

# Technical Data Sheet

## EUKITT® EMS 4400-LB

### #15320-40

#### Introduction

EUKITT® EMS 4400 LB is a photo-curing, one-component, urethaneacrylate-based resin for embedding and subsequent production of thin ground sections in medicine and dentistry.

#### Properties

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

**Note:** Polymerization temperature will not exceed 50°C if a maximum of 40 ml embedding medium is used at an ambient temperature of 23°C.

Due to its mechanical strength, EUKITT EMS 4400 LB particularly suitable for the thin grinding technique. All customary dyeing methods may be applied with high-quality results and in a minimum of time.

#### Fixation

Use any customary light microscopy fixation method for this system.

#### Dehydration and Infiltration

**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, infiltrate with pure EUKITT EMS 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 2-3 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.

#### Embedment

##### *Plane-parallel embedding*

1. Place the prepared and infiltrated tissue specimen in the embedding mold on a drop of fixation adhesive and gently press down.  
**Note:** The surface to be examined should be on the bottom of the mold.
2. Pour EUKITT EMS 4400 LB onto the specimen so 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 with two standard 36W UV lamps. Perform the polymerization in one step. Total polymerization time is a maximum of 4 hours.

**Note:** Polymerization temperature will not exceed 50°C if a maximum of 40 ml embedding medium is used at an ambient temperature of 23°C.

### **Mounting**

The adhesion of tissue specimens to an acrylic glass specimen holder is done with the photo-curing mounting medium EUKITT UV R (Catalog #15320-30R). The curing of EUKITT UV R is finalized after 90 seconds irradiation time.

### **Dyeing**

EUKITT EMS 4400 LB can be used with all customary dyeing methods.

### **Storage**

- Keep away from reach of children
- Always keep vessels closed
- **Do not** store above room temperature
- **Do not** use after expiration date