

# Expansion-, orthodontic- and retention plates

## Materials & Accessories

### Fabrication:

- Erkocryl, clear, 2.0 and 2.5 mm or coloured 2.0 mm
- Resilit-S, clear or pink, to polymerise clasps

### Model preparation:

- Erkogum (110 844) for blocking out, high-fusing wax (725 080) for filling bubbles in the plaster, Isolac (624 050) for model insulation.

### Finishing:

- Recommendation: Finishing set Quick 2 (110 877), fissure bur, rightward cutting, left spiral (110 836) for cutting out the desired shape, crosscut tungsten carbide bur (110 837) for grinding, HSS twist drill (110 876) to uncover the clasps. Lisko-S (223 200) for smoothing the edges and Liskoid (223 205) for polishing the interdental spaces.

## Hints

- The model has to be well degreased with Isolac, only then the autopolymer Resilit-S can polymerise transparently and free of bubbles in the pressure forming unit (Erkopress).
- The HSS twist drill does not damage the clasps. Use the HSS twist drill without any pressure (> 20.000 rev./min.).

**1.** At first bend the clasps and mill a slot into the model to position the expansion screw.

Well insulate the model (Isolac).



**2.** Cut the holding part of the expansion screw and put the screw into the slot milled into the model.

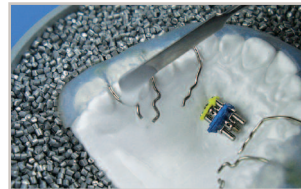
**3.** Fix the clasps onto the buccal surfaces with sticky wax.



**4.** For easier removal and finishing cover the occlusal and vestibular surfaces of the teeth with Erkogum.

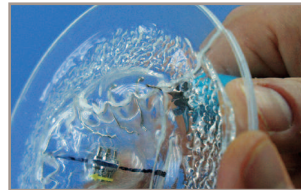
**5 - 7.** Thermoform in the pressure forming unit (Erkopress).

**5.** Warm the Erkocryl plate in the thermoforming unit. During this the model is embedded into the granules. The palatal area remains visible and the granules should cover the vestibular area to the occlusal border.



**6.** Shortly before thermoforming (20 sec.) apply few drops of Resilit-S onto the retention areas of the clasps and the expansion screw. Afterwards thermoform.

**7.** To ensure the complete polymerisation of the acrylic, leave under pressure for at least 5 minutes. Then remove the plate from the model. The model will break in most cases.



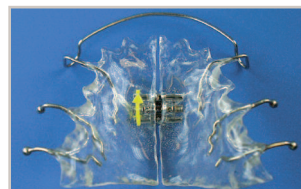
**8.** Roughly cut out the plate with the fissure bur. The HSS twist drill is used for fine cutting out and for uncovering the clasps.

**9.** Separate the plate using the HSS twist drill. The material can also be sawed or worked with a separating disc.



**10.** Finish the edges with the tungsten carbide bur (Attention in the area of the clasps, the tungsten carbide bur may damage the clasps).

**11.** Smooth the edges with Lisko-S (app. 10 000 rev./min.). Erkocryl can be polished in the common manner.

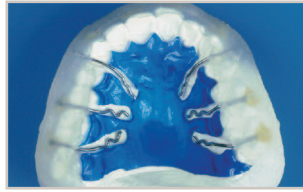


**12.** Finished expansion plate out of Erkocryl, transparent 2.0 mm.

Pay attention to the cleaning and maintenance instructions (pflege\_E.pdf).

**13.** Fabrication of a retention plate in a vacuum forming unit (Erkoform units). In addition to the preparation in step 4 a thick layer of Erkoskin (625 050) will be applied onto the retention ends of the clasps.

**15.** Finish the plate and use the fissure bur to cut the imprints of the clasps free. Reput the plate onto the model and fill the free spaces around the end of the clasps with autopolymer (Resilit-S).



**14.** Embed as shown on the picture in step 13 and thermoform.

Because of the Erkoskin the plate can be easily removed without clasps and their positions are clearly imprinted.

**16.** The polymerisation can be done classically in a polymerisation pot.

Finished retention plate out of Erkocryl, blue, 2.0 mm.