

Precision casting investment material for partial dentures – shock or conventional 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”!

WiroFine can be heated up rapidly (“shock heat”) or conventionally.

The possible insertion temperatures are room temperature approx. 20 °C / 70 °F (conventional) or 700 °C to 1000 °C / 1290 °F to 1830 °F (shock heat).

General instructions



- Liquid for shock and conventional preheating:
BegoSol® K (Frost-sensitive!) Storage and transport temperature: +5 °C to +35 °C / 41 °F to 95 °F.
Liquid only for conventional preheating:
BegoSol® (storage and transport temperature: –10 °C / 14 °F to +35 °C / 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!
- Ideal processing at 20 – 23 °C, higher processing temperatures reduces the working time.
Processing width 20 °C / 70 °F: approx. 3.5 min
Processing width 23 °C / 73 °F: approx. 3.0 min
- First put in liquid and add powder, mix thoroughly with a spatula for at least **15 seconds**.
Then mix in a mixing unit for 60 seconds under vacuum conditions, as far as possible.
(Processing without mixing unit: mix for **2 min** on the vibrator.)
- Suitable for one-piece casting technique, in conjunction with WiroOne^{plus} die investment (REF 54823).
- Duplication can be carried out in gel moulds or in silicone moulds.
When working with a pressure compaction unit, silicone moulds and the duplicate model must be made under the same conditions (2–4 bar)! Duplicate in gel moulds only without pressure!
- Fill duplication mould on the vibrator and then remove it immediately from the vibrator.

Duplication



Mixing

Mixing ratio 100 g Powder : 20 ml Mixing liquid

for 2 duplicate models

	WiroFine	Liquid	Aqua dest.	Mixing liquid	
				Total	Concentration
Liquid: BegoSol® K*	1 x 400 g	56 ml	24 ml	80 ml	70 %
Liquid: BegoSol® **	1 x 400 g	40 ml	40 ml	80 ml	50 %

* for shock and conventional preheating

** only for conventional preheating

- In case that a higher expansion is recommended, the model can be produced with a higher liquid-concentration of 80 %. The liquid-concentration for mould/ring remains unchanged at 70 %!

	Gel (<i>Castogel®</i> , <i>Wirodouble®</i> , <i>WiroGel® M</i>)	Silicone (<i>Wirosil®</i> , <i>Wirosil® plus</i>)
Removal from mould	after 45–60 minutes	after 30–60 minutes

Surface treatment	<i>Durol</i>	<i>Durofluid*</i>	<i>Durol E</i>
Drying	30 minutes (250 °C / 500 °F)	10 minutes (80–100 °C / 180–210 °F)	45 minutes (150 °C / 300 °F)
Dipping/spraying	briefly 3 times (approx. 2 seconds)	spray with thin film 5 minutes	long 1 time (approx. 4 seconds)
Subsequent drying	5 minutes (250 °C / 500 °F)	(80–100 °C / 180–210 °F)	1 minute (150 °C / 300 °F)

* do not use for duplication with gel

Investment



- **Please note:** Only those models fabricated in gel moulds need immersion hardening with Durol or Durol E. Models duplicated with silicone only have to be dried for 10 mins. before applying Durofluid.
- Before investing, prepare the wax-up with *Wiropaint plus* fine investment material or *Aurofilm* wetting agent (please follow the processing instructions for the products).
- Fill mould ring on the vibrator and then take away from vibrator immediately.
- Remove the mould ring **10 minutes** after investment!

Mixing

Mixing ratio 100 g Powder : 20 ml Mixing liquid

for 1 mould

	WiroFine	Liquid	Aqua dest.	Mixing liquid	
				Total	Concentration
Liquid: BegoSol® K*	1 x 400 g	56 ml	24 ml	80 ml	70 %
Liquid: BegoSol® **	1 x 400 g	40 ml	40 ml	80 ml	50 %

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Preheating



	Conventional preheating	Shock heat
Setting after investment	at least 30 min	20 min
Insertion temperature*	room temperature (20 °C)	700–1000 °C / 1290–1830 °F
Holding levels	250 °C / 500 °F (5 °C/min / 9 °F/min)** 570 °C / 1060 °F (7 °C/min / 12 °F/min)**	– –
Final temperature	950 °C–1050 °C / 1740 °F–1920 °F	
Holding times	30–60 min (depending on size and number of moulds)	

** Shock heat: After insertion you can heat up to the final temperature immediately.

** Heating rate only applies to furnaces with computer control.



Risk of injury in connection with shock heating. Caution: Danger of darting flame!

Place all moulds in the furnace within 10 seconds – then keep the furnace door closed for 15 minutes!

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 materials contains quartz. Do not inhale dust! Danger of lungs 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



Processing time at 20 °C / 70 °F approx. 3.5 min

Characteristic material values in accordance with DIN EN ISO 15912

(70 % BegoSol® K)

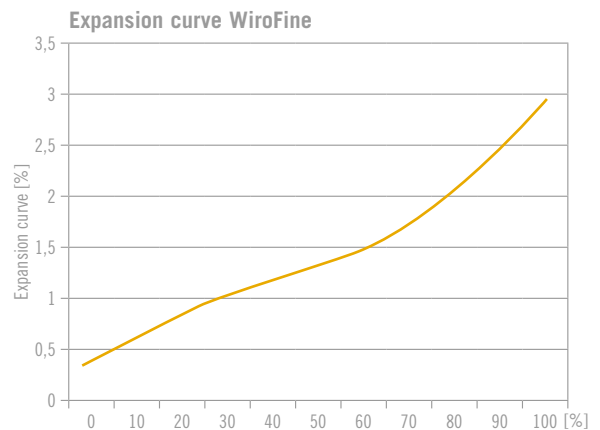
Beginning of setting (Vicat time) approx. 6.0 min

Compressive strength (after 2 hours) approx. 11 MPa

Linear thermal expansion approx. 0.8 %

Flowability approx. 140 mm

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



Availability and recommendations



WiroFine	1 carton 18 kg = 45 400 g bags	– REF 54345
	1 carton 6 kg = 15 400 g bags	– REF 54344
	1 carton 6 kg = 30 200 g bags	– REF 54348
BegoSol® K	1 bottle = 1000 ml	– REF 51120
	1 canister = 5000 ml	– REF 51121
BegoSol®	1 bottle = 1000 ml	– REF 51090
	1 canister = 5000 ml	– REF 51091

<i>Castogel®</i>	52052 (6 kg)	<i>Wirosil®</i>	52001 (2 kg)	<i>Durol E</i>	52148 (1000 ml)
<i>Wirodouble®</i>	52050 (6 kg)	<i>Wirosil® plus</i>	54854 (2 kg)	<i>Durol</i>	52111 (1000 ml)
<i>WiroGel® M</i>	54351 (6 kg)	<i>Wirosil® duplicating flask system</i>	52072 (small)	<i>Durofluid</i>	52008 (100 ml)
<i>WiroOne plus</i>	54823 (6 kg)		52083 (large)	<i>Wiropaint plus</i>	51100 (200 ml)
				<i>Aurofilm</i>	52019 (100 ml)

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

Tel. +49 421 2028-282
www.bego.com

<p>WIRONIUM® (Only given to authorized laboratories)</p> <p>Wironit®</p>	<p>PlatinLloyd®</p> <p>since 1890</p>
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