

IPS Empress® CAD for CAD/CAM technology –  
Information for Dentists



Confidence

Reliability

Esthetics



**IPS Empress® CAD**

*The world's leading all-ceramic*



ivoclar  
vivadent®

## A time-tested system ... with new possibilities

IPS Empress revolutionized the processing of ceramic materials more than 15 years ago. Because of its numerous benefits, for example, its high precision and aesthetic appearance, IPS Empress has become very popular with dental professionals and patients around the world, with more than 33 million restorations having been fabricated with the material to date. As a result, the system has gained a reputation for producing

long-lasting, natural-looking results and maintaining high quality standards.

In recent years, the expectations of patients with regard to aesthetics and biocompatibility have continued to rise



quite considerably. As a consequence of this "aesthetic revolution" and the emergence of new processing techniques, all-ceramics have become very popular. Therefore, the time has come to fulfil this demand for heightened aesthetics and all-ceramics by introducing a new IPS Empress material.

With the new IPS Empress CAD Blocks you can mill your restorations in your CEREC® unit from Sirona and at the same time enjoy the benefits offered by the IPS Empress System.

This new material allows you to fabricate highly aesthetic IPS Empress all-ceramic restorations, such as inlays, crowns and veneers chairside.

Additional information:  
CEREC® is a registered trademark of Sirona Dental Systems GmbH.

## More versatility with IPS Empress

More than 15 years of clinical experience give you a good feeling.

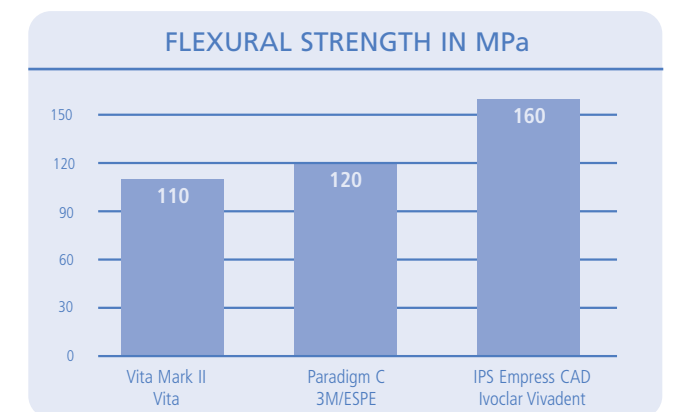


You can depend on these highly aesthetic blocks, as they have the same time-tested leucite glass-ceramic composition as IPS Empress Esthetic.

The IPS Empress materials are made of an extremely homogeneous leucite-based ceramic, which scatters light like natural enamel and blends in well with its surroundings.

The material is highly translucent and has a natural appearance. IPS Empress CAD obtains its outstanding homogeneity and strength of 160 MPa in an optimized industrial manufacturing process.

Highly aesthetic all-ceramic restorations for individual teeth, such as inlays, onlays, crowns and veneers, can be efficiently fabricated with IPS Empress CAD Blocks in chairside procedures. Nevertheless, the teeth have to be prepared carefully beforehand to establish the prerequisites needed for the correct fit of the restoration and long-lasting results. Special attention must be given to the design of the margin and the minimum thickness of the ceramic.



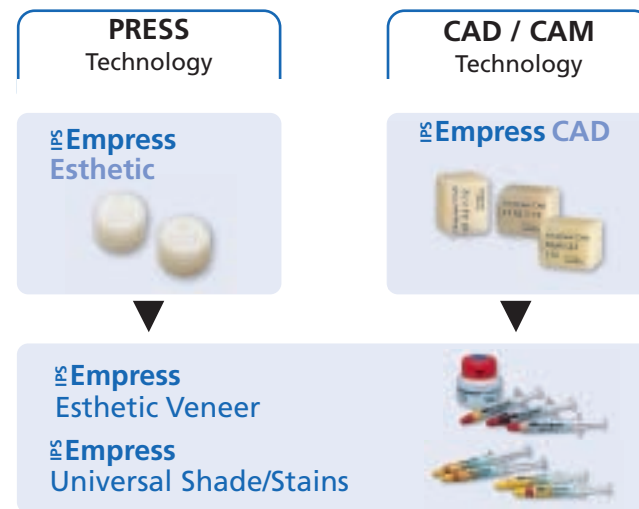
Source: strength values according to the official information supplied by the manufacturer

Subsequently, your IPS Empress restorations can be quickly and efficiently polished to a high-gloss or characterized with staining

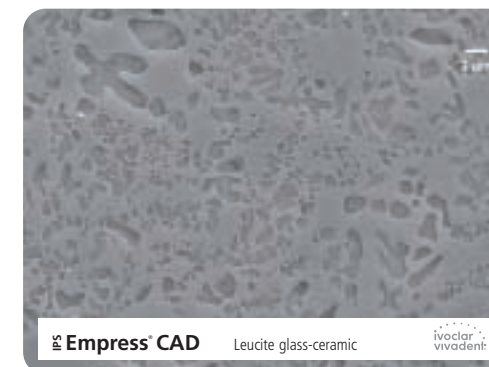
materials in a few easy steps and then glazed to further enhance their aesthetic appearance.



### IPS Empress®



- #### HIGHLIGHTS OF IPS EMPRESS
- More than 15 years of experience with leucite glass-ceramics
  - Proven ceramic material with a flexural strength of 160 MPa
  - Highly aesthetic restorations and excellent shade adaptation



SEM image of IPS Empress CAD  
Source: R&D Ivoclar Vivadent AG, Schaan, Liechtenstein



Highly aesthetic restorations fabricated with IPS Empress CAD

Always the right block ...

The extensive assortment of blocks allows you to choose the one that best suits your case requirements. The exceptional glass ceramic is available in two levels of translucency: HT (High translucency) and LT (Low translucency). Within these translucency levels, there is a choice between Chromascop and A-D shades. The blocks are supplied in six sizes, which are adjusted to the different indications.

In addition to the monochromatic blocks, the product range includes multi-coloured blocks called IPS Empress CAD Multi. These blocks are a special highlight of the system.



The **IPS Empress CAD HT** Blocks exhibit a higher translucency and lower value than the LT Blocks. They are particularly suitable for fabricating inlays and onlays because of their exceptional "chameleon effect". The high translucency of the material and its lifelike fluorescence allow the restoration to blend in seamlessly with the surrounding dentition.



IPS Empress CAD HT inlay

Dr G Koike  
Japan



HIGHLIGHTS OF IPS EMPRESS CAD HT BLOCKS

- High translucency, low value
- Outstanding "chameleon effect" and lifelike fluorescence
- Ideal for the fabrication of inlays, onlays and veneers

... for each individual patient

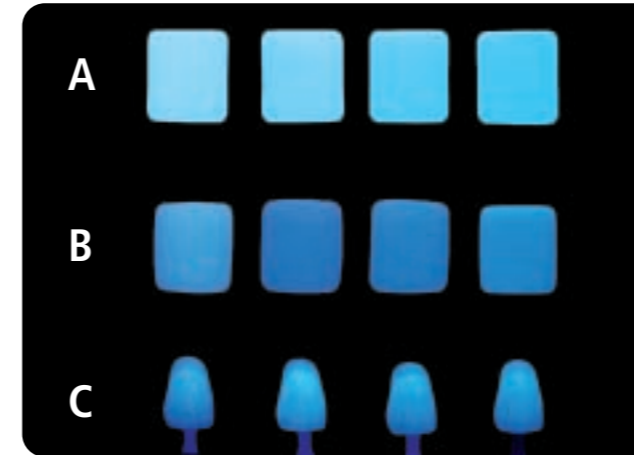
The **IPS Empress CAD LT** Blocks are characterized by their high level of brightness and true-to-nature chroma. Therefore, they are particularly suitable for fabricating larger restorations.



New bleach shades BL1 to BL 4

The specially adjusted brightness of the material prevents "greying" of full and partial restorations. The blocks demonstrate a natural-looking fluorescence, which matches the different indications. Therefore, the restorations seamlessly blend into the remaining dentition under different light conditions.

In response to the growing demand for lighter tooth colours, IPS Empress CAD LT Blocks are also available in four modern Bleach shades: BL1–BL 4.



A = IPS Empress CAD, B = competitive product, C = A-D shade guide



Aesthetic result after the treatment of the pre-operative situation with IPS Empress CAD veneers

Dr C Winterholler  
USA

HIGHLIGHTS OF IPS EMPRESS CAD LT BLOCKS

- True-to-nature brightness and chroma, therefore no "greying" of the restorations
- Fluorescence similar to that of dentin
- Ideal for the fabrication of partial and full crowns

INDICATIONS OF IPS EMPRESS CAD BLOCKS

HT Blocks (High Translucency)	LT Blocks (Low Translucency)
High translucency and chameleon effect Low brightness value	Low translucency and chameleon effect High brightness value
Inlays	Anterior and posterior crowns
Onlays	Partial crowns
Veneers	Veneers

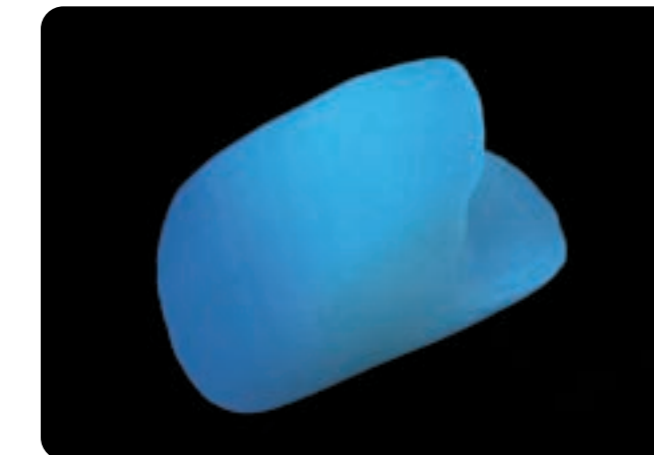
The innovative **IPS Empress CAD Multi** Block successfully combines easy handling and sophisticated and exciting aesthetics.

Because of the smooth colour transition between the dentin and incisal areas, these polychromatic blocks produce highly aesthetic and natural-looking results, even without characterization.

IPS Empress CAD Multi Blocks are available in the five most popular A-D shades. They are ideal for fabricating full and partial crowns as well as veneers. The blocks feature a high level of chroma and lifelike opacity in the cervical areas and the desired level of translucency in the incisal region. The precisely adjusted transition of colour and fluorescence enables you to fabricate beautiful and reproducible restorations with remarkable efficiency.



Additional information: In order to machine IPS Empress CAD Multi Blocks, you will need the CEREC software version V2.8x as well as a separate download (available from the Sirona® website or CD-ROM).



The restoration imitates the aesthetic properties of the natural tooth. The level of chroma and fluorescence is at its highest in the cervical part of the tooth and it decreases towards the translucent incisal area.



INDICATIONS OF IPS EMPRESS CAD BLOCKS

Multi Blocks
Lifelike transition of shade, translucency and fluorescence
Anterior and posterior crowns
Partial crowns
Veneers

HIGHLIGHTS OF IPS EMPRESS CAD MULTI BLOCKS

- Natural-looking shade transition from the dentin to incisal areas
- Lifelike opacity, chroma and fluorescence in dentin areas
- True-to-nature translucency and fluorescence in incisal areas
- Ideal for the fabrication of partial and full crowns

## A variety of characterization options

Your IPS Empress restorations can be characterized according to the individual requirements of your patients.

As a result, you will be able to restore the smile of even your most discerning patients. IPS Empress allows

you to achieve exceptionally aesthetic results in a few easy steps.

### INTERNAL SHADING

**Tetric Color** is used for the **internal shading** of the restoration to imitate the features that make each tooth individual.

The light-curing material is applied to the inner surfaces of the restoration

(similarly to the reverse glass painting technique) and light cured, ideally with one of

the high-performance LED lights from the bluephase line.



### EXTERNAL SHADING

In the **external shading** method, **IPS Empress Universal Shades** and **Stains** are applied to the

outer surfaces of the restoration and then fired in the Programat P300 ceramic furnace.

Crowns and veneers can be conventionally "stained" in this manner. It is up to you to decide

which characteristics you would like to highlight.



### CUT-BACK TECHNIQUE

In the **cut-back technique**, the incisal third of fully anatomical IPS Empress CAD veneers and anterior crowns

is cut away and then built up with the **IPS Empress Esthetic Veneer** material. This method produces a

natural-looking and highly aesthetic incisal third. The vital appearance of the restoration is

further enhanced with this technique.



## Coordinated products for heightened comfort and precision in routine procedures

IPS Empress CAD allows you to treat your patients with highly aesthetic restorations in only one appointment. A wide range of optimally coordinated products is available to facilitate the treatment procedure, from shade determination to cementation. In addition to making your job easier, they enhance the overall quality of the restoration.

**OptraGate** is a helpful accessory during shade determination and scanning of the optical impression. This elastic lip and cheek retractor gives the practitioner easier access to the oral cavity and enlarges the treatment field. Furthermore, it is very comfortable for patients to wear.



The **IPS Contrast Spray Chairside** is suitable for intraoral use. It adjusts the optical properties of dentin and enamel and allows the teeth to be scanned successfully. It is easy to rinse off after use.

After the restorations have been milled, they are optionally characterized with light-curing Tetric Color or IPS Empress materials.

The **Programat P300** is the ideal ceramic furnace for firing externally shaded IPS Empress CAD pieces and restorations characterized using the cut-back technique. The unit is compact and concentrates on the essentials. The attractive features of this furnace include homogeneous radiation of heat, excellent firing results as well as a convenient operating concept together with the straightforward arrangement of the menu.



The **OptraDam** which is used without metal clamps, facilitates the adhesive cementation of IPS Empress CAD restorations. It fully and gently retracts the lips and cheeks and therefore renders

the oral cavity more easily accessible and the treatment field much larger, while at the same time isolating all four quadrants.

Optra Gate



IPS Contrast Spray Chairside



Tetric Color  
IPS Empress Universal  
Shades/Stains



Programat P300



OptraDam



Multilink Automix  
Variolink Veneer  
Variolink II



bluephase



OptraFine



## The right choice in adhesive cementation procedures

In the adhesive cementation of your IPS Empress CAD restorations you can depend on the clinically proven and time-tested Ivoclar Vivadent cementation materials.

### Brightening Effect



### Warming Effect

The classic **Variolink II** has been regarded as the "gold standard" for the cementation of IPS Empress restorations for many years. Variolink is always the right choice when long-lasting, high quality results are desired. The light-curing



**Variolink Veneer** has been specially developed for placing highly aesthetic restorations (eg veneers). As a result of the "value system", translucent glass-ceramic restorations can be lightened or darkened in stages.

**Multilink Automix** is the most versatile of the luting composites. It is applied quickly and easily in combination with the self-etching Multilink Primer A/B. Apart from its ease of use and wide range of indications, Multilink Automix demonstrates excellent bonding and dentin sealing properties.

The cementation of your IPS Empress CAD restorations is rendered even more efficient by using the high-quality LED polymerization light **bluephase**.

The high light intensity of the curing unit reduces the light polymerization times. The unit has three different curing modes and is operated without a power cord, which additionally simplifies working procedures.



The newly developed high-performance diamond polishing system **OptraFine** efficiently polishes IPS Empress restorations to a silky gloss. The high content of diamond particles produces excellent polishing results with a homogenous surface and attractive shine.

	Variolink® (Variolink II, Variolink Veneer)	Multilink® (Multilink, Multilink Automix)
Veneers	✓	✗
Inlays	✓	✓
Onlays	✓	✓
Partial crowns	✓	✓
Anterior and posterior crowns	✓	✓
	✓ Especially recommended	✗ Contraindicated

The logo features a small square image of a smiling mouth with white teeth on the left. To its right, the text "IPS Empress System" is displayed in a grey, sans-serif font. "IPS" is in a smaller font size than "Empress System".

IPS Empress CAD allows you to provide your patients with highly aesthetic restorations in only one appointment. A wide range of optimally coordinated products is available to facilitate the treatment procedure, from shade determination to cementation. In addition to making your job easier, they will also enhance the overall quality of the restoration.

Ask your Ivoclar Vivadent consultant for more detailed information about the individual products and systems or visit [www.ivoclarvivadent.com](http://www.ivoclarvivadent.com)