



AMANNGIRRBACH

DESIGNED TO OUTPERFORM.

zolid gen-x

THE UNIVERSAL ZIRCONIA THAT CHANGES EVERYTHING.

READY
FOR
AG.LiE



HIGH TRANSLUCENT ZIRCONIA

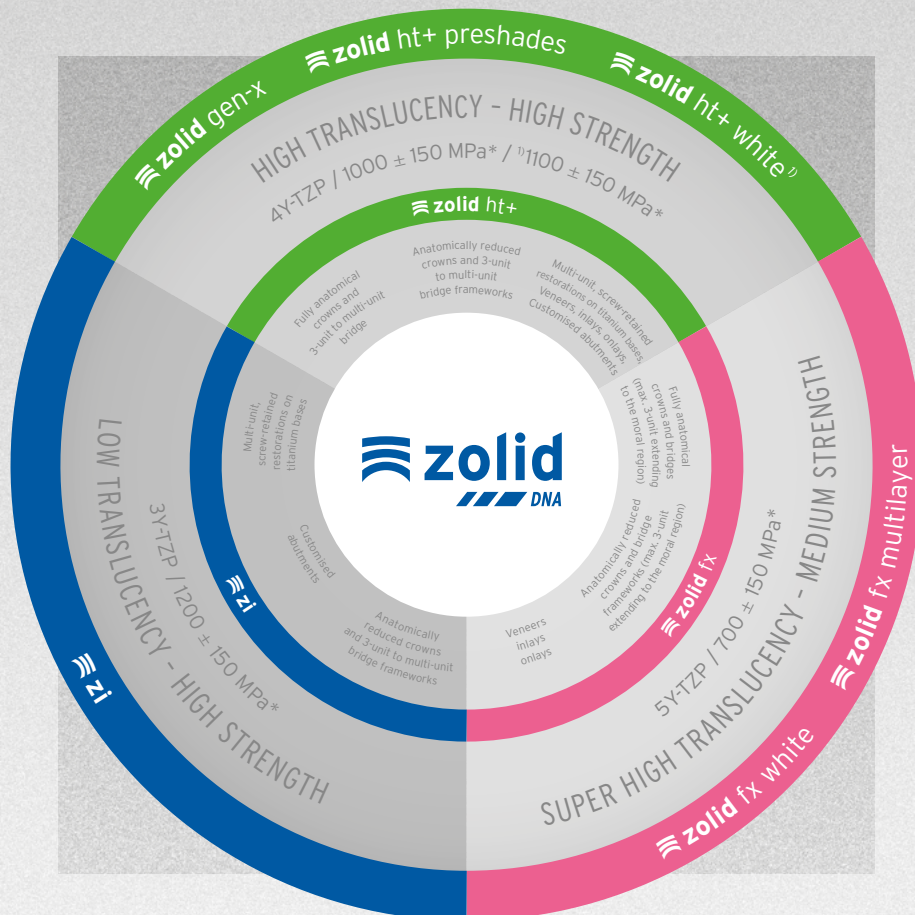
 **zolid gen-x**

Multilayer



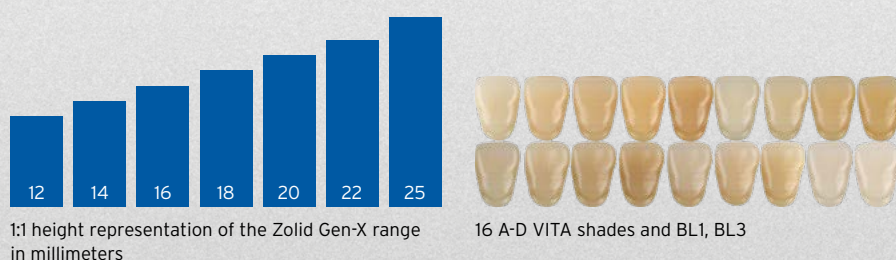
 **AMANNGIRRBACH AG**
Herrschaftswiesen 1 | 6842 Koblach | Austria

The new Zolid Gen-X is a multilayer, highly translucent zirconia and is a true all-rounder in terms of "universal use". Due to the high strength and natural translucency, a wide variety of indications from single-tooth crowns to multi-unit bridges can be realized. Even the massive structures of implant-supported restorations with a gingival component appear completely natural. Zolid Gen-X is available in the 16 classic VITA tooth shades as well as two Bleach shades. This makes the fabrication of restorations easy and efficient for every laboratory.



- _ Best choice:** reduces the complexity of choosing the right material
- _ Naturally beautiful:** the flowing color and translucency gradient is a perfect imitation of nature
- _ Due to flexural strength of over 1000 MPa,** a large variety of indications such as single unit crowns up to multi-unit bridges can be realized
- _ New species:** Zolid Gen-X combines new properties with all the proven benefits of the Zolid HT+ family in a single material

Zolid Gen-X is available in all common heights and shades on the market. This eliminates all height limitations, and even large constructions can be realized with the 25 millimeter blank.



*Average of three-point bending test as defined in DIN EN ISO 6872, R&D AmannGirrbach



ESTHETICS FOR ALL INTENDS AND PURPOSES

Zolid Gen-X 25mm - asymmetric, polychromatic shaded zirconia blank optimizes esthetic outcomes in implant-supported restorations with a high gingival content

- _Asymmetric shade distribution**
- _Smooth translucency and shade gradient in the upper region of the blank**
- _Fully stained region for the gingival component in the lower part of the blank**
- _Ideally suited for large-span, implant-supported restorations with a gingival component**
- _High flexural strength of 1,000 MPa**



To ensure that the shade gradient of the tooth section is optimally matched with regard to the height of the restoration, the relationships between restoration height, tooth sections and color distribution of the blanks to each other needs to be observed. For this reason, the incisal proportion of all Zolid Gen-X blanks was designed proportional to the blank height: the higher the blank, the greater the incisal proportion.



Zolid Gen-X 16 mm



Zolid Gen-X 22mm with proportionally increased polychromatic shade content



Zolid Gen-X 25mm with extended monochromatic gingival component

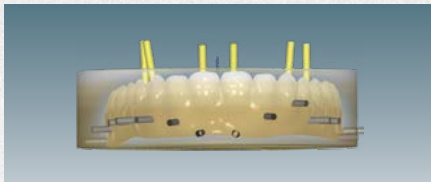


Fig. 4 Visualization of the shade distribution of a nested restoration made of Zolid Gen-X with the Ceramill Match 2 CAM software

If the Zolid Gen-X 25mm blank is divided virtually into 4 horizontal layer sections, it appears as a 16mm blank in terms of shade - with polychromatic and monochromatic color components. Using the Ceramill Match 2 nesting module from Amann Girrbach, the underlying color distribution of the blank can be visualized

AS ESTHETICS ARE NOT HAPPENSTANCE



Nesting and sintering support structures

The choice of the correct blank height in proportion to the restoration height is decisive for success.



Coloring after sintering

Color and translucency gradient in the tooth section. Fully stained portion in the region of the gingiva.



Final characterization after sintering

Individualization and characterization of the tooth and gingiva portion with Stain & Glaze.

OPTIMIZED WORKFLOW

Zolid Gen-X can be integrated easily into the daily laboratory routines and is perfectly adapted to the workflow in daily laboratory work. This relates to milling processes, standard sintering cycles in the Zolid DNA workflow, as well as easy finalization with the 16 A-D VITA shades and Ceramill Stain & Glaze. This greatly facilitates the fabrication process for the laboratory.

Perfect handling



Perfectly matched to the dental milling process without making any compromises.

Flexible sintering cycle



Sintering in the Zolid DNA workflow - conventionally or high-speed in 20 min.

Easy fabrication



Easy finalization with 16 A-D VITA shades and Ceramill Stain & Glaze



"Zolid Gen-X is a zirconia which combines both the worlds of strength and esthetics. It allows me to plan and execute small to complex reconstructions with full control over the restoration."

CDT Alexander Wuensche
Zahntechnik Inc. | Miami FL, USA



"The material properties of Zolid Gen-X ensure that I have a safe and reproducible production process for every restoration. The high strength of the material of 1000 MPa means that it is an absolute all-rounder for routine laboratory use."

Benjamin Votteler, MDT,
Dentaltechnik Votteler GmbH & Co, Germany



THE PEAK OF QUALITY

Zolid DNA blanks are manufactured 100 percent in-house at the Amann Girsbach manufacturing site Dentistry One in Austria. Only the best raw materials are processed to blanks using the strictest test methods and specified, certified processes. This ensures that all material parameters are perfectly matched to the needs of dentistry. Fully embedded into the Ceramill CAD/CAM workflow, this results in an efficient and safe system with tailor-made solutions.



100 % Made in Austria

MORE FLEXIBILITY IN THE FABRICATION OF RESTORATIONS FROM ZOLID GEN-X

Laboratories now have the opportunity to optimize their laboratory workflow with Zolid Gen-X in the Ceramill Therm DRS high-speed sintering furnace. This efficient partnership of furnace and material enables the fabrication of an esthetic single-tooth crown in just 20 minutes or a 3-unit bridge in around 30 minutes - the "Same Day Crown" in laboratory quality.

PROVEN SAFETY ESTABLISHED IN NUMEROUS IN VITRO STUDIES

What is the impact of the rapid heating and cooling rates on the material properties? This issue was one of the key points in the development process. To completely rule out a possible negative impact, external testing facilities and universities were consulted in the evaluation process. No negative impact on strength, fit or optical properties* could be demonstrated in the different in-vitro studies. This provides the user with a safe product that ultimately benefits the patient.

The key message of the in vitro studies can be summarized as follows:

High-speed sintering of Zolid DRS results in

- _high mechanical strength⁹, high fatigue strength and long-term stability. There is no significant influence of aging when compared to conventional sintering^{1, 2, 4, 7}
- _high fracture loads and long-term stability for restorations of up to 3-unit bridges^{3, 5, 8, 9}
- _high wear resistance^{3, 8}
- _clinically acceptable fit and accuracy⁶



REFERENCES

1. Jansen JU, Lümke N, Pfefferle R, Letz I, Sener B, Stawarczyk B. Impact of high-speed sintering on translucency, phase content, grain sizes, and flexural strength of 3Y-TZP and 4Y-TZP zirconia materials. J Prosthet Dent 2019;122:396-403
2. Jerman E, Wiedenmann F, Eichberger M, Reichert A, Stawarczyk B. Effect of high-speed sintering on the flexural strength of hydrothermal and thermo-mechanically aged zirconia materials. Dent Mater 2020;36:1144-1150
3. Wiedenmann F, Pfefferle R, Reichert A, Jerman E, Stawarczyk B. Impact of high-speed sintering, layer thickness and artificial aging on the fracture load and two-body wear of zirconia crowns. Dent Mater 2020;36:846-853
4. Lümke N, Stawarczyk B. Impact of hydrothermal aging on the light transmittance and flexural strength of colored yttria-stabilized zirconia materials of different formulations. J Prosthet Dent 2021;125:2018-523
5. Mayinger F, Pfefferle R, Reichert A, Stawarczyk B. Impact of high-speed sintering of three-unit 3Y-TZP and 4Y-TZP fixed dental prostheses on fracture load with and without artificial aging. In J Prosthodont 2021;34:47-53
6. Anton X, Stawarczyk B, Reymus M, Joda T, Liebermann A. Impact of high-speed sintering on accuracy and fit of 4 mol% yttria-stabilized tetragonal zirconia polycrystals (4Y-TZPs). Int J Prosthodont 2021; in press
7. Anton X, Liebermann A, Hampe R, Joda T, Stawarczyk B. Impact of high-speed sintering and choice of pre-shaded monochrome or multi-layered blanks on fatigue behavior of 4 mol% YTTRIA-stabilized tetragonal zirconia polycrystals (4YTZPs). Dent Mater 2021; submitted
8. Mayinger F, Buser R, Laier M, Schönhoff LM, Kelch M, Stawarczyk B. Impact of high-speed sintering, layer thickness and thermomechanical aging on the two-body wear and fracture load of single-unit 4Y-TZP fixed dental prostheses. Dent Mater 2021; in preparation
9. Average of three-point bending test as defined in DIN EN ISO 6872, R&D Amann Gyrbach

* The color of Zolid Gen-X may appear slightly lighter after high-speed sintering compared to conventional sintering. It is recommended to select the next darker color from the portfolio or to correct it with stains/glazing compounds if required.




ORDER AND PRODUCT INFORMATION

Zolid Gen-X, 98 mm, 1 pc. each




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Zolid Gen-X, 71 mm, 1 pc. each




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

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

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

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

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
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
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766744		Zolid gen-x D2 71x14	h= 14 mm
766745		Zolid gen-x D2 71x16	h=16 mm
766747		Zolid gen-x D2 71x20	h= 20 mm

TECHNICAL DATA

Flexural strength:	1000±150 MPa
Modulus of elasticity:	≥200 GPa
Coefficient of thermal expansion (CTE 25 - 500 °C)	10,5 ± 0,5
Chemical solubility	<100 µg/cm²
Vickers hardness	1300 ± 200 HV10

CHEMICAL COMPOSITION

	Mass percentage
ZrO ₂ + HfO ₂ + Y ₂ O ₃	≥ 99
Y ₂ O ₃	6,0 - 7,0
HfO ₂	≤ 5
Al ₂ O ₃	≤ 0,5
other oxides	≤ 1

Further product and ordering information on Zolid Gen-X and the Zolid DNA Generation can be found in the following media:

_ General Catalogue (Art.-Nr. 9GCA21EN)

_ Zolid DNA Generation processing techniques (only electronically)

All are for as download on our website.



amanngirrbach.com/zolid-gen-x



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