



FIB sectioning – job preparation guidelines

Sample considerations -

If the sample is an encapsulated device, or is coated by additional layers (like polyimide) this encapsulation should be opened/removed prior to its arrival at NanoScope. If you do not have the facilities to do this, we offer a de-capsulation service should you wish us to perform this task on your behalf.

Please include a diagram (a hand-drawn one is sufficient) showing the structure of what you expect to see within the size of the section being ordered, and identifying the materials within the section/sample, and any features of specific interest.

Does the sample contain any exotic materials which require special handling?

If so please discuss with NanoScope prior to shipping the sample to us.

Samples must be confirmed as being neither radioactive, toxic or a biohazard. They must be clean and dry, oil and particle free, and vacuum compatible

Samples up to 10cm's in diameter can be accepted under special arrangement.

Shipping considerations -

Please ensure that all samples are secured within an appropriate sample box prior to shipping (not loose)

Sample handling and mounting -

On arrival at NanoScope all samples (unless requested otherwise) will be mounted on a sample holder using conductive adhesive tape for electrical grounding and mechanical stability during sectioning. This may be used to cover over areas of the top surface of the sample and may leave some adhesive carbon residue (or peel off any loose material or layers) when removed. If your sample requires a specific handling or mounting method, please discuss with us.

Locating the site for sectioning –

- 1) Identify the area on the top surface of your sample from which the section is to be prepared by circling it with a felt tipped pen, or other mark.

If a more accurate location is required –

- 2) Include 1 low magnification optical image of the top surface (target surface) of the sample to be FIB sectioned, showing the ink circle or marks.
 - a. Draw on the image the sub region of interest within the circle with a smaller circle.
 - b. On a higher magnification optical image in the same orientation and including only the smaller circle, draw a single line not more than 20 microns long (as scaled on the image) – this will be the topmost edge of the section to be produced.
 - c. If a specific feature is the target, include a high magnification optical image of this with just the 20 micron long line through it in the orientation desired.

Special requirements -

If the sample to be produced is in any way different from the standard specification, select those options from the list when placing your order. We will contact you to discuss them and confirm which information is required and what is possible within the limitations of technique.

We are happy to answer any questions you may have about the process.

NanoScope may retain the original sample until all work has been confirmed as having been completed.