Betriebsanleitung / Instructions of use / Istruzioni per l'uso
Mode d'emploi / Instrucciones de uso

---

für / for / per / pour / para

BERGVEST®

Modellgusseinbettmasse
Investment for Partial Denture
Rivestimento per scheletrati
Revêtement pour squelettique
Revestimiento para esqueléticos

Karl Berg GmbH
Industriestraße 3b
D-78234 Engen / Germany
www.berg-dental.com

BERGVEST ® Investment for partial denture technique, suitable for high-speed or traditional casting

BERGVEST® is a phosphate-bound precision investment material to be used in the partial denture technique, particularly for silicone and gel duplications.

Physical properties	**silicone duplications**	**gel duplications**
Mixing Ratio (Powder/Liquid)	400g / 84ml for models & muffles	400g / 78 ml for models 400g / 84 ml for muffles
Working temperature	20 – 23 °C	20 – 23 °c
Working time (20-23 °C)	approx. 5 min	approx. 5 min
Mixing time	60 seconds under vacuum	60 seconds under vacuum
Setting time	30 minutes or more	30 minutes or more
Setting expansion	**0,6 - 0,7 %**	**0,6 - 0,8 %**
Thermal Expansion	**1,1 - 1,2 %**	**1,1 - 1,3 %**
Total expansion	**1,7 - 2,0 %**	**1,7 - 2,1 %**

Rule :	**duplicated model**	**400 g powder : 78 – 84 ml liquid**
	muffle (coating)	**400 g powder : 84 ml liquid**

Instructions for Use

Duplicate the prepared and cleaned master model with **BERG duplicating silicone** 1:1 20 Shore (Item.No. 98802) or with **BERG Triplegel** (Item No. 94406).
After the predetermined hardening time, the master model has to be removed with compressed air or with an appropriate instrument (not sharp-edged!). A little debubbilizer can be applied on the duplicating form, then remove thoroughly with compressed air. This assures a better wetting of the silicone form with the investment.
In order to avoid any type of unnecessary pressure on the silicone or the **Triplegel** (Agar-Agar), we recommend to keep the duplicating form unconditionally in the duplicating flask.

The mixing ratio we suggest is 84 ml Liquid for 400 g Powder.
To control the expansion the liquid must be diluted with distilled water.
Especially for clasp dentures, the expansion can be increased by using less distillated water, and for combinated works a higher friction can be obtained by diluating the special liquid with distilled water.

Rule :	**duplicated model**	**25 % distilled water : 75 % liquid**
	muffle (coating)	**50 % distilled water : 50 % liquid**

Pour the exact quantity of liquid in the mixing bowl and add the powder. Spatulate thoroughly and mix under vacuum for exactly 60 seconds. Pour the mixed investment under vibration into the duplicating mould and let the model harden for at least 20 minutes for the silicone duplication and 60 minutes for gel duplications. During this time the investment shouldn't be touched anymore and stand still.
After hardening the duplicated model has to be removed with compressed air or with an appropriate instrument (not sharp-edged!).

BERGVEST ® Investment for partial denture technique, suitable for high-speed or traditional casting

Rule : The gel duplicating form needs to be dry and have room temperature for filling.

Rule : By reducing the total amount of liquid, the metal friction will be decreased which allows an easier path for the clasps on the model.

Before modelling, the investment model must be dried for 45 minutes at a temperature of 180°C - 200°C and can afterwards be hardened for 20 seconds with **MASTERDUR biological dipping hardener** (Item No. 94301).
We recommend to apply a thin layer of BERG **Universal Glue** (Item-No. 29000) on all surfaces where you will adapt wax parts. This is especially valid for patterns and materials similar to plastic.

Rule:	**drying time for silicone duplication**	**5 minutes at 140°C**
	drying time for gel duplication	**25 minutes at 170 °C**
Rule:	**creation of the muffle coating**	**400 g powder : 84 ml liquid**

Fix the investment model with the modellation in the duplicating flask and pour in the mixed investment under moderate vibrations. Let it harden shock-free for at least 30 minutes, **20 minutes when using the speed method**. In case of closed muffle systems the muffle needs to be coated with a flask liner. After hardening, the casting muffle is slightly processed on bottom and top side with the dry trimmer. Then put the flask into the preheating furnace with the casting funnel oriented downwards.

Rule:	**setting time**	**30 minutes in traditional procedure**
	setting time	**20 minutes in speed procedure**

Heating methodology

Adjust the furnace at the desired temperature depending on the type of alloy used:

850°C	**general preheating temperature / final temperature**
850 - 900°C	**maximum final temperature according to manufacturer's instructions**

Rule : The final temperature must be increased by 50°, when investing under Vaccum. We do not recommend to use the speed procedure in case of gel duplication.

Heating Process	Holding time	Heating rhythm
Heat up to 280°C		3°C/min
Hold temp. at 280°C	20min	
280°C to 580°C		6 - 8°C/min
Hold temp. at 580°C	20min	
580°C to 850°C		8 - 10°C/min
Holding time at final temp.	40min	

BERGVEST ® **Investment for partial denture technique, suitable for high-speed or traditional casting**

Speed method: **Put the muffle into an oven at 800°C and continue to heat if necessary. Final temperature max. 850-900°C, depending on the type of alloy used. Holding time at final temperature, 40 minutes.**

Rule : Holding time must be prolonged by 20 minutes depending on the number of muffles in the oven.

Storage
The powder and the liquid must be stored at room temperature (approx. 21°C).
Protect the liquid against freezing, do not store at temperatures below 5°C, otherwise it will be damaged and cannot be used anymore.
Storage stability of BERGVEST powder and BERGVEST liquid is 24 months !

Delivery
Item-No. 94000 BERGVEST® Powder + Liquid - 20kg (50x400 g) incl. 3L Standard Liquid
Item-No. 94020 BERGVEST® Powder - 20kg (50x400 g)
Item-No. 94101 BERGVEST® Liquid - 1000 ml Bottle

Rule : By reducing the total amount of liquid, the metal friction will be decreased which allows an easier path for the clasps on the model.

Metal casting
The casting technique can be processed as usual, independent from the way of casting, centrifuge, vacuum pressing or open flame etc. The casting process should be started immediately after taking out the muffle of the oven. Process the metal according to the instructions of the alloy manufacturer.

Cooldown
Place the muffle with the sprue former in the upper direction to allow a rapid cool down of the BERGVEST to room temperature. Deflasking after 30 minutes!
Moisten the investment slightly before deflasking, because BERGVEST contains quartz / cristobalite and creates dust.

The above given instructions correspond to the actual technical status and our experience. Technical changes and ameliorations are excepted. General terms and conditions of sale and supply are applicable.