

PROTOCOL:

Embedding Samples

Embedding samples in epoxy or acrylic resins adds desired strength and support to tissue for thin sectioning. It also adds size to specimens for easy handling. Below is an overall view of the process for embedment, including labeling hints and how to label the specimens.

After the chemical processing, dehydration, and infiltration steps have been completed the samples are ready to embed for subsequent sectioning.

The Easiest Method

1. Pour the contents of the processing container, samples and resin, into a weigh boat.
2. Place 1-2 drops of fresh resin down in the tip of each capsule.
3. Using a broken or trimmed, slender pointed applicator stick tease out a specimen from the weigh boat, wiping off as much old resin as possible by “rolling” it up the side of the boat.
4. Carefully deposit the sample in the tip of the capsule.
5. Fill each capsule with fresh resin.

Labeling Hints

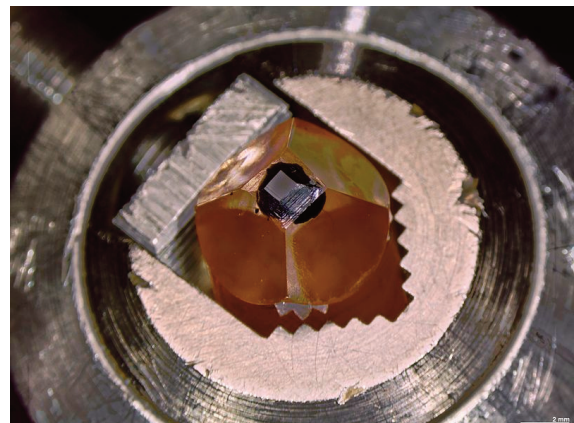
- Labels can be written in pencil or laser printed from a computer. Ink jet ink will often dissolve in the resin.
- The paper used should be a light weight stock. If using a pencil, EMS Lens Tissue works well.
- The smaller the better.

Directions

1. Cut each label and with the sharpened applicator stick place it printed side down centered on the top of the capsule.
2. Take the stick and pushing down in the middle of the label, push/tilt/rotate it to the side of the capsule.
3. Place in 70°C oven for 12 hours. After removing allow to come to room temperature and check hardness.
4. If a fingernail mark can be formed in the resin, it requires more curing time. Place back in the oven.
5. Acrylic resins such as LR White usually have the accelerator added so they do not need mixing, but they do react with oxygen and should be capped after being filled. This resin also precludes the use of BEEM capsules so gelatin pill capsules must be used instead.

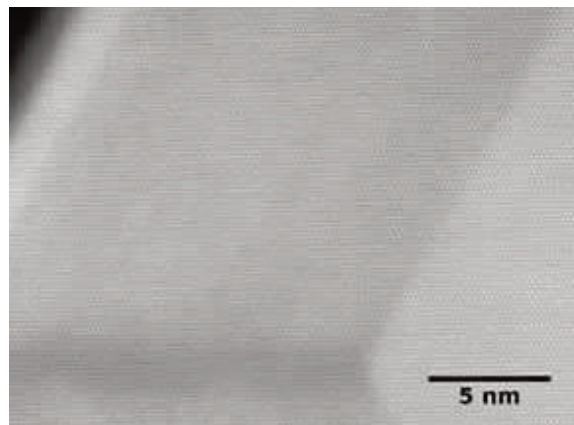
KIRSCH NOTES

PROTOCOLS & TIPS
FOR MICROSCOPY



Richard Wheeler (Zephyris), Resin-Embedded Transmission Electron Microscope Sample, CC BY 3.0

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GaAs-AlGaAs nanowires grown epitaxially on Si Substrate. Resin embedded and sectioned with a DiATOME ultra 35° Diamond Knife; HAADF-STEM. Hanne Kauko, Dept of Physics Trondheim