Manual
EUKITT® 4400 LB

Manufacturer:

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Photo-curing one-component urethaneacrylate-based resin for embedding and subsequent production of thin ground sections in medicine and dentistry.

Properties
EUKITT® 4400 LB was specially developed for the thin grinding technique. It completely penetrates hard tissue, and with this technique no decalcification of the tissue is necessary. Resins like composite tooth filling materials or bone cements are not affected by EUKITT® 4400 LB.

Polymerization of the embedding medium takes place in the UV light unit. When adhering to the irradiation times indicated, temperatures will not exceed 50 °C.

Its mechanical strength makes EUKITT® 4400 LB particularly suitable for the thin grinding technique, and the sawing and grinding equipment manufactured by Walter Messner GmbH is best suited for this method.

All customary dyeing methods may be applied with high-quality results and in a minimum of time.

Handling

Fixation
Any fixation method customary in light microscopy may be used for this photo-curing embedding system.

Dehydration
Dehydration of the tissue may be done via an ascending alcohol range (ethanol).

Example

Alcohol/Water	=	80/20	6 hours
Alcohol/Water	=	96/4	6 hours
Alcohol	=	100	6 hours
Alcohol	=	100	4 hours

Infiltration

EUKITT®/Alcohol (100%)	=	30/70	6 hours
EUKITT®/Alcohol (100%)	=	50/50	8 hours
EUKITT®/Alcohol (100%)	=	70/30	8 hours

After that infiltration with pure EUKITT® 4400 LB for two weeks on a vibraxer.

If dehydration is done mechanically and the infiltration with agitation and vacuum, dehydration times of 3 hours per stage and infiltration times of 8 hours per stage will suffice for tissues of 2 to 3 mm thickness. For dehydration and infiltration without agitation and vacuum the times per stage should be multiplied by four.

Infiltration should take place in light-proof containers or equipment as contact with light will start the polymerization.

Embedding
For planeparallel embedding the prepared and infiltrated tissue specimen is placed in the embedding mould on a drop of fixation adhesive and gently pressed down. It is important that the surface to be examined should be on the bottom of the mould. Then EUKITT® 4400 LB is poured onto the specimen in such a manner that the specimen does not float and no air bubbles are entrapped.

Polymerization
The polymerization of the embedding takes place in the UV light unit at a wavelength of 365 nm. Two standard 36W UV lamps are recommended. The polymerization is to be performed in one step. Total polymerization time is 4 hours max.

If a maximum of 40 ml embedding medium is used at an ambient temperature of 23 °C, polymerization temperature will not exceed 50 °C.

Mounting
The adhesion of tissue specimens to an acrylic glass specimen holder is done with the photo-curing mounting medium EUKITT® UV R. The curing of EUKITT® UV R is finalized after 90 seconds irradiation time.

Dyeing
Possible with all customary dyeing methods.

Storage advice
Keep vessels always closed. Do not store above room temperature. After expiry date the materials should not be used anymore. Keep away from reach of children.