Bellavest® SH

Shock-heat or conventionally heatable, phosphate-bonded precision casting investment material for all crowns, bridges and pressable/press-to-metal ceramics

Bellavest SH, phosphate-bonded dental casting investment material: Type 1 (for the production of inlays, crowns, bridges and other fixed restorations), Class 2 (recommended for burning out during shock heating)

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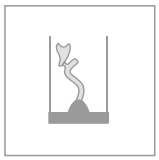
Safety instructions

Please read and follow the instructions in the insert "Safety instructions and general instructions for BEGO investment materials"! This material contains quartz which causes lung damage when breathed in during prolonged or repeated exposure. We recommend sufficient ventilation or wearing a PF2 protective mask as suitable protection measures.

Preparation



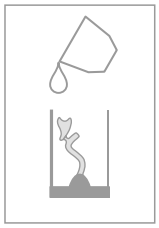
Pressable/Press-to-metal ceramics

- Fix and sprue the wax-up according to the instructions of the ceramics manufacturer.

Crown and bridge alloys

- Wax the sprued copings on the BEGO *base socket mould former* so that the distance to the mould edge and top surface is at least 5 mm ($^1/_4$"). Spray a thin coat of *Aurofilm* wetting agent and blow completely dry.
- Plastic copings (e. g. Pattern Resin or Palavit G) must be thinly coated with wax.
- Use BEGO *fleecy inlay strips:*
  1 strip for metal mould rings in sizes 1 + 3,
  2 strips on top of each other for sizes 6 + 9 as well as for all non-precious alloys.
  Handling:
  The strips must be approx½ cm longer than the circumference of the mould ring. Moisten strips slightly.
  Press strips in mould ring so that they overlap and are flush with the **top** edge of the mould ring.
  Slip over the wax-up and press the **lower** edge of the mould ring into the base socket mould former.

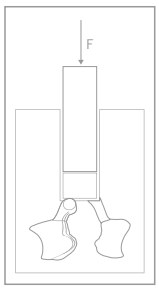
Investment



- Liquid: BegoSol® HE (**Frost-sensitive!** Storage and transport temperature: **+5 °C** to + 35 °C / **10 °F** to 95 °F)
- Before mixing, rinse out the clean mixing bowl with water and wipe off.
  Mixing bowls that are not clean or are dry withdraw moisture from the investment material!
- Mix the liquid and powder using a spatula for **30 seconds** (or mix mechanically using a spatula).
  Then mix for **60 seconds** in a mixing unit under a vacuum at 350 rpm. Keep under vacuum for additional **30 seconds** without stirring.(Mixing without mixing unit: 2 minutes on the vibrator.)
- Available working time: approx. 5 minutes (20 °C / 70 °F, 50 % liquid).
  At higher room temperatures the working time will be reduced!
- Fill crowns carefully with a fine instrument. Fill the mould ring on the vibrator at the lowest vibration level.
  Do not vibrate any more after filling!
- If heating is to be carried out without a ring, remove the ring used for investment as soon as possible after **complete** setting of the investment material (at 20 °C / 70 °F after approx. 15 minutes); metal mould rings cannot be removed. **Pressing moulds** must be left to cool for **25 – 30 mins** after their being filled until the investment material has completely set. Any deformation, caused, for example, by moving the mould or premature removal from the mould, can cause micro cracks in the investment material, which can cause the mould to break during pressing.
- For shock heating, comply with the time window foreseen for insertion (20 – 30 minutes after mixing is initiated) and the insertion temperature (900 °C)!

Mixing ratio 100 g Bellavest® SH : 25 ml liquid

Mould size	90 g bags	100 g bags	160 g bags
1	1/22,5 ml	1/25 ml	–
3	2/45 ml	2/50 ml	1/40 ml
6	4/90 ml	4/100 ml	2/80 ml
9	6/135 ml	5/125 ml	3/120 ml



Liquid concentration

- **for pressable ceramics**
  (layering and staining techniques)

Inlay MO and OD	60 – 70 %
Inlay MOD	70 – 80 %
Crowns, veneers and bridges	75 – 85 %

- **Press-to-metal ceramic (Metal): 70 %** for all indications
- **Press-on ceramics: (zirconium dioxide)**
  for all indications: **max. 40 %**

The concentrations are standard values and can be adapted according to the working conditions and object size. Never dilute to less than 20 %!

%	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %
HE/H_2O	8/32 ml	12/28 ml	16/24 ml	20/20 ml	24/16 ml	28/12 ml	32/8 ml	36/4 ml

- **for crown and bridge alloys**

Modelling:	made of wax without pressure	made of wax with pressure (4 bar)	made of plastic without pressure (e. g. Pattern Resin)	made of plastic with pressure (4 bar)
Inlays and partial crowns	35 %	40 %	–	–
Crowns, bridges and primary parts in precious metal in precious metal-to-ceramic alloys	 45 % 50 %	 50 % 60 %	 – –	 – –
Secondary parts in precious metal cone, ring telescope, full telescope, groove-shoulder attachment	–	–	45 – 75 %	50 – 80 %
Crowns and bridges in non-precious metal-to-ceramic alloys (Co-Cr) (Ni-Cr)	75 – 85 % 70 – 75 %	80 – 90 % 75 – 80 %	– –	– –
Non-precious double crowns (external parts)	–	–	90 – 100 %	–

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Preheating

	Shock heating	Conventional heating
Setting time after investment	**20 – 30 minutes**	at least 30 minutes
Insertion temperature	**900 °C / 1,650 °F**	Room temperature (or 250 °C / 500 °F)*
Holding level	–	250 °C / 500 °F (with 5 °C (9 °F) / min)**0
Final temperature		250 °C / 500 °F (with 7 °C (12 °F) / min)**
Precious metal	700 °C / 1,290 °F	700 °C / 1,290 °F
Precious metal-to-ceramic alloys	850 °C / 1,560 °F	850 °C / 1,560 °F
Non-precious metal	900 °C / 1,650 °F	900 °C / 1,650 °F
Pressable ceramics	up to 900 °C / 1,650 °F (Follow manufacturer's instructions!)	
Hold times for holding level and final temperature	30 – 60 minutes (depending on size and number of moulds)	

*/** Only for furnaces with conventional control / with computer control.

Press-to-metal ceramics: for pressing to non-precious metal alloys, preheat Bellavest® SH moulds **rapidly only**; for precious-metal alloys, preheat **normally or rapidly**!

Shock heating

Only for mould sizes 1 to 6 • Roughen mould bottom slightly after setting • Place moulds upright in the furnace (funnel former facing down) and without direct contact to the heating source (use spacer or ceramic plate) • **Always comply with setting time and insertion temperature!**

Risk of injury in connection with shock heating! Place all moulds in the furnace within 10 seconds and then keep the furnace door closed for 15 minutes!

Inserting further moulds leads to temperature decrease and thus to considerable extension of the preheating process.

After casting

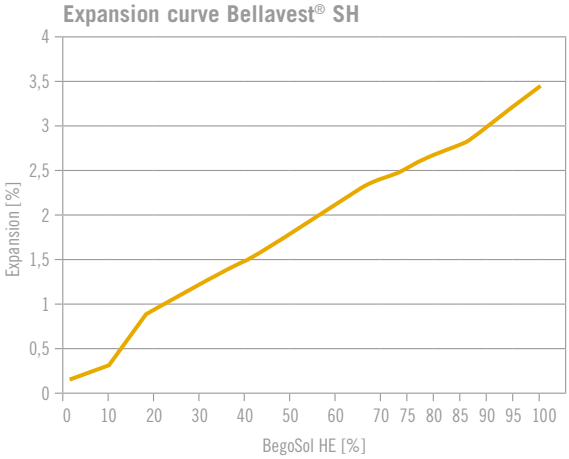
After casting/pressing allow the moulds to cool down until warm to the touch, in a protected and designated location, **do not quench in water!** Investment materials contain quartz. Do not inhale dust! Danger of lung damage (silicosis, lung cancer). To avoid dust during deflasking, place the moulds in water, once they have cooled down completely after casting, until they are thoroughly moistened.

Data

	BegoSol® HE 50%	BegoSol® HE 80%
Available working time at 20 °C / 70 °F	approx. 5 min	approx. 4.5 min
Total expansion	1.7%	2.2%
Minimum shelf life	2 years	
Characteristic material values in accordance with DIN EN ISO 15912		
Beginning of setting (Vicat time)	approx. 10.5 min	approx. 10 min
Compressive strength (after 2 hours)	4.2 MPa	5.1 MPa
Linear thermal expansion	0.8%	0.9%

This product was made according to the specifications of DIN EN ISO 15912 and meets its requirements in all respects.

Expansion curve Bellavest® SH



Availability and recommendations

		Carton		Carton	
Bellavest® SH	90 g bag			12.96 kg (144 bags)	– **54257**
	100 g bag	5.0 kg (50 bags)	– **70060**		
	160 g bag	4.8 kg (30 bags)	– **54247**	12.8 kg (80 bags)	– **54252**
BegoSol® HE		1000 ml (1 bottle)	– **51095**	5000 ml (1 canister)	– **51096**

Aurofilm	(100 ml)	52019	BEGO *metal mould rings*		
BEGO *base socket former*			Size 3	(4 pieces)	52422
Size 3	(4 pieces)	52627	Size 6	(4 pieces)	52423
Size 6	(4 pieces)	52628	Size 9	(4 pieces)	52424
Size 9	(4 pieces)	52629			

BEGO *fleecy inlay strip*

40 mm	(3 x 30 m)	52409
45 mm	(3 x 30 m)	52408

Whether given verbally, in writing or by practical instructions, our recommendations for use are based upon our own experience and trials and can only be considered as standard values.
Our products are subject to constant further development. Therefore alterations in construction and composition are reserved.

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www.bego.com

Manufacturer | REF Article number | Use by | Warning

Date of manufacture | LOT Batch number | Observe the instructions for use