

## Equipment Policy:

- 1. Lab members should lap their own samples.**
2. There will be a limit on the number of samples for each request (max.2).
3. The yield of the TEM sample preparation by the method used @ IITBNF is 50% at best. Since the process is quite long and the samples may be precious, the frustration arising from a failed sample preparation attempt is understandable. However lab members are advised to be patient and do not vent their frustration on the staff preparing samples, considering the inherent low yield of the process. The owner of the sample is invited to be present during sample preparation.
4. If there is a sample breakage during the process, IITBNF will not be held responsible and lab member needs to submit a new equipment usage request for a new sample.

## **XTEM – Training and Usage Policies**

1. A new user should first get a theoretical overview about XTEM.

In Transmission Electron Microscopy (TEM), the specimen to be viewed should be thin enough (transparent) for electrons to pass through. Hence, sample preparation is required before viewing the specimen through microscope. Cross-sectional Transmission Electron Microscopy (XTEM) helps us to prepare our sample in such a way that we get a cross-sectional view of our specimen through TEM, thereby providing an image of the different layers and their thicknesses.

2. New user should watch the complete sample preparation procedure for a minimum of two samples.
3. He should then undergo hands-on-training on a minimum of three samples.
4. Then he has to give a successful test on the complete process of XTEM sample preparation of one sample, after which he will get authorized on all the four tools of XTEM.
5. If any user sends „Equipment Usage Request“ to operator/SO to prepare his sample, then his presence is MANDATORY throughout the sample preparation process.
6. Before using any tool, slot booking and activating the slot is MANDATORY.
7. After using XTEM tools and accessories, log-book entry is MANDATORY.

8. If any AU has to perform the intermediate steps of sample preparation, like stack-making/using brass tube/lapping, then this should be entered in the log-book in Remarks column.
9. If the ion gun currents in PIPS display “0”, it means that the guns are shorted and cleaning of the guns are required. So, please leave a remark in log-book and inform SO/Operator.
10. If an unauthorized user's sample is loaded in PIPS using operator/SO/AU's help, then the user can check his sample through microscope and **set the „Timer whenever required, ONLY IF the user is trained in doing so by the SO/Operator. Sample should be unloaded from PIPS only by operator/SO/AU.**
11. User must also follow the following rules:
  - (a) User must avoid over-torquing the rectangular/cylindrical tool used for cutting.
  - (b) The hot-plate must be switched off after use.
  - (c) The special tweezers meant for PIPS, MUST be used only for loading and unloading sample and white screen from PIPS, and NOT for any other purpose. It should always be kept in the proper box provided.
  - (d) Before loading a sample in PIPS, it must be cleaned properly, to avoid contamination.
  - (e) All consumables, like filter papers, grit, lint-free cloth, acetone, petri-dishes, beakers etc., must be used carefully. Please dispose used, dirty filter papers and lint-free cloth.
  - (f) Please clean the tools and the working slab after use.