ivoclar

A variety of possibilities for your practice

IPS e.max® CAD
IPS e.max® ZirCAD

The proven all-ceramic for your CAD/CAM dental practice

Making People Smile

Reliable and esthetic all-ceramics

IPS e.max® has been a firm favourite with dentists and patients for many years. Over 170 million restorations have already been placed. In other words: A patient is treated with an IPS e.max restoration every 10 seconds [1].

Both materials – IPS e.max CAD (lithium disilicate glass-ceramic) and IPS e.max ZirCAD (zirconium oxide ceramic) – offer a variety of possibilities for your chairside treatments.

IPS e.max CAD

- The world's best-selling glass ceramic [1]
- A survival rate of 97.2% for posterior crowns over a period of 10 years [2]
- Clinically proven for over 10 years [3-5]
- Maximum flexibility: Adhesive, self-adhesive or conventional cementation [6-8]
- 10-year guarantee

IPS e.max ZirCAD

- The high degree of strength (1200 MPa for LT and 850 MPa for MT Multi) enables thinner walls and minimally-invasive tooth preparation [9]
- Realistic progression of shade and translucency for natural esthetics with MT Multi*
- Maximum flexibility: Conventional, adhesive or self-adhesive cementation [10-11]
- 10-year guarantee

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

IPS e.max® CAD

The reliable lithium disilicate glass-ceramic [3-5]

IPS e.max® CAD is the world's best-selling glass-ceramic [1]. From this high-strength material, a variety of restorations can be efficiently fabricated with proven esthetic properties and a high level of flexural strength of 530 MPa [12].

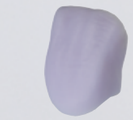
The long-term clinical success and scientifically documented results are impressive. Hardly any other dental material offers this level of clinical reliability [3-5].

Processing options

The blue restoration can be efficiently:
– polished and then crystallized
– glazed and crystallized in a single step
– stained, glazed and crystallized in a single step.

The IPS e.max CAD blocks are complemented by the IPS e.max CAD Crystall./ universal stains and glaze range.

Large variety of restorations



Crowns

Veneers

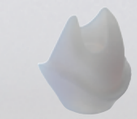
Occlusal veneers (table tops)
≥1.0 mm

Inlays

Onlays

Partial crowns

3-unit bridges
in the anterior and posterior region
(2nd premolar as the terminal abutment)



Hybrid abutments
in the anterior and posterior region as a single-tooth restoration

Hybrid abutment crowns
in the anterior and posterior region

IPS e.max® CAD

Reliable

Clinically proven for over 10 years [3-5]

IPS e.max CAD has been proven clinically for over 10 years. The durability of the blue block has been confirmed in daily clinical practice [3-5]. The probability of fracture after 15 years of a premolar crown made from IPS e.max CAD is less than 1% [13].

High strength

Excellent mechanical properties

Over 10 years of continuous quality testing shows: IPS e.max CAD provides a high level of biaxial flexural strength of 530 MPa [12]. The values for biaxial strength as well as those for fracture toughness of 2.11 MPa • $m^{1/2}$ [14] make dentists and patients happy.

Esthetic

The right block for every patient

Flexible work is possible thanks to a comprehensive range of IPS e.max CAD blocks. The excellent shade adaption due to the wide range of shades and translucency levels ensures maximum esthetics. IPS e.max CAD restorations have already been placed a million times over [1].

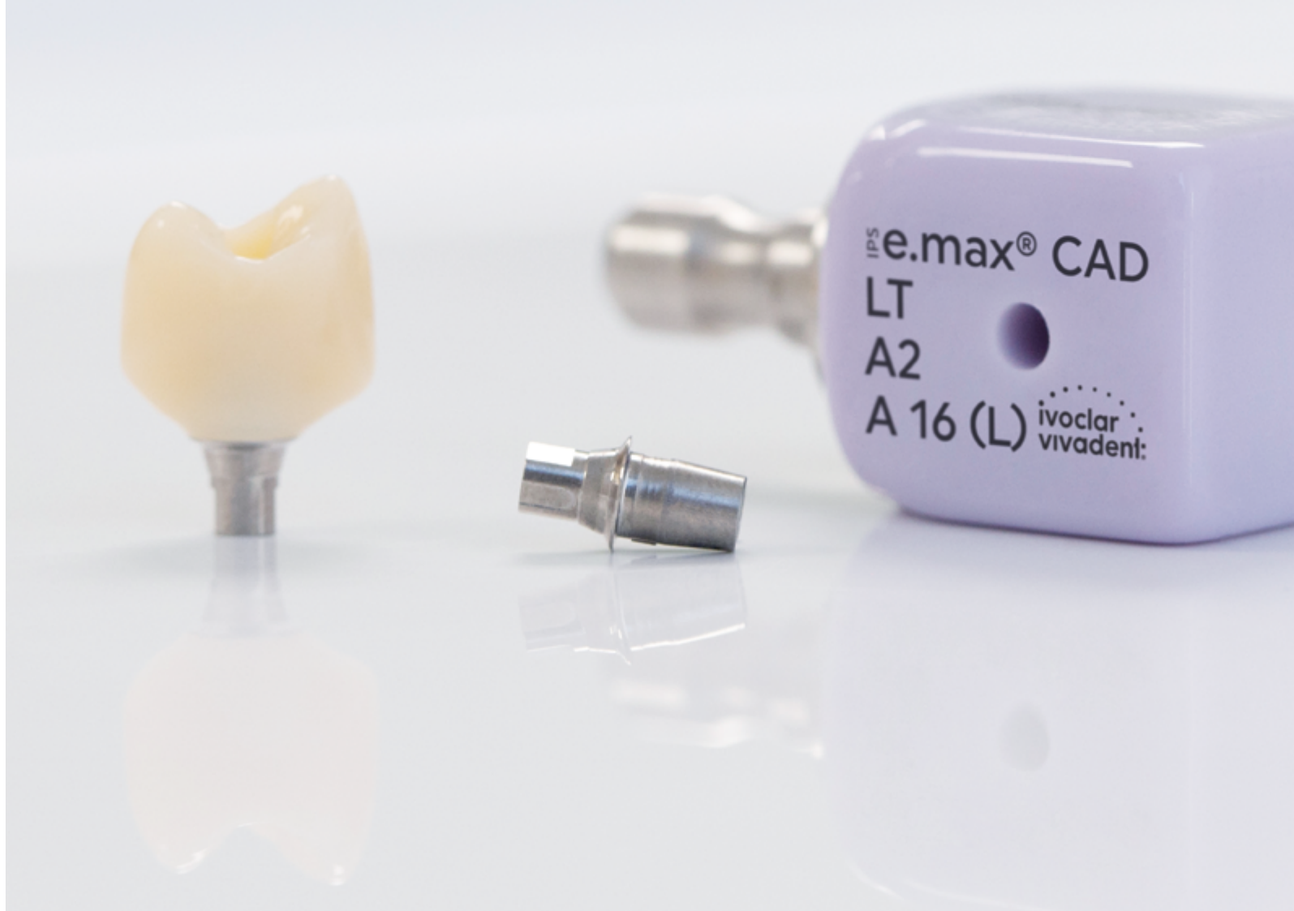
Efficient

Efficient fabrication

IPS e.max CAD enables efficient and fast workflows. Together with our smart solutions based on the blue block, it provides everything you need for treatment in a single visit and speeds up your daily practice routine.

Abutment Solutions

Blocks made from IPS e.max CAD feature a prefabricated interface for extraoral cementation with the titanium bonding base (Viteo Base Ti or Dentsply Sirona TiBase). This enables clinically proven products to be used for chairside fabrication of implant-supported hybrid abutments and hybrid abutment crowns [15-17].



IPS e.max® ZirCAD

The high-strength zirconium oxide ceramic

With IPS e.max ZirCAD, speed sintering can be used to efficiently fabricate esthetic monolithic zirconia restorations in the dental practice. Thanks to high flexural strength as well as superior fracture toughness, wall thickness can be significantly reduced. As a result, minimally-invasive tooth preparation and conventional cementation are possible.

Types of restoration

Full-contour crowns

Full-contour 3-unit bridges

Processing options

After sintering you can either:
– glaze and fire
– optionally stain, glaze and fire
– polish

IPS e.max® ZirCAD MT Multi

IPS e.max ZirCAD MT Multi is a special combined material that blends two classes of materials: Translucent 5Y-TZP zirconium oxide imparts high levels of translucency to the incisal area. More opaque 4Y-TZP zirconium oxide provides a high strength of 850 MPa [9] to the dentin area.

The realistic progression of shade and translucency from natural opacity in the dentin region to translucency in the incisal region as well as the corresponding shade effect provide IPS e.max ZirCAD MT Multi with maximum, natural-looking esthetics even without characterization.*

Two basic ingredients for a realistic, natural progression of translucency*

Natural

Realistic, natural progression of translucency

A natural progression of translucency means there is a high degree of translucency in the incisal region and high opacity in the dentin region – similar to that of natural dentition.*

High strength

High flexural strength

Compared to other multi-zirconia materials, IPS e.max ZirCAD MT Multi offers a high degree of flexural strength of 850 MPa [9]. Conventional 3Y-TZP materials such as IPS e.max ZirCAD LT offer greater flexural strength but are more opaque in terms of esthetics.

Fluorescent

Fluorescent effect*

Conventional ZrO_2 materials are not fluorescent. A fluorescent effect can be applied to IPS e.max ZirCAD restorations in combination with the IPS e.max CAD Crystall./ glaze paste Fluo.

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

The IPS e.max® Guarantee

Trust builds confidence

The demands on today's dental products continue to grow. Dental professionals need to heighten their productivity and require continuous reliability in order to maintain their competitive edge.

To maximize the trust that you place in IPS e.max, we offer a 10-year guarantee for your IPS e.max restorations.

The guarantee covers IPS e.max products made from zirconia (IPS e.max ZirCAD) and lithium disilicate (IPS e.max Press and IPS e.max CAD) as well as layering ceramics (IPS e.max Ceram).

More information:
www.ivoclar.com/ips-e.max-guarantee

Adapted to your practice

Comprehensive range of shades and restorations

IPS e.max CAD and IPS e.max ZirCAD blocks offer a variety of translucency levels, shades and block sizes*. This allows you to work flexibly – using the appropriate block in each case in the required restoration shade.

The right holders for your system

IPS e.max blocks are available with holders for the authorised chairside CAD/CAM systems CEREC® (Dentsply Sirona), PlanMill® (Planmeca) and ceramill® (Amann Girrbach).

Authorized for IPS e.max®
ivoclar

	Lithium disilicate glass-ceramic (LS_2)					Zirconium oxide ceramic (ZrO_2)	
	IPS e.max CAD HT	IPS e.max CAD MT	IPS e.max CAD LT	IPS e.max CAD MO	IPS e.max CAD Impulse	IPS e.max ZirCAD MT Multi	IPS e.max ZirCAD LT
Block / disc							
Translucency [18]							
	High translucency for natural integration	Medium translucency	Brightness and chroma	Medium opacity	"Natural" opalescent effect	Progression of shade and translucency from the dentin to the incisal region	Low translucency
Restoration types	Thin and occlusal veneers, veneers, inlays, onlays, partial crowns, crowns, 3-unit bridges	Thin and occlusal veneers, Veneers, partial crowns, crowns	Veneers, partial crowns, crowns, bridges [19], hybrid abutments and hybrid abutment crowns	Frameworks on lightly stained dies, crowns [20] and hybrid abutments	Thin, occlusal veneers, veneers	Crowns, 3-unit bridges	Crowns, 3-unit bridges
Shades*	20 (4 Bleach BL, 16 A–D)	7 (BL2, BL3, BL4, A1, A2, A3, B1)	20 (4 Bleach BL, 16 A–D)	5 (MO 0, MO 1, MO 2, MO 3, MO 4)	2 (Opal 1, Opal 2)	8 (BL1, A1, A2, A3, B1, B2, C2, D2)	8 (BL, A1, A2, A3, B1, B2, C2, D2)
Sizes*	I 12, C 14, B 40, B 40L	C 14	I 12, C 14, C 16, A 14, A 16, B 32	C 14, A 14	C 14	C 17, B 45	C 17, B 45
Flexural strength	530 MPa [12]					850 MPa [9]	1200 MPa [9]
Fracture toughness	2.11 MPa · $m^{1/2}$ [14]					3.6 MPa · $m^{1/2}$ [21]	5.1 MPa · $m^{1/2}$ [21]
Wall thickness: Anterior tooth Posterior tooth	1 mm [22] | 1.2 mm and incisal crown third 1.5 mm [23] 1 mm [22] | 1.5 mm [23]					0.8 mm 1.0 mm	0.4 mm 0.6 mm
Cementation	Adhesive, self-adhesive [24] or conventional [24]					Adhesive, self-adhesive or conventional	
Blasting	–					Cleaning with Al_2O_3 at max. 1 bar	
Conditioning	e.g. Monobond Etch & Prime*					– [25]	
Cementation	e.g. Variolink* Esthetic					e.g. ZirCAD* Cement	

* The range of products varies according to the different CAD/CAM systems

Every 10 seconds, an IPS e.max restoration is placed[1].

How many patients have you already made smile using IPS e.max?

References

[1] Based on international sales figures.
[2] The survival rate of monolithic IPS e.max CAD posterior crowns was evaluated using the Kaplan-Meier method. The failure rate refers to technical failures such as fractures and chipping, R&D Ivoclar, Schaan.
[3] Fasbinder et al., Study report, 2017b.
[4] Rauch A et al., Clin. Oral Investig. 2018, 22, p. 1763-1769.
[5] Boldt J, Spitznagel F. A, Dtsch. Zahnärztl. Z. 2017, 72 (4), p. 319-325.
[6] Aslan Y. U et al., Eur. J. Prosthodont. Restor. Dent. 2019 (27), p. 131-140.
[7] Lyann S. K et al., J. Adhes. Dent. 2018 (20), p. 261-268.
[8] Schmitz JH, Beani M, J. Adv. Prosthodont. 2016 (115), p. 678-683.
[9] Typical mean value for flexural strength, R&D Ivoclar, Schaan.
[10] The Dental Advisor, 2016, 33(6), p. 10-11.
[11] Sasse M et al., Int J. Comput Dent. 2013, 16, p. 109-18.
[12] Mean biaxial flexural strength, result following more than 10 years of continuous quality testing, R&D Ivoclar, Schaan.
[13] Taking FEM simulations and SPT (Strength-Probability-Time) diagrams into consideration, R&D Ivoclar, Schaan.
[14] Hill T, Tysowsky G, AADR/CADR Annual Meeting: 1672, 2016.
[15] Çömlékoglu M. E et al., Clin. Oral Investig. 2017, 2018, 22, 475-486.
[16] Zhang Y et al., Clin. Oral Implant. Res. 2019, 30, 1059-1066.
[17] De Angelis P et al., J. Prosthet. Dent. 2019, 123, 252-256.
[18] Thickness of test sample: 1 mm, R&D Ivoclar, Schaan.
[19] Up to the second premolar as a distal abutment
[20] Up to the second premolar
[21] Dentin, measurement of the fracture toughness using the Vickers indentation test method, R&D Ivoclar, Schaan.
[22] If the adhesive technique is used
[23] Adhesive, self-adhesive or conventional cementation
[24] Crowns and bridges
[25] Monobond Plus, if Multilink Automix is used
Additional data on file.

Everything you need for chairside treatments

Consult

Make your patients happy with IvoSmile

Prepare

Relaxed and efficient treatment with OptraGate

Select

Choose from IPS e.max CAD and IPS e.max ZirCAD all-ceramics

Fabricate

Mill with the authorized milling systems of our longstanding cooperation partners

Crystallize, sinter and glaze

Efficient completion with Programat CS6

Place

Reliable placement using the appropriate luting composite or cement

Care

Lower the number of bacteria on high quality restorations with Cervitec Plus

Ivoclar Vivadent AG | Bendererstrasse 2 | 9494 Schaan | Liechtenstein
Tel. +423 235 35 35 | Fax +423 235 33 60

ivoclar.com

721205/EN/2022-05