

Laboratory for the preparation of TEM samples

Ing. M. Kabátová, Ústav materiálového výskumu SAV, mkabatova@saske.sk



Ultrasonic Cutter quickly cuts TEM discs (2.3 alebo 3 mm in size) from hard or brittle materials ranging from $<40\mu\text{m}$ to 1mm in thickness.

Disc grinder for mechanically pre-thinning of disc specimens with high quality and uniform thickness.

Dimple grinder mechanically reduce, with minimal damage, the central region of a typical 100 μm thick, 3 mm diameter specimen blank to a few microns.



Precision Ion Polishing System PIPS 691

designed to produce high-quality TEM specimens with exceptionally large, clean, electron-transparent areas. Ion polishing is done by two ion guns with variable-angle. System with using of liquid nitrogen cold stage and CCD imaging system.

- Continuous adjustment of beam energy from 100eV to 6 kV
- Two Penning ion guns with milling angle $+10^\circ$ to -10°
- Rotation variable from 1 rpm to 6 rpm



Vacuum Evaporator JEE-420T

for coating of various specimens that are suitable for high resolution observation using transmission and scanning electron microscopes. It is useful in the rapid preparation of fine-grain TEM specimen support films by carbon evaporation.

- Turbo molecular pump 7×10^{-5} Pa or less
- Tilting and rotation possibility of samples
- Film thickness monitor

Turbo-Pumped Sputter Coater/Carbon Coater Q150T

Compact turbomolecular-pumped coating system suitable for SEM, TEM and many thin film applications. High vacuum turbo pumping allows sputtering of a wide range of oxidizing and non-oxidizing metals suitable for SEM, high resolution FE-SEM and also for many thin film applications

- Precise thickness controlled using film thickness monitor
- Fully automatic touch screen control
- Variable angle 'Rota-cota' rotary planetary stage with 50mm \varnothing specimen platform



Applications:

Preparation of samples for the investigation in transmission electron microscopy.