



Organic Zircon

Natural!



Organic Zircon

High tech made in Germany

All Organic Zircon blanks first of all go through an initial process of axial compacting so that later, in a specially developed procedure, they can be individually vacuum-packed and, under constant pressure from all directions, isostatic pressing occurs which can be monitored at all times. Only this process can guarantee absolute homogenous blanks with an even particle distribution and flexural strength, consistently defined shrinkage and a high degree of translucency. By combining high quality raw materials with a quality-assured German manufacturing procedure, this results in high-grade biocompatible, long-term robust dental materials.

To simplify the laboratory workflow, all Organic Zircon blanks that have been manufactured to the highest industrial standards, can be processed at a sintering temperature of 1,450°C / 2 hours holding time. Furthermore, the simplicity and cost effectiveness of the CAD/CAM technique using Organic Zircon means that traditional working steps such as wax-up, investing procedures and pressing can be dispensed with.

The good long-term stability of the Organic Zircon blanks was tested in accordance with DIN EN ISO 13356. At the same time, samples of the material were artificially aged to establish, before and after, the monoclinic phase of the texture as well as the flexural strength. With the Organic Zircon blanks, the maximum value of the monoclinic phase following artificial ageing was 7 volume percent, way under the specified standard limit of 25 volume percent. The flexural strength clearly exceeds the required standard value of 800 MPa (with the exception of Organic Zircon Esthetic which has an initial flexural strength of 600 MPa).



Master Dental Technician Andreas Klar

“Organic Zircon is the guarantee for perfect, metal-free aesthetics, extremely reliable, from one user to another. Our product range opens up all sorts of possibilities for operating a high-quality and cost-efficient dental laboratory.”

Our product

Translucent

- Organic Zircon translucent multicolour
- Organic Zircon translucent non-coloured
- Organic Zircon translucent colour evenly pre-coloured

Esthetic

- Organic Zircon Esthetic multicolour
- Organic Zircon Esthetic non-coloured
- Organic Zircon Esthetic colour evenly pre-coloured

Opaque

- Organic Zircon opaque non-coloured
- Organic Zircon opaque colour evenly pre-coloured



Organic Zircon translucent

Premium in CAD/CAM

Organic Zircon translucent multicolour



combines, as a pioneering material, all the essential advantages of multi-layered, translucent zirconium dioxide blanks for use in restorative dentistry. Its integrated colour gradation allows the tooth colour to shine through from the inner layer. Pre-coloured and polychromatic, the Organic Zircon Multicolour gives monolithic restorations in particular, a natural and harmonious colour gradient with a reduced risk of chipping.

The sintering process can begin without the time-consuming steps involved in the zirconium dioxide process of "immersion, staining and drying". All remaining working steps are determined by the indication and individual customer requirements. Fully anatomical restorations can, for example, be further customized by touching up with paint, if necessary, or to avoid this additional step, can be effectively and aesthetically finished using glaze baking.

As the occlusal conditions are already set in the CAD design, subsequent manual corrections of occlusal relief are no longer necessary. Furthermore, if the workpiece is placed optimally in the blank, cervical "darker" areas and occlusal "lighter" areas appear from within the restoration.

In the event of veneer work, with the already reduced framework it is possible to attain an extremely natural colour likeness. This can be completed subsequently with little effort through a minimal amount of layering.



Multicolour

The Facts

- Outstanding light transmission for natural-looking and allergy-friendly dentures which also have outstanding mechanical properties such as an excellent flexural strength of $1,000 \pm 200$ MPa and improved hydrothermal ageing behaviour.
- Saves time as the working steps “immersion, staining, drying” are no longer required thanks to the industrially pre-coloured polychromatic blanks.
- Flowing, natural transitions within the restorations.
- Easily reproducible, predictable results of all available classic colours.



Organic Zircon translucent multicolour

is a multi-layer, translucent zirconium dioxide for reliable and harmonious colour gradients without the need for time-consuming additional work. With an excellent flexural strength of $1,000 \pm 200$ MPa and improved hydrothermal ageing behaviour.

- Available colours: A2 | A3
- Available blank heights: H14 | H18 | H22

Indications

- Monolithic, fully anatomical restorations for which the need for re-working is limited to the steps “polishing, staining and glazing”.
- Zirconium dioxide frameworks and caps for customized partial and full veneer which can subsequently be individualised, overlaid and polished.



Organic Zircon translucent

Simple, perfect dental aesthetics

Organic Zircon translucent & Organic Zircon translucent colour



are highly translucent zirconium dioxide blanks for all types of restorations. Supplementary to Organic Zircon Multicolour, these offer ideal pre-conditions for individual, fully anatomical framework shapes. Both the non-coloured and the monochrome coloured version give the observer an extremely high level of translucency. All necessary classic tooth colours can be effortlessly and reliably depicted using the commercially available water-based colouring solutions for zirconium dioxide. In a fully sintered state, the material can be further processed, both easily and reliably – thanks also to its high edge stability, extraordinary good fit and homogenous aesthetics.



pure | colour



The Facts

- Extremely high level of translucency due to optimized microstructure with approx. 20 % more light transmission compared with Organic Zircon opaque.
- Due to the reliable basic colour of the pre-coloured blanks, the veneered frameworks contain an accurate basis for further processing by the ceramic technician.
- Outstanding translucency without compromising the strength ($1,000 \pm 200$ MPa) and ageing resistance.



Organic Zircon translucent

is a non-coloured, highly translucent zirconium dioxide which can be 100 % easily and effectively customized after the milling process by using the paint and brush technique.

- Available blank heights:
H14 | H18 | H20 | H22 | H25

Organic Zircon translucent colour

is a consistently pre-coloured, highly translucent zirconium dioxide with top values of hydrothermal ageing

- Available colours: A1 | A2 | A3 | A3,5
- Available blank heights: H14 | H18 | H22 | H25

Indications

- Aesthetic, customized coloured zirconium dioxide frameworks and fully anatomical restorations of all types of up to 16 elements.

Organic Zircon Esthetic

Unbeatable translucency in anterior region

Organic Zircon Esthetic Multicolour



is the latest generation zirconium with a harmonious colour gradient. Due to its extreme translucency, the material is predestined for use in high-end aesthetics, e.g. for anterior tooth restorations. Organic Zircon Esthetic Multicolour equals the translucency of lithium disilicate but has greater flexural strength.

The Facts

- Extremely high translucency due to optimised microstructure with 40 % more light transmission compared with Organic Zircon opaque.
- Approx. 50 % greater flexural strength than lithium disilicate glass ceramic.
- Can be customized with stain and layer technique.
- Industrial production at the highest level.

Organic Zircon Esthetic Multicolour

is a multi-layered translucent zirconium dioxide for reliable and harmonious colour gradients without the need for any time-consuming additional work. With an outstanding flexural strength of 600 ± 100 MPa and improved hydrothermal ageing behaviour.

- Available colours: A2 | A3
- Available blank heights: H14 | H18

Indications

- Final restorations with fully anatomical or reduced structures for veneering with ceramic layering in the anterior and posterior regions: single crowns, veneers, partial crowns, inlays / onlays, caps, three-unit bridges and bridge frameworks with pontic.



Multicolour | pure | colour

Organic Zircon Esthetic & Organic Zircon Esthetic colour



is a highly modern, user-friendly zirconium dioxide material (ZrO₂) for the CAD/CAM technology which is as translucent as lithium disilicate, but with 600 ± 100 MPa has a significantly greater flexural strength. Due to its very high translucency and distinct chameleon effect this very material is suitable for unprecedented, aesthetic and sophisticated anterior teeth restorations.

The Facts

- Extremely high translucency due to optimised microstructure with 40 % more light transmission compared with Organic Zircon opaque.
- Approx. 50 % greater flexural strength than lithium disilicate glass ceramic.
- Can be customized with stain and layer technique.
- Industrial production at the highest level.



Organic Zircon Esthetic

is a highly translucent and non-coloured zirconium dioxide which can easily be customized after the milling process using the paint and brush technique.

- Available blank heights: H14 | H18 | H20 | H25

Organic Zircon Esthetic colour

is a highly translucent and evenly pre-coloured monochrome zirconium dioxide.

- Available colours:
A1 | A2 | A3 | A3,5 | B2 | B3 | C2 | D2
- Available blank heights: H14 | H18

Indications

- Final restorations with fully anatomical or reduced structures for veneering with ceramic layering in the anterior and posterior regions: single crowns, veneers, partial crowns, inlays / onlays, caps, three-unit bridges and bridge frameworks with pontic.

Organic Zircon opaque

Natural, reliably disguised

Organic Zircon opaque & Organic Zircon opaque colour



is a whitish, opaque zirconium dioxide, enhanced with aluminium oxide with excellent hydrothermal ageing characteristics which, if necessary, can be coloured with all well-established ceramic colours and with which the influence of dark tooth stumps or abutments on the overall colour result can be easily reduced to a minimum. It is ideally suited for long-span bridges and implant suprastructures made of zirconium dioxide which make, per se, an improved flexural strength, fracture toughness and ageing resistance of the material necessary.

The Facts

- Up to $1,200 \pm 200$ MPa flexural strength and excellent biocompatibility for long-term robust, allergy-friendly dentures.
- Optimized white density for better milling, also when thin walls and maximum precision are required.



Indications

- On account of its high durability is ideal for individual abutments, primary constructions, also on implants, crown and bridge frameworks for ceramic veneer and for all sorts of large-span restorations of up to 16 units.

Organic Zircon opaque

is a consistently pre-coloured opaque zirconium dioxide which covers the most well-established dental colour variations.

- Available colours:
H10 | H14 | H18 | H20 | H25




Organic Zircon opaque colour

is a consistently pre-coloured opaque zirconium dioxide which covers the most well-established dental colour variations.

- Available colours: light | medium | dark
- Available blank heights: H14 | H18 | H20 | 25



Organic Zircon in comparison

	a) Organic Zircon translucent b) Organic Zircon translucent colour c) Organic Zircon translucent multicolour	a) Organic Zircon Esthetic b) Organic Zircon Esthetic colour c) Organic Zircon Esthetic multicolour	a) Organic Zircon opaque b) Organic Zircon opaque colour
Material			
Colour; Available variations	a) translucent pure white b) translucent monochrome pre-coloured in A1, A2, A3 , A3,5 c) translucent polychrome pre-coloured in A2 and A3	a) highly translucent pure white b) highly translucent monochrome pre-coloured in A1, A2, A3, A3,5, B2, B3 ,C2, D2 c) highly translucent polychrome pre-coloured in A2 and A3	a) opaque pure white b) opaque monochrome pre-coloured in light, medium, dark
Chemical composition			
ZrO ₂ / HfO ₂ / Y ₂ O ₃ - wt%	>99,0	>99,0	>99,0
Y ₂ O ₃ - wt%	5,65 ± 2,0	8,5-9,6	4,9 - 5,3
Al ₂ O ₃ -wt%	<0,3	<0,10	<0,30
Physical Parameters			
Mat. type corresponds to ISO 6872:2015-11	Type II Class 5	Type II Class 4	Type II Class 5
Flexural strength (4 point) MPA	1.000 ± 200	600 ± 100	a) 1.200 ± 200 b) 1.000 ± 200
Density when sintered	> 6,00	> 6,00	> 6,00
E-Modul	210	210	210
Thermal expansion coefficient 10 ⁻⁶ K ⁻¹	10,7	10,4	10,7
Sintering temperature	1.450 °C	1.450 °C	1.450 °C
Indications	Crowns, bridges up to 16 units, inlays, onlays, individual abutments	Crowns, bridges up to max. 3 units in anterior and premolar regions, inlays, onlays, veneers	Crowns, bridges up to 16 units, inlays, onlays, individual abutments
Translucency	Value for a) 41% 	Value for a) 49% 	35% 

Studies on Organic Zircon

Arnold Ch., Schmidt K., Schweyen R., Boeckler A.: Accuracy of Full Arch FDPs from Zirconia with Different Crystalline Modifications. EPA Conference, Halle -Plakat 2016.

Schweyen R., Hey J., Arnold Ch., Setz M., Boeckler A. F.: Passung und Stabilität schicht- und presskeramisch verblendeter Kronen. Ergebnisse einer In-vito-Studie, DZZ,2014;69 (9).

