Zirkonzahn®

Human Zirconium Technology

MATERIAL DIVERSITY

Materials for the best solutions

ENGLISH

Zirkonzahn®

A MATTER OF HONOUR

Just as carpenters carefully choose the best wood for the job, matching shades, textures and other properties, dental technicians must choose the most suitable material for the best possible patient solution. Not all the raw materials available on the market are of the same quality. While it is possible that from an objective point of view, using the best available material is not always necessary, the question of what material and what quality I select for my patients is an expression of my personal attitude, my appreciation for my own work and towards the patient.

Enrico Steger

Slowness – wood that grows slowly, forming narrow growth rings, strength and physical properties grow along with them.

WE TAKE RESPONSIBILITY FOR EVERYTHING

We will never surrender control of our products to others. We develop and produce almost everything ourselves. Being the sole process owners, we know our materials and can ensure that they form a perfect match. In this way, we take responsibility for the quality of our products and can react very quickly to our customer's needs.

QUALITY IS WHEN CUSTOMERS RETURN, NOT GOODS

The main goal of our work is to provide quality, perfection, precision and clever solutions at the right price. Our worldwide presence and our uncompromising quality approach implicate that all Zirkonzahn products meet international quality standards and guidelines. Zirkonzahn has been ISO 9001 and ISO 13485:2003/CMDCAS certified since 2006. Our medical products are FDA approved.


Prettau® Anterior

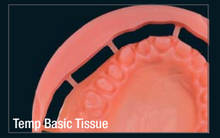

Temp Basic


Temp Premium Transpa


Burnout


Titanium


Prettau® Zirconia

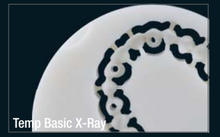

Temp Basic Tissue

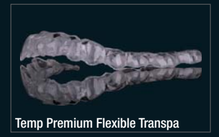

Temp Premium Flexible

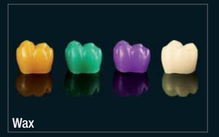

Try-in I / Try-in II


Raw-Abutment®

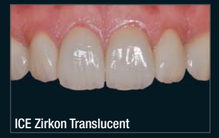

Anatomic Coloured


Temp Basic X-Ray


Temp Premium Flexible Transpa


Wax


Bridge-Rod Titan 5 and CrCo


ICE Zirkon Translucent

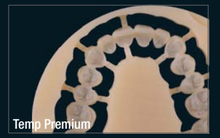

Temp Basic Transpa


Tecno Med


Sinter metal


Wood


Zirconia Creative


Temp Premium


Tecno Med Mineral


Chrome-Cobalt

...

Zirconium ($ZrSiO_4$) is a mineral that was created up to 4.4 billion years ago. It is the earth's as well as the moon's oldest known mineral. It is also the material from which zirconium dioxide (ZrO_2), commonly known as zirconia, is obtained: a high-performance ceramic for the production of dental restorations.

ZIRCONIA

ZIRCONIA

Natural appearance, stability, wearing comfort and excellent biocompatibility – zirconia meets all the demands of high-quality durable restorations. Expertly designed, dental restorations made of zirconia are an investment in eternity. Thanks to the extreme hardness and high density of the material, it will withstand even the highest chewing forces in all areas of the mouth and remains aesthetically attractive even after being worn for a long period. Zirconia produces no wear and tear on the natural tooth. This has been confirmed in independent scientific studies (e.g. Rosentritt et al, 2011, Department of Prosthetic Dentistry, Regensburg University Medical Center).

When evaluating the quality of zirconia, consideration must be given to flexural and compression strength, hardness, Weibull modulus, dimensional characteristics and colouration. Drawing on our own state-of-the-art refinement technologies we are one of the few companies worldwide producing zirconia blocks for dental prostheses. In this way we can control shrinking and quality and guarantee the fitting accuracy of the final restorations.

PRETTAU® ANTERIOR

Prettau® Anterior is a special further development of our Prettau® Zirconia for the anterior tooth region. The material has the same transluceny as lithium disilicate but with 670 MPa also after a simulated ageing of four years (Bergler, MDT, University of Pennsylvania, 2014) a much higher flexural strength. The material is highly translucent, which makes it ideal for the manufacture of aesthetical single crowns in the anterior tooth region, but also for inlays, onlays and max. 3-unit bridges in the entire jaw area. The material allows fully anatomic restorations even in the anterior tooth region – ceramic chipping can therefore be avoided.

INDICATIONS

For the manufacturing of partial and single crowns, inlays, onlays, veneers, at maximum three-unit bridges (designed to full or reduced contour)

PROCESSING

- *Milling:* *Dry*
- *Milling Burs:* *CAD/CAM Milling Burs Zirconia*
- *Characterization:* *Colour Liquid Prettau® Aquarell, ICE Zirkon Ceramics and ICE Zirkon Ceramics Dynamik Dentin (optional), ICE Zirkon Stains, ICE Zirkon Stains Prettau® and ICE Zirkon Stains 3D by Enrico Steger*
- *Sintering temperature:* *1500 °C*

PRETTAU® ZIRCONIA

Sintered Prettau® Zirconia, owing to its own special material composition, displays an incredible high bending strength and a perfectly natural appearance. Especially in the field of implant dentistry, in cases of limited available space or restorations with tissue flanges, Prettau® Zirconia comes into a world of its own. Experience has shown that the translucent Prettau® Zirconia material blends in excellently with the natural tissue, so the missing gingival tissue is amenable to restoration in a highly aesthetic manner. The material can be shaped to full contour. Ceramic chipping can be avoided, because only the labial or buccal surfaces are veneered with ceramics, all functional areas are maintained as solid Prettau® Zirconia. Using the special staining technique with the Colour Liquid Prettau® Aquarell facilitates a high level of individualisation, the result being aesthetically pleasing, natural and patient-specific all-ceramic zirconia restorations.

INDICATIONS

For the manufacturing of partial and single crowns, inlays, onlays, veneers, large to full-arch occlusally screw-retained bridges (designed to full or reduced contour)

PROCESSING

- *Milling:* *Dry*
- *Milling Burs:* *CAD/CAM Milling Burs Zirconia*
- *Characterization:* *Colour Liquid Prettau® Anterior Aquarell, ICE Zirkon Ceramics and ICE Zirkon Ceramics Dynamik Dentin (optional), ICE Zirkon Stains, ICE Zirkon Stains Prettau® and ICE Zirkon Stains 3D by Enrico Steger*
- *Sintering temperature:* *1600 °C*

ANATOMIC COLOURED

Anatomic Coloured is a pre-coloured zirconia material, where the shades correspond to the Vita shade system. No manual characterization is required before sintering. The material can be densely sintered immediately after milling. It is suitable for restorations with full or reduced anatomic framework contours. The frameworks may be customized by ceramic veneering and/or staining.

INDICATIONS

For the manufacturing of partial and single crowns, inlays, onlays, veneers, large to full-arch occlusally screw-retained bridges (designed to full or reduced contour)

PROCESSING

- *Milling:* *Dry*
- *Milling Burs:* *CAD/CAM Milling Burs Zirconia*
- *Characterization:* *ICE Zirkon Ceramics and ICE Zirkon Ceramics Dynamik Dentin (optional), ICE Zirkon Stains, ICE Zirkon Stains Prettau® and ICE Zirkon Stains 3D by Enrico Steger*
- *Sintering temperature:* *1500 °C*

ICE ZIRKON TRANSLUCENT

Zirconia restorations made from ICE Zirkon Translucent dispose of a particulary high bending strength. With a bending strength of up to 1570 MPa (study University Munich, Dr. Beuer, Feb. 2007) our zirconia is considered one of the strongest available on the market. The material is used for the manufacture of aesthetical, high-quality and well-fitting dental prosthesis, which are veneered with ceramics.

INDICATIONS

For the manufacturing of partial and single crowns, inlays, onlays, veneers, large to full-arch occlusally screw-retained bridges (designed to reduced contour)

PROCESSING

- *Milling:* *Dry*
- *Milling Burs:* *CAD/CAM Milling Burs Zirconia*
- *Characterization:* *Colour Liquid and Colour Liquid Waterbased, ICE Zirkon Ceramics and ICE Zirkon Ceramics Dynamik Dentin, ICE Zirkon Stains, ICE Zirkon Stains Prettau® and ICE Zirkon Stains 3D by Enrico Steger*
- *Sintering temperature:* *1500 °C*

ZIRCONIA CREATIVE

With this zirconia creativity knows no bounds! Jewellery, pendants, figures and other creative ideas can be created with this coloured zirconia. The final colour appears after sintering.

INDICATIONS

Coloured zirconia for the manufacturing of your own jewellery (e.g. rings, pendants) and other creative works

PROCESSING

- *Milling:* *Dry*
- *Milling Burs:* *CAD/CAM Milling Burs Zirconia*
- *Sintering temperature:* *1400 °C*

Attention: Not for medical use!

The forerunners of today's plastics or artificial resins existed in all cultures, long before the industrial revolution. In 1531, an Augsburg priest used a complicated procedure to create artificial horn from skim cheese, which was used for the production of drinking vessels and jewellery.

RESIN

RESIN

Resins are used in dental technology for a broad range of applications. Thus, resin provisionals are the method of choice when it comes to increasing predictability in treatment planning, as these prototypes can be used to anticipate the fit, functionality, aesthetics and phonetics of the planned final restoration. Resins are also used for long-term provisionals to be worn for up to 2 years as well as for bite splints, denture bases or frictional copings.

Restorations made from resin are also suitable for veneering. For this purpose, veneer resins in kneadable consistency are applied on the restoration and in conclusion polymerized. In this way, both dentist and patient will be able to get an immediate aesthetic impression of the final restoration already with the provisional.

TEMP BASIC

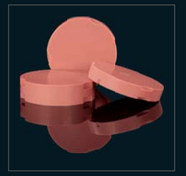
The Temp Basic resin is ideal for provisional single crowns and bridges in the anterior and posterior segments with a maximum time in situ of 6 months. The radiopaque Temp Basic X-Ray variant of this material allows the try-in of any restorative design. Temp Basic Transpa was developed for occlusal splints; denture bases or palatal plates can be milled from the gum-coloured Temp Basic tissue blanks.

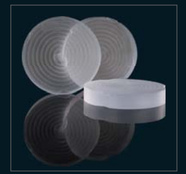
INDICATIONS

- *Temp Basic:* *For the manufacturing of partial and single crowns, inlays, onlays, veneers, large to full-arch occlusally screw-retained bridges as short-term temporaries*
- *Temp Basic Transpa:* *Transparent resin for the manufacturing of bite splints*
- *Temp Basic Tissue:* *Gingiva-coloured resin for the manufacturing of denture bases*
- *Temp Basic X-Ray:* *X-ray opaque resin for try-in of any restorative design*

PROCESSING

- *Milling:* *Dry*
- *Milling Burs:* *CAD/CAM Milling Burs PMMA*
- *Characterization:* *Veneering with all commercially available veneer resins*





TEMP PREMIUM

The Temp Premium resin blanks are especially characterized by their high translucence, high surface density, high fracture stability and don't contain any toxic substances. They altogether dispose of improved material properties and can be used therefore both for short-term provisionals as well as for long-term provisionals (up to 12 months in situ). They are also suitable for secondary or tertiary temporary restorations. For bite splints the transparent resin Temp Premium Transpa can be used. This resin is capable of compensating for manufacturing inaccuracies and slightly divergent paths of insertion.

INDICATIONS

- *Temp Premium:* *For the manufacturing of partial and single crowns, inlays, onlays, veneers, large to full-arch occlusally screw-retained bridges as short-term or long-term temporaries*
- *Temp Premium Transpa:* *Transparent resin for the manufacturing of bite splints*

PROCESSING

- *Milling:* *Dry*
- *Milling Burs:* *CAD/CAM Milling Burs PMMA and CAD/CAM Milling Burs PMMA Premium*
- *Characterization:* *Veneering with all commercially available veneer resins*

TEMP PREMIUM FLEXIBLE

Temp Premium Flexible is a further development of the Temp Premium resin. Just as Temp Premium it also has a special natural-looking translucency and a particularly stable surface density, however it is much more flexible. Also Temp Premium Flexible is available in several variants: Temp Premium Flexible Transparent is a transparent resin, which is ideally suited for the production of bite splints. Temp Premium Flexible Bleach is characterised by its particular white shade.

INDICATIONS

- *Temp Premium Flexible:* *For the manufacturing of partial and single crowns, inlays, onlays, veneers, large to full-arch occlusally screw-retained bridges as short-term or long-term temporaries, bite splints*
- *Temp Premium Flexible Transpa:* *Transparent resin for the manufacturing of bite splints*
- *Temp Premium Flexible Bleach:* *Highly flexible bright and white resin for the manufacturing of single crowns and bridges*

PROCESSING

- *Milling:* *Dry*
- *Milling Burs:* *CAD/CAM Milling Burs PMMA and CAD/CAM Milling Burs PMMA Premium*
- *Characterization:* *Veneering with all commercially available veneer resins*

TECNO MED

This high-performance resin offers a high plaque resistance and an excellent bio-compatibility, making it particularly suitable for the manufacture of permanent restorations. The brilliant biocompatibility of Tecno Med makes it an ideal material for the treatment of allergy patients. Tecno Med is specifically designed for the manufacture of friction copings on telescopic crowns or attachments and enables therefore partially removable restorations also in situations where screwing is not possible.

INDICATIONS

Friction copings on telescopic crowns or attachments

PROCESSING

- *Milling:* *Dry*
- *Milling Burs:* *CAD/CAM Milling Burs PMMA and CAD/CAM Milling Burs PMMA Premium*

TECNO MED MINERAL

Also Tecno Med Mineral is particularly resistant to plaque and very biocompatible. Just as Tecno Med it is ideally suited for the manufacture of permanent restorations and for the treatment of allergy patients. Thanks to the ceramic reinforcement of Tecno Med Mineral the range of indications of this high-performance resin not only includes reduced crowns and bridges, but also copings and frame works for composite veneered bridges. The material is non-abrasive and absolutely free of discolouration. The partially crystalline arrangement of their molecular chains, results in an excellent physical-chemical resistance. Moreover the resin is flexible, similar to the human bone tissue.

INDICATIONS

For the manufacturing of reduced crowns and bridges (max. 2 pontics and 13 mm² connection cross-section), copings, frameworks for composite veneered bridges as well as secondary constructions on bars

PROCESSING

- *Milling:* *Dry*
- *Milling Burs:* *CAD/CAM Milling Burs PMMA and CAD/CAM Milling Burs PMMA Premium*
- *Characterization:* *Veneering with all commercially available veneer resins*

BURNOUT

Burnout is a 100 % combustible resin for try-in of any restorative design and the subsequent use for casting or pressing technique. The material is not a medicinal product, so the duration of the try-in should not exceed 60 minutes.

The structures are milled, finished, coated with conventional masses and sintered according to the specific parameters for resin milling.

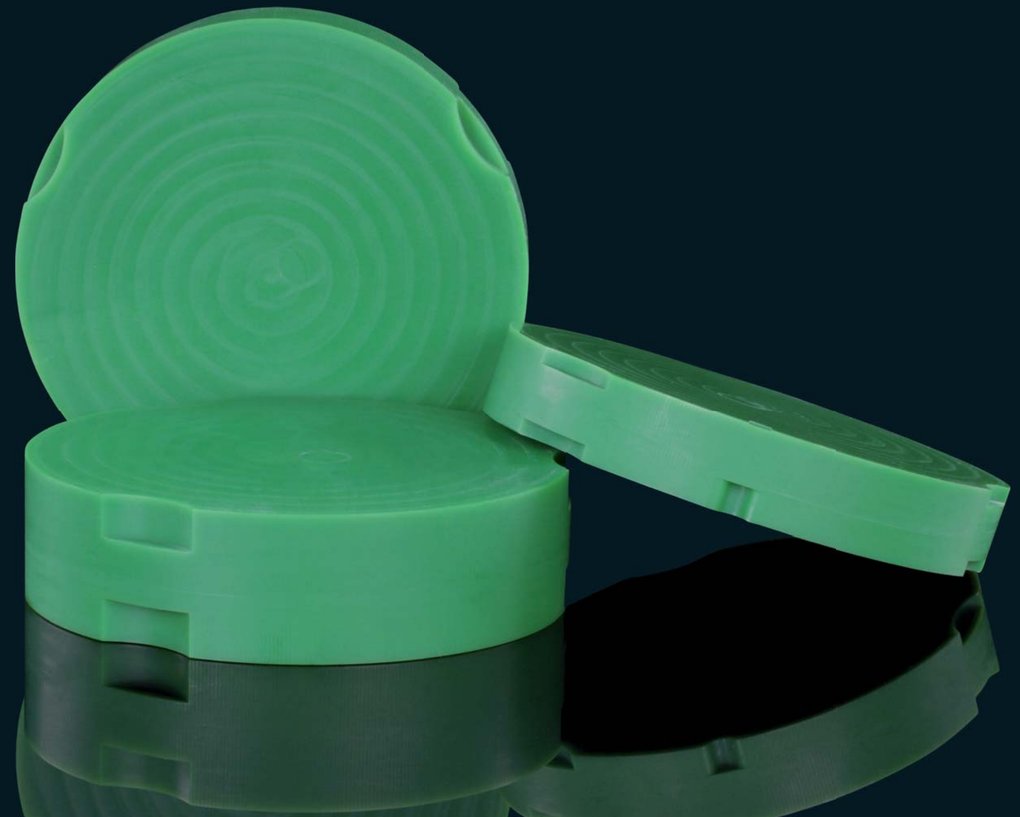
INDICATIONS

100 % combustible resin for metal casting and pressing technique

PROCESSING

- *Milling:* *Dry*
- *Milling Burs:* *CAD/CAM Milling Burs PMMA and CAD/CAM Milling Burs PMMA Premium*
- *Further Processing:* *Combustion*

Attention: Not for medical use!



TRY-IN

Try-In has been developed for the try-in of crown and bridge frameworks in the anterior and posterior segments as well as for subsequent scanning and transferring of the data to the CAD/CAM software.

The frameworks are milled, finished and cleaned according to the specific parameters for resin milling. The milled structures must not be left in the patient's mouth longer than 24 hours.

INDICATIONS

Resins for try-in of any restorative design as well as subsequent scanning and transferring of the data to the CAD/CAM software

PROCESSING

- *Milling:* *Dry*
- *Milling Burs:* *CAD/CAM Milling Burs PMMA and CAD/CAM Milling Burs PMMA Premium*

Zirkonzahn®

According to Greek mythology, Daedalus, father of Icarus, created wings from feathers and wax and attached them to his and his son's arms so they could fly like the birds. However, Icarus came too close to the sun, which melted the wax; he crashed and drowned in the sea.

WAX

WAX

Wax can be used to form inlays, onlays, single crowns and even multi-unit bridges for restorations from cast metal or pressable ceramics. Wax is not a medicinal product; different waxes vary in terms of hardness and finishing properties. The harder a wax, the stiffer; the softer a wax, the easier it is to manipulate. Thanks to a low melting interval, wax burns off without residue.

The CAD/CAM-milled wax structures are finished with tungsten carbide burs, sprues are added, the structures are invested and then burned out.

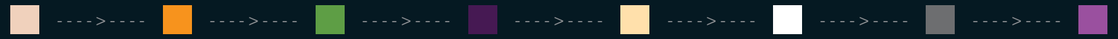
INDICATIONS

For the manufacturing of partial and single crowns, inlays, onlays, veneers, large to full-arch bridges for restorations from cast metal or pressable ceramics

PROCESSING

- *Milling:* *Dry*
- *Milling Burs:* *CAD/CAM Milling Burs WAX*
- *Further processing:* *Combustion*

Attention: Not for medical use!



Hard
The harder, the more warp resistant it is

Soft and stiff
The softer, the easier it is to process subsequently

Metal is one of the five elements of the Wu Xing, the five-element theory within Taoist philosophy. The five elements of wood, fire, earth, metal and water are derived directly from nature. From their properties, conclusions can be drawn regarding the relationships between earth, heaven and humankind, as well as within these spheres.

METAL

METAL

Since the beginning of civilization, metals have found manifold applications in technology. The modern world would be impossible without metals. It is not a coincidence that various time periods of human civilization are called after the materials used: Stone Age, Bronze Age, Iron Age.

Nowadays, hard metals are also widely used in dentistry. Titanium and CoCr alloys offer a broad range of applications and can hence be used for the manufacturing of a multitude of dental restorations. This presents an advantage, because the smaller the amount of alloy systems in the mouth of the patient is, the better is their absorption by the body.

CHROME-COBALT

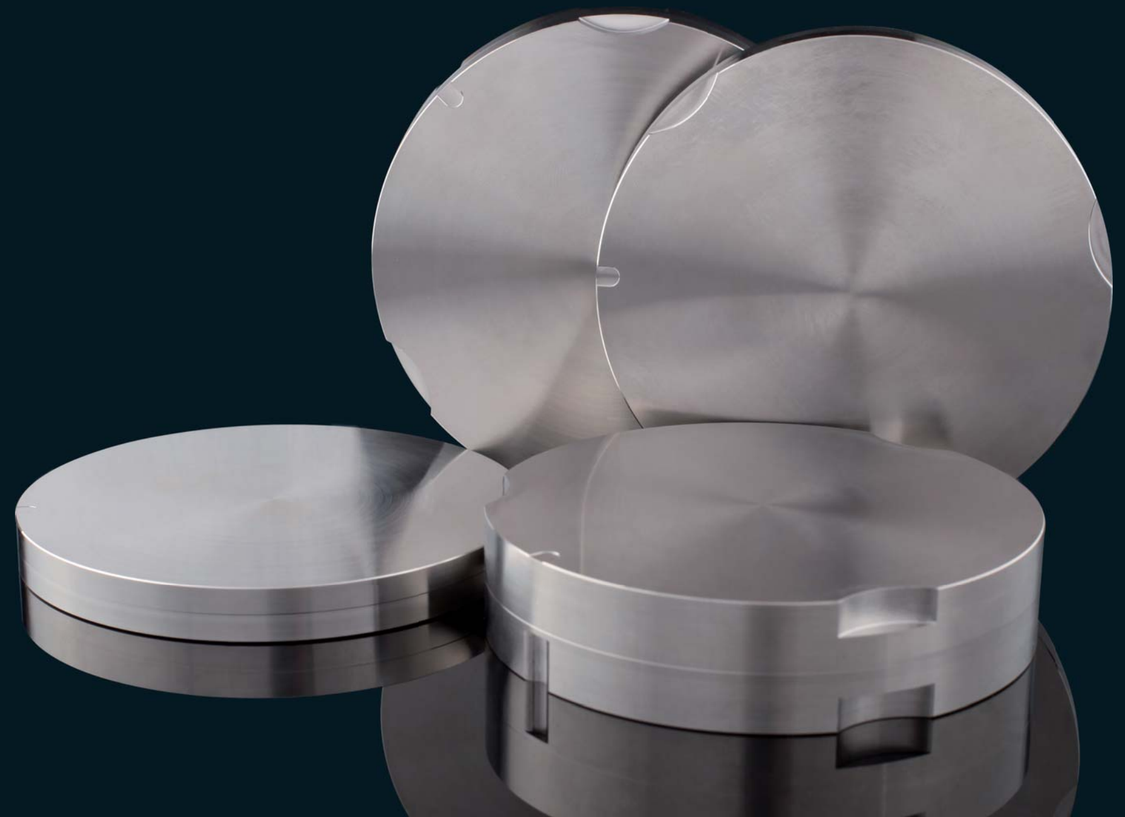
The metal alloy Chrom-Cobalt is at the same time hard and elastic, therefore it is particularly suited for the manufacture of delicate structures and for metal framework which can be veneered with ceramics. Already existing restorations can be appropriately enlarged thanks to the good solderability of the material. During the milling process, a surface quality, which reduces bacteria formation, is being created.

INDICATIONS

- *Chrome-Cobalt blanks:* *For the manufacturing of metal frameworks for veneering with ceramics as well as of bar constructions*
- *Bridge Rods:* *Precast bridge blanks for the manufacturing of at maximum 4-unit metal constructions*

PROCESSING

- *Milling:* *Dry*
- *Milling Burs:* *CAD/CAM Milling Burs CrCo*
- *Characterization:* *Veneering with all commercially available veneer ceramics for metal*



TITANIUM

Titanium is considered one of the most health-friendly materials that exist. This is due to the corrosion resistance of the material and the naturally emerging oxide layer on the surface, which, among others, favours the solid growth of the bone on the implant (osseointegration).

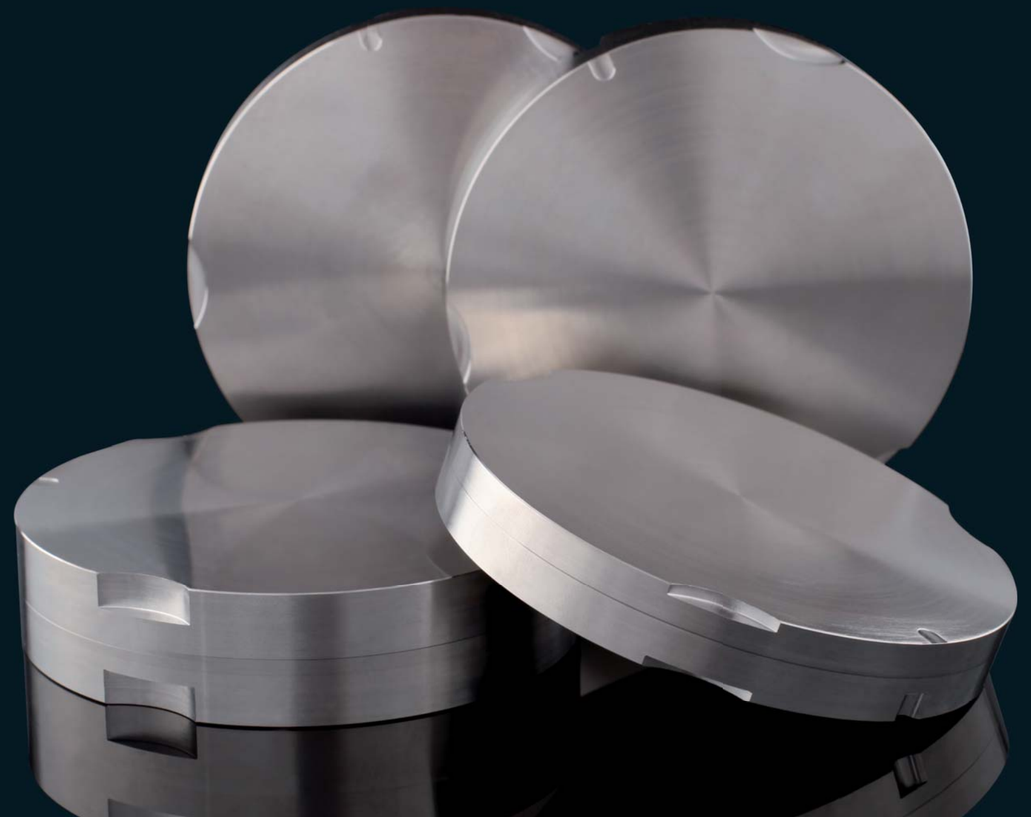
The titanium blanks are wet-milled with computer assistance using a suitable milling tool. Here, the workpiece and milling bur are cooled with a cooling lubricant. Using the Titanium Spectral-Colouring Anodizer, titanium structures can be anodized to the desired colour (e.g. golden). This prevents the primary structures from shining through under zirconia abutments, yielding a more natural and more personalized aesthetics of the dental restorations.

INDICATIONS

- *Titan 5 blanks:* *For the manufacturing of metal frameworks for veneering with ceramics as well as of bar and implant constructions*
- *Raw-Abutments®:* *Precast abutment blanks for the manufacturing of individual abutments with precast implant connections*
- *Bridge Rods:* *Precast bridge blanks for the manufacturing of at maximum 4-unit metal constructions*

PROCESSING

- *Milling:* *Wet*
- *Milling Burs:* *CAD/CAM Milling Burs Titan*
- *Characterization:* *Veneering with all commercially available veneer ceramics for metal*



SINTER METAL

The Sintermetall blanks can be used for the manufacture of single crowns, bridges, telescopic crowns and even bar constructions. They can be designed either to full or reduced anatomic contour. The material can be sintered in the Zirkonofen 700 Ultra-Vakuum sintering furnace using a special adapter. It is not necessary to buy an additional furnace. The special material manufacturing technology prevents the escaping of residual gases during the sintering process and guarantees excellent processing with the Zirkonzahn CAD/CAM sytems without causing any smearing.

INDICATIONS

For the manufacturing of metal frameworks for veneering with ceramics as well as of bar constructions

PROCESSING

- *Milling:* *Dry*
- *Milling Burs:* *CAD/CAM Milling Burs Sintermetall*
- *Characterization:* *Veneering with all commercially available veneer ceramics for metal*
- *Sintering temperature:* *1225 °C (sintering under vacuum with the Zirkonofen 700 Ultra-Vakuum sintering furnace in combination with a special sintering adapter)*

Zirkonzahn®

It used to be said that wood was the primary substance from which the universe was created. To this day, wood is a symbol for nature, a symbol with which humankind feels closely connected.

WOOD

WOOD

Just as metal, wood is also an element of the Taoist five-element theory to the description of nature. Within this philosophy, wood stands among others for departure, expansion, ascent and development.

INDICATIONS

For the manufacturing of your own jewellery (e.g. rings, pendants) and other creative works

PROCESSING

- *Milling:* *Dry*
- *Milling Burs:* *CAD/CAM Milling Burs Zirconia*

Attention: Not for medical use!

Zirkonzahn®

EVERYTHING FROM A SINGLE SOURCE – OUR SOLUTIONS

Our aim is to produce everything on our own and to offer our customers a complete range of services so that they can become heroes of dental technology. We produce everything ourselves because only in this way the high quality of our home-made South Tyrolean products can be guaranteed.

CAD/CAM SYSTEMS

MILLING UNITS

SCANNER

SOFTWARE

IMPLANT PROSTHETICS

NEW: LABORATORY ANALOGUES

SCANMARKER

NEW: WHITE SCANMARKER

NEW: RAW-ABUTMENTS®

TITANIUM BASES

MACHINES AND EQUIPMENT

SINTERING FURNACES

TITANIUM SPECTRAL-COLOURING ANODIZER

DRYING LAMPS

ZIRKOGRAPH

CAPTURING TECHNOLOGIES

NEW: PLANESYSTEM® PLANEFINDER®

NEW: PLANESYSTEM® ARTICULATOR PS1

FACE HUNTER

CHARACTERIZATION

COLOUR LIQUIDS

CERAMICS

STAINS

VENEER RESINS

FINISHING INSTRUMENTS

MILLING BURS

DIAMOND BURS

POLISHERS

Zirkonzahn®

WE FORGE HEROES – OUR EDUCATIONAL INSTITUTIONS

Because we love what we do, it is a matter of the heart to pass on what we know. We want to convince other people to do as we have done, and to this end we have produced an extraordinary educational programme and we have built training centers all over the world. Our aim: Helping our clients to be among the very best and sharing with them our ideas, giving them an innovative edge that will deeply impress.

ZIRKONZAHN CANADA
MONTREAL, CANADA

EDUCATION CENTER ATLANTA
ATLANTA, USA

ZIRKONZAHN USA
ATLANTA, USA

ZIRKONZAHN NEW YORK
NEW YORK CITY, USA

ZIRKONZAHN CALIFORNIA
IRVINE, USA

ZIRKONZAHN NORCROSS
ATLANTA, USA

ZIRKONZAHN MEXICO
IRAPUATO, MEXICO

ZIRKONZAHN GERMANY
NEULER, GERMANY

ZIRKONZAHN HUNGARY
BUDAPEST, HUNGARY

ZIRKONZAHN IBÉRICA
BARBERÀ DEL VALLÈS, SPAIN

ZIRKONZAHN MOUNTAIN MONASTERY
CAMPO TURES, SOUTH TYROL

ZIRKONZAHN EDUCATION CENTER BRUNICO
BRUNICO, SOUTH TYROL

ZIRKONZAHN MOLARIS
MOLINI DI TURES, SOUTH TYROL

ZIRKONZAHN HELDENCAMPUS
MOLINI DI TURES, SOUTH TYROL

ZIRKONZAHN WORLDWIDE
GAIS, SOUTH TYROL

RESEARCH CENTER FOR DENTAL APPLICATION
BRUNICO, SOUTH TYROL

Zirkonzahn®

MATERIAL DIVERSITY

Zirkonzahn Worldwide *– An der Ahr 7 – 39030 Gais/South Tyrol (Italy)*
T +39 0474 066 680 – F +39 0474 066 661 – www.zirkonzahn.com – info@zirkonzahn.com

ENGLISH

WEAA2323=