

Investment Material – Cobalt-Chrome Technique – for the Silicone Duplicating Technique

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Safety instructions

Please read and follow the instructions in the insert

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

General instructions



- Liquid: BegoSol® (storage and transport temperature: –10 °C to +35 °C / 50 °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!
- Processing width at 20 °C / 70 °F: approx. 3 minutes.
- Firstly, put in liquid and add powder, mix thoroughly with a spatula by hand for **10–15 seconds**.
After that mix for **60 seconds** in a mixing unit under a vacuum.
(Processing without mixer: mix for **2 minutes** on the vibrator.)

Duplication



- When working with a pressure compaction unit, silicone moulds (e. g. *Wirosil*®)/polyether moulds and the duplicate model must be made under the same conditions!
- Fill duplication mould on the vibrator and then remove it immediately from the vibrator.
- Removal from mould: after 30 to 40 minutes.
- Surface treatment of the duplicate models after removal from mould:
 - dry 10 minutes at 80–100 °C (160–200 °F),
 - spray weakly with *Durofluid* model spray,
 - drying.

Mixing	Wiroplus® S	BegoSol®	Dist. water	Total liquid	Concentration of liquid
Ratio	100 g			16 ml	
for 2 duplicate models	1 x 400 g	51 ml	13 ml	64 ml	80 %*

* Our recommendation, based on our own experiences and can only be seen as guideline.
Higher liquid concentration = more expansion enlarge the casting
Less liquid concentration = less expansion, scale down the casting

Investment



- 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. Then remove immediately from the vibrator.
- Setting time: 30 minutes.

Mixing	Wiroplus® S	BegoSol®	Dist. water	Total liquid	Concentration of liquid
Ratio	100 g			16 ml	
for 1 mould	1 x 400 g	0 ml 19 ml	64 ml 45 ml	64 ml 64 ml	0 %** 30 %**

** 30 % BegoSol® prevents cracks in the mould, which may occur due to rapid heating.
As a rule, distilled water is used for mixing.

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Preheating



Insertion temperature	Room temperature	
Holding levels	250°C/500 °F (5 °C/min/9°F/min) 570°C/1060 °F (7 °C/min/12 °F/min)*	(Heating rates only applies to furnaces with computer control)
Final temperature	see table	
Holding times	30 – 60 minutes (depending on the size and number of moulds)	

* optional for greater security

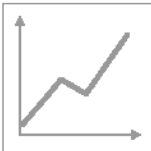
Final temperatures	Partial plates	Full plates
HF vacuum pressure casting machine (<i>Nautilus®</i>)	950 °C (1,740 °F) / 7 °C/min (12 °F min)	950 °C (1,740 °F)
HF induction casting machine (<i>Fornax®</i>)	1000 °C (1,830 °F)	1050 °C (1,920 °F)
Motorized and spring-loaded casting machine (<i>Fundor®</i>)	900 °C (1,650 °F)	1000 °C (1,830 °F)

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!** To avoid dust during deflasking, place the moulds in water after they have cooled down completely after casting until they are thoroughly moistened.

Data

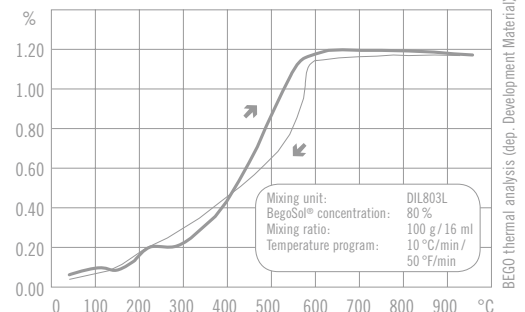


Processing time at 20 °C / 70 °C approx. 3 min
Total expansion with 80 % mixing liquid approx. 2.3 %

Characteristic material values in accordance with DIN EN ISO 15912

Beginning of setting (Vicat time) approx. 5.5 min
Compressive strength approx. 15 MPa
Linear thermal expansion approx. 1.2 %

Thermal expansion curve



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

Availability and recommendations



Wiroplus® S
1 carton 18 kg = 45 400 g bags – REF 50248
1 carton 6 kg = 30 200 g bags – REF 54353


BegoSol®
1 bottle = 1000 ml – REF 51090
1 canister = 5000 ml – REF 51091

<i>Wirosil®</i> 52001 (2 kg)	<i>Wiropaint plus</i> 51100 (200 ml)	<i>Nautilus® CC plus</i> 26415 (230 V)
<i>Wirosil® plus</i> 54854 (2 kg)	<i>Aurofilm</i> 52019 (100 ml)	<i>Fornax® T</i> 26425 (230 V)
<i>Durofluid</i> 52008 (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

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WIRONIUM® (only given to authorized laboratories) Wironit®	PlatinLloyd®  since 1890
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