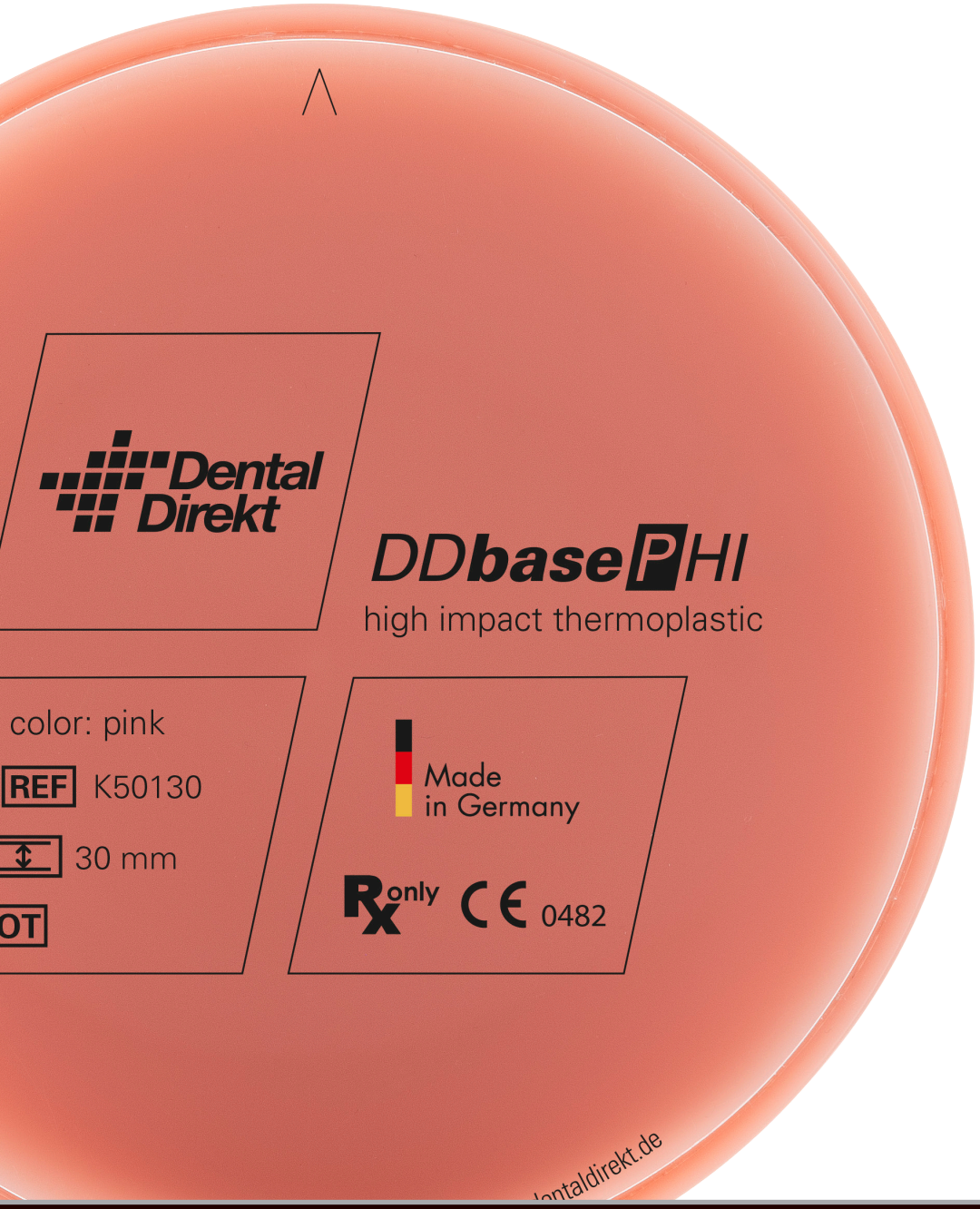
DAILY PRACTICE

»THE GOLDEN AGE OF TOTAL PROSTHETICS IS TODAY«

// The total prosthesis: base made of DD base P HI, anterior teeth from DD cubeX²® ML, posterior teeth from DD poly X ML //

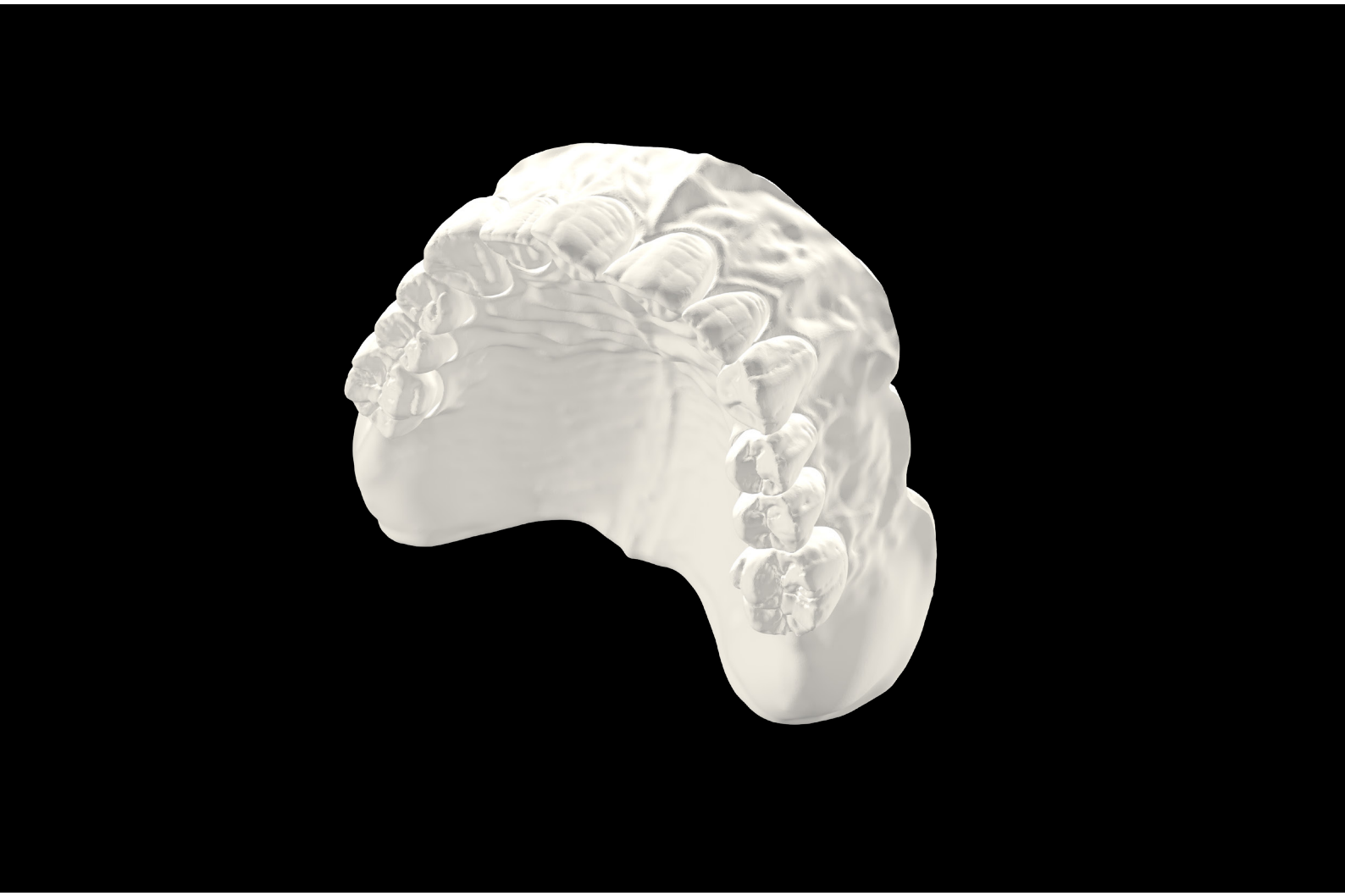
DT Liliana Simoes-Fischer, PX Dental SA, Switzerland

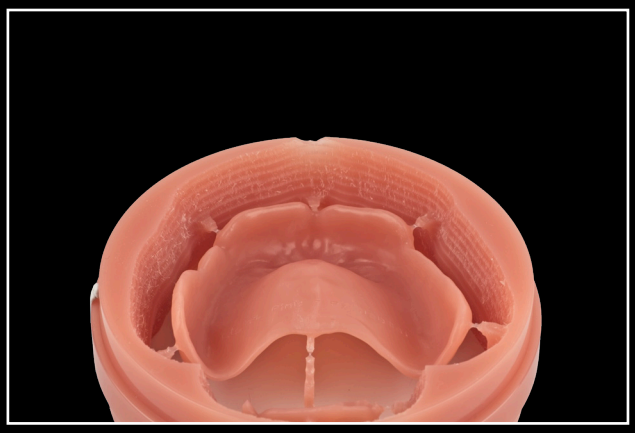


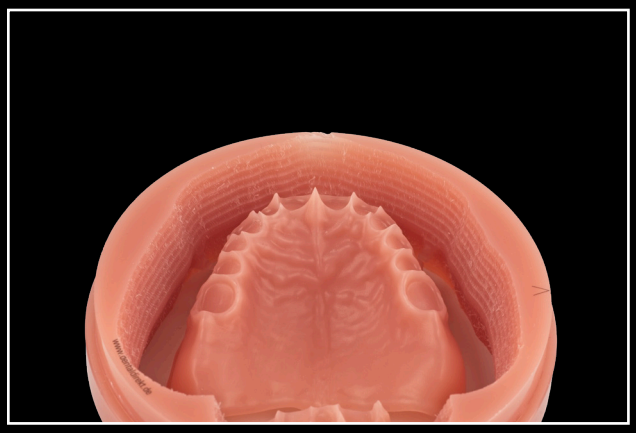
For the first time in the history of dentistry, we can create any tooth shape, right down to the exact shape the patient had when they were young - and in any available material. And that is all digital!

First steps of the digital process

The dentist uses the intraoral scanner to take a digital scan and images of the mouth. Then the laboratory uses the digital impression to create a personalized printed impression tray and occlusal bite, followed by the usual functional impression in the patient's mouth to create the occlusion. Then its onto the CAM software. As soon as the full denture is digitally created, we can print it in white try-in material and then try it in the mouth. The laboratory uses this modified full trial denture to adjust the occlusion or integrate the desired changes in exocad®.





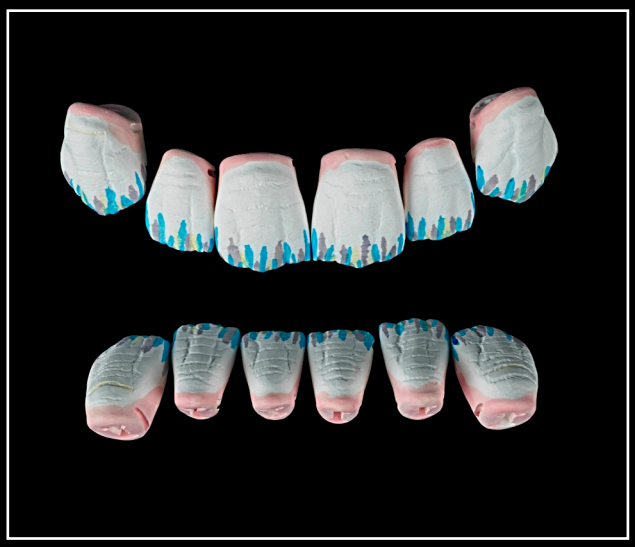


The manufacturing process

The denture base is milled from DD base PHI.
The anterior teeth for the highest aesthetic demands are milled individually from DD cube X²® ML.

After that – and it is very important that this happens before sintering – the surface structure is accentuated with a good cutting tool or a tungsten tip. The shade is personalised before sintering with DD Art Elements (Example: Orange – Blue – Dentin A2 on the collar).

DD Art Elements are universally applicable liquids for colouring and individualising pre-sintered zirconium oxide constructions. Ten highly concentrated effect shades are available for tinting the dentin shades to characterise fissures, incisal areas or gingival portions.



In addition to DD Art Elements, DD contrast®, the color and texture system from Dental Direkt, plays an important role. It gives fully monolithic restorations optimum colour intensity, plastic depth effect and different fluorescence. It thus gives the teeth an individual touch that is important for the patient.

The money invested in aesthetics will last for decades; the zirconia will not change over time. These teeth can also be reused with a new base. If a tooth is broken, the lab can re-mill the tooth and bond it back into the denture. Bonded zirconia teeth have no infiltration (black line created by bacteria between ceramic teeth and PMMA base).

The posterior teeth are milled from DD poly X ML as a 3-unit bridge.

Why do we choose the DD poly X ML? It is a medical polymer material and it is biocompatible. Five polymerised layers guarantee a very natural aesthetic effect. In addition, it has a very high hardness and abrasion resistance and is therefore excellently suited for the prosthetic teeth in the posterior region. In addition, DD poly X ML can be customised and polished very well.

All teeth are fixed in one step on the denture base with a silicone key.

Tips for the dental production

A tip about sandblasting the glazed zirconia anterior crowns: After the glaze finish of the anterior crowns with DD contrast®, the individual crowns are inserted into the denture base and the sandblasting/adhesion boundary is traced with a pencil according to the gingival contour. Then I apply hard wax over this line to protect the ceramic. In order to remove the wax after sandblasting, simply place the zirconium oxide teeth with the wax in cold ice water; the wax will harden and the wax removal procedure will become very efficient and safe.

Bonding: Use the correct primer for each material. Do not bond the teeth individually! Make a silicone key of the printed final denture and use this key to place all teeth in one step.

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DD base P HI – PMMA for digital denture bases

DD base P HI is based on a thermoplastic acrylic polymer on the basis of polymethyl methacrylate (PMMA).

Free of toxic and allergenic substances, the material is excellently suited for the fabrication of digital denture bases. Our manufacturing process makes the material quick and easy to process, guarantees a perfect fit of the denture base and is indicated for use for up to 10 years.

DD cubeX²® ML – the monolithic anterior zirconia
As stable as zirconium oxide and as translucent as lithium disilicate.

The super-high translucent DD cubeX²® ML sets a new zirconia standard with its cubic-tetragonal microstructure (~50 % cubic/ ~ 50 % tetragonal). The innovative mixing ratio produces a light transmission previously unattained for zirconium oxides and, due to its high translucency, makes DD cubeX²® ML the ideal material for beautiful and natural-looking anterior restorations up to three-unit bridges including one molar. In the multilayer version, the five main layers are optimally coordinated with each other and ensure homogeneous mixing in the transition layers – this guarantees a smooth shade and translucency progression in the steps. With the precise reduction of additives from incisal to cervical by Multi Additive Technology®, the perfect interaction of shade and translucency is achieved. Available in all 16 VITA® tooth shades.

DD base P HI product page
on www.dentaldirekt.de/en

DD cubeX²® ML product page
on www.dentaldirekt.de/en

Made in Germany

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Dental Direkt