

Safety instructions and general instructions for BEGO investment materials

BEGO is an official co-partner of the German Olympic teams for **Salt Lake City in 2002** and **Athens in 2004**



Safety instructions

- Investment materials contain quartz. **Do not inhale dust!** Risk of damage to lungs (silicosis, lung cancer).
Recommendation: Use gas mask type FFP 2 – EN 149:2001. Cut open bag with scissors and avoid generation of dust when filling into mixing bowl. Rinse out empty bag with water before crumpling up. Remove dust at workplace only when **moist**. To avoid dust during deflasking, place the mould in water after it has completely cooled down after casting until it is thoroughly moistened. Use suction extraction system with fine dust filter when blasting.
- Remove dried-up mixing liquid only when **moist** (fine dust). Seal bottle securely after use.
- Suction-extract escaping furnace gases during preheating and discharge outdoors!
- Only with shock heat investment materials: **Risk of injury during shock heating!** Place all moulds in the furnace within 10 seconds – then keep the furnace door closed for 15 minutes!

General instructions

- The ideal processing temperature for BEGO investment materials is **20 °C**. To keep it constant at a higher ambient temperature, use a temperature control cabinet if necessary. At a high ambient temperature also place the mixing bowl and mixing bowl in the temperature control cabinet.
- Observe shelf life dates of investment material and mixing liquid! Do not use without checking after the specified date. Do not bring phosphate-bonded investment material into contact with plaster or investment material containing plaster.
- Do not use crystallized mixing liquid any longer. The higher the concentration of mixing liquid, the greater the expansion. **A practical tip: Keep spare bottles!** Fill BegoSol® bottle up to desired % mark with BegoSol® and top up to 100 % with distilled water. Label this spare bottle with % data. Advantage: The mixing liquid is available with the desired concentration and can be measured in one operation.
- Data on the concentration of the mixing liquid are based on our own experience and tests and are regarded as reference values. Work results may be influenced by such parameters as temperature, mixing intensity, investment system, etc.

Application-related recommendations made by us, whether given verbally, in writing or by way of practical instructions, are based on our own experience and tests and may therefore be regarded only as general guidelines.

Our products are subject to continuous development. We therefore reserve the right to change the design and composition of our products.

Consignes de sécurité et observations pour les matériaux de revêtement BEGO

BEGO est l'un des partenaires officiels de l'équipe d'Allemagne pour les prochains jeux Olympiques de **Salt Lake City 2002** et d'**Athènes 2004**



Consignes de sécurité

- Les matériaux de revêtement contiennent du quartz. **Ne pas inhaler la poussière!** Danger pour les poumons (silicose, cancer des poumons).
Conseils: porter un masque de protection de type FFP 2 – EN 149:2001. Ouvrir les sachets avec une paire de ciseaux et éviter toute formation de poussière lors du remplissage des bols de mélange. Rincer les sachets vides sous l'eau avant de les froisser.
 - Ne retirer la poussière sur le poste de travail qu'après l'avoir **mouillée**.
 - Afin d'éviter la poussière lors du démoulage, immerger dans l'eau les cylindres entièrement refroidis après la coulée jusqu'à ce qu'ils soient humidifiés.
 - Sabler sous aspiration et avec un filtre contre les poussières fines.
- Ne retirer le liquide de mélange sec sur le poste de travail qu'après l'avoir **mouillé** (poussière fine). Bien refermer les flacons après usage.
- Lors du préchauffage, aspirer les gaz dégagés par le four et les évacuer à l'air libre!
- Uniquement pour les matériaux de revêtement Shock heat: **risque d'accident lors de l'enfournement rapide!** Enfournement tous les cylindres dans les 10 secondes – maintenir la porte du four fermée pendant 15 minutes!

Observations

- La température idéale de mise en oeuvre pour les matériaux de revêtement BEGO est de **20 °C**. Pour en conserver la stabilité en cas de température ambiante plus élevée, se servir éventuellement d'une armoire de réfrigération. Dans ce cas, en faire autant pour les bols et le liquide de mélange.
- Respecter les dates de péremption du matériau et du liquide! Après expiration des dates, ne pas utiliser sans contrôle préalable. Les matériaux de revêtement à base de phosphate ne doivent pas être mis au contact du plâtre ou de matériaux de revêtement à base de plâtre.
- Ne plus utiliser le liquide de mélange s'il est cristallisé. Plus le liquide de mélange est concentré, plus l'expansion est élevée! **Conseil pratique: préparer des flacons à l'avance!** Remplir le flacon de BegoSol® (1000 ml) de liquide jusqu'au repère de concentration désiré et finir le remplissage avec de l'eau distillée. Marquer le taux de concentration sur le flacon de réserve. Avantage: vous disposez d'un litre de liquide à la bonne concentration.
- Les indications données pour la concentration du liquide reposent sur nos propres expériences et essais et n'ont qu'une valeur indicative. Les résultats peuvent être influencés par des paramètres tels que la température, un mélange plus ou moins soigné, le système de mise en revêtement et autres.

Nos conseils techniques, qu'ils soient donnés verbalement, par écrit ou au cours de démonstrations pratiques, reposent sur l'état actuel de nos propres connaissances et essais cliniques. Ils n'ont donc qu'une valeur indicative. Nous faisons constamment évoluer nos produits, en fonction des dernières connaissances scientifiques. Nous nous réservons donc le droit d'en modifier la conception, le design, l'aspect et la composition.

Precision casting investment material for partial dentures
– shock or conventional heating

Safety instructions

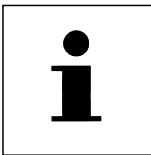
Please read and follow the instructions in the insert
“Safety instructions and general instructions
for BEGO investment materials”!

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Athens in 2004

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

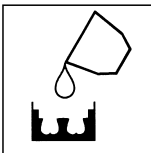
The possible insertion temperatures are: approx. 20 °C / 70 °F (conventional) or 700 °C to 1000 °C / 1290 °F to 1830 °F (shock heat).

General instructions



- Liquid for shock and conventional preheating:
BegoSol® K (**Frost-sensitive!** Storage and transport temperature: + 5 °C to + 35 °C / 41 °F to 9
- 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 20 °C / 70 °F: approx. 3.5 minutes
23 °C / 73 °F: approx. 3.0 minutes
- First put in liquid and add powder, mix thoroughly with a spatula for at least **15 seconds**.
Then mix in a mixing unit, such as *EasyMix*, for 60 seconds under vacuum conditions, as far as possible.
(Processing without mixing unit: mix for **2 minutes** on the vibrator.)

Duplication



- 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.

Mixing ratio 100 g Powder : 20 ml Mixing liquid

for 2 duplicate models

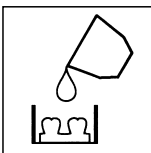
	WiroFine	Liquid	Aqua dest.	Mixing liquid	
				Total	Concentration
Liquid: BegoSol K	1 x 400 g	56 ml	24 ml	80 ml	70%

	Gel (Castogel®, Wirodouble®, WiroGel M)	Silicone (Wirosil®)
Remove master model	after 45 – 60 minutes	after 45 – 60 minutes
Surface treatment	<i>Durol</i>	<i>Durofluid*</i>
Drying	30 minutes (250 °C / 500 °F)	10 minutes (80 – 100 °C / 180 – 210 °F)
Dipping/spraying	briefly 3 times (approx. 2 seconds)	Do not exceed 100°C/210°F
Subsequent drying	5 minutes (250 °C / 500 °F)	5 minutes (80 – 100 °C / 180 – 210 °F)

* do not use for duplication with gel

After removal of master model the silicone mould MUST bench set for 20-30 minute before mfg of refractory model!

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 and then take away from vibrator immediately.
- Remove the mould ring 10 minutes after investing with a total bench set of 20 minutes (even if under pressure).

Mixing

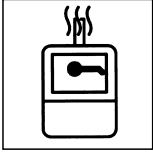
Mixing ratio 100 g Powder : 20 ml Mixing liquid

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%

Precision casting investment material for partial dentures – shock or conventional heating

Preheating



	Conventional preheating	Shock heat
Setting after investment	at least 30 minutes	20 minutes
Insertion temperature	room temperature	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 minutes (depending on size and number of moulds)	

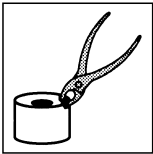
Place sprue former face down while preheating!



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, **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 9694

(70 % BegoSol® K)

Beginning of setting (Vicat time) approx. 6.0 min

Compressive strength

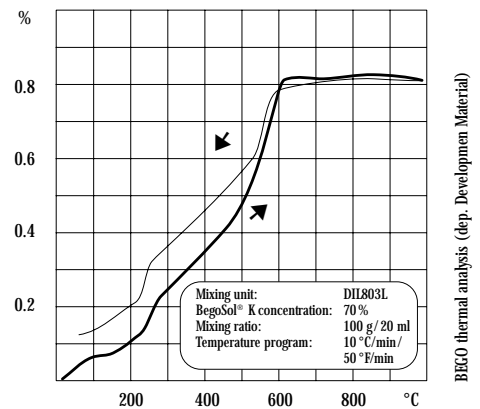
(after 2 hours) approx. 11 MPa

Linear thermal expansion approx. 0.8 %

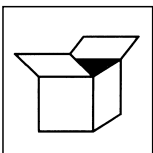
Flowability approx. 130 mm

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

Thermal expansion curve WiroFine



Availability and recommendations



WiroFine	1 carton 18 kg = 45 400 g bags	– Order No. 54345
	1 carton 6 kg = 15 400 g bags	– Order No. 54344
BegoSol® K	1 bottle = 1000 ml	– Order No. 51120
	1 canister = 5000 ml	– Order No. 51121
BegoSol®	1 bottle = 1000 ml	– Order No. 51090
	1 canister = 5000 ml	– Order No. 51091

<i>EasyMix</i>	26090 (230 V)	<i>Wirosil®</i>	52001 (2 kg)	<i>DuroI</i>	52111 (1000 ml)
<i>Castogel®</i>	52052 (6 kg)	<i>Wirosil® duplicating flask system</i>		<i>Durofluid</i>	52008 (100 ml)
<i>Wirodouble®</i>	52050 (6 kg)		52072 (small)	<i>Wiropaint plus</i>	51100 (200 ml)
<i>WiroGel M</i>	54351 (6 kg)		52083 (large)	<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

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