ivoclar

Everything for chairside CAD/CAM restorations

Smart solutions

for CEREC® users
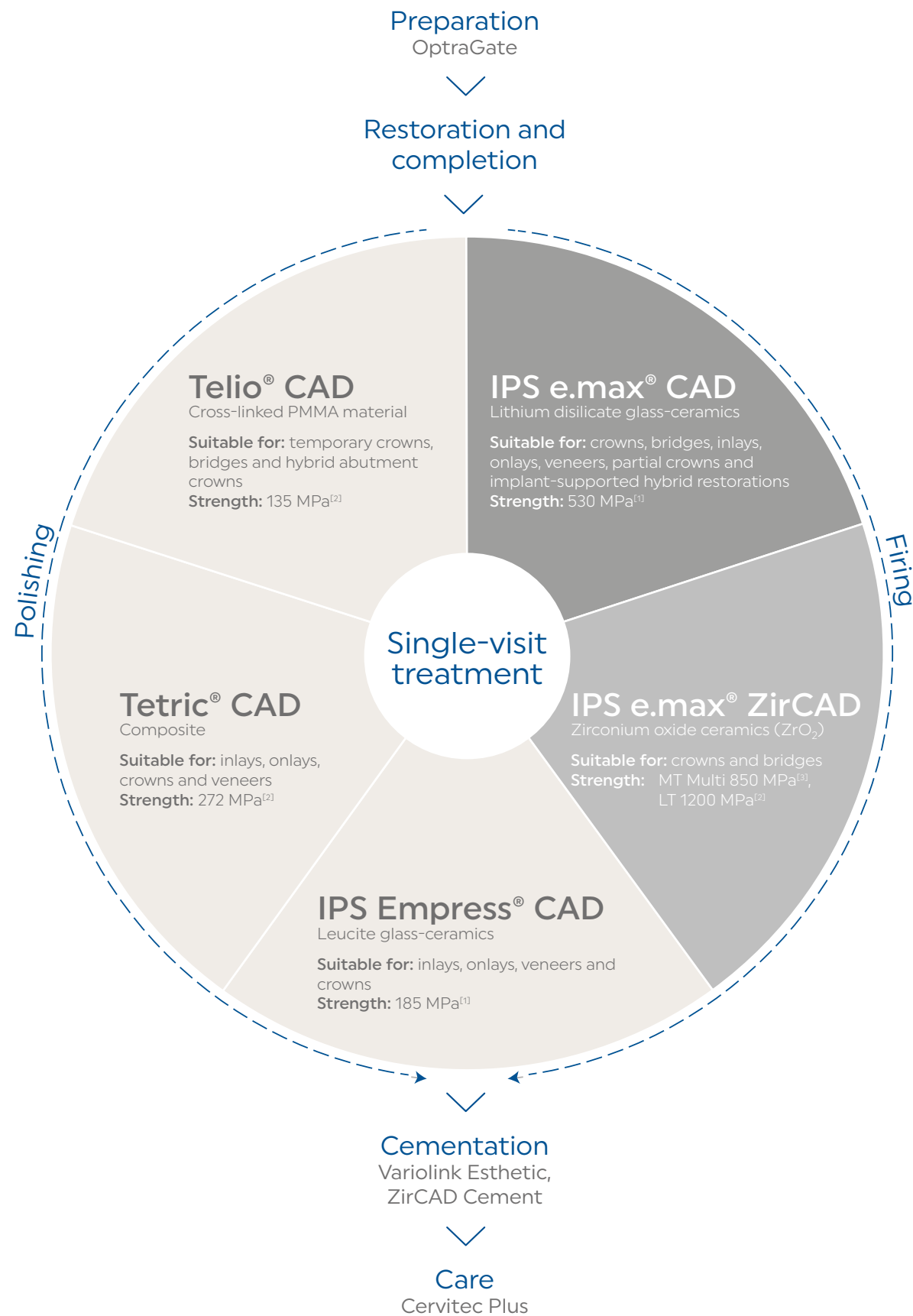
Making People Smile

All you need for restorations in a single visit

CEREC dentists have been relying on our products for many years. Our clinically proven solutions are coordinated with each other to allow a smooth workflow. They cover a diverse field of applications and offer you everything you need for dental treatments in a single visit.

Your benefits: durable, esthetic and accurate restorations paired with efficient and time-saving workflows.

✓ Coordinated products for dental treatments in a single visit

✓ High clinical evidence demonstrating the reliable quality of chairside restorations

✓ Suitable material and shade for every clinical situation

✓ Innovative auxiliaries enabling efficient dental procedures – from initial consultation to aftercare

✓ Smart solutions to speed up your practice

Efficient workflows, maximum flexibility

Preparation
OptraGate

⌄

Restoration and completion

⌄

Polishing

Firing

Telio® CAD
Cross-linked PMMA material

Suitable for: temporary crowns, bridges and hybrid abutment crowns
Strength: 135 MPa[2]

IPS e.max® CAD
Lithium disilicate glass-ceramics

Suitable for: crowns, bridges, inlays, onlays, veneers, partial crowns and implant-supported hybrid restorations
Strength: 530 MPa[1]

Single-visit treatment

Tetric® CAD
Composite

Suitable for: inlays, onlays, crowns and veneers
Strength: 272 MPa[2]

IPS e.max® ZirCAD
Zirconium oxide ceramics (ZrO$_2$)

Suitable for: crowns and bridges
Strength: MT Multi 850 MPa[3],
LT 1200 MPa[2]

IPS Empress® CAD
Leucite glass-ceramics

Suitable for: inlays, onlays, veneers and crowns
Strength: 185 MPa[1]

⌄

Cementation
Variolink Esthetic,
ZirCAD Cement

⌄

Care
Cervitec Plus

IPS e.max CAD:
Strong[1], esthetic, reliable[4-6] – and now faster than ever before[7-8]

You can grind and crystallize IPS e.max CAD posterior crowns in less than 20 minutes in your dental practice.[7-8]

IPS e.max®CAD
MT A2 / C14

ivoclar vivadent·

✓ It only takes 19:17 minutes to complete an IPS e.max CAD crown.[7-8]

✓ Grinding time is only 08:07 minutes with the fast mode of the CEREC Primemill.[7]

✓ Crystallization is efficiently achieved in 11:10 minutes using the Programat CS6 furnace.[8]
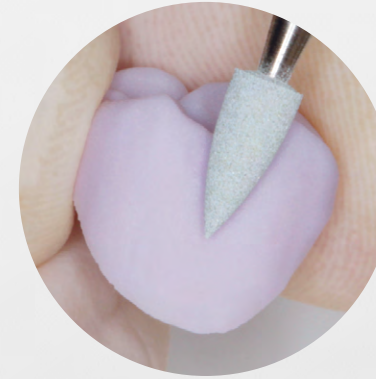
The world's best-selling glass-ceramic[9]

IPS e.max® CAD

The highly esthetic lithium disilicate glass-ceramic (LS_2) IPS e.max CAD is designed for the efficient fabrication of full-contour restorations. The material stands for maximum flexibility. It offers a versatile field of applications, a full range of processing options and a high strength of 530 MPa[1]. The material's esthetic properties and longevity have been confirmed by everyday clinical practice[4–6].
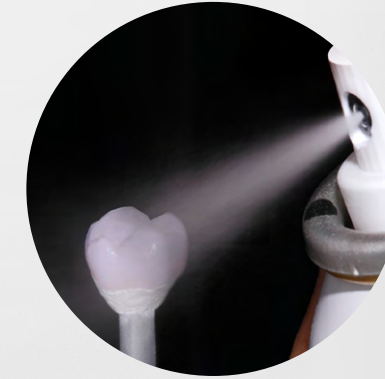
Processing options

Polishing technique

Glazing technique

Staining technique

Types of restorations:
– Crowns
– Inlays
– Onlays (e.g. occlusal veneers, partial crowns)
– Veneers
– Implant-supported hybrid restorations (hybrid abutments, hybrid abutment crowns)
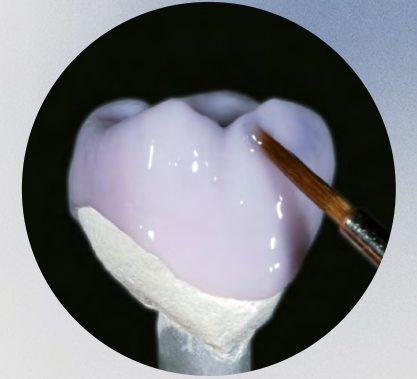– 3-unit bridges up to the second premolar as the terminal abutment

Block sizes, shades and translucency levels
– 4 block sizes (I12, C14, C16, B32) and 2 abutment block sizes (A14, A16)
– 4 translucency levels and 2 Impulse blocks (HT – High Translucency, MT – Medium Translucency, LT – Low Translucency, MO – Medium Opacity)
– Comprehensive range of shades: available in A–D and BL shades (the range of shades varies depending on the translucency level)


✓ Excellent esthetics and high biaxial strength of 530 MPa[1]

✓ 97.2% survival rate of posterior crowns over a period of 10 years[10]

✓ Efficient grinding and crystallization process for posterior crowns taking only 19:17 minutes to complete[7-8]

✓ 10-year guarantee

✓ Conventional, adhesive or self-adhesive cementation options[11-13]

High-strength zirconium oxide

IPS e.max® ZirCAD

IPS e.max ZirCAD allows the efficient fabrication of esthetic monolithic zirconia restorations using a speed sintering process.
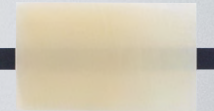
IPS e.max ZirCAD MT Multi combines two raw materials in one product: Translucent 5Y-TZP zirconium oxide imparts high levels of translucency to the incisal area. More opaque 4Y-TZP zirconium oxide provides high strength to the dentin area.
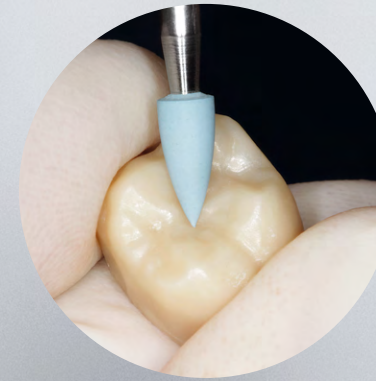
In addition, the material features a specially designed gradual progression of shade and translucency, consisting of 60% dentin, 20% transition and 20% incisal zone.*
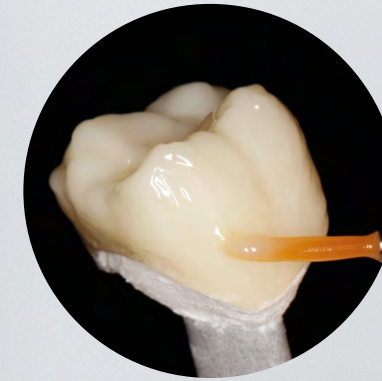
Types of restorations:
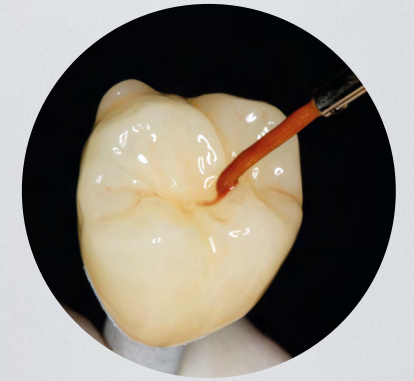– Crowns
– 3-unit bridges

Processing options

Polishing technique

Glazing technique

Staining technique

Block sizes, shades and translucency levels
– 2 block sizes (C17, B45)
– 1 translucency level and Multi block
  (LT – Low Translucency, MT Multi – Medium Translucency)
– Available in shades BL, BL1, A1, A2, A3, B1, B2, C2, D2
  (the range of shades varies depending on the translucency level)

✓ High strength of 1200 MPa (LT[2]) and 850 MPa (MT Multi[3]) enables thinner wall thicknesses and less reduction of natural tooth structure

✓ Natural progression of shade and translucency for true-to-nature esthetic results in conjunction with the MT Multi* blocks

✓ Natural fluorescence with the IPS e.max CAD Crystall./Glaze Fluo paste*

✓ 10-year guarantee

✓ Conventional, adhesive or self-adhesive cementation [14-15]

* At natural lighting conditions.
  The use of artificially generated UV or UV-like light may result in a different impression.

Highly esthetic leucite glass-ceramics

IPS Empress® CAD

IPS Empress CAD restorations have been used clinically for decades. They are characterized by their high esthetics and can be polished to a high gloss quickly and easily. A special highlight is the polychromatic CAD Multi block. This block is distinguished by a natural progression of shade and fluorescence from the dentin to the incisal area.

Types of restorations:
– Crowns
– Inlays
– Onlays (e.g. partial crowns)
– Veneers

Block sizes, shades and translucency levels
– 4 block sizes (I10, I12, C14, C14 L)
– 2 translucency levels (HT, LT) and Multi block
– Comprehensive range of shades: available in A–D and BL shades (the range of shades varies depending on the translucency level)

✔ Highly esthetic restorations, efficiently created

✔ Material that has been used clinically for decades with a flexural strength of 185 MPa. [1]

✔ Optimum adjustment of the shade to the natural tooth structure due to the chameleon effect

Efficient composite

Tetric® CAD

Tetric CAD is an esthetic composite block for creating single-tooth restorations efficiently via the CAD/CAM technique. Given the pronounced chameleon effect, Tetric CAD restorations blend in with the residual tooth structure in an optically pleasing manner. The restoration is polished after milling and then seated using an adhesive cementation protocol.

Types of restorations:
– Veneers
– Inlays
– Onlays (e.g. partial crowns, occlusal veneers)
– Crowns

Block sizes, shades and translucency levels
– 1 block size (C14)
– 2 levels of translucency (HT, MT)
– Available in shades BL, A1, A2, A3, A3.5 (the range of shades varies depending on the translucency level)

✔ True-to-nature integration into the oral environment due to the unique chameleon effect

✔ Easy and efficient processing

✔ Excellent polishability and intraoral repairability

✔ Stability even in limited layer thicknesses; restorations with thinly tapered margins possible

Cross-linked PMMA material

Telio® CAD

Telio CAD are cross-linked PMMA blocks for the efficient fabrication of long-term temporaries. As a result of an optimised manufacturing process, the restorations feature a smooth surface that can be quickly and efficiently polished.

Types of restorations:
- Temporary crowns
- Temporary bridges with up to two connected pontics
- Implant-supported temporary hybrid abutment crowns

Block sizes, shades and translucency levels
- 2 block sizes (B40 L, B55) and 1 abutment block size (A16)
- 1 translucency level (LT)
- Available in shades BL3, A1, A2, A3, A3.5, B1, B3, C2, D2

✓ High material homogeneity and process reliability result in fewer mixing errors and air entrapments compared with conventional methods

✓ Excellent polishability

✓ Shade stability and lifelike fluorescence*

✓ Economical fabrication of long-term temporaries

* At natural lighting conditions.
The use of artificially generated UV or UV-like light may result in a different impression.

Material overview

	Variolink® Esthetic		SpeedCEM® Plus	Telio® CS Link	Multilink® Hybrid Abutment*
Curing	Light-curing	Dual-curing	Self-curing with light-curing option	Dual-curing (light- and self-curing)	Self-curing*
Method	Adhesive		Self-adhesive	Temporary	Adhesive*
Conditioning	Adhese® Universal or Syntac®				Monobond® Plus and IPS® Ceramic Etching Gel
	Monobond Etch & Prime®				
IPS e.max® CAD — Lithium disilicate (LS$_2$) glass-ceramics					
Occlusal veneers	✓	✓	–	–	–
Veneers	✓	✓	–	–	–
Inlays, onlays, partial crowns	✓	✓	–	–	–
Minimally invasive crowns (1 mm)	–	✓	–	–	–
Crowns	–	✓	✓**	–	–
3-unit bridges	–	✓	✓**	–	–
Hybrid abutments	–	–	–	–	✓
Hybrid abutment crowns	–	–	–	–	✓
IPS e.max® ZirCAD — Zirconium oxide (ZrO$_2$) ceramics					
Crowns			✓		
3-unit bridges			✓		
IPS Empress® CAD — Leucite glass-ceramics					
Inlays, onlays, partial crowns	✓	✓	–	–	–
Veneers	✓	✓	–	–	–
Crowns	–	✓	–	–	–
Tetric® CAD — Composite					
Occlusal veneers	✓****	✓****	–	–	–
Veneers	✓****	✓****	–	–	–
Inlays, onlays, partial crowns	✓****	✓****	–	–	–
Crowns		✓****	–	–	–
Telio® CAD — Cross-linked PMMA material					
Temporary crowns	–	–	–	✓	–
Temporary bridges (with up to 2 connected pontics)	–	–	–	✓	–
Temporary hybrid abutment crowns	–	–	–	–	✓***

✓ Recommended product combination
– Not recommended

* Luted extraorally
** Conditioning with Monobond Etch & Prime®
*** Conditioning with SR Connect
**** Conditioning with Adhese® Universal

Please observe the corresponding instructions for use.
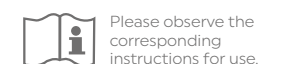
Finalizing

IPS e.max® CAD Crystall./Shades, Stains and Glaze

IPS e.max CAD Crystall./Shades/Stains and Glaze are a universal range of stains and glazes designed for IPS e.max CAD, IPS e.max ZirCAD and IPS Empress CAD.

Stains
IPS e.max CAD Crystall./Shades are dentin stains in paste form. They are optimally coordinated with Ivoclar's range of CAD/CAM materials. The intensive IPS e.max CAD Crystall./Stains are also supplied in paste form. They are suitable for imitating natural tooth characteristics.

Glaze
Glazes are available in two delivery forms: glaze spray and paste. In addition, paste formulation is available in two versions - with or without fluorescent effect.

Add-On
IPS e.max CAD Crystall./Add-On is suitable for applying minor corrections to IPS e.max CAD and IPS e.max ZirCAD restorations (e.g. to proximal contact areas).

Delivery form
– IPS e.max CAD Crystall./Shades: 0, 1, 2, 3, 4, I1, I2
– IPS e.max CAD Crystall./Stains: white, cream, sunset, copper, olive, khaki, mahogany
– IPS e.max CAD Crystall./Glaze Paste
– IPS e.max CAD Crystall./Glaze Paste Fluo
– IPS e.max CAD Crystall./Glaze Spray
– IPS e.max CAD Crystall./Glaze Liquid
– IPS e.max CAD Crystall./Add-On: Dentin, Incisal
– IPS e.max CAD Crystall./Add-On Liquid

✓ Reduced inventory, reduced costs – a single range suitable for IPS e.max CAD, IPS e.max ZirCAD and IPS Empress CAD

✓ Familiar application and consistently high quality

✓ Glaze with and without fluorescent effect*

* At natural lighting conditions.
  The use of artificially generated UV or UV-like light may result in a different impression.

Firing

Programat® chairside furnaces

Clinicians and dental technicians all over the world simply love the high quality standard, homogeneous firing results and straightforward operation that the Programat furnaces offer alongside many other innovative features. It is not without reason that the Programat furnaces are among the best-selling ceramic furnaces[9].
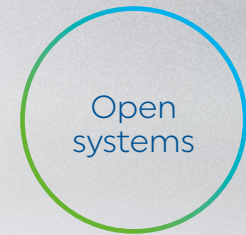
Speed programs

✔ Specially developed Speed programs will crystallize the IPS e.max CAD materials in extremely short times.

Easy operation

✔ Our user-friendly chairside furnaces are intuitive to operate with a large colour touchscreen.

Long-standing track record of success

✔ The 40-year success story of the Programat series is evidence for the high quality standard of these furnaces.

Open systems

✔ In addition to the preinstalled Ivoclar programs, indivdual programs can easliy be created.
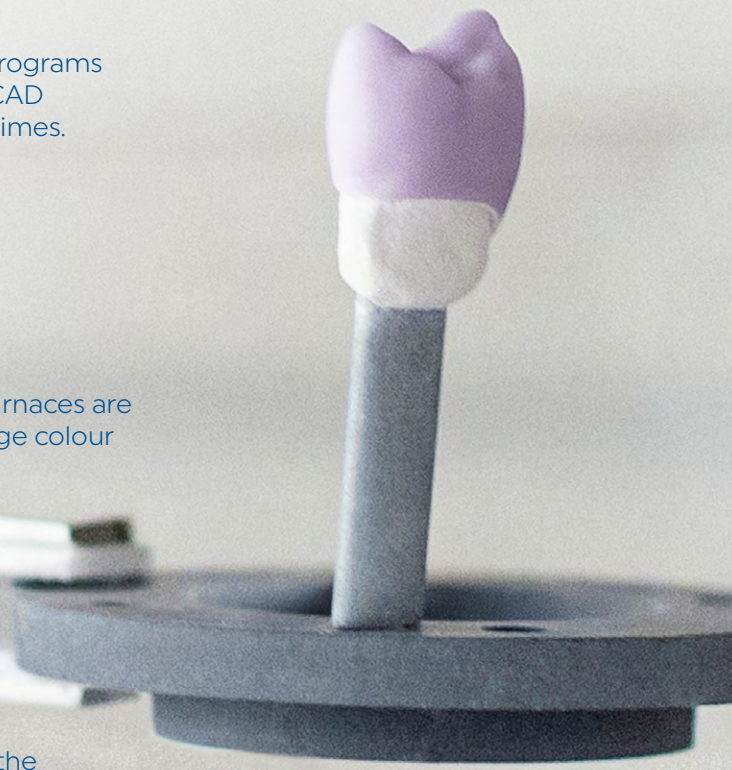
Programat CS6
Crystallization, sintering and glazing furnace

Speed up your practice

IPS e.max CAD
in just over **11 minutes**[8]

IPS e.max ZirCAD LT
in just **22 minutes**[16]

Programat CS2
Crystallization and glazing furnace

IPS e.max CAD
in **15 minutes**[17]

Reliable cementation

Variolink® Esthetic

Variolink Esthetic is a versatile and esthetic light- and dual-cure luting composite for the permanent placement of all types of restorations and materials.

Applied in combination with Monobond Etch & Prime, the first self-etching glass-ceramic primer worldwide, Variolink Esthetic produces high bond strength values on restorations made of glass-ceramic [12].

Suitable for the cementation of restorations made of:
– Lithium disilicate
– Glass-ceramic
– Composite resin

Coordinated with **IPS e.max CAD** [11]

✓ Well-balanced and compact Effect shade range

✓ Proven shade stability [18]

✓ User-friendly application protocol – easy, controlled clean-up of excess material [19]

✓ Available in a light-curing version (LC) and in a dual-curing version (DC)

ZirCAD® Cement

ZirCAD Cement is a new high-performance resin-modified glass ionomer cement designed for everyday use. Easy clean-up of excess cement and a straightforward application protocol ensure predictable cementation results in every clinical situation. There is no need for applying an additional primer or conditioning.

Suitable for the cementation of restorations made of:
– Zirconia

✓ Quick and easy clean-up of excess material in the gel phase; can be accelerated with optional tack cure

✓ Continuous fluoride release based on a special formulation

✓ Resistant against humidity and acids

✓ Single-product cement without primer or conditioner

Implant prosthetics

From temporary to permanent restoration

Blocks made of IPS e.max CAD and Telio CAD come with a pre-fabricated interface for the extraoral cementation to a titanium bonding base, e.g. Dentsply Sirona TiBase. This allows implant-supported hybrid abutments and hybrid abutment crowns to be created at chairside using clinically proven products[20-22]. Cementation is achieved with the self-curing Multilink Hybrid Abutment luting composite.

Temporary
Telio CAD (A 16)

- ✓ Straightforward design of the emergence profile [22; 23]
- ✓ Visualization of the permanent restoration
- ✓ Pre-fabricated interface in size S or L for Dentsply Sirona TiBase

Permanent restoration
IPS e.max® CAD (A14, A16)

- ✓ Esthetic restoration due to tooth-coloured hybrid abutments
- ✓ Hybrid abutment crown (2-in-1) offers functionality and efficiency[20-21]
- ✓ Good biocompatibility with oral soft tissues[19]
- ✓ Pre-fabricated interface in size S or L for the Dentsply Sirona TiBase

Cementation
Multilink Hybrid Abutment

- ✓ Permanent cementation based on high bond strength values[20, 22]
- ✓ Optimum esthetics due to high opacity
- ✓ Easy handling with the convenient automix syringe

Care
Implant care products

- ✓ For the different phases of the implant treatment procedure and aftercare
- ✓ Coordinated range of products for assuring the long-term quality of valuable implant restorations

Maximizing the efficiency of day-to-day tasks in the dental practice

Alongside our proven blocks, it is our range of useful auxiliaries that make our products so attractive for CAD/CAM dentists all over the world. Everything out of one hand for restorations in a single visit.

Ivoclar Smile
for visualizing the result of the esthetic makeover in advance of the treatment

OptraGate
for retracting the lips and cheeks easily and gently over a large area

IPS e.max Shade Navigation App
for selecting the appropriate block for the given application

OptraGloss
for the efficient polishing of ceramic and composite resin restorations

CNS – Cementation Navigation System
for finding the most suitable luting material for your cementation needs

Adhese Universal
for convenient direct intra-oral application, compatible with all etching techniques

Bluephase PowerCure
for reliable curing results due to high light intensity

Cervitec Plus
for protecting high-quality restorations from harmful bacteria

References

[1]   Average biaxial flexural strength; outcome after more than 10 years of ongoing quality testing, R&D Ivoclar, Schaan.
[2]   Typical mean value for flexural strength, R&D Ivoclar, Schaan
[3]   Dentin, typical mean value for flexural strength, R&D Ivoclar, Schaan
[4]   Fasbinder D. J et al., Study report, 2017b.
[5]   Rauch A et al., Clin. Oral Investig. 2018, 22, p. 1763-1769.
[6]   Boldt J, Spitznagel F. A, Dtsch. Zahnaerztl. Z. 2017, 72 (4), p. 319-325.
[7]   Average grinding time for three IPS e.max CAD posterior crowns (16) processed in the fast mode of a CEREC Primemill, R&D Ivoclar, Schaan.
[8]   Programat CS6, Superspeed crystallization, 11:10 minutes, IPS e.max CAD HT, MT, LT, IPS e.max CAD Crystall./ Glaze Spray or Self Glaze, max. 2 restorations, R&D Ivoclar, Schaan.
[9]   Based on global sales figures.
[10] The survival rate of monolithic IPS e.max CAD posterior crowns was evaluated with the Kaplan-Meier method. The failure rate refers to technical failures such as fractures and chipping, R&D Ivoclar, Schaan.
[11] Aslan Y. U et al., Eur. J. Prosthodont. Restor. Dent. 2019 (27), p. 131-140.
[12] Lyann S. K et al., J. Adhes. Dent. 2018 (20), p. 261-268.

[13] Schmitz JH, Beani M, J. Adv. Prosthodont. 2016 (115), p. 678-683.
[14] The Dental Advisor, 2016, 33(6), p. 10-11.
[15] Sasse M et al., Int. J. Comput. Dent. 2013, 16, p. 109-18.
[16] Programat CS6, Speed sintering, 22:00 minutes (without pre-drying), IPS e.max ZirCAD LT and IPS e.max ZirCAD MT Multi, processing a maximum of three crowns or one 3-unit bridge per run, R&D Ivoclar, Schaan.
[17] Programat CS2 and Programat CS3, Speed crystallization, approx. 14:55 minutes, IPS e.max CAD HT, MT, LT, IPS e.max CAD Crystall./ Glaze spray or polishing technique (self-glaze), R&D Ivoclar, Schaan.
[18] Gianasmidis A, DZW 2016 (38), p.14-15, additional data on file.
[19] Gianasmidis A, DZW 2016 (39), p.18-19, additional data on file.
[20] De Angelis P et al., J. Prosthet. Dent. 2019, 123, 252-256.
[21] Zhang Y et al., Clin. Oral Implant. Res. 2019, 30, 1059-1066.
[22] Çömlèkoglu M. E et al., Clin. Oral Investig. 2017, 2018, 22, 475-486.
[23] Kurbad A, Int. J. Comput. Dent. 2014, 17, 239-251.
Additional data on file.

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