



IPS **e.max**®

ZirCAD

The innovative
zirconium oxide

All ceramic,
all you need.

Extraordinary zirconium oxide

IPS e.max® ZirCAD is the impressive zirconium oxide to fulfil your requirements. It unites natural esthetics with mechanical resilience to an outstanding degree. With a perfect balance between thin wall thickness and optimal translucency, tooth preserving and natural-looking restorations can be produced.

The comprehensive portfolio provides modern laboratories with versatility and flexibility and it therefore allows freedom of individuality and high quality to be achieved.

Exceptional esthetics

as expected from IPS e.max

High strength

850 – 1200 MPa¹

Efficient production

life-like Multi translucency

Utmost reliability

IPS e.max ZirCAD is based on the IPS e.max all-ceramic system, which dentists, dental technicians and patients have been relying on for many years. It is therefore the product of extensive knowledge and experience and exceptional passion.



The only
zirconium oxide
that can be called
IPS e.max[®]



Universal areas of application

IPS e.max ZirCAD provides a wide range of solutions. The zirconium oxide can be used for a wide variety of indications: From the minimally invasive single, anterior tooth crown to large-spanned bridges and frameworks.



Full-contour
crowns



Full-contour 3-unit
bridges



Full-contour
4- and multi-unit
bridges with max.
2 pontics



Crown copings



3 unit- and multi-unit
bridge frameworks
with max.
2 pontics

Multi-translucent mill – sinter – glaze – done

IPS e.max ZirCAD MT Multi is extremely versatile. The high-strength polychromatic and multi-translucent material is perfectly suited for producing efficient, esthetic and highly stable restorations – from crowns to 3-unit posterior bridges.

A particular feature is the composition of two material classes in one restoration: In the incisal area, the translucent class 5Y-TZP zirconium oxide ensures a high level of translucency. At the same time, the more opaque class 4Y-TZP zirconium oxide in the dentin region provides a high level of stability (850 MPa¹) – e.g. for minimally invasive solutions.

The natural-looking progression of shade and translucency, from a natural dentin opacity to a translucency typical of the incisal region and from a dentin shade effect to an enamel shade effect, impart the monolithic restorations with a natural esthetic appearance, even without additional characterization.



¹ Mean biaxial flexural strength, R&D Ivoclar Vivadent, Schaan, Liechtenstein

The combination of two translucency levels creates an outstandingly realistic result in just a few working steps - and this together with high stability.

Two raw materials for a realistic, natural level of translucency

20% incisal zone
5Y-TZP

20% transition zone
4Y-TZP & 5Y-TZP







60% dentin zone
4Y-TZP



Rich with possibilities

The portfolio of the versatile zirconium oxide is comprehensive and well thought out. The coordinated shade and translucency system and the wide range of possibilities provides a high level of individual freedom.

The varying degrees of translucency are suitable for a wide range of processing techniques and indications.

	Polychromatic	Monochromatic	
	IPS e.max ZirCAD MT Multi	IPS e.max ZirCAD MT	IPS e.max ZirCAD LT
Product			
Translucency	 Shade and translucency progression (medium and high translucency) from the dentin to the enamel	 Medium translucency	 Low translucency
Material class Translucency value ¹	Enamel: 5Y-TZP 49% Dentin: 4Y-TZP 45%	4Y-TZP 45%	3Y-TZP 41%
Shades	8 (BL1, A1, A2, A3, B1, B2, C2, D2)	8 (BL1, A1, A2, A3, B1, B2, C2, D2)	15 (0, 1, 2, 3, 4, sun, sun chroma, BL1, A1, A2, A3, B1, B2, C2, D2)
Sizes	Discs: Ø 98.5 mm in 16, 20 mm Blocks: C17, B45	Discs: Ø 98.5 mm in 14, 18 mm	Discs: Ø 98.5 mm in 10, 12, 14, 16, 18, 20, 25 mm Blocks: C17, B45
Flexural strength ²	850 MPa	850 MPa	1,200 MPa
Fracture toughness ³	3.6 MPa • m ^{1/2}	3.6 MPa • m ^{1/2}	5.1 MPa • m ^{1/2}
Minimum wall thickness (crown)	Anterior: 0.8 mm Posterior: 1.0 mm	Anterior: 0.8 mm Posterior: 1.0 mm	Anterior: 0.4 mm Posterior: 0.6 mm
Indications	Full-contour crowns Full-contour 3-unit bridges, Implant-supported superstructures	Full-contour crowns Full-contour 3-unit bridges, Implant-supported superstructures	Full-contour crowns Full-contour 3-unit bridges Full-contour, 4-unit to multi-unit bridges with max. 2 pontics Crown frameworks 3-unit to multi-unit bridge frame- works with max. 2 pontics Implant-supported superstructures
Technique	Staining technique Infiltration with MT Colouring and Effect Shade liquids Cut-back technique	Staining technique Infiltration with MT Colouring and Effect Shade liquids Cut-back technique	Staining technique Infiltration with LT Colouring and Effect Shade liquids Cut-back technique Layering technique Press-over technique

¹Translucency values according to raw material manufacturers for white zirconium oxide for a test sample thickness of 0.5 mm.

² Mean biaxial flexural strength, R&D Ivoclar Vivadent, Schaan, Liechtenstein

³ Measurement of fracture resistance using the Vicker's testing procedure: R&D Ivoclar Vivadent, Schaan, Liechtenstein (2017)

The range of blocks varies depending on the CAD/CAM system and block sizes (depending on the software solutions).

The range of shades and sizes offered may vary from country to country.

IPS e.max[®] Shade Navigation App

IPS e.max ZirCAD MO



Medium opacity

3Y-TZP | 35%

5
(0, 1, 2, 3, 4)

Discs: Ø 98.5 mm
in 10, 14, 18, 20, 25 mm
Blocks: C13, C15, C15L, B40, B40L,
B55, B65, B65L-17, B85L-22

1,150 MPa

5.1 MPa • m^{1/2}

Anterior: 0.4 mm
Posterior: 0.6 mm

Crown frameworks
3-unit to multi-unit bridge frame-
works with max. 2 pontics
Implant-supported
superstructures

Layering technique
Press-over technique
CAD-on technique



Five easy steps
to finding the
correct shade and
translucency level



Complete confidence
in this innovative
material



nce



3-unit anterior bridge (21-23) and crowns (11-13):
IPS e.max® ZirCAD MT Multi, staining technique
Dr F. Shull / M. Roberts, USA

“IPS e.max ZirCAD MT Multi restorations offer a solution where both high esthetics and high strength are required. A marvellous material.”

Matt Roberts
USA

Individualized esthetics

Clinical cases
with exquisite,
natural-looking
outcomes



Two three unit bridges (11 – 13 and 21 – 23):
IPS e.max® ZirCAD MT Multi, staining technique
Dr Roberto Montauti / Michele Temperani, Italy



Crowns (45, 46):
IPS e.max® ZirCAD MT Multi, staining technique
Dr Tatiana Repetto-Bauchage / Dr Lukas Eggist /
Marie Reinhardt, Ivoclar Vivadent AG, Schaan, Liechtenstein

Superb
quality

MT Multi:
clearly superior

850 MPa²

naturally

reliable

¹ Biaxial flexural strength according to manufacturer information

² Mean biaxial flexural strength, R&D Ivoclar Vivadent, Schaan, Liechtenstein

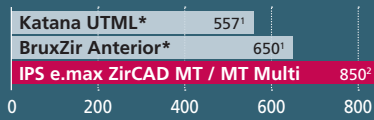
³ Measurement of fracture resistance using the Vicker's testing procedure:
R&D Ivoclar Vivadent, Schaan, Liechtenstein (2017)

⁴ Thickness of the test sample: 1 mm, R&D Ivoclar Vivadent, Schaan, Liechtenstein, (2018)

⁵ Measurement of fatigue resistance, R&D Ivoclar Vivadent AG, Schaan, Liechtenstein (2018)

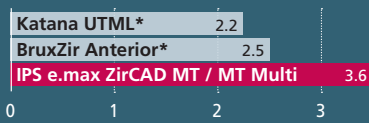
* These trademarks are not registered trademarks of Ivoclar Vivadent AG.

Flexural strength MPa

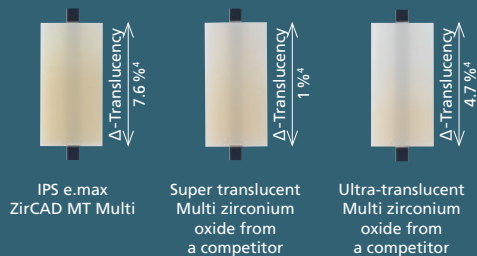


High flexural strength is of major importance for load bearing restorations. It is measured as the load or force at the point of fracture.

Fracture strength [MPa · m^{1/2}]³



A high fracture toughness is achieved due to the resistance to crack propagation. The higher the reading, the better the long-term clinical behaviour.

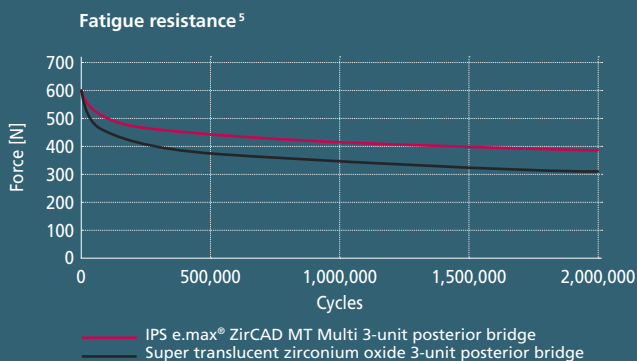


Superior strength

IPS e.max has a high level of flexural strength and fracture toughness. In this respect, the material is superior to its competitors in the material class of 5Y-TZP.

Realistic, natural progression of translucency

A natural progression of translucency means there is a high degree of translucency in the incisal area and high opacity in the dentin area – an appearance resembling that of natural dentition. The difference in translucency between the dentin and incisal areas in IPS e.max ZirCAD MT Multi is 7.6 %.



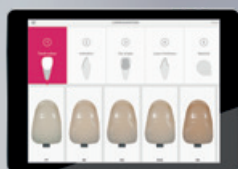
Tested bridge dimensions:
Posterior bridge 4x4 mm connector, bridge anchor 1.0 mm

Complete confidence

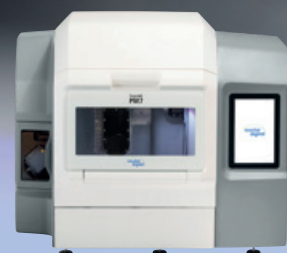
IPS e.max ZirCAD MT Multi has a high level of fatigue resistance. This suggests a low risk of failure as well as a long lifespan.⁵ Fatigue resistance defines the load limit at which a material resists dynamic stresses, without showing material fatigue or other signs of failure.

Outstanding interplay for **impressive results**

1 Simplified selection



The IPS e.max Shade Navigation App (SNA) assists you in finding the most suitable shade and translucency – for reliable and relaxed working.



7 Appropriate cementation



SpeedCEM® Plus is a self-adhesive, self-curing resin cement with optional light-curing properties. It offers the ideal combination of high performance and ease of use: ideal for zirconium oxide restorations in combination with Ivoclean®, the universal cleaning paste.

Finding your way out of the cements maze:
www.cementation-navigation.com

6 Precision characterization/

The stains and glazes of the IPS Ivocolor® assortment enable you to customize all IPS ceramic materials.



- Simplified handling due to innovative paste formulation
- High gloss at a firing temperature of only 710 °C
- Fluorescence with IPS Ivocolor Glaze Fluor

Fast, precision milling

Coordinated with IPS e.max ZirCAD: IPS e.max ZirCAD is efficiently and rapidly machined in the PrograMill PM7 milling machine to produce high precision results.

3 Creative infiltration



The A-D Colouring Liquids and Effect Shade liquids ensure that a high level of individual design can be achieved before sintering.

4 Precise sintering



The Programat® S1 1600 unites impressive esthetics and efficiency – for example, with the speed sintering programs and the Programat Dosto-Tray sintering table. The sintering programs are ideally coordinated with IPS e.max ZirCAD.

5 Perfect ceramic layers

glazing



IPS e.max Ceram is a versatile layering ceramic featuring intuitive modelling properties and excellent stability.

- Consistent layering scheme
- Harmonious shade adjustment
- Excellent firing behaviour

ipsemax.com

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passion vision innovation