

Technical Data Sheet

Technovit H7100 / H8100 For Materials Samples

#14653-14654

Glycol Methacrylate Embedding For Materials Samples

Embedding in plastic often supplies the support necessary to successfully section various materials samples, especially porous and inhomogeneous samples. GMA has been used to embed and section polymer resin, multilayer foils and films, paper, textiles and coatings in addition to a wide variety of biological material. The ability of this low viscosity resin to infiltrate effectively can make sectioning non-biological samples fast and economical.

Preparation of this type of sample is slightly different than preparing biological samples.

Procedure

A fixation step is, of course, not necessary for materials samples.

Dehydration for GMA embedments does not have to be complete because of GMA's miscibility in water. Only if the sample is saturated with water should a schedule of increasing alcohol concentration be used. This will displace most of the water with a solvent that can be replaced with plastic. Use schedule as follows:

- 70% ethanol for 10 minutes
- 96% ethanol for 10 minutes
- 96% ethanol for 10 minutes
- Absolute ethanol for 10 minutes

Infiltration displaces the dehydration solvent with monomer prior to beginning the polymerization reaction. If you have a porous sample, infiltration may be needed. Nonporous samples can skip this step. Make up your infiltrating solution according to the directions from your kit. While complete elimination of air is not needed, sealing the molds with paraffin or plastic wrap is often done. Leave the samples at room temperature for one hour then at 37°C for one hour to complete polymerization.

If your embedments cannot be mounted directly to the microtome, an adapter must be attached. Place the suitable Technovit 3040 in an inexpensive media prepared by mixing three parts of the dry component to one part of the liquid component. Pour it into the adapter and polymerization will be complete with 10 minutes. The adapters will be firmly attached through a copolymerization of the Technovit 3040 with the GMA.

You are now ready to begin sectioning with glass.