Preparation

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. ½ cm longer than the circumference of the mould ring. Moisten strips slightly.
Press strips in mould ring so 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® HE (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 30 seconds (or by machine using).
Then mix for 60 seconds in a mixing unit under a vacuum at 350 rpm. Keep under vacuum for additional 30 seconds without stirring. (Mixing without mixing unit: 2 minutes on the vibrator.)

Available working time: approx. 5 minutes (20 °C/70 °F, 50% 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.

Pressing moulds must be left to cool for 25 – 30 mins after their being filled until the investment material has completely set. Any deformation, caused, for example, by moving the mould or premature removal from the mould, can cause micro cracks in the investment material, which can cause the mould to break during pressing.

For shock heating, comply with the time window foreseen for insertion (20 – 30 minutes after mixing is initiated) and the insertion temperature (900 °C)!

Mixing ratio

<table>
<thead>
<tr>
<th>Mould size</th>
<th>90 g bags</th>
<th>100 g bags</th>
<th>160 g bags</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1/22.5 ml</td>
<td>1/25 ml</td>
<td>–</td>
</tr>
<tr>
<td>3</td>
<td>2/45 ml</td>
<td>2/50 ml</td>
<td>1/40 ml</td>
</tr>
<tr>
<td>6</td>
<td>4/90 ml</td>
<td>4/100 ml</td>
<td>2/80 ml</td>
</tr>
<tr>
<td>9</td>
<td>6/135 ml</td>
<td>5/125 ml</td>
<td>3/120 ml</td>
</tr>
</tbody>
</table>

Liquid concentration

- for pressable ceramics (layering and staining techniques)
  - Inlay MO and OD: 60 – 70 %
  - Inlay MOD: 70 – 80 %
  - Crowns, veneers and bridges: 75 – 85 %

- Press-to-metal ceramic (Metal): 70 % for all indications
- Press-on ceramics: (zirconium dioxide) for all indications: max. 40 %

The concentrations are standard values and can be adapted according to the working conditions and object size. Never dilute to less than 20 %!

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: 35 % – 40 %
- Crowns, bridges and primary parts in precious metal: 45 % – 50 %
- Crowns, bridges and primary parts in precious metal-to-ceramic alloys: 45 % – 50 %
- Secondary parts in precious metal: cone, ring telescope, full telescope, groove-shoulder attachment: 45 – 75 %
- Crowns and bridges in non-precious metal-to-ceramic alloys (Co-Cr): 75 – 85 %
- Crowns and bridges in non-precious metal-to-ceramic alloys (Ni-Cr): 70 – 75 %
- Non-precious double crowns (external parts): 90 – 100 %

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

**Only for furnaces with conventional control / with computer control.**

*After casting/pressing allow the moulds to cool down until warm to the touch, in a protected and designated location,*

*do not quench in water!*

*Investment materials contain quartz. Do not inhale dust! Danger of lung damage (silicosis, lung cancer). To avoid dust during deflashing, place the moulds in water, once they have cooled down completely after casting, until they are thoroughly moistened.*

**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 direct contact to the heating source (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!

After casting/pressing allow the moulds to cool down until warm to the touch, in a protected and designated location, do not quench in water! Investment materials contain quartz. Do not inhale dust! Danger of lung damage (silicosis, lung cancer). To avoid dust during deflashing, place the moulds in water, once they have cooled down completely after casting, until they are thoroughly moistened.

**Availability and recommendations**

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

- **Bio PontoStar®**
- **Wirobond®**

**Data**

**Shock heating**

<table>
<thead>
<tr>
<th></th>
<th>Shock heating</th>
<th>Conventional heating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting time after investment</td>
<td>20 – 30 minutes</td>
<td>at least 30 minutes</td>
</tr>
<tr>
<td>Insertion temperature</td>
<td>900 °C / 1,650 °F</td>
<td>Room temperature (or 250 °C / 500 °F)*</td>
</tr>
<tr>
<td>Holding level</td>
<td>–</td>
<td>250 °C / 500 °F (with 5 °C (9 °F)/min)**</td>
</tr>
<tr>
<td>Final temperature Precious metal</td>
<td>700 °C / 1,290 °F</td>
<td>700 °C / 1,290 °F</td>
</tr>
<tr>
<td>Precious metal-to-ceramic alloys</td>
<td>850 °C / 1,560 °F</td>
<td>850 °C / 1,560 °F</td>
</tr>
<tr>
<td>Non-precious metal</td>
<td>900 °C / 1,650 °F</td>
<td>900 °C / 1,650 °F</td>
</tr>
<tr>
<td>Pressable ceramics</td>
<td>up to 900 °C / 1,650 °F (Follow manufacturer’s instructions!)</td>
<td></td>
</tr>
<tr>
<td>Hold times for holding level and final temperature (depending on size and number of moulds)</td>
<td>30 – 60 minutes</td>
<td></td>
</tr>
</tbody>
</table>

**Atmospheric expansion curve Bellavest® SH**

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

**Bellavest® SH**

- **Shock-heat or conventionally heatable, phosphate-bonded precision casting investment material for all crowns, bridges and pressable/press-to-metal ceramics**

**Bio PontoStar®** since 1890

**Wirobond®**