

Shock-heat or conventionally heatable, phosphate-bound precision casting investment material, applicable for all crown and bridge alloys

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Safety instructions

Please read and follow the instructions in the insert

“Safety instructions and general instructions for BEGO investment materials”!

BellaStar XL can be heated up rapidly (shock heat) or conventionally. The possible insertion temperatures are 700–900 °C/1,290–1,650 °F (shock heat), room temperature or 250 °C/500 °F (both conventional).

Preparation

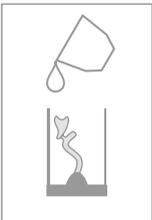


- Wax the spruded copings on the BEGO *base socket mould former* so that the distance to the mould edge and top surface is at least 5 mm ($\frac{1}{4}$ ”). Apply a thin coat of *Aurofilm* wetting agent and blow completely dry.
- Plastic copings (e. g. Pattern, Resin or Palavit G) must be thinly coated 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 approx. $\frac{1}{2}$ cm longer than the circumference of the mould ring. Moisten strips slightly. Press strips in mould ring such 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® K (**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!
- Firstly, put in liquid and add powder, mix thoroughly with a spatula by hand for **15 seconds**. After that mix for **60 seconds** in a mixing unit under a vacuum. (Mixing without mixing unit: at least 2 minutes.)
- Time available for processing: approx. 3.5 minutes (20 °C/70 °F, 70 % 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.
- For shock heating comply with setting time (20–30 minutes) and insertion temperature (700–900 °C/1,290–1,650 °F)!

Mixing ratio

100 g BellaStar XL : 25 ml liquid

	Mould size 1	Mould size 3	Mould size 6	Mould size 9
Number of 60 g bags / Liquid	1 / 15 ml	3 / 45 ml	6 / 90 ml	9 / 135 ml
Number of 160 g bags / Liquid	–	1 / 40 ml	2 / 80 ml	3 / 120 ml

Table of quantities for 160 g bags

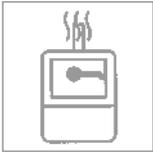
	65 %	70 %	75 %	80 %	85 %	90 %	95 %	100 %	Liquid Concentration
1 bag (160 g : 40 ml)	26 + 14	28 + 12	30 + 10	32 + 8	34 + 6	36 + 4	38 + 2	40 + 0	BegoSol® K + aqua dest. (ml)
2 bags (320 g : 80 ml)	52 + 28	56 + 24	60 + 20	64 + 16	68 + 12	72 + 8	76 + 4	80 + 0	
3 bags (480 g : 120 ml)	78 + 42	84 + 36	90 + 30	96 + 24	102 + 18	108 + 12	114 + 6	120 + 0	

Liquid concentration for 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	65 %	70 %	–	–
Crowns, bridges and primary parts in precious metal	70 %	70 %	–	–
in precious metal-to-ceramic alloys	75 %	75 %	–	–
Secondary parts in precious metal cone, ring telescope, full telescope, individual attachment	} –	–	65–75 %	65–80 %
Crowns and bridges in non-precious metal-to-ceramic alloys	(Co-Cr) 80–90 % (Ni-Cr) 75–85 %	85–100 % 80–90 %	–	–
Non-precious double crowns (external parts)	–	–	95–100 %	–

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Preheating



	Shock heating	Conventional heating
Setting time after investment	20 – 30 minutes	at least 30 minutes
Insertion temperature	700 – 900 °C / 1,290 – 1,650 °F	Room temperature (or 250 °C / 500 °F)*
Holding level	–	250 °C / 500 °F (with 5 °C/min / 9 °F)**
Final temperature		(with 7 °C/min / 12 °F)**
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
Holding 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.

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 any extensive contact to the bottom or walls of the heating chamber (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 extreme extension of the preheating process.

After casting



After casting allow the moulds to cool down until warm to the touch, **do not quench in water!** Investment materials contains quartz. Do not inhale dust! Danger of lung harms (silicosis, lung cancer). To avoid dust during deflasking, place the moulds in water after they have cooled down completely after casting until they are thoroughly moistened.

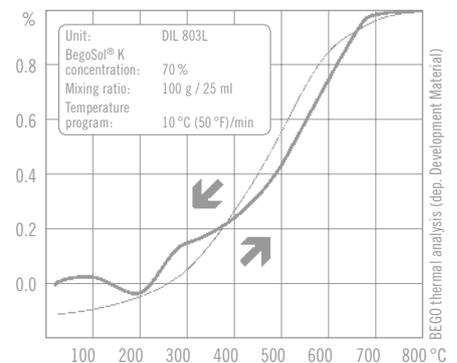
Data



	BegoSol® K	
	70 %	100 %
Time available for processing at 20 °C / 70 °F	approx. 3.5 min	approx. 3 min
Total expansion	1.6 %	2.1 %
Minimum shelf life	2 years	
Characteristic material values in accordance with DIN EN ISO 15912		
Beginning of setting (Vicat time)	approx. 7.5 min	approx. 7 min
Compressive strength (after 2 hours)	5.5 MPa	6.0 MPa
Linear thermal expansion	0.9 %	1.1 %

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

Thermal expansion curve BellaStar XL



Availability and recommendations



		Carton		Carton	
BellaStar XL	160 g bags	4.8 kg (30 bags)	– 54361	12.8 kg (80 bags)	– 54362
BegoSol® K		1000 ml (1 bottle)	– 51120	5000 ml (1 canister)	– 51121

BEGO funnel former	BEGO metal mould rings	BEGO fleecy inlay strip	
Size 3 (4 pieces) 52627	Size 1 (4 pieces) 52419	40 mm (3 x 30 m) 52409	
Size 6 (4 pieces) 52628	Size 3 (4 pieces) 52422	45 mm (3 x 30 m) 52408	
Size 9 (4 pieces) 52629	Size 6 (4 pieces) 52423	Aurofilm (100 ml) 52019	
	Size 9 (4 pieces) 52424		

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 a constant further development. Therefore alterations in construction and composition are reserved.

For particularly good results we recommend an alloy from the following groups, depending on the indication

<p>Bio PontoStar® since 1890</p>	<p>Wirobond®</p>
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