





Tips & Tricks

on correct processing, CAD/CAM design and sintering

bit.ly/zolid-processingtechnique

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1. Determination of the tooth shade

To ensure a successful transfer of the patient's tooth shade to the finished restoration, it is advisable to determine the tooth shade directly on the patient and in comparison with the selected restorative material. The Zolid Bion Shade Guide, which is directly based on the tooth shades of the classic VITA Shade Guide, is available for this purpose. Please take into account that shade determination with a conventional shade guide (e.g. VITA) may result in deviations in shade conversion due to the material.



Zolid Shade Guide, Art. No.: 761943



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The following points should be observed when determining the shade or matching the shade of restorations in a laboratory environment:

- Evaluate the tooth shade in daylight instead of artificial light (LED light source in daylight white 6,500K)
- ✓ No direct incident light, but evaluation in half-light (patient's mouth)
- Evaluation of the incisal portion and residual dentition (occlusal/incisal brightness) for suitable nesting height of the restoration in the blank
- ✓ Always evaluate shade matching in the glazed/polished state
- ✓ Please take into account that the wall thickness of the restoration also influences the shade

Note: in individual cases, the determined tooth shade of the patient (e.g. A3) or the respective VITA Shade Guide used may not correspond to an A3 blank. In such cases, a lighter or darker shade can be used or the nesting height (intensity of the color gradient) can be adjusted.

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2. Nesting - selection of the correct blank height & positioning

The distribution and design of the incisal portion in relation to the dentin body as well as the natural translucency gradient are based on the natural structure of a tooth.

Asymmetrical layer distribution:

approx. 1/3 incisal & 2/3 dentin portion



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Due to the asymmetrical layer distribution of Zolid Bion, it is possible to perform a ¼ shift of the restoration in nesting. Thus, if so desired, more translucency or more chroma can be achieved – depending on whether the object is placed further up or down in the blank. Depending on how you fabricate restorations, it is advisable to nest the restoration further up or further down in the blank:

- For individualization, especially before sintering with staining solutions, it is recommended to nest in the upper blank region. This creates an area in the restoration for individual effects.
- For monolithic restorations which are subsequently only glazed, it is recommended to nest further down, close to the transition to the dentin section.

3. Individualization prior to sintering

To lend a restoration made of Zolid Bion even more depth and individualization, it is recommended to partially infiltrate the restoration with coloring liquids before sintering. This way, a monolithic or anatomically reduced restoration can be given even more individual naturalness with just a few brushstrokes (reduction of occlusal brightness / darker fossa / darker crown margins / intensified incisal area, e.g. ridges / incisal discoloration). You are welcome to use the illustrated diagram as a guide:





Monolithic crown, glazed



Monolithic crown individualized with coloring liquid before sintering, glazed



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4. Sintering

The sintering of zirconia is one of the most important process steps in the fabrication of dental restorations. We generally recommend sintering Zolid Bion at a final sintering temperature resp. holding time of 1500°C/2 h.

If you wish to achieve stronger/more intense shades or more chroma, you can also sinter Zolid Bion at 1450°C/2 h. You are welcome to use the following sintering programs as a guide.

Sintering program (standard) for crowns & bridges

Sintering temperature 1500° C/2 h – recommended for best esthetic results



Sintering temperature 1450° C/2 h – recommended for more intensive, more chromatic results



PHASE	TEMPERATURE 1	TEMPERATURE 2	HEATING RATE	HOLDING TIME
Heating phase	20°C	1400°C	8°C/min	-
Heating phase	1400°C	1500°C	3°C/min	-
Holding phase	1500°C	1500°C	-	120min

PHASE	TEMPERATURE 1	TEMPERATURE 2	HEATING RATE	HOLDING TIME
Heating phase	20°C	1450°C	8°C/min	-
Holding phase	1450°C	1450°C	-	120min





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About Amann Girrbach

As a pioneer in dental CAD/CAM technology, Amann Girrbach is one of the leading innovators and preferred full-service providers in digital dental prosthetics. With its high degree of expertise in development and commitment to customer orientation, the company offers sophisticated product and workflow solutions. In addition to innovative scanning and production solutions, in which software systems and the AG.Live cloud platform play a central role, the portfolio is rounded off by high-quality materials, a dedicated technical service with a global helpdesk as well as education and training courses. Its customers in around 100 countries are made up of dental practices, practice laboratories and dental laboratories. A high standard of quality and sustainability are decisive value creation criteria for Amann Girrbach, which is why the company has housed its entire development and production at its headquarters in Mäder, Austria. In addition, Amann Girrbach operates sales offices in Pforzheim (Germany), Verona (Italy), Jossigny (France), Charlotte (USA), Singapore (city), Curitiba (Brazil), Beijing (China) as well as cooperations in Kyoto (Japan) and Beirut (Lebanon).



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