

# IPS<sup>®</sup> e.max

INFORMATION FOR THE DENTIST

IPS e.max –  
one system for every indication



ivoclar<sup>®</sup>  
vivadent<sup>®</sup>  
passion vision innovation



## IPS e.max – one system for every indication

Dental patients of today are looking for more than just a healthy and functional restorative solution. Esthetics is playing an increasingly important role in their choice of dental restorations. As all-ceramics are both biocompatible and esthetic, these materials are rapidly growing in popularity.

IPS e.max allows you to offer your patients exceptionally beautiful restorations which also demonstrate high mechanical strength. You are bound to appreciate the wide range of possibilities that this innovative all-ceramic system will open up to you.



IPS e.max Ceram on IPS e.max CAD (Dr A Kurbad / K Reichel, Germany)



IPS e.max Ceram on IPS e.max Press (Dr U Brodbeck, Switzerland / J Seger, Ivoclar Vivadent, Liechtenstein)

## A sophisticated concept



Total restoration with IPS e.max  
(Prof Dr D Edelhoff / O Brix, Germany)

IPS e.max is the sum of many good ideas. The system allows you to select the most suitable all-ceramic material, depending on the indication at hand and the required strength of the restoration.

Lithium disilicate (LS<sub>2</sub>) is used to fabricate restorations for single teeth in the anterior and posterior regions. The material exhibits exceptional esthetic properties.

The zirconium oxide ceramic IPS e.max ZirCAD is the material of choice for larger restorations, for example, posterior bridges that are exposed to high masticatory forces.

The system comprises a single veneering ceramic, which offers decisive advantages in combination work (lithium disilicate and oxide ceramics). All IPS e.max restorations demonstrate the same wear properties and surface gloss – irrespective of the framework material used. Therefore, the same esthetic appearance is achieved throughout the different parts of the restoration.

In addition, IPS e.max crowns and bridges can be placed using not only adhesive but also self-adhesive and conventional methods.

### The highlights

- Highly esthetic lithium disilicate for single-tooth restorations
- High-strength zirconium oxide for bridges
- One layering ceramic for predictable shade results and same clinical behaviour – even in combination work
- Adhesive, self-adhesive and conventional cementation



## Lithium disilicate – esthetic and versatile



before



after:

Dr U Brodbeck, Switzerland /  
J Seger, Ivoclar Vivadent, Liechtenstein



before



after

Dr S Kina, Brazil / G Ubassy, France

The lithium disilicate ceramic (LS<sub>2</sub>) of the IPS e.max system shows that esthetics and strength can be successfully combined. This is particularly true in single-tooth restorations, because this innovative ceramic produces esthetic results, while it is 2 ½ to 3 times stronger than other glass-ceramics.

Lithium disilicate has many uses. Its indication spectrum ranges from thin veneers (0.3 mm) and minimally invasive inlays and onlays to partial crowns, full crowns and three-unit anterior bridges. Of course, implant superstructures can also be produced with this material.

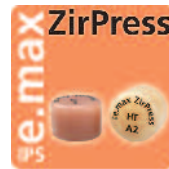
Because of its high strength of 360 - 400 MPa, restorations fabricated with this material can be cemented with different methods.

Due to their natural-looking colour and optimal light transmission, lithium disilicate restorations offer highly esthetic solutions. Depending on the needs of the patient, the restorations can be veneered with a highly esthetic material or they can be fabricated to full contour and then economically characterized.

Even if the tooth's core is dark in colour (eg discoloured stump or titanium abutments), you no longer have to resort to zirconium oxide or metal-ceramic solutions. You can inform the dental laboratory about the colour that needs to be masked and the dental technician in charge will choose the IPS e.max lithium disilicate material with the required opacity to restore the natural esthetic appearance of the tooth.

### The highlights

- Highly esthetic solutions
- Long-lasting restorations due their high strength
- Versatile use and very wide range of indications
- Lifelike esthetic results – irrespective of the colour of the prepared tooth
- Adhesive, self-adhesive and conventional cementation



## Zirkonium oxide – high strength and high performance



IPS e.max Ceram on IPS e.max ZirCAD  
Prof Dr D Edelhoff/ O Brix, Germany

You can depend on zirconium oxide in situations where high strength is required, for example, in long-span bridges.

Zirconium oxide is presently the strongest all-ceramic available for dental applications. It is additionally characterized by excellent biocompatibility and low heat conductivity. Because of its excellent final strength, IPS e.max ZirCAD also fulfills clinical requirements. For example, it stands up to the strong masticatory forces in the posterior region without difficulty. Zirconium-reinforced restorations are veneered with the IPS e.max Ceram layering ceramic. Alternatively, IPS e.max ZirPress can be pressed onto them.

Your dental technician can even fabricate a classical inlay-retained bridge with all-ceramic materials according to minimally invasive principles. This type of restoration optimally combines the strength of IPS e.max ZirCAD frameworks with the esthetics and precision fit of pressed ceramics. IPS e.max ZirPress for the press-on technique contains fluorapatite and therefore successfully masks zirconium oxide frameworks.



INN-Keramik, Austria



IPS e.max ZirPress/ZirCAD inlay-retained  
bridge adhesively luted with Multilink

*"All-ceramic inlay-retained bridges offer an interesting treatment option for the future, as they involve a minimally invasive technique and show outstanding esthetics. The framework structure made of the partially sintered zirconium oxide ceramic in combination with a glass-ceramic (IPS e.max ZirPress) seems to have solved the strength problem at last."*

Prof Dr D Edelhoff, Germany

### The highlights

- High performance even in the posterior region thanks to unrivalled strength and high fracture toughness
- Excellent biocompatibility and low heat conductivity
- Minimally invasive, all-ceramic inlay-retained bridges in combination with IPS e.max ZirPress

## The Straumann® Anatomic IPS e.max® Abutment

The new Straumann Anatomic IPS e.max Abutment has been specially developed for use with the Straumann Bone Level Implant (Regular CrossFit) and the components of the IPS e.max system. Therefore, your dental laboratory can fabricate an indirect IPS e.max restoration for the abutment, for example, using lithium disilicate. Alternatively, you may choose to have the abutment veneered or a ceramic material pressed directly onto it.

The Straumann Anatomic IPS e.max Abutment is a high-strength, anatomically shaped zirconium oxide abutment that exhibits exceptional fit. It is supplied in two shades: MO 0 and MO 1.

All your work will benefit from the smooth shade transition between the abutment and the crown, which further enhances the esthetics of your IPS e.max restorations.

The abutment is available exclusively from Straumann.



## The Straumann® Anatomic IPS e.max® Abutment

### **The strong connection between the implant and the restoration**

The number of patients who are choosing implant-retained restorations over other dental solutions is growing rapidly. IPS e.max offers you a host of possibilities for satisfying the requirements of these patients with all-ceramics. The new zirconium oxide abutment is suitable for the fabrication of highly esthetic implant-retained IPS e.max restorations. It is coordinated with the IPS e.max system and the Straumann Bone Level Implant (Regular CrossFit).





## IPS e.max Ceram – vibrant and natural



IPS e.max Ceram on four different materials (from left to right):  
 IPS e.max Press, IPS e.max ZirPress, IPS e.max ZirCAD, IPS e.max CAD  
 MDT T Michel, Germany

You will appreciate the benefits offered by the fact that the IPS e.max system features only one layering ceramic. You can choose a suitable framework material, for example, lithium disilicate ceramic or zirconium oxide, depending on the indication to be treated and the required strength. Your dental technician will veneer all the different IPS e.max frameworks with the highly esthetic IPS e.max Ceram layering ceramic to impart the restorations with individual character and natural-looking vibrancy.

Irrespective of the framework material you choose, IPS e.max Ceram allows you to smoothly integrate different types of restorations. Since all the IPS e.max restorations are veneered with the same ceramic material, they exhibit the same wear properties and surface gloss. The outcome is a uniform esthetic appearance.



IPS e.max restoration with gingival parts  
 MDT T Michel, Germany



*"The difficulties associated with restoring complex patient cases in a shade-matching, highly esthetic manner by means of different all-ceramic materials are a thing of the past with IPS e.max and IPS e.max Ceram. Thanks to only one layering ceramic with outstanding esthetic properties, optimum integration is possible, no matter which framework material is used. The clinical properties as regards polishing, surface gloss and wear behaviour are not only convincing to me as a dentist but also to patients. The choice between adhesive and conventional cementation for the different materials considerably facilitates routine dental procedures."*

Prof Dr D. Edelhoff, Germany



IPS e.max Ceram on IPS e.max Press  
 (Prof Dr D. Edelhoff / O Brix, Germany)

### The highlights

- One layering ceramic for glass-ceramic and zirconium oxide frameworks
- Predictable shade results and the same clinical behavior as regards wear and surface gloss, independent of the framework material
- Nano-fluorapatite for highly esthetic properties



## Cementation – flexible and proven



Cementation with Multilink Automix  
(Dr A Kurbad / K Reichel, Germany)



Cementation with Vivaglass CEM  
(Dr A Kurbad / K Reichel, Germany)

IPS e.max restorations are flexible with regard to their cementation requirements. Crowns and bridges can be cemented according to adhesive, self-adhesive and conventional methods. Inlays and veneers are cemented adhesively as usual.

Depending on the indication, you may choose between adhesive and conventional materials from the Ivoclar Vivadent cementation assortment.

In general, lithium disilicate (LS<sub>2</sub>) is etched before it is placed. Before restorations are placed with adhesive or self-adhesive cementation materials, they are conditioned with Monobond S. The Metal/Zirconia Primer is used to treat zirconium oxide before the restorations are seated.



Cementation with Variolink Veneer  
(Dr S Kina, Brazil / A Bruguera, Spain)

### Variolink® II / Variolink® Veneer

The dual-curing, highly esthetic luting composite Variolink II has been successfully used for more than ten years and offers excellent clinical results. The light-curing Variolink Veneer is especially indicated for the adhesive cementation of veneers, as it can be used to enhance shade and translucency effects.

### Multilink® Automix

The universal resin-based cement offers a wide range of indications. Furthermore, it generates a very strong bond on all material surfaces. Multilink or Metal/Zirconia Primer is used for optimum bonding results.

### Vivaglass® CEM

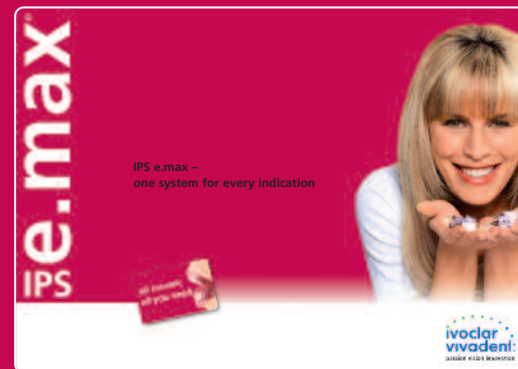
This classical self-curing glass ionomer cement is suitable for the cementation of high-strength ceramics such as IPS e.max. It contains a particularly transparent glass filler for achieving highly esthetic results.



# IPS® e.max

**all** ceramic  
**all** you need

Descriptions and data constitute no warranty of attributes.  
Printed in Germany  
© Ivoclar Vivadent AG, Schaan/Liechtenstein  
627430/0309/e/W



This brochure is also available in a version for dental technicians.

**Ivoclar Vivadent AG**  
Bendererstr. 2  
FL-9494 Schaan  
Principality of Liechtenstein  
Tel. +423 / 235 35 35  
Fax +423 / 235 33 60  
[www.ivoclarvivadent.com](http://www.ivoclarvivadent.com)

**ivoclar**  
**vivadent**  
passion vision innovation