all ceramic
all you need
All you need for all-ceramics – PRESS and CAD/CAM techniques

Designed with simplicity and versatility in mind, IPS e.max comprises highly aesthetic and high-strength materials for both the PRESS and the CAD/CAM technique.

With IPS e.max you never have to decide again between using state-of-the-art CAD/CAM technology or the cutting-edge press technique; between easy handling or impeccable aesthetics.

The decision to use IPS e.max is a decision to take advantage of the unlimited possibilities of all-ceramics, no matter which technique you initially choose and no matter if you decide to extend or complete your personalized IPS e.max system.

Regardless of whether you prefer computer-aided or conventional working techniques, IPS e.max is the ideal system.

Restoration of both dental arches with IPS e.max fabricated by Prof. Dr. Edelhoff/Oliver Brix, Germany
Having to decide on only one of the **IPS e.max** products may prove to be difficult!

No matter which technique you choose, all components are available from one manufacturer.

If you prefer to work with the PRESS technique, two different types of ingots are available: **IPS e.max Press**, a high-strength glass-ceramic and **IPS e.max ZirPress**, an aesthetic glass-ceramic which is pressed onto zirconium oxide in a fast and efficient procedure.

For **CAD/CAM applications**, either the highly aesthetic **IPS e.max CAD** ceramic glass blocks or the high-strength **IPS e.max ZirCAD** zirconium oxide can be chosen, depending on the case at hand.

The nano-fluorapatite layering ceramic **IPS e.max Ceram** rounds off the new all-ceramic system. This material is used to veneer all IPS e.max components, no matter if they are glass-ceramic or zirconium oxide.

A single, consistent layering scheme as well as predictable shade results allow you to offer your dentists and patients highly personalized and natural-looking restorations even for complex cases, independent of the framework material.

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**The Highlights**

- Easy first-time use of the system with maximum flexibility provided by a modular system
- Highly aesthetic and high-strength materials can be combined
- **One** layering ceramic for the IPS e.max system
- Predictable shade results and similar clinical behaviour even in different restorations veneered with IPS e.max Ceram
- Adhesive, self-adhesive and conventional cementation
IPS e.max Press: All you need for the PRESS technique
Silicate glass-ceramic ingot

The PRESS technique has established itself as a state-of-the-art processing method over the past 19 years and it has become synonymous with aesthetic and accurately fitting all-ceramic restorations.

IPS e.max Press are new biocompatible lithium disilicate glass-ceramic ingots. They offer the fit, shape and function which is expected from pressed ceramics. In addition, they offer improved flexural strength (400 MPa).

The aesthetic properties have been optimized. Creating all-ceramic restorations has been simplified and they offer true-to-nature properties like never before.

Take advantage of the versatility of this material and also use it in the press-on technique with electroplated frameworks – the Press Opaquer ensures a reliable bond.

Indications
IPS e.max Press can be used for the fabrication of single crowns and bridges in the anterior and premolar region and for implant-retained restorations You are free to choose from fabricating frameworks to be fully veneered or just characterizing fully anatomical restorations. Fully anatomical inlays and onlays, as well as veneers and crowns can be fabricated with IPS Empress Esthetic, which has been clinically proven for years.

«The translucency and light scattering of these materials is very close to that of their natural counterparts. Therefore, I can achieve outstanding results quite easily. Natural teeth are opaque and translucent at the same time. The new ingots with increased strength exhibit a well-balanced opacity that fulfils both needs.»

Michele Temperani, Italy
IPS e.max Press ingots are available in three levels of opacity and in 2 sizes each:

**LT ingots**
The new ingots with a low translucency (LT) are ideally suited for the fabrication of fully anatomical restorations or the cut-back technique. The incisal area is built up with IPS e.max Ceram materials. The LT ingots are available in the 9 most popular A–D as well as in 4 modern Bleach shades.

**MO ingots**
The ingots of medium opacity (MO) are used to fabricate substructures for vital or slightly discoloured teeth. They create an ideal base for lifelike restorations. The MO ingots are available in five shades and two sizes.

**HO ingots**
In cases where the preparation shade is dark, it is also possible to produce aesthetic all-ceramic restorations with the help of IPS e.max Press. The HO ingots with their high opacity mask non-vital teeth as well as metal posts and cores.

IPS e.max Press restorations are individually veneered or characterized with the matching IPS e.max Ceram glass-ceramic.

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**The Highlights**

- High strength (400 MPa) and outstanding aesthetics
- Three levels of opacity: low translucency (LT), medium opacity (MO) and high opacity (HO)
- Lifelike aesthetics independent of the shade of the prepared tooth
- Conventional, self-adhesive cementation
IPS e.max ZirPress: All you need for the press-on technique

Fluorapatite glass-ceramic ingot

The IPS e.max ZirPress ingots ideally combine the PRESS and CAD/CAM technique. Take advantage of the accuracy of fit as well as the strength of zirconium oxide-reinforced restorations.

The fluorapatite glass-ceramic ingots are used to press onto IPS e.max ZirCAD frameworks. In addition, the ingots can be pressed onto other zirconium oxide frameworks with a CTE range of 10.5 to 11.0, such as KaVo Everest® ZS Blanks.

The fluorapatite crystals contained in the ingots control the interplay of translucency, opalescence and brightness. Therefore, the less translucent zirconium oxide frameworks are ideally masked.

You can increase your productivity with IPS e.max ZirPress and benefit from the high accuracy of fit of your zirconium oxide-reinforced restorations.

Indications
Use the press-on technique to efficiently fabricate zirconium oxide-supported crowns and multi-unit bridges, inlay-retained bridges and implant superstructures.

Prof. Dr Daniel Edelhoff, Germany

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

IPS e.max ZirPress ingots are offered in three different levels of opacity and in the most popular A–D shades, as well as four Bleach BL shades. Two Gingiva shades have now been added to the range.

HT Ingots
The new highly translucent ingots are used for the fully anatomical technique. If you would like to impart your restorations with a special touch, you can characterize them with IPS e.max Ceram Shades/Essence materials. You can even fabricate inlay-retained bridges in all-ceramics with «normal» effort using the IPS e.max ZirPress HT ingots.

LT Ingots
The LT ingots (low translucency) are ideal for the cut-back technique. After pressing partially anatomical restorations on the frameworks, you can complete the incisal area individually as you wish using the IPS e.max Ceram materials. Consequently, you can additionally optimize the aesthetic appearance of your restorations.

MO Ingots
The MO ingots (medium opacity) are used for pressing accurately fitting ceramic shoulders, bridge pontics and the cervical third before the restoration is completed with the IPS e.max Ceram layering material.

Gingiva ingots
The two Gingiva ingots are the latest “members” of the IPS e.max ZirPress family of products. Since the material does not shrink and helps to reduce the number of ceramic firing cycles, the ingots facilitate the fabrication of gingival parts, particularly for large (implant) restorations.

The Highlights
- Simple, efficient and quick procedure
- Four processing techniques can be selected according to personal preference
- Accurately fitting, firing resistant ceramic shoulders
- Flexural strength: 110 MPa

Programat EP 5000, Ivoclar Vivadent
IPS e.max ZirCAD: All you need for the CAD/CAM technique

Yttrium-stabilized zirconium oxide block

Due to its excellent final strength, IPS e.max ZirCAD is the material of choice for indications where high strength is required, e.g. posterior bridges.

IPS e.max ZirCAD blocks are supplied in six block sizes. The C 15 and C 15 L blocks are used to fabricate single crown copings, while B 40 and B 40 L blocks are used for bridge frameworks. For the fabrication of wide-span bridge frameworks or batch processing, the B 55 and B 65 blocks are now available. It is planned to provide further block sizes.

The four new IPS e.max ZirCAD Colouring Liquids (1– 4) are suitable for shading the frameworks prior to sintering. IPS e.max ZirCAD frameworks are then either veneered with IPS e.max Ceram or IPS e.max ZirPress is pressed onto them. The specially developed zirconia liner establishes an optimum bond, no matter which technique you choose.

If you do not shade your frameworks, the translucent, fluorescent IPS e.max Ceram ZirLiners allow you to give your frameworks some colour, while the translucency and light transmission is maintained.

Indications
IPS e.max ZirCAD is indicated for crown copings and up to six-unit bridge frameworks for the anterior and posterior region. Even primary parts for the telescope technique and implant superstructures can be fabricated.
The partially sintered, «chalk-like» IPS e.max ZirCAD blocks are processed in the efficient inLab® or inLab® MC-XL System from Sirona. The software allows you to design the frameworks, which are milled to precision specifications. At this stage, the restorations are 20 percent larger than they should finally be, due to the shrinkage of zirconium oxide.

Subsequently, the restorations are sintered in the Sintramat high-temperature furnace, during which the framework shrinks to its final size. In this process, the restoration acquires its typical high fracture toughness due to the homogeneous structure.

The sintering program is optimally adjusted to IPS e.max ZirCAD to achieve consistent results. The Sintramat offers a cleaning program, has a large sintering chamber and is capable of sintering up to 75 single or 25 bridge restorations at one time. This means that all the IPS e.max ZirCAD restorations milled on one day can be sintered at the same time.

The Highlights

- High-performance all-ceramic thanks to the unrivalled strength of > 900 MPa and high fracture toughness
- Optimum bond and light transmission thanks to the IPS e.max Ceram ZirLiner
- Suitable for use in the veering technique with IPS e.max Ceram or the press-on technique using IPS e.max ZirPress
- Conventional / self-adhesive cementation
IPS e.max CAD: All you need for the CAD/CAM technique in the future

Silicate glass-ceramic block

How can you get closer to the future? By creating it!

IPS e.max CAD unites modern processing technology with a high-performance material. The lithium disilicate glass-ceramic is manufactured in an innovative technological process, which is unique in the dental industry. The glass-ceramic is processed in a crystalline intermediate phase. In this «soft» state, the material exhibits its unusual «bluish» colour and strength of approximately 160 MPa.

In this «blue» phase, the restorations can be manually adjusted or cut back in a fast and efficient fashion. In addition, the fit can be checked. IPS e.max CAD acquires its final strength of 360 MPa and the desired aesthetic characteristics, such as tooth colour, translucency and brightness, during a simple and quick crystallization process at 850 °C. Subsequently, the crowns can be stained and glazed or veneered with IPS e.max Ceram.

Indications
You can efficiently fabricate highly aesthetic and high-strength single crowns with IPS e.max CAD. The restorations can be placed according to the conventional cementation technique. With IPS e.max Ceram, you can either fabricate a full veneer or apply the cut-back technique. In addition, IPS e.max CAD can be used for the fabrication of veneers and implant retained restorations.

For the fabrication of fully anatomical inlays and onlays, as well as veneers and crowns with the Sirona systems, IPS Empress® CAD is available.

«The combination of an innovative technique and modern material design resulted in the creation of a high-strength ceramic framework material with fascinating optical properties. IPS e.max CAD helps to meet the most exacting aesthetic demands without compromises on the strength. Aesthetic solutions can be achieved with the two different opacity levels MO and LT, no matter what the prerequisites are.»

Volker Brosch, Germany
IPS e.max CAD blocks are available in two levels of opacity. The IPS e.max CAD MO (Medium Opacity) blocks are used to fabricate substructures due to their slightly higher opacity. They are supplied in 5 shades. The IPS e.max CAD LT (Low Translucency) blocks are ideally suited for fully anatomical stain and glaze and the Cut-back technique. They are available in the 9 most popular A–D and in 4 new modern Bleach shades.

IPS e.max CAD is processed in the inLab® unit from Sirona or the Everest® system from KaVo.

**inLab from Sirona**
New compact milling unit with an integrated laser scanner and an attractive 3-D software. Automatic and standardized processes save time. Consistent precision manufacturing processes ensure reproducible results.

**Everest from KaVo**
Comprehensive CAD/CAM system with self-sufficient components. Models are accurately scanned with Everest «scan». The CAD software is used to individually construct the restorations. The automated, high-precision milling process is conducted with Everest «engine».

### The Highlights
- Efficient and economical processing thanks to good milling properties
- Simple 30-minute crystallization procedure in a conventional ceramic furnace
- Final strength of 360 MPa
- Tooth coloured and highly aesthetic results
- Adhesive, self-adhesive and conventional cementation
IPS e.max Ceram: All you need for the layering technique

Nano-fluorapatite layering ceramic

Forget the challenging task of having to adjust the shade of restorations when using different framework materials. The low-fusing nano-fluorapatite veneering ceramic IPS e.max Ceram is the connecting element between the different components of the all-ceramic system. In future, you only have to use one layering ceramic, which will enable you to achieve highly aesthetic results on glass-ceramics as well as zirconium oxide.

The lifelike, aesthetic appearance of the restorations is certain to impress you. A unique combination of translucency, brightness and opalescence. This leads to natural light scattering and a balanced relationship between brightness and chroma. Due to the well-coordinated CTE of 9.5, only one layering ceramic is needed for all the different IPS e.max indications.

You will benefit from one, common layering scheme and predictable shade results. Furthermore, the restorations will exhibit the same clinical behaviour as regards eg wear and surface gloss, which is also very important for your dentists and their patients.

By eliminating the need for a number of different layering ceramics, you will be able to simplify and streamline the fabrication of restorations and **heighten your productivity** at the same time.

**Indications**
- One layering ceramic for the IPS e.max system
- Suitable for layering veneers

«It is fantastic to work with a system that offers me the choice of different materials in various degrees of opacity and strength for the framework design. Only one ceramic is used for veneering, producing impressive results.»

August Bruguéra, Spain
You do not have to be an absolute high-end user or an artist. IPS e.max Ceram prepares you for every situation.

IPS e.max Ceram provides all the materials which are needed to fabricate aesthetic all-ceramic restorations. However, as every user has different aesthetic demands, IPS e.max comprises a comprehensive range of supplementary materials.

The new Essence materials offer a convenient ‘3-in-1-effect’. You can decide whether you want to use them for internal or external characterization or mix them with other IPS e.max Ceram powders to obtain the exact shade that corresponds to your individual requirements.

The new Gingiva ceramic materials can be used to create lifelike vestibular gingival parts, which are particularly important for implant-supported restorations. The shade gradation ranges from orange and reddish to bluish. A specially shaded IPS e.max Ceram ZirLiner Gingiva is available for the use on zirconium oxide.

You can quickly and easily glaze your IPS e.max restorations with the new, ready-to-use IPS e.max Ceram Glaze Spray. The advantages include unchanging consistency and a thin glaze layer, which helps to maintain the surface structure and to achieve an even gloss. The spray can be used both on fully anatomical and veneered IPS e.max restorations.*)

All you need to achieve consistent aesthetics and shading

The Highlights

- One layering ceramic for glass-ceramic and zirconium oxide frameworks
- Predictable shade results and the same clinical behaviour as regards wear and surface gloss, independent of the framework material
- Nano-fluorapatite for highly aesthetic properties
- Low firing temperature (750 °C) enabling quick processing

* For glazing uncrystallized, fully anatomical IPS e.max CAD restorations the IPS e.max CAD Crystall./Glaze Spray is available.
For the cementation of IPS e.max restorations – depending on the indication – your dentist may choose between proven adhesive and conventional cementation materials from the coordinated assortment of Ivoclar Vivadent. IPS e.max restorations can also be placed with self-adhesive cementation systems.

### Variolink® II / Variolink® Veneer
The dual-curing, highly aesthetic luting composite Variolink II has been successfully used for more than 10 years and offers excellent clinical results. The light-curing Variolink Veneer is especially indicated for the adhesive cementation of veneers.

### Multilink® Automix
The universal resin-based luting 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
is an aesthetic glass ionomer cement for the conventional cementation of high-strength all-ceramic restorations (zirconium oxide and lithium disilicate ceramics). Vivaglass CEM contains a particularly transparent glass filler for achieving aesthetic results.

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<th>Cementation</th>
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✓ recommended product combination
– not recommended/product combination not possible (observe the corresponding Instructions for Use)
* self-adhesive powder-liquid systems
What users say about IPS e.max

Gerald Ubassy, France
«The use of a versatile and aesthetic ceramic material such as IPS e.max seems very interesting to me. The properties of light transmission and opalescence are emphasized, irrespective of the material used for the framework, be it zirconium or IPS e.max Press. To have the possibility today to create veneers, crowns and bridges with only one layering ceramic is a clear advantage!»

Hervé Maréchal, France
«IPS e.max is the ultimate in all-ceramics. It enables the combination of a new generation of highly aesthetic pressable ceramics and tried-and-tested materials and opens up the realm of zirconium oxide. As the system offers the ability to combine two techniques when restoring cases with different framework materials, it provides the perfect solution to all challenges arising in conjunction with complex patient cases.»

Lee Culp, USA
«IPS e.max is the perfect synergy of productivity and artistry. The combination of CAD/CAM, pressable technologies, and a unique veneering ceramic allows exclusive use of one ceramic system for all restorative procedures.»

Thorsten Michel, Germany
«With the new IPS e.max all-ceramic system, a state-of-the-art material has been created that is suitable for daily use. IPS e.max restorations are characterized by natural-looking, brilliant shade reproduction and excellent fluorescence. These properties are consistently maintained even after multiple firing cycles. The restorations harmoniously blend into the natural surroundings and ensure an extremely homogeneous overall appearance. Lifelike surface textures can be reproduced, which enhance the excellent brightness value and internal interplay of colours.»

Matt Roberts, USA
«I love the IPS e.max system and its versatility; I am able to satisfy patient needs with the use of only one layering ceramic. One multi-dimensional ceramic makes the fabrication of cemented bridges, pressed ceramics, zirconia, lithium disilicate, and even refractory restorations easier, because the need for accommodating and understanding multiple systems is eliminated. This is a singular solution that meets patients’ restorative and aesthetic goals. The warm, vital, and opalescent effects that I see with IPS e.max are very exciting.»

Jürgen Seger, Ivoclar Vivadent, Liechtenstein
«Due to the very high strength compared to other pressed ceramics, I can now work with a framework wall thickness of only 0.6 mm in single tooth anterior crowns. Thus, I have more possibilities to individualize the restoration during ceramic layering.»

IPS e.max System

IPS e.max Press
IPS e.max ZirPress

Thomas Konietzny, Germany
«IPS e.max brings together what belongs together: the stability of ZrO₂ and the aesthetics of glass-ceramics. As a laboratory specializing in milling techniques, we are always looking for new indications. It is now possible to fabricate, for example, inlay-retained bridges with this combination of properties. A brilliant veneering ceramic that exhibits excellent processing for all the framework materials – including ZrO₂ – rounds off the IPS e.max innovation. IPS e.max allows you to exceed the current limits of all-ceramics.»

IPS e.max ZirCAD

Volker Brosch, Germany
«It is now more evident than ever that times have changed in dental technology. This is not only confirmed by the fact that CAD/CAM systems are more readily accepted on the part of dental professionals, but also by the new, innovative materials that are launched on the market. One of the most important among these materials is zirconium oxide. It possibly has the potential to outstrip metal as the preferred framework material. As a consequence, IPS e.max ZirCAD has been placed at our disposal. It is fully integrated into the IPS e.max all-ceramic system and benefits from the system due to its versatile fabrication options.»

IPS e.max CAD

Thomas Konietzny, Germany
«I process IPS e.max CAD with the Everest CAD/CAM system from KaVo. These blocks offer me a wealth of new possibilities and ideally complement the existing range of blocks. Thus I can even make better use of the capacity of my Everest System. IPS e.max CAD can be processed quickly and efficiently in the “blue” state. The subsequent crystallization process, which is conducted in a conventional ceramic furnace, transforms it into a stable, tooth-coloured and aesthetic framework material.»

IPS e.max Ceram

Oliver Brix, Germany
«With IPS e.max Ceram, it is possible to veneer different all-ceramic restorations with only one layering ceramic for the first time. Consequently, I am free to choose the ideal combination between highly aesthetic glass-ceramics and high-strength zirconium oxide depending on the starting situation. The standardized layering concept forms the basis for a harmonious shade match in no time at all and thus provides increased efficiency. The unique light optical properties of IPS e.max Ceram enable me to fabricate restorations that perfectly imitate the natural tooth.»

Prof Dr Daniel Edelhoff, Germany
«The difficulties associated with restoring complex patient cases in a shade matching, highly aesthetic 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 aesthetic 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. Only one layering ceramic is required for veneering, and the results are impressive.»

Michele Temperani, Italy
«Texture and lustre are what make teeth unique. I need to work with a good layering material to achieve the right “skin”. IPS e.max Ceram meets all my needs, providing high stability during all firing processes, coordinated effects and a lifelike appearance.»
The latest ceramic furnace generation from Ivoclar Vivadent is characterized by an entirely new technology for the heating muffle. The homogeneous radiation of heat provided by this innovation allows you to produce excellent ceramic firing results.

**Programat® P300**  
The new compact Programat P300 furnace concentrates on the essentials. It is characterized by easy operation and value.

**Programat® P500**  
The large, clearly arranged graphic display with the touch screen function is only one of the highlights of the Programat P500, which will make working with this furnace a pleasure. Furthermore, the highly accurate automatic temperature calibration runs completely by itself and saves time.

**Programat® P700**  
You can fire your IPS e.max restorations under ideal conditions with the innovative multimedia furnace with a high-resolution colour display and touch screen function while listening to your MP3 files. At the same time, you can use the display for showing digital images of patients. The OSD (Optical Status Display) keeps you updated on the current operating status of the furnace.

**Programat® EP 5000**  
Innovative combination furnace with graphic display. The furnace can be used for press and ceramic firing. The new press drive with IPF (Intelligent Press Function) enables even faster and more aesthetic press results. The QTK (quartz tube kanthal) muffle technology corresponds to that of the Programat ceramic furnaces.
all ceramic
all you need