



### HINRIVEST KB

**HINRIVEST KB** is a phosphate-bound, carbon-free, quick-casting material for molds, possessing extraordinary characteristics. It is suitable for the pouring of all dental alloys and for preheating temperatures of up to 1.100°C. It can be used in crown and bridge technology, in precious and non-precious metals, combined techniques and cast ceramic processes (e.g. EMPRESS®).

#### Technical specifications:

Mixing liquid	HINRIVEST LIQUID
Powder : liquid ratio	100 g : 25 ml
Mixing under Vacuum	45 sec
Working time	5-8 min
Working temperature	17-19°C
Initial setting time	9-12 minutes (as per DIN 13919-B)
Setting expansion	> 2.50% (as per DIN 13919-B)
Storage instructions	8-12°C in a dry place

**Waxing up:** Optimum fit and surface quality are best achieved using patterns fabricated entirely from wax. Using resins often results in much poorer surface quality and cracks in the mould with the speed cast technique. This applies particularly to waxing up removable sections of attachment and telescopic crown work.

**Crown and bridge work:** Mix **HINRIVEST KB** according to the instructions and pour it up to the patterns without vibration. Then vibrate gently into the patterns using a small instrument, if necessary. Fill the ring completely without any further vibration. Adhere strictly to the time given in the instructions for the speed technique.

**Use of pressure:** Investing under pressure is **not necessary** due to **HINRIVEST KB**'s extremely homogenous grain distribution. If investing under pressure is preferred, the pressure should be released after 15 minutes so that it does not impede the setting expansion.

**Attaching sprues:** For crowns and bridges: the best method for casting channels is the double curve system or the one with the metal wire ring for wax with a diameter of 3,5 mm at most. The diameter of joints with the cast object must be  $\varnothing$  2,0 mm. The distance between the cast object and the double curve/ring must be 3,0-3,5 mm depending on the diameter of the wire used. The cast objects must be arranged in the muffle so they are never in the center of heat. The thinner parts (e.g. the edges of the crowns) must point towards the wall of the muffle and must be at least 5,0 mm away from its edge, while the thicker parts must be a much greater distance away. Use muffle sizes 3 and 6 for preference.

#### Concentration of the expansion liquid (Hinrivest Liquid):

High-gold-content precious metals:	60% – 65%	Semi-precious metals:	65% - 70%
Bonding alloys:	70% - 80%	Semi-precious bonding alloys:	75% - 85%
Non-precious alloys:	> 90%		

**Speed casting:** **HINRIVEST KB** is preferably preheated in the speed casting method. Preheat the furnace to 850°C and, exactly 15 minutes after mixing the investment, place the mould in the furnace with the sprue hole facing downwards. **Adhere strictly to the prescribed time, which is measured from the first contact of the powder and liquid.** Moulds should not be placed directly onto the floor of the furnace. We recommend using either a grooved tray for collecting wax or special stilts from a pottery craftshop.

**Caution!** During the first 15 minutes the furnace fan and extractor should remain switched off and the furnace door should not be opened because of the risk of instant combustion. If a preheating temperature other than 850°C is required, the temperature can be adjusted 15 minutes after placing the mould in the furnace. Moulds are ready to cast after heat soaking for 45 – 60 min depending on the size of the ring.

**Conventional preheating:** If a conventional preheating is necessary should allow the mould to set for at least 60 minutes, then place it in a cold furnace and heat to the required temperature at a heat rate of 5°C - 7°C per minute. Holding stages are not required when using **HINRIVEST KB**.

**Injection-moulded porcelains (e.g. Empress<sup>0</sup>):** Follow normal procedure and select a conventional linear preheating curve without holding stages. In many cases it is also possible to use the speed technique.

The following recommendations for liquid concentrations for injection-moulded porcelains have been tried and tested in practice: 50% for inlays with 1 or 2 surfaces, 60% for inlays with 3 surfaces, 70% for the all-porcelain build-up technique and 80% for the all-porcelain staining technique. Carry out some test injections based on the above concentrations to determine the correct ratios for the injection-moulded porcelain used in your laboratory.

**Recommendations:** These technical hints are based on practical experience and experiments conducted in our R&D laboratory. The values given are purely indicative. All ERNST HINRICHS products are subjected to strict quality controls. We reserve the right to make any technical modifications considered necessary.

**WARNING: Inhalation of silica dust is a health risk. Wear a suitable mask to protect the respiratory tracts.**

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