TECHNOORG
LINDA

# SAMPLE ALIGNMENT STATION

Micron-accurate alignment of SEM samples
for slope- and cross-sectional cutting

Precise sample positioning is essential for obtaining high-quality cross-sections using the broad ion beam technique. Accurate alignment becomes especially important when investigating a unique sample (e.g., Li-ion battery separator foil) or a specific area of interest in the sample (e.g., in semiconductor technologies). Such a very fine adjustment is impossible with conventional microscopes without dedicated platforms. However, with the Sample Alignment Station (SAS) and its accessories, sample alignment can be performed with an accuracy of ±1 µm.

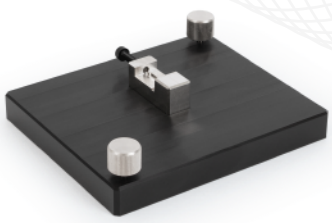
## DIGITAL MICROSCOPE

Purpose-designed device with

- high-resolution camera,
- special LED illumination,
- large working distance,
- positioning stage,
- bonding platform,
- alignment platform,
- dedicated control software,
- 340x maximum magnification,
- high-precision distance measurement.

## BONDING PLATFORM

A tool for precise sample adjustment with a gluing jig.



## ALIGNMENT PLATFORM

Precision alignment tool with tilting cradle compatible with sample holders for high-accuracy sample positioning.

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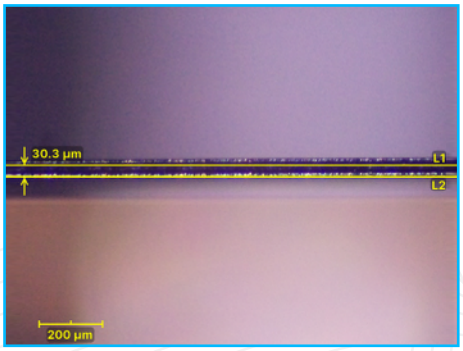
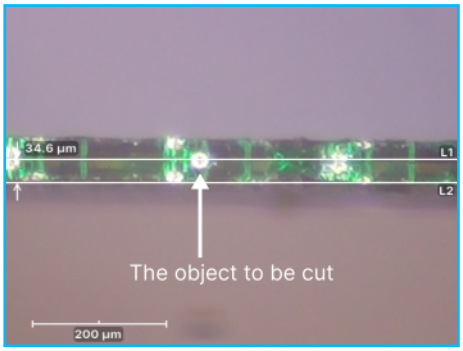
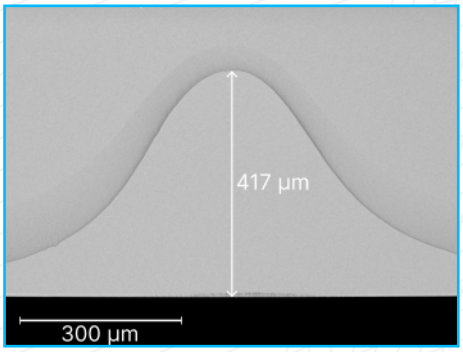


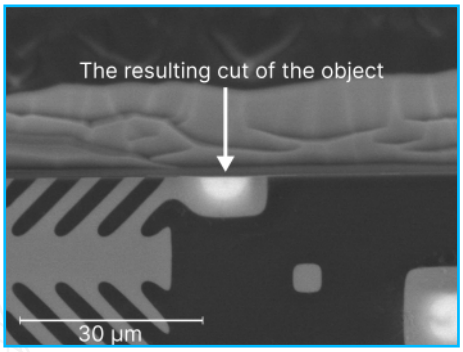

Edge of the Si wafer. Setting the sample protrusion in SAS before 90° cross-sectional cut.



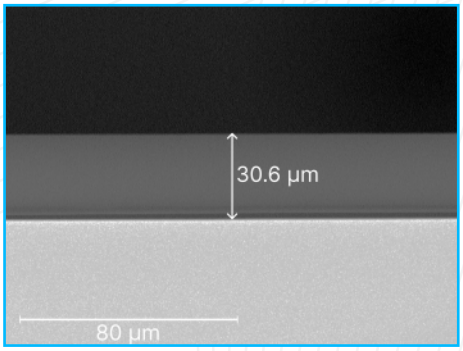

Setting the position of the object to be cut on a TFT sample. SAS image.



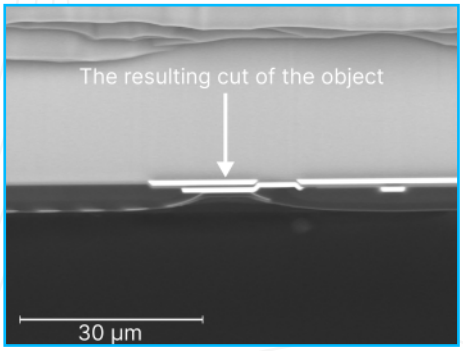

The resulting cut of Si wafer (16 keV 1 h) created by SEMPREP SMART. SEM image.




The TFT sample after 90° cut in SEM (front view). Accuracy: ±1 µm.




Sample protrusion after 90° cross-sectional cut. SEM image.




The TFT sample after 90° cross-sectional cut in SEM (top view).

## SPECIFICATIONS

| | | |
|---|---|---|
| **Display** | | |
| dimensions | 193 mm × 111 mm | 7.6” × 4.4” |
| type | 800 × 480 pixels (RGB), TFT, multi-touch capacitive panel | |
| **Resolution of the optical system** | 5 MP | |
| **Magnification** | 340x | |
| **Manual focus range** | 95-170 mm | 3.7”-6.7” |
| **Working distance** | 95-101 mm | 3.7”-4.0” |
| **Ring light** (adjustable brightness) | 24 LED, 4 separately switchable segments | |
| **Weight** | 7.2 kg | 15.9 lb |
| **Dimensions** (H × W × D) | 470 mm × 210 mm × 240 mm | 18.5” × 8,3” × 9.5” |
| **Power** | 5 V DC, 6 A, 30 W (100-240 V AC, 50/60 Hz adaptor) | |

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