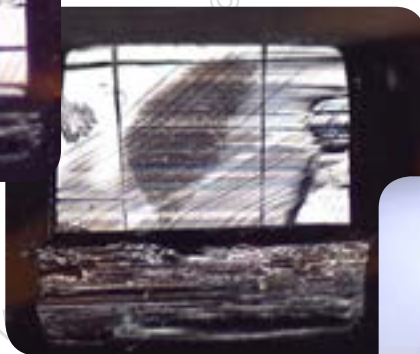
9. The most important trimming cuts are the bottom of the block face which will be the leading edge and the top of the block which will be the trailing edge. They must be parallel.



Trimming block face with a using a Diatome trim tool.

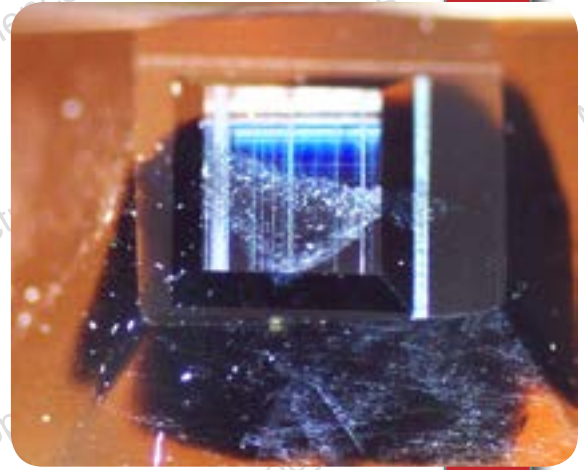


Trimming block face with a razor blade.

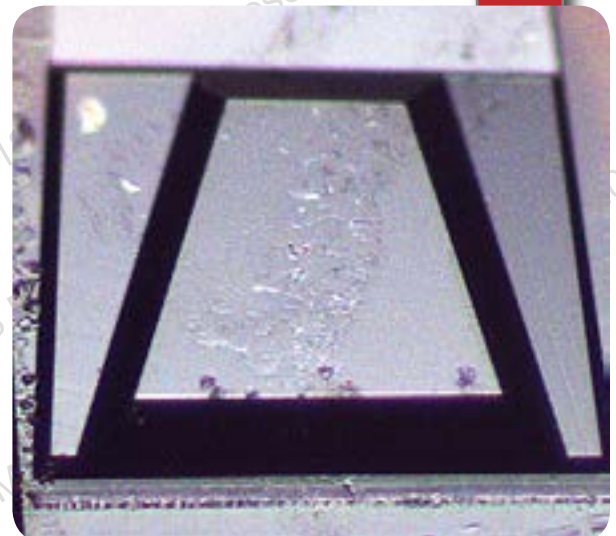


10. The trapezoid shape is the classic block face but square, extended rectangle, or even triangles can be used. When sectioning the wider part of the block face should be sectioned first. If cutting an extended rectangle orient it long and tall relative to the cutting direction and knife edge.

Block face shape: Square



Block face shape: Trapezoid



Block face shape: Extended Rectangle

