



lablineTM

VOLUME X ISSUE 04 WINTER 2020

SPECIAL EDITION INTERVIEW

AN INTERVIEW FROM ALL AROUND THE WORLD

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LABLINE PHOTOGRAPHY

„Dental photography is important tool or luxury?“

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THE FUNCTION THAT BECOMES AESTHETICS

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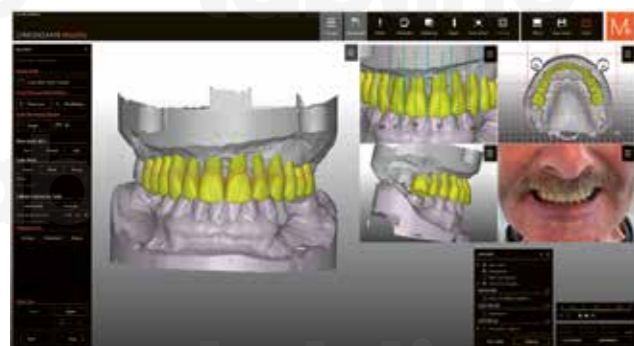
FULL ARCH MADE OF POLYCHROMATIC PRETTAU® 2 DISPERSIVE® ZIRCONIA OVER TITANIUM BAR WITH EXTERNAL STOP

**100 % MONOLITHIC DESIGN
VENEERED ONLY IN THE GINGIVAL AREA**

CASE MADE BY DT SERGIO POLISI, ZIRKONZAHN EDUCATION CENTER BRUNICO, SOUTH TYROL, ITALY

The patient, male, was wearing a removable full denture. He presented with four implants, maxillary edentulism and minimal occlusal space due to anterior implant positions and loss of vertical dimension. As a treatment, the techno-clinical team decided to fabricate a full-arch made of Prettau® 2 Dispersive® polychromatic zirconia over a titanium bar with external stop, for a stronger framework in the anterior area. After transferring the patient's data to the virtual articulator, the titanium bar was designed in the Zirkonzahn.Modellier software based on the full denture scans and then individualised in the tooth area 11 - 21 using the Free Form function. The bar design was then

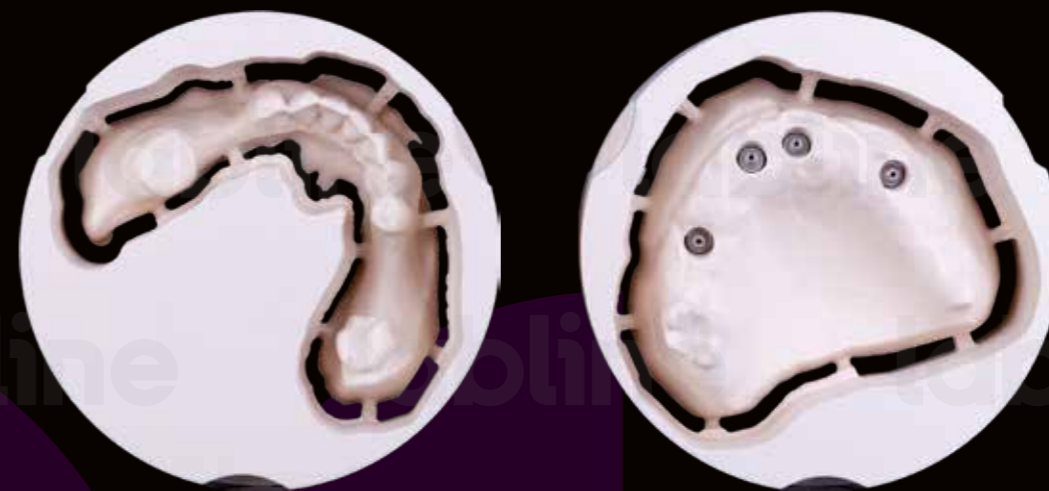
imported as a wax-up into the new Zirkonzahn.Modifier add-on software, where the virtual set-up for the maxilla was designed using natural tooth anatomies from the Zirkonzahn Heroes Collection tooth libraries. The workflow continued again on the Zirkonzahn.Modellier software, with the Prettau® Bridge design and adaptation to the designed bar. After verification in the PS1 virtual articulator, the restoration was milled in one milling process using the M2 Dual Wet Heavy Metal milling unit. The machine is equipped with two separate milling chambers, which enabled the sequential production of titanium bar and zirconia bridge without intermediate cleaning.



The multi-view function in the new add-on Zirkonzahn.Modifier software allows the user to view the restoration in different positions, on 2D pictures or on the 3D virtual reproduction of the patient physiognomy.



Checking the restoration with the titanium bar in the PS1 virtual articulator. With the last upgrade on Zirkonzahn.Modellier, 27 articulators are now stored in the software.



The milled implant models. The fit control was performed using ScanAnalog, Zirkonzahn's laboratory analogues that can be also used as scanmarkers and can be scanned directly on the impression.

Before sintering, a minimal colour accentuation with intensive Colour Liquids was performed. Indeed, Prettau® 2 Dispersive® zirconia is already provided with a smooth, natural colour gradient already during the manufacturing process, thanks to a special technique that does not blend colours into layers but disperses them evenly. The highly aesthetic and harmonious chromatic result can be observed after sintering and can be further individualised

manually if necessary. In this case, the monolithic bridge was finalised with ICE Stains 3D and layered only in the gingival area. After checking the result on the milled implant model with ScanAnalog (Zirkonzahn's laboratory analogues used also as scanmarkers, which can be scanned directly on the impression) the bar was bonded into the zirconia structure and the restoration was delivered to the dentist for insertion into the patient's mouth.



The zirconia restoration and the titanium bar were milled sequentially in one milling process using the M2 Dual Wet Heavy Metal milling unit, provided with 2 milling chambers.

HAVE A LOOK AT ZIRKONZAHN'S
CASE GALLERIES:
SCAN THE CODE OR VISIT
WWW.ZIRKONZAHN.COM



The 11-21 tooth area of the bar was designed individually using the Free Form tool in the Zirkonzahn.Modellier software. The external stop was planned to provide the anterior area with a stronger framework.



The final restoration made with the polychromatic Prettau® 2 Dispersive® zirconia, characterised already from the manufacturing process by a smooth natural colour gradient reproducing the natural tooth colours from dentine to enamel (colour scheme from A1-D4). The monolithic bridge was finalised with ICE Stains 3D and layered only in the gingival area.



FOCUS ON MATERIALS: ZIRKONZAHN SHADE GUIDES

MONOLITHIC PRETTAU® ZIRCONIA SHADE GUIDES IDENTICAL TO THE FINAL RESTORATION – IN THE SHAPE OF A PREMOLAR AS WELL AS LOWER AND UPPER INCISOR (ALSO CUSTOMISABLE)

The case was produced with Prettau® 2 Dispersive® zirconia, a material already provided with a smooth and natural colour gradient during the manufacturing process, through a technique that does not blend colours into layers but disperses them evenly. From now on, for clinical cases treated with restorations made with Prettau® Dispersive® zirconia, the patient will be able to preview the final colour of his future prosthesis before starting the treatment. Indeed, the patient natural tooth colour can be precisely determined on the basis of the new Zirkonzahn Shade Guides, composed of monolithic sample teeth made of Prettau® Dispersive® zirconia and available for all the three Prettau® Dispersive® zirconia typologies – Prettau® 2 Dispersive®, Prettau® 3 Dispersive® and Prettau® 4 Anterior® Dispersive®. All sample teeth are monolithically designed then glazed with 3D Base Glaze material, and the natural tooth colour can be reproduced almost 1:1

in the finished planned restoration. The shade guides are inspired by the VITA colour range and comprise 16 colours (A1-D4) as well as 3 Bleach shades. The sample bars of the tooth colour keys are deliberately made of transparent, metal-free, temperature-resistant plastic in order to guarantee a neutral colour effect and avoid interference caused by translucent metal. Colour theory shows that shape and surface structure considerably influence the colour effect: for this reason, the shade guides are available in all respective Prettau® Dispersive® zirconia materials, not only in the shape of upper and lower incisors, but also in the shape of a premolar. The first shade guide launched in the market is the one developed for the brand new Prettau® 3 Dispersive® zirconia. The special feature of this dental material, especially suitable for monolithic restorations, is the Gradual-Triplex-Technology, a triple gradient of natural colour, translucency and flexural strength.

MORE INFO:



With the Zirkonzahn Shade Guides, available for all Prettau® Dispersive® zirconia typologies, the patient's tooth colour can be precisely determined on the basis of monolithic sample teeth made of zirconia. The natural tooth colour shown can be reproduced almost 1:1 in the finished planned restoration.

NEW! PRETTAU® 3 DISPERSIVE® WITH GRADUAL-TRIPLEX-TECHNOLOGY

KNOW MORE ABOUT PRETTAU® 3 DISPERSIVE®:



PRETTAU® 2 DISPERSIVE®	PRETTAU® 3 DISPERSIVE®	PRETTAU® 4 ANTERIOR®
Translucency ★★★★★☆	Translucency ★★★★★☆	Translucency ★★★★★★
Flexural strength ★★★★★★ (up to full arch bridges)	Flexural strength ★★★★★☆ (up to full arch bridges)	Flexural strength ★★★★★★ (up to 3-unit bridges)
1200 MPa*	Incisal area 670 MPa* – Cervical area 1200 MPa*	670 MPa*
Colouring optional: Individualisation with Colour Liquid Intensiv	Colouring optional: Individualisation with Colour Liquid Intensiv	Colouring optional: Individualisation with Colour Liquid Intensiv
With integrated natural colour gradient	Gradual-Triplex-Technology** with colour, bending strength and translucency gradient	With integrated natural colour gradient
Sintering temperature 1600 °C	Sintering temperature 1500 °C	Sintering temperature 1500 °C
Monolithic design in the anterior area and in the posterior area possible	Monolithic design in the anterior area and in the posterior area possible	Monolithic design in the anterior area and in the posterior area possible

**Gradual-Triplex-Technology: The zirconia is already provided with colour, translucency and bending strength gradients during the production process. This ensures a natural colouring, a highly translucent cutting edge and an extremely high bending strength at the tooth neck.

*Average value of the biaxial bending strength from several test series

FOCUS ON HARDWARE: M2 MILLING UNITS WITH EXTRA-LARGE TELESKOPER ORBIT Ø 125 MM

1 ORBIT FOR 4 DIFFERENT BLANK SIZES

The restoration described above was produced with the M2 Dual Wet Heavy Metal milling unit, which is part of the Zirkozahn's new M2 milling units comfort line. Synonym of modern operating comfort and flexibility, the comfort line comprises five open-system milling units. All machines, equipped with 5+1-axis simultaneous milling technology, are fully automatic, flexible and vibration-free, thanks to the orbit with opposed rotary axes and the particularly robust milling spindle. According to the model, they are equipped with one or two milling chambers and with the extra-large Teleskoper Orbit ø 125 mm:

- M2 Wet Heavy Metal – Standard version with one milling chamber and Ø 95 mm orbit
- M2 Dual Wet Heavy Metal – Standard version with two milling chambers equipped with Ø 95 mm orbit each, for sequential wet and dry processing of all dental materials without in-between cleaning
- M2 Teleskoper – Milling unit with one milling chamber, equipped with the extra-large Teleskoper Orbit (Ø 125 mm), for processing material blanks of Ø 95 mm, 98 mm, 106 mm, 125 mm (with specific holders)
- M2 Dual Teleskoper – Milling unit with two milling chambers, equipped with one Ø 95 mm orbit and one Teleskoper Orbit, for processing material blanks of Ø 95 mm, 98 mm, 106 mm, 125 mm (with specific holders)
- M2 Dual Double Teleskoper – Milling unit with two milling chambers, both equipped with the extra-large Teleskoper Orbit (Ø 125 mm), for processing material blanks of Ø 95 mm, 98 mm, 106 mm, 125 mm (with specific holders)



M2 Dual Double Teleskoper: equipped with two separate milling chambers for sequential wet and dry processing of all dental materials without in-between cleaning as well as two Teleskoper Orbits of ø 125 mm. All M2 machines are fully automatic, flexible and vibration-free, thanks to the orbit with opposed rotary axes and the particularly robust milling spindle.

The highlight in terms of flexibility is the extra-large Teleskoper Orbit (\varnothing 125 mm) that, in combination with special holders, permits to process all common soft and hard material blanks of \varnothing 95 mm, \varnothing 98 mm, \varnothing 106 mm or even \varnothing 125 mm. With the Teleskoper Orbit, material blanks can be removed and

reinserted back into the orbit at exactly the same position with a precision in μ m range. This is particularly helpful for adjusting the friction of telescopic jobs or for the two-stage fabrication of immediate restorations in case of implant-supported prostheses (with the Double Milling technique).

Flexibility and precise repositioning of blanks with the extra-large Teleskoper Orbit: for the elaboration of material blanks with \varnothing 95 mm, \varnothing 98 mm, \varnothing 106 mm or even \varnothing 125 mm, as well as glass ceramic and Raw-Abutment® blanks. Discs can be removed and reinserted back into the orbit at exactly the same position with high precision in μ m range. This is particularly helpful for adjusting the friction of telescopic jobs or for the two-stage fabrication of immediate restorations in case of implant-supported prostheses (Double Milling technique).



All M2 milling units are stand-alone solutions, which means that it is possible to start milling and calibration processes or load elaboration tools directly from the machine via the integrated PC with touchscreen. Moreover, the optical tool detection function ensures the usage of the appropriate burs for greater safety during milling. The two separate large milling chambers are the trademark of the M2 Dual versions, permitting the sequential wet and dry processing of hard and soft dental materials without in-between cleaning. However, all milling units are provided with spaciouly designed, optimally illuminated and easily accessible milling chambers, as well as with a separated, contamination-protected tool

chamber with 21-compartment automatic tool changer. Optionally, and according to the machine version, additional tool magazines with 21 tool slots each can be added, for storing up to 63 or even 84 burs. The automatic self-cleaning function, the integrated Cleaning Kit for an easy cleaning of the milling chambers and the Ioniser ensure a particularly clean elaboration of the materials. The performance range of the machines can be extended by integrating different accessories available, e.g. the Glass Ceramic/Raw-Abutment® Holder and the JawPositioner Support. With the M2/M2 Dual Upgrade Kit; the M2 Wet Heavy Metal and the M2 Dual Wet Heavy Metal milling units can be upgraded to the Teleskoper version.



WATCH THE VIDEOS:



All M2 machines are equipped with an optical tool detection function, for a secure selection of the appropriate milling burs.



All milling units are provided with a contamination-protected, separated tool chamber equipped with a 21-compartment tool magazine and an automatic tool changer function. Optionally, and according to the machine version, additional tool magazines with 21 tool slots each can be added, for storing up to 63 (M2 Dual versions, as shown in the picture) or 84 burs (M2 versions).



The integrated PC with touchscreen makes these machines "stand-alone" solutions: this means that elaboration tools can be loaded and milling/calibration processes can be started directly on the machine.

FOCUS ON SOFTWARE: NEW CLEVER FUNCTIONS FOR ZIRKONZAHN.MODELLIER ACCORDING TO THE ZIRKONZAHN LOGIC

In 2020, a new upgrade has been released for the Zirkonzahn.Modellier design software, with a whole range of clever solutions that have been developed consistently according to the proven Zirkonzahn logic. Not only does the software offer well-known, common applications such as the separating disc functionality or the simultaneous adjustment of all contact points, but also many other functions like the new articulator room, the download centre, the implant selection with 3D viewer, the latest implant abutments and much more. In the context of implant prosthetics components, it is important to mention the new Titanium Bases K80 Angled Screw Channel (ASC) and the new ZZ-Loc, which are now stored in the design software. The new Titanium Bases K80 Angled Screw Channel (ASC) are available in 5 different shaft lengths: once selected digitally, the shaft length is then cut off in the physical titanium base with a cutting disc at a pre-marked point. Another

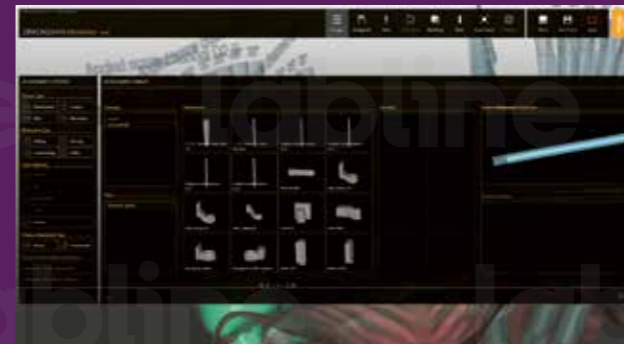
important feature of these new titanium bases is that the access channel can be moved at an angle of 0°-30° to compensate for non-optimal implant positions and for this purpose a completely new workflow has been integrated into the software, also taking the screw head diameter into account. ZZ-Loc, on the other hand, is a snap-on attachment system for implants and bars used to connect complete overdentures to dental implants. In the software, three different ZZ-Loc can be chosen, with three different head shape sizes. They are positioned in the same insertion direction as the bar and the holes are then punched: the Zirkonzahn.Nesting software recognises this procedure and calculates a thread, which is later grinded into the structure with a specific milling bur. Another important innovation regarding implant prosthetics components is the renewed selection menu now provided with a 3D viewer, in order to visualise the components from all sizes.



Newly organised articulator window with integrated movement information via the specially-created mini-window.



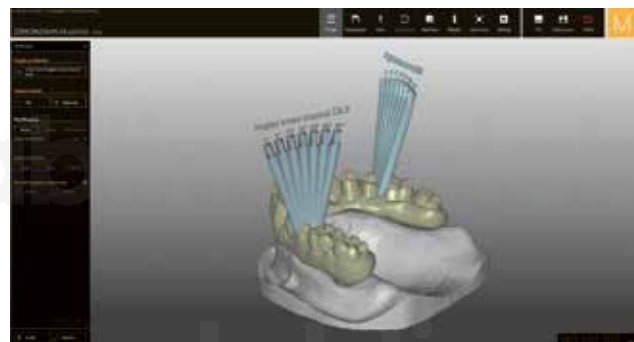
New Download Center for reduced data volume and faster performances.



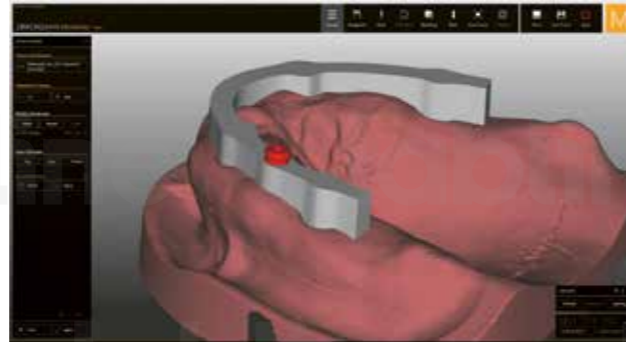
Newly designed attachment selection with integrated 3D viewer.



Designing of thimbles and crowns in one single step.



The new Titanium Bases K80 Angled Screw Channel (ASC).



ZZ-Loc, the snap-on attachment system for implants and bars used to connect complete overdentures to dental implants.

Another important innovation regards the articulator window. Designed in a more structured way, it permits to permanently track the articulator movements performed, making them available during the design process via a mini-window. In addition, the number of articulators stored in the software, alongside Zirkonzahn's PS1 articulator, has now increased to 26. The new Download Center is also worthy of mention: for a reduced data volume and faster performances, the user can now download individual libraries of implant systems and articulators. When specific individual updates

are available, they can be performed without reloading the whole library completely. As far as the design of thimbles and crowns is concerned, the modelling process is now possible in one single step: the crowns can immediately be created on the thimbles after they are designed. The crown margins are automatically marked on the thimble, but they can still be changed manually at any time and there is also an option to automatically cut off the created gingiva at the thimble/crown. The thimble structure as well as the crowns can be loaded into the nesting, calculated and then milled.

DID YOU KNOW THAT ZIRKONZAHN ORGANISES REGULARLY ONLINE EVENTS FOR DENTAL TECHNICIANS AND DENTISTS? HAVE A LOOK AT THE EVENTS ARCHIVE AND STAY UP TO DATE WITH THE UPCOMING ONES!

VISIT THE SECTION "EVENTS" AT WWW.ZIRKONZAHN.COM OR SCAN THE CODE.



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