Bellavest® DR

Low-dust, rapidly or conventionally heatable, phosphate-bonded precision casting investment material for all crown and bridge alloys
Bellavest DR, 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

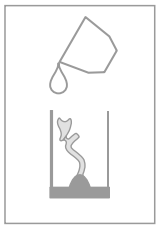
Please read and follow the instructions in the insert
"Safety instructions and general instructions for BEGO investment materials"!
This material contains quartz which causes lung damage when breathed in during prolonged or repeated exposure. We recommend sufficient ventilation or wearing a PF2 protective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

Preparation

Crown and bridge alloys

- Fix the wax-up with sprues on the *base socket mould former* so that the distance to the mould edge and top surface is at least 5 mm. Spray the wax-up with a thin coat of *Aurofilm* wetting agent and blow dry.
- Plastic copings (e.g. Pattern Resin or Palavit G) must be lightly coated with wax.
- Investment can be carried out with a silicone ring (ringless) or metal ring.
  With metal mould rings use BEGO *fleecy inlay strips*:
  2 strips 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 approx. ½ cm longer than the circumference of the mould ring. Moisten strips slightly. Press strips into 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.

Investing



- **Liquid: BegoSol® HE (Sensitive to freezing!** Storage and transport temperature: **+5°C** to +35°C)
- Before mixing, rinse out the clean mixing bowl with water and wipe out.
  Mixing bowls that are not clean or are dry withdraw moisture from the investment material!
- **Note! A thin film may form on the inside of the mixing bowl when working with Bellavest DR (due to the dust control agent). The processing of further investment materials is not affected by this film!**
- Mix the liquid and powder using a spatula for **30 seconds**. **Note:** The added dust control agent may mean the powder seems slightly damp and agglomerates (sticks together). After being completely mixed in the mixing unit, the result is an absolutely homogeneous mass with optimum flow properties.
  Mix thoroughly for **60 seconds** in the mixing unit under a vacuum at 350 rpm. Keep under vacuum for an additional **30 seconds** without stirring.
- Working time: approx. 5 min (21 °C, 80% liquid).
  The working time is reduced with high room temperatures!
- 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!**
- Investment in silicone ring: Remove the ring used for investment as quickly as possible after the investment material has set **completely** (after approx. 10 – 15 min with a room temperature of 21 °C); metal mould rings cannot be removed.
- For shock heating, comply with the time window foreseen for insertion (20-30 minutes after start of mixing) and the insertion temperature (700-900°C)!

Mixing ratio

100 g Bellavest® DR: 25 ml liquid

Mould size	160 g bag / liquid
3 6 9	1/40 ml 2/80 ml 3/120 ml

Liquid concentration

The concentrations are standard values and can be adapted according to the working conditions and object size. Do not dilute to below 20% under any circumstances!

Mixing concentration per 160 g bag [%]	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**

Wax-up:	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 Palladium alloys:	 45% 50% 60%	 50% 60% 70%	 – –	 – –
Secondary parts in precious metal cone, ring telescope, full telescope, groove-shoulder attachment	–	–	60-75%	55-80%
Crowns and bridges in (Co-Cr)	75-85%	80-90%	–	–
Non-precious metal-to-ceramic alloys (Ni-Cr)	70-75%	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 min**	at least 30 min
Insertion temperature	**700-900°C**	room temperature (or 250°C)*
Holding level	–	250°C (at 5°C / min)**
Final temperature		250°C (at 7°C / min)**
precious metal	700°C	700°C
precious metal-to-ceramic alloys	850°C	850°C
non-precious metal	900°C	900°C
Hold times for holding level and final temperature	30-60 min (depending on size and number of moulds)	

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

Shock heating

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

Risk of injury 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.

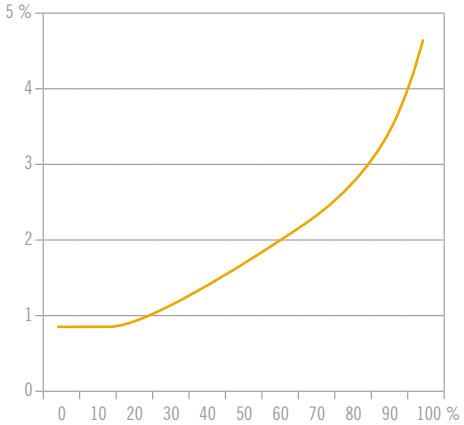
After casting

After casting, allow the moulds to cool down until warm to the touch in a protected and designated location; **do not quench in water!** Investment material contains 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 wetted.

Data

	BegoSol® HE 50%	BegoSol® HE 80%
Working time at 21 °C	approx. 5 min	approx. 5 min
Flowability	135 mm	135 mm
Total expansion	1.9%	2.5%
Minimum shelf life	2 years	
Key material values according to DIN EN ISO 15912		
Beginning of setting (Vicat time)	approx. 10:05 min	approx. 10 min
Compressive strength (after 2 hours)	3.8 MPa	3.8 MPa
Linear thermal expansion	1.1%	1.15%

Total expansion curve Bellavest® DR



This product was manufactured according to the specifications of DIN EN ISO 15912 and meets its requirements.

Scope of delivery and recommendations

		box		box	
Bellavest® DR	160 g bag	4.8 kg (30 bags)	– **54862**	12.8 kg (80 bags)	– **54861**
BegoSol® HE		1000 ml (1 bottle)	– **51095**	5000 ml (1 canister)	– **51096**

Aurofilm	100 ml	52019						
BEGO *base socket mould former*			BEGO *metal mould ring*			BEGO *fleecy inlay strip*		
size 3	(4 units)	52627	size 3	(4 units)	52422	40 mm	(3 x 30 m)	52409
size 6	(4 units)	52628	size 6	(4 units)	52423	45 mm	(3 x 30 m)	52408
size 9	(4 units)	52629	size 9	(4 units)	52424			

Our recommendations for use, whether given verbally, in writing, or by practical instruction, are based upon our own experience and trials and can therefore only be regarded as guidelines.
Our products are subject to continuous development. We thus reserve the right to make modifications in design, appearance and materials without notice.

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