

## Instructions for use

Dental Au based precious casting alloy for metal ceramic, Type 4 BegoStar® is available as ingot.

BegoStar® complies to ISO 22674 and ISO 9693-1.  
REF 61080

### Alloy characteristics

According to ISO 22674 free of nickel, cadmium, beryllium and lead

|   |                        |
|---|------------------------|
| Type (accord. to ISO 22674)                 | 4                      |
| Density                                     | g/cm <sup>3</sup> 13.8 |
| Preheating temperature                      | °C 850                 |
| Solidus, liquidus temperature               | °C 1230, 1280          |
| Casting temperature                         | °C 1420                |
| Young's modulus                             | GPa 113                |
| Proof strength (R <sub>p0.2</sub> )         | MPa 510                |
| Ultimate strength (R <sub>m</sub> )         | MPa 680/700            |
| Elongation after fracture (A <sub>5</sub> ) | % 15                   |
| Vickers hardness (HV5)                      | 225                    |
| BEGO color code                             | 8                      |

|   |      |
|---|------|
| Coefficient of thermal expansion (CTE)          |      |
| 25 – 500 °C, 10 <sup>-6</sup> * K <sup>-1</sup> | 14.0 |
| 20 – 600 °C, 10 <sup>-6</sup> * K <sup>-1</sup> | 14.2 |

Hardening: 500 °C für 15 min

Softening annealing (if desired): 750 °C for 10 min, than quenching in water (20 °C)

|                                 |  |
|---------------------------------|--|
| Investment material:            | phosphate bonded, e. g. Bellavest SH (REF 54252)                     |
| Crucible material               | Ker, Gra, Gla (with Ker: ceramic; Gra: graphite; Gla: glassy carbon) |
| Veneering ceramic               | VMK Master/VITA  |
| Oxidation firing                | 960 °C/10 min/ – (vac: under vacuum)                                 |
| Heating rate                    | recommended max. 55 °C/min   |
| Flux                            | e. g. Minoxid (REF 52530)  |
| Brazing material before firing: | PontoStar®G-Lot (REF 61045)  |
| Brazing material after firing:  | BEGO Gold-Lot I (REF 61017)  |
| Laser wire:                     | BegoCer® G-Draht (REF 61164)   |
| Melting powder                  | Auromelt (REF 52525)   |

**Intended Use:** BegoStar® is indicated for casting of dental restorations.

**Indications for use:** BegoStar® is an Au based alloy for dental casting and suitable for porcelain-fused-to-metal (PFM) crown and bridges.

**Contraindications:** No contraindications are known. However, unwanted biological reactions such as allergies to contents of the alloy or electrochemically based reactions may very rarely occur. In case of known incompatibilities and allergies to contents of the metallic material it should not be used.

**Warnings:** Metal dust is harmful to your health. When grinding and blasting use suitable air extraction system / ventilation at the workplace and breathing mask type FFP3-EN149!

**Precautions:** In case of occlusal or approximal contact with a different alloy electrochemically based reactions may very rarely occur. Safety and effectiveness in treatment of children or treatment of pregnant or nursing woman have not been established. BegoStar® may influence negatively the interpretation of MRI investigations.

**Adverse reactions:** No adverse reactions are known. Nevertheless, the rare case of occurrence of individual reactions against single components of BegoStar® can never be excluded completely.

In this case, the application of BegoStar® should not be continued.

**Prescription device:** Caution: US Federal law restricts this device to sale by or on the order of a licensed dentist.

**Wax up:** Minimum metal thickness (after grinding) 0.4 mm. Avoid sharp edges and corners. Framework should be anatomic reduced. Connectors should be modeled as strong and high as possible (height: min. 3.5 mm, width: min. 2.5 mm). In case of bruxism stronger modellierung is required.

Use wax or plastic hollow sticks. Do not taper the spruing.

**Investing:** Use only phosphate bonded investment material for crown and bridge technique.

**Casting:** Do not overheat alloy. Use only pure alloy in own crucibles. For an explicit batch tracing the use of only fresh alloy is recommended. In case of re-casting use only identical alloys. Re-casted material must be blasted thoroughly. Use min. 50 % fresh alloy. If applicable use Auromelt HF melting powder (REF 52525). Follow the instructions of the manufacturers of the casting devices for parameters and casting procedures. After casting the mould should cool down slowly.

**Grinding:** use tungsten carbide burs

**Polishing:** To ease polishing blasting with Perlablast® micro (REF 46092, lead free soda glass) may be suitable. Afterwards polish with rubber polisher and brushes with suitable polishing paste.

**Ceramic veneering:** Use veneering ceramics with suitable CTE (ISO 9693-1). Follow instructions of use of ceramic manufacturers. The oxides must be etched off or blasted (110 µm/2 bar; e. g. with Korox 110, REF 46044). Clean surface thoroughly by steam cleaning or boiling in aqua dest. Do not touch surfaces afterwards with hands. Use artery clamps or similar devices.

Support the frameworks adequately during firing cycles.

**Acrylic veneering:** For veneering with acrylic material follow the recommendations of the manufacturers

**Soldering/brazing:** Fixate the parts with soldering investment material (e. g. Bellatherm® REF 51105). The prepared gab shall not exceed 0.2 mm with parallel walls. Use a suitable BEGO flux. The flux residues and oxides must be etched off. Clean surface thoroughly by steam cleaning or boiling in aqua dest.

**Laser welding:** If applicable use V-seam and filler material

Follow manufacturer's instructions for use and hazard notes of the laser welding devices.

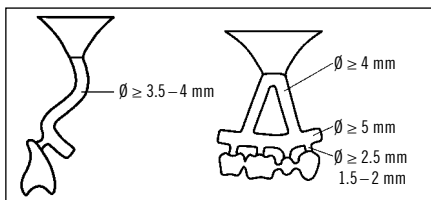
**Limit of Liability:** Except where prohibited by law, BEGO Bremer Goldschlägerei Wilh. Herbst GmbH & Co. KG will not be liable for any loss or damage arising from this product, whether direct, indirect, special, incidental or consequential, regardless of the theory asserted, including warranty, contract, negligence or strict liability.

**Storage conditions:** none

**Warranty:** Whether given verbally, in writing or by practical instructions, our recommendations for use are based upon our own experience and trials and can be considered as standard values. Our products are subject to a constant further development. Therefore alterations in construction and composition are reserved.

**US Labeling requirements:** The device labeling meets the recommendations of FDA applicable guidance documents.

Any serious incident that has occurred in relation to BegoStar® should be reported to BEGO Bremer Goldschlägerei Wilh. Herbst GmbH & Co. KG and the competent authority.



Consult instructions for use



Caution



Use-by-date



Batch code



Non-sterile

**Rx only**  
For professional use only



Catalogue number



Manufacturer

BEGO Bremer Goldschlägerei Wilh. Herbst GmbH & Co. KG  
Wilhelm-Herst-Str. 1 · 28359 Bremen, Germany  
www.bego.com

