

Abutment Solutions

For customized implant restorations fabricated with CEREC® and inLab®

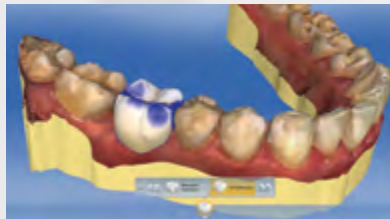
Digital all around.



The digital treatment workflow



Digital impression taking



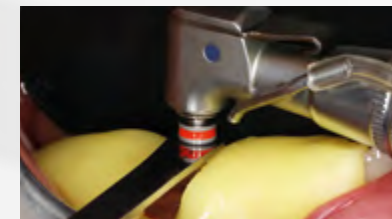
Digital planning



3D X-ray



Fabrication of the drilling template



Implantation*



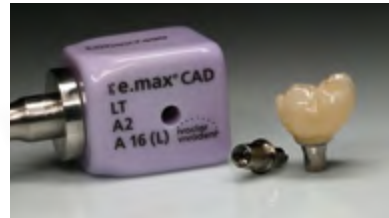
Implant design

Coordinated digital workflows in CAD/CAM technology open up new possibilities for implant-supported prosthetics – from impression taking to the final restoration – and ensure functional, highly esthetic, innovative and cost-efficient results. ^[1-3]





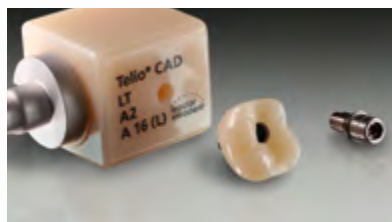
Placement - Check-up*



Permanent restoration made of IPS e.max® CAD*



Shaped emergence profile following a temporary restoration*



Temporary restoration made of Telio® CAD A16*

Together with Ivoclar Vivadent's innovative restorative materials, the CAD/CAM technique facilitates the planning and fabrication of implant-supported restorations – from temporary to permanent implant prosthetics.^[2, 4]

The following products are available for the fabrication of Abutment Solutions:

- Telio® CAD A16
- IPS e.max® CAD A14 / A16
- Multilink® Hybrid Abutment

*Source: Dr A. Kurbad^[2], Germany



Dr S. Puri, USA

“*Telio CAD A16 and IPS e.max CAD blocks optimally complement each other. Therefore, CAD/CAM users are provided with a complete digital workflow which enables them to reliably fabricate temporary restorations and permanent hybrid abutment crowns.*”



Dr A. Kurbad, Germany

“*Telio CAD A16 blocks close the gap in the system chain of the proven IPS e.max CAD Abutment Solutions by including the temporization stage. The temporary restoration can be incorporated immediately after the implantation procedure or after the healing phase. Furthermore, it offers many options in terms of soft tissue management. Therefore, Telio CAD A16 forms the basis for an esthetic and functional therapy result.*”

The temporary –
key to a successful
treatment

Hybrid abutment crown made of Telio CAD A16:

- Cemented to the titanium bonding base, suitable for immediate load-bearing or after the healing phase^[2; 4]
- Easily designed emergence profile^[2; 4]
- Visualization of the permanent restoration
- Blocks are available in the size A16 and in nine LT shades (BL3, A1, A2, A3, A3.5, B1, B3, C2, D2)

With Telio® CAD A16 from the temporary...

Telio® CAD A16 is designed for the CAD/CAM-supported fabrication of temporary hybrid abutment crowns. This 2-in-1 solution, i.e. crown and abutment combined, is used after the insertion of the implant and before the placement of the permanent restoration made of IPS e.max® CAD in the anterior and posterior region.^[2; 4]

Telio CAD A16 supports the reconstruction of the gingiva during the first treatment phase. The surrounding soft tissue is individually formed.^[2; 4]

The homogeneous, highly cross-linked PMMA block Telio CAD A16 features a predefined interface of size S or L for the direct cementation to a titanium bonding base (e.g. Dentsply Sirona TiBase).



Hybrid abutment crown



Telio® CAD
(PMMA)



Titanium
bonding base

Digital, individualized patient treatment in detail:



Clinical situation: Preparation for the digital, intraoral impression taking



Temporary hybrid abutment crown made of Telio® CAD A16



Seated Telio® CAD A16 restoration



Optional: Design of the emergence profile by composite layering

...to the final implant-supported IPS e.max[®] CAD restoration

Once a permanent solution is required, IPS e.max[®] CAD can be used to fabricate individual, implant-supported hybrid structures for single-tooth restorations using CAD/CAM technology.^[3-6]

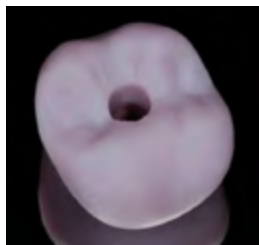
Depending on the indication, a tooth-shaded hybrid abutment with separate crown or a monolithic hybrid abutment crown can be fabricated. The particularly strong (530 MPa*)^[7] lithium disilicate glass-ceramic ties in seamlessly with the temporary Telio CAD restoration.

The IPS e.max CAD blocks A14 and A16 feature a predefined interface of size S or L for the direct cementation of the restoration to a titanium bonding base (e.g. Dentsply Sirona TiBase).

* Average biaxial flexural strength, over a period of 10 years, R&D Ivoclar Vivadent, Schaan, Liechtenstein



Shaped emergence profile after removal of the temporary



Milled abutment crown made of IPS e.max[®] CAD



Clinical try-in



Final, seated IPS e.max[®] CAD hybrid abutment crown

Source: Dr L. Enggist / Dr Stephanie Huth, Ivoclar Vivadent AG

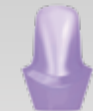
The permanent restoration – flexibility during treatment

Hybrid abutment and hybrid abutment crown made of IPS e.max CAD:

- Excellent fit due to CAD/CAM processing technology^[1, 3]
- Esthetic restorations due to tooth-shaded hybrid abutment
- Hybrid abutment crown (2-in-1) offers functionality and efficiency^[1, 5-6]
- Good biocompatibility with oral soft tissue^[5]



Hybrid abutment



IPS e.max[®] CAD MO or LT (ceramic structure)



Titanium bonding base



Hybrid abutment crown



IPS e.max[®] CAD LT (ceramic structure)



Titanium bonding base

Multilink® Hybrid Abutment – strong bond and esthetics

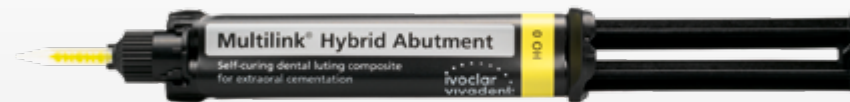
Telio® CAD and IPS e.max® CAD restorations are cemented to the titanium bonding base in only a few steps.

Multilink® Hybrid Abutment

The self-curing luting composite Multilink Hybrid Abutment is used for the permanent cementation of ceramic and PMMA structures made of e.g. IPS e.max CAD or Telio CAD to titanium bonding bases.

This results in:

- a permanent cementation due to high bond strength values;^[4-6]



SR Connect

The bonding agent conditions the temporary restoration made of Telio CAD A16 and prepares it for the cementation with Multilink Hybrid Abutment.



Monobond® Plus

The universal primer conditions the titanium bonding base and IPS e.max CAD restoration and prepares both for the cementation with Multilink Hybrid Abutment.



References

- [1] Y. Zhang, J. Tian, D. Wei, P. Di, Y. Lin, Quantitative clinical adjustment analysis of posterior single implant crown in a chairside digital workflow: A randomized controlled trial, *Clin. Oral. Implants. Res.* 2019, 30, 1059-1066.
- [2] A. Kurbad, Provisional polymer-based CAD/CAM implant superstructures. CAD/CAM-basierte Implantatsuprastrukturen auf Polymerbasis als temporäre Versorgung, *Int. J. Comput. Dent.* 2014, 17, 239-251.
- [3] R. Watzke, Designvalidierungstestbericht IPS e.max CAD A14/A16 Blocks for CEREC/inLab, *Test Report*, Ivoclar Vivadent AG, 2020.
- [4] M.E. Çömlükoglu, N. Nizam, M.D. Çömlükoglu, Immediate definitive individualized abutments reduce peri-implant bone loss: a randomized controlled split-mouth study on 16 patients, *Clin. Oral. Investig.* 2018, 22, 475-486.
- [5] P. De Angelis, P.C. Passarelli, G. Gasparini, R. Boniello, G. D'Amato, S. De Angelis, Monolithic CAD-CAM lithium disilicate versus monolithic CAD-CAM zirconia for single implant-supported posterior crowns using a digital workflow: A 3-year cross-sectional retrospective study, *J. Prosthet. Dent.* 2019, 123, 252-256.
- [6] S. Reich, Prospective randomized controlled interventional study of chairside generated monolithic single implant supra-structures made of lithium disilicate ceramic, *Study Report*, RWTH University of Aachen, 2020.
- [7] M. Schweiger, Biaxial flexural strength of IPS e.max lithium disilicate products (CAD and Press). *Test Report*, Ivoclar Vivadent, 2016.

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