

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

**Safety instructions**

Please read and follow the instructions in the insert  
 "Safety instructions and general instructions for BEGO investment materials"!

BEGO is an official co-partner of the German Olympic team for **Athens in 2004**

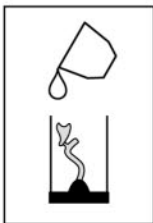
BellaStar XL can be heated up rapidly (shock heat) or conventionally. The possible insertion temperatures are 700–900 °C/1,290–1,650 °F (shock heat), room temperature or 250 °C/500 °F (both conventional).

**Preparation**



- Wax the 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"). 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.

**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!
- First put in liquid and add powder. Mix thoroughly with a spatula for **15 seconds**. After that mix for **60 seconds** in a mixing unit, such as *EasyMix*, under a vacuum. (Mixing without mixing unit: 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**

	Ring Size 1 1/4"	Ring Size 2"	Ring Size 2 1/2"
Number of <b>60 g bags</b> / Liquid	1 / 15 ml	3 / 45 ml	6 / 90 ml
Number of <b>160 g bags</b> / Liquid	–	1 / 40 ml	2 / 80 ml

Table of quantities for 60 g bags	65 %	70 %	75 %	80 %	85 %	90 %	95 %	100 %	Liquid Concentration
1 bag ( 60 g : 15 ml)	10 + 5	11+4	12+3	12+3	13+2	14+1	14+1	15+0	BegoSol® K + Distilled Water (ml)
2 bags (120 g : 30 ml)	20+10	21+9	23+7	24+6	26+4	27+3	29+1	30+0	
3 bags (180 g : 45 ml)	30+15	32+13	34+11	36+9	39+6	41+4	43+2	45+0	

Table of quantities for 90 g bags	65 %	70 %	75 %	80 %	85 %	90 %	95 %	100 %	Liquid Concentration
1 bag ( 90 g : 22.5 ml)	15+7.5	16+6.5	17+5.5	18+4.5	19 + 3.5	20 + 2.5	21 + 1.5	22.5 + 0	BegoSol® K + Distilled Water (ml)
2 bags (180 g : 45 ml)	29+16	32+13	34+11	36+9	38 + 7	41 + 4	43 + 2	45 + 0	
3 bags (270 g : 67.5 ml)	44+23.5	47+20.5	51+16.5	54+13.5	57+10.5	61+ 6.5	64 + 3.5	67.5 + 0	

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 + Distilled Water (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)
Inlays and partial crowns	65 %	70 %
Crowns, bridges and primary parts in precious metal	70 %	70 %
in precious metal-to-ceramic alloys	75 %	75 %

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## Preheating



	Shock heating	Conventional heating
Setting time after investment	<b>20 – 30 minutes</b>	at least 30 minutes
Insertion temperature	<b>700 – 900 °C / 1,290 – 1,650 °F</b>	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



**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



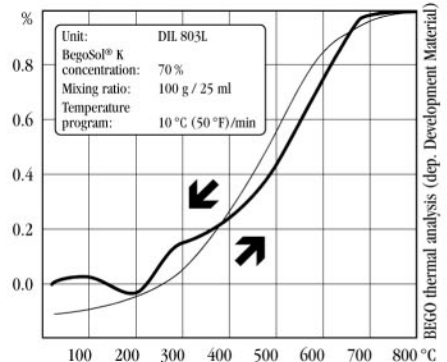
After casting allow the moulds to cool down until warm to the touch, **do not quench in water!** Investment materials contains quartz. Do not inhale dust! Danger of lung harms (silicosis, lung cancer). To avoid dust during deflasking, place the moulds in water after they have cooled down completely after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

## Data



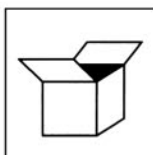
	BegoSol® K	
	70 %	100 %
Time available for processing at 20 °C/70 °F	approx. 3.5 min	approx. 3 min
Total expansion	1.6 %	2.1 %
Minimum shelf life	2 years	
<b>Characteristic material values in accordance with DIN EN ISO 9694</b>		
Beginning of setting (Vicat time)	approx. 7.5 min	approx. 7 min
Compressive strength (after 2 hours)	5.5 MPa	6.0 MPa
Linear thermal expansion	0.9 %	1.1 %

## Thermal expansion curve BellaStar XL



This product was made according to the specifications of DIN EN ISO 9694 and meets its requirements in all respects.

## Availability and recommendations



		Carton		
<b>BellaStar XL</b>	60 g bags	4.5 kg (75 bags)	–	<b>54360</b>
	160 g bags	4.8 kg (30 bags)	–	<b>54361</b>
	90 g bags	9.0 kg (100 bags)	--	<b>54367</b> (includes 2 liters BegoSol K)
<b>BegoSol® K</b>		1000 ml (1 bottle)	–	<b>51120</b>
				5000 ml (1 canister) – <b>51121</b>

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

**Bio PontoStar®**



**Wirobond®**

**Info:** Phone BEGO USA 800-342-2346 or (401) 334-9261