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Your purchase of IPS e.max means you have chosen more than simply an all-ceramic system. You have taken the decision to benefit from the unlimited possibilities of all-ceramic. IPS e.max delivers high strength and highly aesthetic materials for the PRESS and the CAD/CAM technology.

The IPS e.max products are unique. They are recognized for their outstanding properties as well as exceptional versatility and flexibility – and they produce results with maximum aesthetics.

The components for the PRESS technique include the highly aesthetic glass-ceramic IPS e.max Press ingots and the glass-ceramic IPS e.max ZirPress ingots for pressing onto zirconium oxide. Depending on the case requirements, two types of materials are available for CAD/CAM techniques: the innovative IPS e.max CAD glass-ceramic blocks and the high-strength zirconium oxide IPS e.max ZirCAD.

The IPS e.max System is further enhanced by the nano-fluorapatite layering ceramic IPS e.max Ceram, which is used as a veneering material for all the IPS e.max components – either glass-ceramics or zirconium oxide ceramics.

This proves that really exceptional all-ceramic systems are well designed. The system allows you to take advantage of a single, standardized layering scheme to offer your dentists and their patients restorations with maximum individuality and naturalness.
IPS e.max® Press –
PRODUCT INFORMATION

MATERIAL

IPS e.max Press is a lithium disilicate glass-ceramic ingot for the PRESS technology. The manufacturing process produces homogeneous ingots in various degrees of opacity. Having a flexural strength of 400 MPa, IPS e.max Press ingots are the pressed ceramic ingots featuring the highest strength. The ingots are pressed in Ivoclar Vivadent press furnaces and produce accurately fitting restorations. Compared to IPS Empress® ingots, IPS e.max Press are larger in diameter, i.e. more volume, which allows more restorations to be produced per press cycle. This increases the economic efficiency and working speed. The pressed, tooth-coloured and highly aesthetic frameworks are then veneered using IPS e.max Ceram.

CTE (100–400°C) [10⁻⁶/K] 10.2
CTE (100–500°C) [10⁻⁶/K] 10.5
Flexural strength (biaxial) [MPa]* 400
Fracture toughness [MPa m¹/²] 2.75
Modulus of Elasticity [GPa] 95
Vickers hardness [MPa] 5800
Chemical solubility [µg/cm²]* 40
Press temperature [°C] 915–920
*according to ISO 6872

USAGE

Indications
– Thin Veneers
– Veneers
– Partial crowns
– Anterior and posterior crowns
– 3-unit anterior bridges
– 3-unit bridges up to the second premolar as the abutment tooth
– Press-over electroplated single crowns
– Implant superstructures for single restorations (anterior and posterior region)
– Implant superstructures for 3-unit bridge restorations up to the second premolar as the abutment tooth
– Primary telescope crowns

The following possibilities are available for the further processing of IPS e.max Press restorations:
– Aesthetic characterization and glazing of fully anatomical restorations with IPS e.max Ceram Shade, Essence and Glaze materials.
– Aesthetic veneering of frameworks or partially reduced restorations with IPS e.max Ceram layering materials.

Contraindications
– Molar bridges with the first molar as a pontic
– 4- and multi-unit bridges
– Inlay-retained bridges
– Very deep, subgingival preparations
– Patients with severely reduced residual dentitions
– Bruxism
– Cantilever bridges
– Maryland bridges

Important processing restrictions
Failure to observe the following restrictions may compromise the results achieved with IPS e.max Press:
– The frameworks and the connectors must not fall below the required minimum thickness
– Veneering ceramics other than IPS e.max Ceram must not be used
– Do not stack two or more IPS e.max Press ingots in a single investment ring
– Metal-ceramic opaquers must not be used with press-over electroplated frameworks

Side effects
If a patient is known to be allergic to any of the components in IPS e.max Press, the material should not be used.
IPS e.max Press ingots and the processing accessories consist of the following main components:

- **IPS e.max Press Ingots**
  Components: SiO₂
  Additional contents: Li₂O, K₂O, MgO, ZnO₂, Al₂O₃, P₂O₅ and other oxides

- **IPS e.max Press Opaque**
  Components: Ceramic materials and glycols

- **IPS e.max Alox Plunger**
  Components: Al₂O₃

- **IPS e.max Alox Plunger Separator**
  Components: Boron nitride

- **IPS e.max Press Invex Liquid**
  Components: Hydrofluoric acid and sulphuric acid in water

- **IPS Natural Die Material**
  Components: Polyester urethane dimethacrylate, paraffin oil, SiO₂, and copolymer

- **IPS Natural Die Material Separator**
  Components: Wax dissolved in hexane

- **IPS PressVEST Powder**
  Components: SiO₂ (quartz powder), MgO and NH₄H₂PO₄

- **IPS PressVEST Liquid**
  Components: Colloidal silicic acid in water

- **IPS PressVEST Speed Powder**
  Components: SiO₂ (quartz powder), MgO and NH₄H₂PO₄

- **IPS PressVEST Speed Liquid**
  Components: Colloidal silicic acid in water
**INGOT CONCEPT**

The shading and opacity control of the IPS e.max Press ingots is based on a unique translucency/opacity concept. The system offers flexibility and can be used with A–D, Chromascop and Bleach BL shades. IPS e.max Press ingots are available in 3 degrees of translucency. The individual levels of the concept are determined by processing techniques and indications. Consequently, maximum flexibility and application variety can be achieved. The individual opacity and translucency levels are distinguished by means of a colour code, which facilitates the selection of the proper ingot.

<table>
<thead>
<tr>
<th>Translucency level</th>
<th>Processing technique</th>
<th>Indications</th>
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<tbody>
<tr>
<td></td>
<td>Staining technique</td>
<td>Cut-back technique</td>
</tr>
<tr>
<td><strong>Low Translucency</strong></td>
<td><img src="image1" alt="Staining Technique" /></td>
<td><img src="image2" alt="Cut-back Technique" /></td>
</tr>
<tr>
<td><strong>Medium Opacity</strong></td>
<td><img src="image4" alt="Staining Technique" /></td>
<td><img src="image5" alt="Cut-back Technique" /></td>
</tr>
<tr>
<td><strong>High Opacity</strong></td>
<td><img src="image7" alt="Staining Technique" /></td>
<td><img src="image8" alt="Cut-back Technique" /></td>
</tr>
</tbody>
</table>

* the cut-back technique is not allowed for thin veneers

**IPS e.max Press LT (Low Translucency)**

The ingots are available in 9 A–D and 4 Bleach BL shades. Due to their translucency, they are ideal for fabricating restorations in the staining and cut-back technique. The ingots are shaded according to the tooth shade. Thus, staining and veneering is reduced to a minimum.

**IPS e.max Press MO (Medium Opacity)**

Because of their opacity, ingots in the shades MO 0 – MO 4 are ideally suitable for the fabrication of frameworks on vital or slightly discoloured preparations and provide the ideal basis for restorations in A–D and Chromascop shades with a natural appearance. The ingots are shaded according to specific group shades. The fluorescence of the ingots decreases with the intensity of the shading.

The **IPS e.max Press HO (High Opacity)** ingots are available in one shade and, due to their higher opacity, are ideal for the fabrication of frameworks on devitalized or severely discoloured preparations, as well as to partially cover metal core build-ups. The high opacity adequately masks the substructure and enables the fabrication of lifelike restorations even in situations with difficult or very dark preparations.
PRODUCT OVERVIEW AND DESCRIPTIONS

IPS e.max Press Basic Kit MO (Medium Opacity)

The IPS e.max Press Basic Kit MO is comprised of all the ingots, as well as the necessary processing accessories for fabricating frameworks in the layering technique. The Basic Kit is supplied in a material box and can be supplemented with any other IPS e.max Kits.

Delivery form:
IPS e.max Press Basic Kit MO (Medium Opacity)
– 1x 5 IPS e.max Press Ingots, Shade HO
– 5x 5 IPS e.max Press Ingots, Shades MO 0, MO 1, MO 2, MO 3, MO 4
– 1x 3 IPS e.max Press Ingots L, Shade HO
– 5x 3 IPS e.max Press Ingots L, Shades MO 0, MO 1, MO 2, MO 3, MO 4
– 1x IPS e.max Investment Ring System, 100 g
– 1x IPS e.max Investment Ring System, 200 g
– 1x IPS Silicone Ring, 100 g
– 1x IPS Silicone Ring, 200 g
– 2x IPS e.max Alox Plunger
– 1x IPS e.max Alox Plunger Separator, 200 mg
– 1x IPS Connector
– 1x IPS e.max Press HO / MO Shade Guide

IPS e.max Press Basic Kit LT (Low Translucency)

The IPS e.max Press Basic Kit LT is comprised of all the ingots, as well as the necessary processing accessories for fabricating restorations in the staining and cut-back technique. The Basic Kit is supplied in a material box and can be supplemented with any other IPS e.max Kits.

Delivery form:
IPS e.max Press Basic Kit LT (Low Translucency)
– 6x 5 IPS e.max Press LT Ingots;
  Shades LT BL2, LT A1, LT A2, LT A3, LT A3.5, LT B1
– 6x 3 IPS e.max Press LT Ingots L;
  Shades LT BL2, LT A1, LT A2, LT A3, LT A3.5, LT B1
– 1x IPS e.max Investment Ring System, 100 g
– 1x IPS e.max Investment Ring System, 200 g
– 1x IPS Silicone Ring, 100 g
– 1x IPS Silicone Ring, 200 g
– 2x IPS e.max Alox Plunger
– 1x IPS e.max Alox Plunger Separator, 200 mg
– 1x IPS Sprue Guide, 100g
– 1x IPS Sprue Guide, 200g
– 1x IPS Connector
– 1x IPS e.max Press/CAD LT Shade Guide
– 1x Bleach Module BL
– 1x IPS Ceramic Etching Gel Kit
IPS e.max Press Ingot Kit LT (Low Translucency)

The IPS e.max Press Ingot Kit LT is comprised of ingots, no processing accessories and is the ideal supplement to the IPS e.max Press Basic Kit MO. The Ingot Kit is supplied in a material box and can be supplemented with any other IPS e.max Kits.

Delivery form:

IPS e.max Press Ingot Kit LT (Low Translucency)
- 6x 5 IPS e.max Press LT Ingots;
  Shades LT BL2, LT A1, LT A2, LT A3, LT A3.5, LT B1
- 6x 3 IPS e.max Press Ingots L;
  Shades LT BL2, LT A1, LT A2, LT A3, LT A3.5, LT B1
- 1x IPS e.max Press/CAD LT Shade Guide
- 1x Bleach Module BL

IPS e.max Press HO (High Opacity) Ingots

IPS e.max Press HO (High Opacity) ingots for the layering technique are available in 2 sizes and one shade (HO).

Delivery form:

IPS e.max Press HO Ingots
- 1x 5 IPS e.max Press Ingots; Shade: HO
- 1x 3 IPS e.max Press Ingots L; Shade: HO

IPS e.max Press MO (Medium Opacity) Ingots

The IPS e.max Press MO (Medium Opacity) ingots for the layering technique are available in 2 sizes and 5 shades (MO 0, MO 1, MO 2, MO 3, MO 4).

Delivery form:

IPS e.max Press MO Ingots
- 5x 5 IPS e.max Press Ingots;
  Shades: MO 0, MO 1, MO 2, MO 3, MO 4
- 5x 3 IPS e.max Press Ingots L;
  Shades: MO 0, MO 1, MO 2, MO 3, MO 4

IPS e.max Press Ingot LT (Low Translucency) Ingots

The IPS e.max Press LT (Low Translucency) ingots for the staining and cut-back technique are available in 2 sizes, 9 A–D and 4 Bleach BL shades.

Delivery form:

IPS e.max Press Ingot LT (Low Translucency) Ingots
- 13 x 5 IPS e.max Press LT Ingots;
  Shades LT BL1, LT BL2, LT BL3, LT BL4, LT A1, LT A2, LT A3, LT A3.5, LT B1, LT B2, LT B3, LT C2, LT D3
- 13 x 3 IPS e.max Press LT Ingots L;
  Shades LT BL1, LT BL2, LT BL3, LT BL4, LT A1, LT A2, LT A3, LT A3.5, LT B1, LT B2, LT B3, LT C2, LT D3
The IPS e.max Press Opaquer Kit contains the necessary opaquers to press-over electroplated frameworks. The opaquers are available in 5 shades (0–4), which are selected in accordance with the desired tooth shade and fired. Thus, they enable a homogeneous bond to both the electroplated framework and the IPS e.max Press ingots.

**Delivery form:**
**IPS e.max Press Opaquer Kit**
- 5x IPS e.max Press Opaquer, 3 g each; Shades: 0, 1, 2, 3, 4

The IPS e.max Press HO/ MO Shade Guide permits the shade determination of the framework even before pressing. The shade tabs show the shade of the corresponding ingots after pressing.

The IPS e.max Press/CAD LT Shade Guide permits the shade determination of the restoration even before pressing. The shade tabs show the shade of the corresponding ingots after pressing.

The IPS e.max Alox Plunger Kit contains the necessary opaquers to press-over electroplated frameworks. The opaquers are available in 5 shades (0–4), which are selected in accordance with the desired tooth shade and fired. Thus, they enable a homogeneous bond to both the electroplated framework and the IPS e.max Press ingots.

**Delivery form:**
**IPS e.max Alox Plunger**
- 2 IPS e.max Alox Plungers

The IPS e.max Press HO/ MO Shade Guide permits the shade determination of the framework even before pressing. The shade tabs show the shade of the corresponding ingots after pressing.

The IPS e.max Press/CAD LT Shade Guide permits the shade determination of the restoration even before pressing. The shade tabs show the shade of the corresponding ingots after pressing.

The ceramic ingot, in its softened state, is pressed into the hollow space in the investment ring by means of the IPS e.max Alox plunger. It features a larger diameter and is slightly shorter than the existing IPS Empress Alox plunger and is thus only suitable for the IPS e.max investment ring system. Both ends of the Alox plunger are rounded, which makes both sides suitable for pressing.

**Delivery form:**
**IPS e.max Alox Plunger**
- 2 IPS e.max Alox Plungers
The IPS e.max Investment Ring System is used to sprue the contoured restorations. The base has been enlarged so that the IPS Silicone Ring optimally fits onto the base. The larger IPS e.max investment ring base thus substantially differs from the IPS Empress investment ring base, which prevents the two bases from being confused.

**Delivery form:**
- IPS e.max Investment Ring System, 100 g
- 3x IPS e.max Investment Ring Bases, 100 g
- 3x IPS e.max Investment Ring Gauges, 100 g

The IPS Sprue Guide helps to check the correct sprueing of the objects to be pressed on the investment ring base.

**Delivery form:**
- IPS Sprue Guide, 100 g
- IPS Sprue Guide, 200 g

The IPS e.max Investment Ring System is used to sprue the contoured restorations. The base has been enlarged so that the IPS Silicone Ring optimally fits onto the base. The larger IPS e.max investment ring base thus substantially differs from the IPS Empress investment ring base, which prevents the two bases from being confused.

**Delivery form:**
- IPS e.max Investment Ring System, 100 g
- 3x IPS e.max Investment Ring Bases, 100 g
- 3x IPS e.max Investment Ring Gauges, 100 g
- IPS e.max Investment Ring System, 200 g
- 3x IPS e.max Investment Ring Bases, 200 g
- 3x IPS e.max Investment Ring Gauges, 200 g

The IPS Sprue Guide helps to check the correct sprueing of the objects to be pressed on the investment ring base.

**Delivery form:**
- IPS Sprue Guide, 100 g
- IPS Sprue Guide, 200 g

The IPS e.max Alox Plunger Separator prevents the ingot from sticking to the Alox plunger during pressing and cooling in the investment ring. The cold Alox plunger is inserted into the recess and rotated. The powder adheres to the surface and thus forms a separating layer. A very small amount of Separator is sufficient. The cold, prepared Alox plunger is subsequently inserted into the pre-heated investment ring immediately before pressing.

**Delivery form:**
- IPS e.max Alox Plunger Separator
  - 1x IPS e.max Alox Plunger Separator, 200 mg

The IPS® Silicone Rings
- IPS Silicone Ring, small, for the IPS Empress and IPS e.max investment ring system 100 g
- IPS Silicone Ring, big, for the IPS Empress and IPS e.max investment ring system 200 g

**Delivery form:**
- IPS Silicone Ring small 100 g
- IPS Silicone Ring big 200 g
IPS Connectors are prefabricated plastic connectors in six different shapes. They are used for the contouring of 3-unit bridges and result in correct and anatomically shaped connectors, when incorporated into the wax-up.

<table>
<thead>
<tr>
<th>IPS Connector</th>
<th>Recommended Area of Application</th>
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</thead>
<tbody>
<tr>
<td>C1</td>
<td>Mandibular anterior region</td>
</tr>
<tr>
<td>C2</td>
<td>Mandibular canine region</td>
</tr>
<tr>
<td></td>
<td>Maxillary anterior region</td>
</tr>
<tr>
<td>C3</td>
<td>Mandibular canine region</td>
</tr>
<tr>
<td></td>
<td>Maxillary anterior and canine region</td>
</tr>
<tr>
<td>C4</td>
<td>Mandibular and maxillary canine and premolar region</td>
</tr>
<tr>
<td>C5</td>
<td>Mandibular and maxillary premolar region</td>
</tr>
<tr>
<td>C6</td>
<td>Mandibular and maxillary premolar and molar region</td>
</tr>
</tbody>
</table>

IPS PressVEST Investment Material

IPS PressVEST is an optimized, phosphate-bonded investment material for the conventional heating method (overnight). It produces pressings that fit accurately and can be used with the following Ivoclar Vivadent pressed ceramics to be pressed in the EP 500, EP 600, EP 600 Combi and Programat EP 5000 press furnaces:
- IPS e.max Press
- IPS e.max ZirPress
- IPS Empress Esthetic
- IPS Empress Cosmo

IPS PressVEST cannot be used for metal casting due to the high temperatures.

Delivery form:
**IPS PressVEST**
- 25x 100 g IPS PressVEST Powder
- 1x 0.5 l IPS PressVEST Liquid
- 50x 100 g IPS PressVEST Powder
- 1x 1 l IPS PressVEST Liquid
IPS® PressVEST Speed Investment Material

IPS PressVEST is a phosphate-bonded investment material for the rapid heating method. The investment material can be used with the following Ivoclar Vivadent pressed ceramics to be pressed in the EP 500, EP 600, EP 600 Combi and Programat EP 5000 press furnaces:
– IPS e.max Press
– IPS e.max ZirPress
– IPS Empress Cosmo

IPS PressVEST Speed cannot be used for metal casting due to the high temperatures.

Delivery form:
IPS PressVEST Speed
– 25x 100 g IPS PressVEST Speed Powder
– 1x 0.5 l IPS PressVEST Speed Liquid

– 50x 100 g IPS PressVEST Speed Powder
– 1x 1 l IPS PressVEST Speed Liquid

IPS® e.max Press Invex

The IPS e.max Press Invex liquid is used to soften the surface reaction layer formed on pressed IPS e.max Press and ZirPress objects during the pressing procedure.

Delivery form:
IPS e.max Press Invex
– 1x IPS e.max Press Invex, 1 l

IPS Natural Die Material

The light-curing IPS Natural Die Material simulates the shade of the prepared tooth and thus represents the optimum basis for natural shade reproduction of the given oral situation when fabricating all-ceramic restorations. IPS Natural Die Material is available in 9 shades. The shades were newly arranged and the assortment now contains all the shade variations necessary for the fabrication of lifelike all-ceramic restorations:
– 1 shade to imitate bleached preparations (ND 1)
– 1 shade to imitate secondary dentin that demonstrates an intensive shade (ND 6)
– 1 shade to imitate severely discoloured / devitalized preparations (ND 9)

Delivery form:
IPS Natural Die Material Kit
– 9x 8 g IPS Natural Die Material;
  Shades: ND 1, ND 2, ND 3, ND 4, ND 5, ND 6, ND 7, ND 8, ND 9
– 1x 20 ml IPS Natural Die Material Separator
– 8x 10 IPS Condensers
– 8x 10 IPS Die Holders
– 2x Universal Holders
– 1x IPS Natural Die Material Shade Guide
IPS® Object Fix Putty / IPS® Object Fix Flow

IPS Object Fix Putty / Flow are auxiliary firing pastes to support all-ceramic restorations during firing. The paste is used for easier securing of the restorations on the metal pins of the honey-comb firing tray. Due to its consistency, IPS Object Fix Putty / Flow are easy to apply and convenient to remove after firing.

Delivery form:
- IPS Object Fix Putty
  - 1x 10 g IPS Object Fix Putty
- IPS Object Fix Flow
  - 1x 10 ml IPS Object Fix Flow

IPS® UniTray

The IPS UniTray is a universal firing tray that has been designed to accommodate objects to be fired, or pressed ingots and AlOx plungers. If the IPS UniTray is used in a ceramic furnace, the restorations are placed in the furnace using the enclosed metal pins.

Delivery form:
- 1x IPS UniTray
- 3x 4 Metal Pins

IPS® Ceramic Etching Gel

IPS Ceramic Etching Gel is used to produce retentive bonding surfaces on ceramic restorations in the composite cementation technique. It enhances the bonding effect between the luting composite and the ceramic surface. IPS Ceramic Etching Gel is exclusively intended for laboratory or extra-oral use and must not be applied in the oral cavity.

Delivery form:
- IPS Ceramic Etching Gel Kit
  - 1x 5 ml IPS Ceramic Etching Gel
  - 1x 30 g Neutralization Powder
  - 1 Measuring Spoon

Investment tongs

The investment tongs ensure safe working with the investment rings. They are used to place the ingots and AlOx plungers into the investment ring before the press procedure is started.

Delivery form:
- 1x Investment Tongs
The Programat EP 5000 is a combination furnace which can be used as both a press and ceramic furnace. The furnace features a large high-resolution graphic colour display with touch screen function. The OSD (Operating Status Display) shows the current operating status of the furnace. The furnace is equipped with the QTK heating muffle technology, which enables optimum firing and press results. The new press drive with IPF (Intelligent Press Function) enables high-quality press results with faster processing times. The CDS (Crack Detection System) is able to identify cracks in the investment ring in time and to interrupt the press procedure, if required.

Delivery form:
Programat EP 5000 Basic Equipment
- 1x Programat EP 5000
- Cooling Tray, Automatic Temperature Checking Set 2 (Test Pack), Cooling Grid for Investment Ring, Power Cord, Vacuum Hose, Press Plunger, USB Stick, USB Download Cable, CD-ROM with various programs (PrograBase 2)

The Programat P300, which is reduced to the essentials, is an inspiration due to its cost-effectiveness. Furthermore, it features a convincing and easy operating concept. A simple menu structure with clearly arranged symbols guides the user during the application of the programs. The furnace is equipped in the factory with preset programs for IPS e.max, IPS d.SIGN, IPS InLine, and the IPS Empress System and it convinces users with its modern, timeless design.

Delivery form:
Programat P300 Basic Equipment
- Programat P300
- Power Cord, Vacuum Hose, Calibration Test Package, Programat Firing Tray Kit

Optimum firing results for glazing materials, stains, and ceramic materials can be achieved with the user-friendly Programat P500 ceramic furnace. This new ceramic furnace combines high-tech and design. The combination of the membrane-sealed keypad and the large, clearly-arranged graphic display with touch screen function facilitate operation. The homogeneous heat emission due to the new muffle technology, the easy, precise and automatic temperature calibration, as well as the 300 firing programs make the P500 and indispensable companion in the laboratory.

Delivery form:
Programat P500 Basic Equipment
- Programat P500
- Power Cord, Vacuum Hose, Calibration Test Package (ATK2), Programat Firing Tray Kit, USB Download Cable, USB Stick
The Programat P700 features a large high-resolution graphic colour display with touch screen function, which is used to show digital colour images of patients and teeth. The OSD (Optical Status Display) uses different colours to inform you about the current operating status of the furnace. Hence, the current process of the furnace can be observed, even from a distance. The furnace is equipped with the QTK heating muffle technology, which enables optimum firing results.

**Delivery form:**

*Programat P700 Basic Equipment*
- Programat P700
- Power Cord, Vacuum Hose, Calibration Test Package, Programat Firing Tray Kit, Multimedia USB-Stick
SHADE DETERMINATION

The correct tooth shade is the basis for a restoration with a life-like appearance. After tooth cleaning, the tooth shade of the non-prepared tooth and/or the adjacent teeth is determined. Individual characteristics have to be taken into consideration when determining the tooth shade. If a crown preparation is planned, for example, the cervical shade should also be determined. In order to achieve the best possible true-to-nature results, shade determination should be carried out at daylight. Furthermore, the patient should not wear clothes of intensive colours and/or lipstick. Basically, it has to be kept in mind that the final shade of the restoration is the result of the following individual shades:

– Die shade
– Shade of the ingot
– Shade of the layering ceramic
– Shade of the cementation material

IPS e.max Press/CAD LT Shade Guide

The shade tabs of the IPS e.max Press/CAD LT Shade Guide show the shade of the corresponding ingots after pressing. Thus, they permit the shade determination of the required ingot directly on the patient.

IPS e.max Press HO/MO Shade Guide

The IPS e.max Press HO/MO shade guide makes it possible for the dentist to choose the shade of the ingot to be used for the case. The shade tabs show the shade of the ingot after pressing.
PREPARATION GUIDELINES AND MINIMUM THICKNESSES

Successful working with IPS e.max Press can only be ensured if the following guidelines and layer thicknesses are observed.

Veneer
If possible, the preparation should be entirely located in the enamel. The incisal preparation margins should not be located in the area of the abrasion surfaces or dynamic occlusal surfaces. By preparing orientation grooves using a depth marker, controlled enamel reduction can be achieved. Dissolution of the proximal contacts is not required.

For preparation without involving reduction of the incisal edge (only labial reduction), the preparation depth in the labial area should be at least 0.6 mm.

For preparation involving reduction of the incisal edge (labial/incisal reduction), the preparation depth in the cervical and labial area should be at least 0.6 mm. The incisal edge must be reduced by 0.7 mm. The extent of the incisal reduction depends on the desired translucency of the incisal area to be built up. The more transparent the incisal edge of the intended veneer, the more pronounced the reduction should be. Discoloured teeth may require more preparation.

Crowns
Evenly reduce the anatomical shape and observe the stipulated minimum thicknesses. Prepare a circular shoulder with rounded inner edges or chamfer with an angle of approx. 10°–30°. The width of the circular shoulder/chamfer is approx. 1 mm. Reduction of the crown third – incisal or occlusal areas – by approx. 1.5 mm. For anterior crowns, the labial and palatal/lingual part of the tooth should be reduced by approx. 1.2 mm.
Partial crowns
Provide at least 1.5 mm of space in the cusp areas. Partial crowns are indicated if the preparation margin is less than approx. 0.5 mm away from the cusp tip, or if the enamel is severely undermined. Prepare a circular shoulder with rounded inner edges or chamfer with an angle of approx. 20°-30°. The width of the circular shoulder/chamfer is approx. 1.0 mm.

Bridges
The maximum acceptable bridge pontic width varies from patient to patient. It depends on the position, size, and state of the teeth, as well as the position of the abutments within the tooth arch. The measurements to determine the bridge pontic width should be done on the unprepared tooth.
– In the anterior region (up to the canine), the bridge pontic width should not exceed 11 mm
– In the premolar region (from the canine up to the 2nd premolar), the bridge pontic width should not exceed 9 mm
**RESTORATION DESIGN CRITERIA**

The restoration design is the key to the success of durable all-ceramic restorations. The more attention given to the design, the better the final results and the clinical success will turn out to be. The following basic guidelines have to be observed:

– The press material is the high-strength component of your restoration and must, therefore, always make up at least 50% of the total layer thickness of the restoration.

– In large preparations, the excess in available space in case of veneered or partially veneered restorations must be compensated by the design of the high-strength component IPS e.max Press and not by the layering material.

– If possible, the connector design should be extended in the vertical direction, rather than in the sagittal or horizontal direction.

– Especially in anterior bridges, it is not always possible to establish the necessary connector dimensions with regard to the sagittal (linguo-vestibular) region. In these cases, the connector dimensions must always be increased in the vertical (inciso-cervical) direction.

The following material thicknesses have to be observed to match the tooth colour of the shade guide and to fulfill the requirements given from the preparation guidelines:

<table>
<thead>
<tr>
<th>Material thickness</th>
<th>Thin Veneer</th>
<th>Veneer</th>
<th>Partial crowns</th>
<th>Crowns</th>
<th>Bridges</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPS e.max Press LT</td>
<td>circular:</td>
<td>0.3</td>
<td>0.6</td>
<td>1.5</td>
<td>1.2</td>
</tr>
<tr>
<td>Staining technique</td>
<td>incisal/occlusal:</td>
<td>0.4</td>
<td>0.7</td>
<td>1.5</td>
<td>1.5</td>
</tr>
<tr>
<td>IPS e.max Press LT</td>
<td>circular:</td>
<td>–</td>
<td>0.6</td>
<td>1.5</td>
<td>1.2</td>
</tr>
<tr>
<td>Cut-back technique</td>
<td>incisal/occlusal:</td>
<td>–</td>
<td>0.4</td>
<td>0.8</td>
<td>0.4</td>
</tr>
<tr>
<td>IPS e.max Press HO/MO</td>
<td>circular:</td>
<td>–</td>
<td>–</td>
<td>0.6</td>
<td>0.8</td>
</tr>
<tr>
<td>Layering technique</td>
<td>incisal/occlusal:</td>
<td>–</td>
<td>–</td>
<td>0.6</td>
<td>0.8</td>
</tr>
<tr>
<td>Design type</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>16 mm² (use IPS Connector)</td>
</tr>
<tr>
<td>Connector dimensions</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>16 mm² (use IPS Connector)</td>
</tr>
</tbody>
</table>

If IPS e.max Ceram is used to veneer IPS e.max Press, the following layering thicknesses as well as the relationship of layering thickness of the veneering material and the press material regarding the total layering thickness have to be observed:

| Maximum layer thickness of the veneering ceramic in mm | 0.6 | 0.7 | 0.8 | 0.9 | 1.2 | 1.4 |
| Minimum layer thickness of the framework ceramic in mm | 0.6 | 0.8 | 1.0 | 1.1 | 1.3 | 1.6 |
| Total layer thickness of the restoration in mm       | 1.2 | 1.5 | 1.8 | 2.0 | 2.5 | 3.0 |

Failure to observe the stipulated framework design criteria, minimum thicknesses, and minimum connector dimensions may result in clinical failures, such as cracks, delamination, and fracture of the restoration.
Restoration design criteria:

– For the IPS e.max Press LT staining technique

– For the IPS e.max Press LT cut-back technique

– For the IPS e.max Press HO/MO layering technique
- Bridge pontic and bridge connectors for the IPS e.max Press LT cut-back technique
Design for full veneers

Design for full veneers

Island-shaped design

Design for partial veneers

Design for partial veneers

Bridge pontic and bridge connectors for the IPS e.max Press HO/VO layering technique

Failure to observe the stipulated framework design criteria, minimum thicknesses, and minimum connector dimensions may result in clinical failures, such as cracks, delamination, and fracture of the restoration.
CEMENTATION

For the cementation of IPS e.max restorations, you may choose between the tried-and-tested cementation materials from the coordinated assortment of Ivoclar Vivadent.

**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 to achieve enhanced shade and translucency effects.

**Multilink® Automix**
The universal, dual-curing luting composite offers a wide range of indications. Furthermore, it generates a very strong bond on all material surfaces.

**Vivaglass® CEM**
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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### Cementation

<table>
<thead>
<tr>
<th>Cementation</th>
<th>adhesive</th>
<th>self-adhesive* / conventional</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IPS e.max Press</strong></td>
<td>Thin veneers, veneers</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Partial crowns</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Anterior and posterior crowns, 3-unit bridges up to the second premolar</td>
<td>✓</td>
</tr>
<tr>
<td><strong>IPS e.max ZirPress</strong></td>
<td>Veneers</td>
<td>✓</td>
</tr>
<tr>
<td><strong>IPS e.max ZirCAD + IPS e.max ZirPress</strong></td>
<td>Inlay-retained bridges</td>
<td>✓</td>
</tr>
<tr>
<td><strong>IPS e.max ZirCAD</strong></td>
<td>Crowns and bridges</td>
<td>✓</td>
</tr>
<tr>
<td><strong>IPS e.max CAD</strong></td>
<td>Veneers</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Partial crowns</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Anterior and posterior crowns</td>
<td>✓</td>
</tr>
<tr>
<td><strong>IPS e.max Ceram</strong></td>
<td>Veneers</td>
<td>✓</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Recommended cementation materials</strong></th>
<th><strong>Variolink II</strong></th>
<th><strong>Variolink Veneer</strong></th>
<th><strong>Multilink Automix</strong></th>
<th><strong>Vivaglass CEM</strong></th>
</tr>
</thead>
</table>

✓ recommended product combination
– not recommended/product combination not possible
* self-adhesive powder-liquid systems
Model and die preparation

Fabricate a working model with removable die segments. The application of a sealer is recommended to harden the surface and to protect the stone die. However, the sealer layer must not result in any changes of the dimensions of the stone die.

Subsequently, the spacer is applied as described below. Please make sure to consider the expansion of the investment material when applying the spacer.

- For veneers and single crowns, the spacer is applied in two layers up to max. 1 mm from the preparation margin (spacer application 9–11 µm per layer)
- Two spacer layers are also applied for bridge reconstructions. An additional layer is applied to the intercoronal surfaces of the abutments (facing the pontic). This layer prevents undesired friction.

Contouring

After fabricating a working model with removable die segments and preparing the dies, the crown is contoured. Fabricate a fully anatomical and functional wax-up for the staining technique. You can use any organic waxes that burn out without leaving residue.

Please observe the following notes for contouring:

- Observe the stipulated minimum wall thicknesses.
- Exact contouring of the restoration, particularly in the area of the preparation margins, is indispensable. Do not over-contour, since this would require time-consuming and risky fitting procedures.
- The possible occlusal relief must be taken into consideration as early as during the wax-up, since the final firing of Shades, Stains and Glaze also results in added surface dimension.
Sprueing

Always place the sprues in the direction of flow of the ceramic and at the thickest part of the wax-up in order to achieve unimpeded flow of the viscous ceramic material. The 100 g or 200 g investment ring base is selected depending on the number of objects to be invested. Bridges must be pressed using the 200 g investment ring system. The following sprueing guidelines must be observed:

<table>
<thead>
<tr>
<th></th>
<th>Veneers, single crowns, partial crowns</th>
<th>3-unit bridges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment ring base</td>
<td>100 g and 200 g</td>
<td>200 g only</td>
</tr>
<tr>
<td>Wax wire ø</td>
<td>2.5 – 3 mm</td>
<td>2.5 – 3 mm</td>
</tr>
<tr>
<td>Wax wire length</td>
<td>min. 3 mm, max. 8 mm</td>
<td>min. 3 mm, max. 8 mm</td>
</tr>
<tr>
<td>Length wax wire including object</td>
<td>max. 15–16 mm</td>
<td>max. 15–16 mm</td>
</tr>
<tr>
<td>Attachment point at the wax object</td>
<td>Thickest part of the wax-up</td>
<td>At both bridge abutments; no sprue at the pontic</td>
</tr>
<tr>
<td>Sprueing angle to the wax object</td>
<td>axial</td>
<td>axial</td>
</tr>
<tr>
<td>Sprueing angle to the investment ring base</td>
<td>45–60°</td>
<td>45–60°</td>
</tr>
<tr>
<td>Design of the attachment points</td>
<td>rounded and slightly tapered; no sharp angles or edges</td>
<td>rounded and slightly tapered; no sharp angles or edges</td>
</tr>
<tr>
<td>Distance between objects</td>
<td>min. 3 mm</td>
<td>min. 3 mm</td>
</tr>
<tr>
<td>Distance to the silicone ring</td>
<td>min. 10 mm</td>
<td>min. 10 mm</td>
</tr>
<tr>
<td>Important</td>
<td>A dummy object must be invested with very delicate single wax objects</td>
<td></td>
</tr>
</tbody>
</table>

Sprueing is carried out on the IPS e.max investment ring base. Sprues are attached in the direction of flow of the ceramic and always at the thickest part of the restorations.
Sprueing is carried out in the direction of the tooth preparation.

The sprue and object together should not be longer than 15–16 mm. Observe an angle of 45–60°.

Place the sprues in the direction of flow of the ceramic material.
If the crown is viewed from the proximal, the longer side of the object (usually the buccal surface) points outwards. Additionally, the flow of the ceramic material must be observed.

The attachment points of the sprues must be rounded. Observe an angle of 45 to 60°.

Investment gauge
**Investing**

Investing is carried out with either IPS PressVEST (e.g. over night) or IPS PressVEST Speed (during the day). The corresponding IPS silicone ring with matching ring gauge is used for that purpose. We recommend the following procedure to determine the accurate wax weight:
- Weigh the ring base (seal the opening of the ring base with wax).
- Position the objects to be pressed on the ring base and attach them with wax. Weigh again.
- The difference between the two values is the weight of the wax used.

<table>
<thead>
<tr>
<th>Wax weight</th>
<th>Small Ingot (up to max. 0.75 g)</th>
<th>Large Ingot (L) up to max 2 g</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment Ring System</td>
<td>100 g and 200 g</td>
<td>200 g only</td>
</tr>
</tbody>
</table>

Please refer to the Instructions for Use of the corresponding investment material regarding the detailed processing parameters.
- Do not apply a debubblizer to the wax objects.
- Mix investment material. The investment material contains quartz powder. Therefore, the inhalation of dust must be avoided.
- Use a suitable instrument for the fine investment of the cavity. Make sure that the delicate wax margins are not damaged.
- Carefully position the IPS Silicone Ring on the investment ring base without damaging the wax objects. The IPS Silicone Ring must sit flush on the investment ring base.
- Subsequently, carefully fill the investment ring with investment material up to the marking and position the ring gauge with a hinged movement.
- Allow the investment material to set without manipulating the investment ring.
- Do not use IPS PressVEST for investment over the weekend to prevent crystallization.

Use the IPS Silicone Ring for investment. Pour the investment material slowly and carefully.

Fill investment ring up to the marking and position the ring gauge with a hinged movement.
Preheating

After the stipulated setting time of the respective investment material (IPS PressVEST or IPS PressVEST Speed), the investment ring is prepared for preheating as follows:
- Remove the ring gauge and ring base with a turning movement.
- Carefully push the investment ring out of the IPS Silicone Ring.
- Remove rough spots on the bottom surface of the investment ring with a plaster knife and check the 90° angle.
- Investment material residue must not enter the sprues. Blow into the sprues if necessary.
- If several investment rings are preheated together, mark them with the respective ingot shade.

<table>
<thead>
<tr>
<th>Setting time</th>
<th>IPS PressVEST</th>
<th>IPS PressVEST Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>min. 60 min.</td>
<td>min. 30 min., max. 45 min.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Temperature of the preheating furnace</th>
<th>IPS PressVEST</th>
<th>IPS PressVEST Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room temperature</td>
<td>850 °C (1562 °F); switch on preheating furnace in time</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Position of the investment ring in the furnace</th>
<th>IPS PressVEST</th>
<th>IPS PressVEST Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Towards the rear wall; tipped with the opening facing down</td>
<td>Towards the rear wall; tipped with the opening facing down</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IPS e.max Press Ingots</th>
<th>IPS PressVEST</th>
<th>IPS PressVEST Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do not preheat</td>
<td>Do not preheat</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IPS e.max Alox Plunger</th>
<th>IPS PressVEST</th>
<th>IPS PressVEST Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do not preheat</td>
<td>Do not preheat</td>
<td></td>
</tr>
</tbody>
</table>

Important

If several Speed investments are required, they should be invested with a time difference and placed in the preheating furnace at intervals of approximately 20 minutes. When placing the investment rings in the preheating furnace, make sure that the furnace temperature does not drop too much. The indicated holding time starts when the preheating temperature is reached.

In order to ensure smooth working procedures in the laboratory on a daily basis, impeccable functioning of the infrastructure and the preheating furnaces is essential. This includes their maintenance, cleaning with a vacuum cleaner in a cool state as well as regular checks of the temperature controls and heating elements, etc, by the manufacturer.
Pressing

Before the preheating cycle for the investment ring has ended, the following preparations for pressing must be carried out:

– Provide a cold IPS e.max Alox Plunger and a cold IPS e.max Press ingot in the desired shade.
– After that, dip the cold IPS e.max Alox plunger into the opening of the IPS e.max Alox Plunger Separator and keep ready for use.
– Turn on the press furnace in time so that the self-test and preheating phase are completed.
– Select the press program for IPS e.max Press and the desired investment ring size.

Once the preheating cycle has been completed, remove the investment ring from the preheating furnace and proceed as follows. Make sure that you take no more than 1 minute for these steps to prevent the investment ring from cooling down too much.

– Insert the cold IPS e.max Press ingot into the hot investment ring.
– Insert the ingot with the rounded, non-imprinted side into the investment ring. The imprinted side should face upward to double-check the ingot shade.
– Place the powder-coated cold IPS e.max Alox plunger into the hot investment ring.
– Place the completed investment ring at the center of the hot press furnace using the investment tongs.
– Press START to start the selected program.

<table>
<thead>
<tr>
<th>Veneers, single crowns partial crowns</th>
<th>100 g Investment Ring</th>
<th>200 g Investment Ring</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-unit bridges</td>
<td>1 small ingot</td>
<td>1 small ingot or 1 large ingot</td>
</tr>
<tr>
<td>IPS e.max Press Ingots</td>
<td>cold ingot</td>
<td>cold ingot</td>
</tr>
<tr>
<td>IPS e.max Alox Plunger</td>
<td>cold plunger</td>
<td>cold plunger</td>
</tr>
<tr>
<td>IPS e.max Alox Plunger Separator</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

Select a cold isolated IPS e.max Alox Plunger and a cold IPS e.max Press ingot in the desired shade.

Insert the cold IPS e.max Press ingot into the hot investment ring with the shade designation facing upward.
Press parameters for IPS e.max Press

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>t°</th>
<th>T</th>
<th>H</th>
<th>V₁</th>
<th>V₂</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP 600 / EP 600 Combi</td>
<td>700°C</td>
<td>60°C</td>
<td>915°C</td>
<td>15°</td>
<td>500°C</td>
<td>915°C</td>
<td>300</td>
</tr>
<tr>
<td>Small investment ring</td>
<td>1292°F</td>
<td>108°F</td>
<td>1679°F</td>
<td></td>
<td>920°C</td>
<td>1679°F</td>
<td></td>
</tr>
<tr>
<td>EP 600 / EP 600 Combi</td>
<td>700°C</td>
<td>60°C</td>
<td>920°C</td>
<td>25°</td>
<td>500°C</td>
<td>920°C</td>
<td>300</td>
</tr>
<tr>
<td>Large investment ring</td>
<td>1292°F</td>
<td>108°F</td>
<td>1688°F</td>
<td></td>
<td>932°F</td>
<td>1688°F</td>
<td></td>
</tr>
<tr>
<td>EP 500</td>
<td>700°C</td>
<td>60°C</td>
<td>925°C</td>
<td>15°</td>
<td>500°C</td>
<td>925°C</td>
<td>Programs 11-20, Software 2.9</td>
</tr>
<tr>
<td>Small investment ring</td>
<td>1292°F</td>
<td>108°F</td>
<td>1697°F</td>
<td></td>
<td>932°F</td>
<td>1697°F</td>
<td>Software 2.9</td>
</tr>
<tr>
<td>EP 500</td>
<td>700°C</td>
<td>60°C</td>
<td>930°C</td>
<td>25°</td>
<td>500°C</td>
<td>930°C</td>
<td>Programs 11-20, Software 2.9</td>
</tr>
<tr>
<td>Large investment ring</td>
<td>1292°F</td>
<td>108°F</td>
<td>1706°F</td>
<td></td>
<td>932°F</td>
<td>1706°F</td>
<td></td>
</tr>
</tbody>
</table>

If the Programat EP 5000 furnace is used, select the press program according to the investment ring size and the ingot to be used.
Divesting

After cooling to room temperature (approximately 60 minutes), the investment ring may show cracks. These cracks developed (immediately around the Alox plunger) during cooling as a result of the different CTEs of the various materials (Alox plunger, investment material, and pressed materials). They do not compromise the press result.

Divest the investment ring as follows:
- Mark the length of the Alox plunger on the cooled investment ring.
- Separate the investment ring using a separating disk. This predetermined breaking point enables reliable separation of the Alox plunger and the ceramic material.
- Break the investment ring at the predetermined breaking point using a plaster knife.
- Rough divestment is carried out with glass polishing beads at 4 bar (60 psi) pressure.
- Fine divestment is carried out with glass polishing beads at 2 bar (30 psi) pressure.
- Do not use Al₂O₃ for rough or fine divestment.
- When divesting the object, blast from the direction indicated in the schematic below and observe the appropriate distance in order not to damage the object margins.
- Any ceramic residue on the Alox plunger is removed with Al₂O₃ (type 100 microns).
Fine divestment is carried out with glass polishing beads at 2 bar (30 psi) pressure.

Divested IPS e.max Press objects with light reaction layer.
Removing the reaction layer

After fine divestment, the reaction layer formed during the press procedure is removed using IPS e.max Press Invex Liquid followed by blasting. The procedure is carried out as follows:

– Pour the Invex Liquid into a plastic cup.
– Immerse the pressed objects into the Invex Liquid and clean in an ultrasonic cleaner for at least 10 minutes and a maximum of 30 minutes. Make sure that the objects are completely covered with Invex Liquid.
– Subsequently clean the object under running water and blow dry.
– Carefully remove the white reaction layer using Al2O3 Type 100 at 1–2 bar (15–30 psi) pressure.
– Make sure that the reaction layer is completely removed, both on the cavity side and on the outer side of the object (repeat the procedure, if necessary).
– If the reaction layer is not entirely removed, bubbles may develop, which may lead to bonding problems or even cracks in the layering ceramic.
– Replace the Invex Liquid after approximately 20 uses or after sedimentation of the liquid.

Warnings

– The Invex Liquid contains < 1 % hydrofluoric acid.
– It is harmful when inhaled, swallowed, and when it comes into contact with the skin. Furthermore, it is corrosive.
– Keep the container tightly sealed and store it in a well-ventilated place (acid cabinet).
– If the material comes into contact with the eyes, immediately rinse with copious amounts of water and see a physician immediately.
– If the material comes into contact with the skin, immediately clean with soap and copious amounts of water.
– Use suitable protective clothing, gloves, and goggles when working.
– In case of an accident or physical discomfort, see a physician immediately (bring the Invex label, if possible).

Disposal

– Neutralize the Invex Liquid.
– Neutralize the diluted solution by adding lime or baking soda and letting it react for 5 minutes.
– After the reaction time, pour the neutralized solution into the sink, flushing it with running water.
Finishing

It is of critical importance to use the correct grinding instruments for finishing and adjusting glass-ceramics. If unsuitable grinding instruments are used chipping of the edges and local overheating may occur (please see the corresponding recommendations from Ivoclar Vivadent).

The following procedure is recommended to finish IPS e.max Press restorations:
– Even though adjustment by grinding of pressed IPS e.max Press restorations is possible, it should be kept to a minimum.
– Wet the area to be ground and use a fine diamond disk to cut the sprues.
– Prevent overheating of the ceramic material. Low speed and light pressure is recommended. Please observe the corresponding instructions of the manufacturer.
– Smooth out the attachment points of the sprues.
– Remove the spacer prior to placing the pressed object on the die. Place the framework on the die and carefully adjust.
– Do not ‘post-separate’ the bridge framework using separating disks, since this may result in undesired predetermined breaking points, which will subsequently compromise the stability of the all-ceramic restoration.
– Make sure that the minimum thicknesses are maintained even after finishing.
– Blast the restoration with Al₂O₃ at 1 bar (15 psi) and clean it under running water or with steam before characterization and glazing.
– Some blasting machines may require different pressure settings to accomplish this procedure.
Optional

Die fabrication with IPS Natural Die Material
The light-curing IPS Natural Die Material simulates the shade of the prepared tooth. A control die is fabricated using the shade information provided by the dentist (shade determination). This control die represents the optimum basis for a true-to-nature shade reproduction of the given oral situation.

– Coat the inner surfaces of the ceramic restorations with IPS Natural Die Material Separator and allow it to react for a short time.
– Apply die IPS Natural Die Material in the corresponding shade to the inner surfaces of the restoration using the IPS Condenser and adapt so that the entire inner surface is coated and filled.
– Completely fill the restoration cavity and insert an IPS Die Holder into the material and adapt excess material around the holder. Make sure that the Die Material is well adapted to the restoration margins and that no gaps are present.
– Polymerize the IPS Natural Die Material die with a commercial polymerization light, e.g. Lumamat 100, for 60 seconds.
– After polymerization, the die can be finished and or smoothed, if required.
Stain and Characterization firing

The following paragraphs will explain the most important steps for staining and characterization. For detailed information on the nano-fluorapatite layering ceramic and its processing, please refer to the IPS e.max Ceram Instructions for Use. Before Stain and Characterization firing, the restoration must be free from dirt and grease. Avoid any contamination after cleaning.

The following working procedure should be observed:

– For better wetting of the stains, a small quantity of IPS e.max Ceram Glaze and Stain Liquid may be slightly rubbed into the surface.
– Mix the pastes and powder to the desired consistency using IPS e.max Ceram Glaze and Stain Liquids allround or longlife.
– More intensive shades are achieved by repeated staining, rather than by applying thicker layers.
– To imitate the incisal area and translucency in the incisal third, IPS e.max Ceram Shade Incisal may be used.
– The cusps and fissures can be individualized using Essence.
– Conduct the Stain and Characterization firing using the indicated firing parameters.

Firing parameters for the Stain and Characterization firing

<table>
<thead>
<tr>
<th>IPS e.max Ceram on IPS e.max Press LT Staining technique</th>
<th>B</th>
<th>S</th>
<th>t°C</th>
<th>T</th>
<th>H</th>
<th>V1</th>
<th>V2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stain and Characterization firing</td>
<td>403°C 757°F</td>
<td>6:00 min</td>
<td>60°C 108°F</td>
<td>770°C 1418°F</td>
<td>1:00 min</td>
<td>450°C 842°F</td>
<td>769°C 1416°F</td>
</tr>
</tbody>
</table>

Additional Stain and Characterization firing cycles can be conducted with the same firing parameters.
**Glaze firing**

Glaze firing is conducted using powder or paste glaze.

The following procedure is recommended:
- Mix the glazing material to the desired consistency using IPS e.max Ceram Glaze and Stain Liquids allround or longlife.
- Apply an even layer of the glazing material on the entire surfaces of the restoration.
- If a higher fluorescence is desired in the cervical areas, fluorescent glaze (paste or powder) can be applied to these areas.
- Conduct the Glaze firing using the stipulated firing parameters.

### Firing parameters for the Glaze firing

<table>
<thead>
<tr>
<th>IPS e.max Ceram on IPS e.max Press LT</th>
<th>B</th>
<th>S</th>
<th>T°</th>
<th>T</th>
<th>H</th>
<th>V1</th>
<th>V2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staining technique</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glaze firing</td>
<td>403°C</td>
<td>6:00 min</td>
<td>60°C</td>
<td>1:00 min</td>
<td>450°C</td>
<td>1:00 min</td>
<td>769°C</td>
</tr>
<tr>
<td></td>
<td>757°F</td>
<td></td>
<td>108°F</td>
<td></td>
<td>842°F</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If the gloss is unsatisfactory after the first Glaze firing, further glaze firing procedures may be conducted using the same firing parameters.

Completed restoration after Glaze firing

Excellent shade match
Optional

2-in-1 Technique
First, the glaze paste is applied, followed by the stains, which are applied on the unfired glaze layer.

**Step 1 – Application of the glaze material**
- Extrude IPS e.max Ceram Glaze from the syringe and thin the material to the desired consistency using IPS e.max Ceram Glaze and Stain Liquid.
- Apply the glazing material on the entire outer surfaces of the restoration.
- The glazing material must not come into contact with the inner aspects of the restoration.
- Excessively thin glazing material layers result in an unsatisfactory gloss.
- Avoid pooling and excessively thick glazing material layers.

**Step 2 – Application of Essences/Shades:**
- Mix IPS e.max Ceram Essences with IPS e.max Ceram Glaze and Stain Liquid
- Extrude IPS e.max Ceram Shades from the syringe and thin the material to the desired consistency using IPS e.max Ceram Glaze and Stain Liquid.
- Apply the mixed Shade and Essence materials directly into the unfired glazing material layer.
- Intensify the corresponding dentin shade in the cervical and occlusal areas using IPS e.max Ceram Shades.
- To imitate the incisal area and translucency in the incisal third, use IPS e.max Ceram Shade Incisal.

After staining and glazing, the Stain and Glaze firing is conducted in a compatible ceramic furnace (e.g. Programat® P500). The following points should be observed when placing the restoration in the furnace and setting the firing parameters:
- Place the restorations on the honey-comb firing tray.
- As an alternative, the restorations can be supported with a firing pillow. Due to their lower position in the firing chamber, the restorations are exposed to less heat. Therefore, the holding time must be extended to up to 2 minutes in order to achieve the desired gloss.

<table>
<thead>
<tr>
<th>IPS e.max Ceram on IPS e.max Press LT Staining technique</th>
<th>B</th>
<th>S</th>
<th>(T^*)</th>
<th>T</th>
<th>H</th>
<th>(V_1)</th>
<th>(V_2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glaze firing</td>
<td>403°C</td>
<td>6:00 min</td>
<td>60°C</td>
<td>770°C</td>
<td>1:00 min</td>
<td>450°C</td>
<td>769°C</td>
</tr>
<tr>
<td></td>
<td>757°F</td>
<td>6:00 min</td>
<td>108°F</td>
<td>1418°F</td>
<td>1:00 min</td>
<td>842°F</td>
<td>1416°F</td>
</tr>
</tbody>
</table>
IPS e.max® Press LT –

THIN VENEERS

IPS e.max Press LT can be used for the fabrication of very thin veneers. For this purpose, minimum preparation is sufficient. If enough space is available, e.g. retraction of a tooth, no preparation at all is required.

The following minimum thicknesses for fabricating thin veneers have to be observed:
- labial: 0.3 mm
- incisal: 0.4 mm

Please observe the following procedure for the fabrication of thin veneers:
- Apply the spacer to the preparation or tooth to be treated according to the veneer preparation guidelines (see page 24)
- For thin veneers without preparation, locate the restoration margins in the proximal area as well as along the gingival margin.
- Observe the minimum thickness of the veneer.
- Sprue, invest, press, divest, and remove the reaction layer according to the stipulations on pages 25–34.
- It is possible to apply IPS e.max Ceram Incisal or Transpa.
- Conduct the Stain and Glaze firing with IPS e.max Ceram (see pages 37–38).
- Thin veneers have to be adhesively cemented.

Firing parameters for IPS e.max Press LT – Thin Veneers

<table>
<thead>
<tr>
<th>IPS e.max Ceram on IPS e.max Press LT Staining technique</th>
<th>B</th>
<th>S</th>
<th>t°C</th>
<th>T</th>
<th>H</th>
<th>V1</th>
<th>V2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stain and Characterization firing</td>
<td>403°C / 757°F</td>
<td>6:00 min</td>
<td>60°C / 108°F</td>
<td>770°C / 1418°F</td>
<td>1:00 min</td>
<td>450°C / 842°F</td>
<td>769°C / 1416°F</td>
</tr>
<tr>
<td>Glaze firing</td>
<td>403°C / 757°F</td>
<td>6:00 min</td>
<td>60°C / 108°F</td>
<td>770°C / 1418°F</td>
<td>1:00 min</td>
<td>450°C / 842°F</td>
<td>769°C / 1416°F</td>
</tr>
<tr>
<td>Add-On after Glaze firing</td>
<td>403°C / 757°F</td>
<td>6:00 min</td>
<td>50°C / 90°F</td>
<td>700°C / 1292°F</td>
<td>1:00 min</td>
<td>450°C / 842°F</td>
<td>699°C / 1290°F</td>
</tr>
</tbody>
</table>
IPS e.max® Press LT –
CUT-BACK TECHNIQUE

Wall and layering thicknesses

In order to individualize restorations in the incisal area so that they correspond to their natural model, the IPS e.max Press restoration is additionally veneered using IPS e.max Ceram layering materials. The restoration is first contoured in a fully anatomically fashion. Subsequently, the restoration is cut back before investing. Therefore, the cut-back technique is a very efficient method for fabricating highly aesthetic restorations.

The following wall and layer thicknesses have to be observed:

Model and die preparation

For notes on the model and die preparation, please refer to page 24.

Contouring

A fully anatomical wax-up should be fabricated for veneer restorations. You can use any organic waxes that burn out without leaving residue. Also, ensure the wall thicknesses for contouring. For better distinction, a basic wax in a different colour can be used.

Fully anatomical wax-up. For better distinction, a basic wax in a different colour is recommended.
**Cut-back**

If IPS e.max Press is used, cut back the wax-up in order to reduce finishing after pressing to a minimum. Fabricate a silicone key over the fully anatomical wax-up to prepare the restorations for cut-back. The silicone key helps to check the cut-back and can be used again during veneering with IPS e.max Ceram.

Please observe the following points for the cut-back of the wax-up:
- Cut back the wax-up in the incisal third.
- Refrain from designing extrem contours in mamelons (points and edges)
- Check the cut-back by means of the silicone key.
- The minimum wall thicknesses must be observed.

For the processing steps regarding sprueing, investing, preheating, pressing, divesting, removing the reaction layer and separating the restoration, please refer to the pages 25–34.
**Finishing**

It is of critical importance to use the correct grinding instruments for finishing and adjusting high-strength glass-ceramics. If unsuitable grinding instruments are used, marginal chipping and local overheating may occur (please see the respective recommendations from Ivoclar Vivadent).

The following procedure is recommended for finishing IPS e.max Press restorations:

- Adjustment by grinding should be kept to a minimum.
- Wet the area to be ground and use a fine diamond disk to cut the sprues.
- Prevent overheating of the ceramic material. Low speed and light pressure is recommended. Please observe the corresponding instructions of the manufacturer.
- Smooth out the attachment points of the sprues.
- Remove the spacer prior to placing the restorations on the dies. Place the restorations on the dies and carefully adjust.
- Do not “post-separate” bridges using separating disks, since this may result in undesired predetermined breaking points, which will subsequently compromise the stability of the all-ceramic restoration.
- Create the final cut-back and mamelon structure.
- Make sure that the minimum thicknesses are maintained even after finishing.
- Blast the framework with Al2O3 at 1 bar (15 psi) pressure and clean it under running water or with steam before applying the veneering material.
- Some blasting machines may require different pressure settings to accomplish this procedure.

**Cut restorations fitted on the die**

**Smooth out the attachment points of the sprues with low speed and light pressure and finish surfaces**
Check the cut-back by means of the silicone key, observe minimum wall thicknesses. Limit the cut-back to the incisal third.

Refrain from designing extrem contours in mamelons.

Pressed IPS e.max Press restorations with cut-back after finishing.
Preparing for veneering

– Blast the outer surfaces of the restoration with Al₂O₃ (Type 100) at 1 bar (15 psi) pressure before veneering. Some blasting machines may require different pressure settings to accomplish this procedure.
– Before the Wash firing, clean the restoration thoroughly with the steam jet or under running water.

Veneering with IPS e.max Ceram

The following paragraphs will explain the most important veneering steps. Detailed information about the nano-fluorapatite ceramic and its processing are contained in the IPS e.max Ceram Instructions for Use.

Firing tray and pins

Use a honey-combed firing tray and the corresponding support pins to fire the restorations (do not use IPS e.max CAD Crystallization Tray or IPS e.max CAD Crystallization Pins). Round the top edges of the support pin to prevent the object from sticking to the pin. Another method of reducing this risk is to cover the pins with platinum foil or a small amount of IPS Object Fix Putty or Flow. Regularly clean the support pins. Do not use contaminated pins.
Wash firing (foundation firing)

The framework must be free of dirt and grease before the wash firing is done. Any contamination of the framework after cleaning must be prevented. Wash firing (foundation) is carried out with Transpa Incisal, Impulse or Shades and Essence materials (ZirLiner may not be used. Because of its firing temperature of 960 °C/1760°F it only works on zirconium oxide). In order to achieve a gloss on non-veneered surfaces already at this stage, it is recommended to apply glaze (paste or powder) to these areas and conduct a Wash firing. Do not mix paste and powder materials.

**Variant A: Powder**

With ideal space, conduct the wash firing (foundation) with the required IPS e.max Ceram Transpa Incisal and/or Impulse material. Use the IPS e.max Ceram Build-Up Liquids (allround or soft) to mix the materials. If a more plastic consistency is desired, IPS e.max Ceram Glaze and Stain Liquids (allround or longlife) can be used. Apply the wash in a thin coat on the cut back areas.

**Variant B: Paste**

With limited space or to increase the in-depth chroma, the wash firing can be conducted using IPS e.max Ceram Shades and Essence. Mix the paste or powder with the IPS e.max Ceram Glaze and Stain Liquids (allround or longlife) to the desired consistency. Apply the wash in a thin coat on the cut back areas.

Firing parameters for the Wash firing (foundation firing)

<table>
<thead>
<tr>
<th>IPS e.max Ceram on IPS e.max Press LT Cut-back technique</th>
<th>B</th>
<th>S</th>
<th>t°F</th>
<th>T</th>
<th>H</th>
<th>V1</th>
<th>V2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wash firing (Foundation)</td>
<td>403°C</td>
<td>4.00 min</td>
<td>50°C</td>
<td>750°C</td>
<td>1.00 min</td>
<td>450°C</td>
<td>749°C</td>
</tr>
<tr>
<td></td>
<td>757°F</td>
<td>4.00 min</td>
<td>90°F</td>
<td>1382°F</td>
<td>1.00 min</td>
<td>842°F</td>
<td>1380°F</td>
</tr>
</tbody>
</table>

Layering materials must not be applied on unfired wash layers (powders and pastes), since this will result in a delamination of the layering ceramic. The wash (foundation) must be fired before the actual layering procedure is started.
Incisal firing

The IPS e.max Ceram layering materials (Transpa, Transpa Incisal, Impulse) are used to complete the anatomical shape and to achieve the individual aesthetic appearance. The materials are mixed using the IPS e.max Ceram Build-Up Liquids all-round and soft. If required, a second Incisal firing is conducted with the same firing parameters.

Apply Impulse materials, e.g. Opal Effect 1

Complete the restoration, e.g. with Incisal materials and Opal Effect 3

Position the restoration on the firing tray and fire with the firing parameters for Incisal firing

Restoration after Incisal firing

Firing parameters for the Incisal firing

<table>
<thead>
<tr>
<th>IPS e.max Ceram on IPS e.max Press LT Cut-back technique</th>
<th>B</th>
<th>S</th>
<th>t</th>
<th>T</th>
<th>H</th>
<th>V₁</th>
<th>V₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incisal firing</td>
<td>403°C</td>
<td>4.00 min</td>
<td>50°C</td>
<td>750°C</td>
<td>1.00 min</td>
<td>450°C</td>
<td>749°C</td>
</tr>
<tr>
<td></td>
<td>757°F</td>
<td></td>
<td>90°F</td>
<td>1382°F</td>
<td></td>
<td>842°F</td>
<td>1380°F</td>
</tr>
</tbody>
</table>
Preparing for Stain and Glaze firing

Before the Stain and Glaze firing, the restoration has to be finished as follows:

– Finish the restoration using diamonds and give it a true-to-nature shape and surface structure, such as growth lines and convex/concave areas.
– Areas which should exhibit a higher gloss after Glaze firing can be smoothed out and prepolished using silicone disks.
– If gold and/or silver dust was used to visualize the surface texture, the restoration has to be thoroughly cleaned with steam. Make sure to remove all gold or silver dust in order to avoid any discolouration.

Stain and Glaze firing

Stain firing is conducted with IPS e.max Ceram Essence and Shades, while Glaze firing is carried out with IPS e.max Ceram glaze powder or paste. Depending on the situation, the firings may be conducted together or separately. The firing parameters are identical.

In order to achieve an even gloss during Glaze firing of cut back restorations veneered with IPS e.max Ceram, two different procedures are possible:

**Variant A**

(high-gloss appearance)

– Prepolish unlayered areas (IPS e.max Press LT) using rubber disks.
– Rub the surface with moist ceramic in order to improve the wetting properties of the surface.
– Apply IPS e.max Ceram Glaze on the entire restoration.

**Variant B**

(true-to-nature appearance)

– Prepolish unlayered areas (IPS e.max Press LT) using rubber disks.
– Rub the surface with moist ceramic in order to improve the wetting properties of the surface.
– Apply Self-Glaze to veneered areas.
– Apply IPS e.max Ceram Glaze only to unlayered areas (IPS e.max Press LT).
Firing parameters for the Stain and Glaze firing

<table>
<thead>
<tr>
<th>IPS e.max Ceram on IPS e.max Press LT Cut-back technique</th>
<th>B</th>
<th>S</th>
<th>T&lt;sup&gt;Ⅰ&lt;/sup&gt;</th>
<th>T</th>
<th>H</th>
<th>V&lt;sub&gt;1&lt;/sub&gt;</th>
<th>V&lt;sub&gt;2&lt;/sub&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stain firing</td>
<td>403°C</td>
<td>6:00 min</td>
<td>60°C</td>
<td>725°C</td>
<td>1:00 min</td>
<td>450°C</td>
<td>724°C</td>
</tr>
<tr>
<td></td>
<td>757°F</td>
<td>6:00 min</td>
<td>108°F</td>
<td>1337°F</td>
<td>1:00 min</td>
<td>842°F</td>
<td>1335°F</td>
</tr>
<tr>
<td>Glaze firing</td>
<td>403°C</td>
<td>6:00 min</td>
<td>60°C</td>
<td>725°C</td>
<td>1:00 min</td>
<td>450°C</td>
<td>724°C</td>
</tr>
<tr>
<td></td>
<td>757°F</td>
<td>6:00 min</td>
<td>108°F</td>
<td>1337°F</td>
<td>1:00 min</td>
<td>842°F</td>
<td>1335°F</td>
</tr>
</tbody>
</table>

Completed IPS e.max Press LT restoration cut back and pressed and veneered with IPS e.max Ceram
IPS e.max® Press MO – LAYERING TECHNIQUE

Model and die preparation
For notes on the model and die preparation, please refer to page 24.

Contouring
Contouring may vary depending on the available space. However, it must provide shape and cusp support in order to achieve an even layer thickness of the veneering ceramic.

Variant A: Ideal space
If enough space is available, the wax-up is reduced in the buccal/labial, as well as in the palatal/lingual areas. In other words, the share of the restoration that will be built-up using layering material after pressing has to be reduced in accordance with the images below. The relation between the framework thickness (min. 0.8 mm) and the layering material must be observed.

Variant B: Limited space
If space is limited, the wax-up is only reduced in the buccal and incisal areas. The palatal/lingual area may be pressed with a fully anatomical design. In other words, the share of the restoration that will be built-up using layering material after pressing has to be reduced in accordance with the images below. The relation between the framework thickness (min. 0.8 mm) and the layering material must be observed.
Finishing

It is of critical importance to use the correct grinding instruments for finishing and adjusting glass-ceramics. If unsuitable grinding instruments are used, chipping of the edges and local overheating may occur (please see the corresponding recommendations from Ivoclar Vivadent).

The following procedure is recommended to finish IPS e.max Press frameworks:
- Even though adjustment by grinding of pressed IPS e.max Press frameworks is possible, it should be kept to a minimum.
- Wet the area to be ground and use a fine diamond disk to cut the sprues.
- Prevent overheating of the ceramic material. Low speed and light pressure is recommended. Please observe the corresponding instructions of the manufacturer.
- Smooth out the attachment points of the sprues.
- Remove the spacer prior to placing the pressed object on the die. Place the framework on the die and carefully adjust.
- Do not 'post-separate' the bridge framework using separating disks, since this may result in undesired predetermined breaking points, which will subsequently compromise the stability of the all-ceramic restoration.
- Make sure that the minimum thicknesses are maintained even after finishing.
- Blast the framework with Al₂O₃ at 1 bar (15 psi) and clean it under running water or with steam before applying the veneering material.
- Some blasting machines may require different pressure settings to accomplish this procedure.
Finish surfaces and smooth out the attachment points of the sprues using low speed and limited pressure.

**Optional**

**Die fabrication with IPS Natural Die Material**

The light-curing IPS Natural Die Material simulates the shade of the prepared tooth. A control die is fabricated using the shade information provided by the dentist (shade determination). This control die represents the optimum basis for a true-to-nature shade reproduction of the given oral situation.

– For details on the fabrication see page 36.

A die made of IPS Natural Die Material is the optimum basis for true-to-nature all-ceramic restorations.

**Preparing for veneering**

Blast the framework with Al2O3 at 1 bar (15 psi) and clean it under running water or with steam before applying the veneering material.
Veneering with IPS e.max Ceram

The following paragraphs will explain the most important veneering steps. Detailed information about the nano-fluorapatite ceramic and its processing are contained in the IPS e.max Ceram Instructions for Use.

Firing tray and pins

Use a honey-combed firing tray and the corresponding support pins to fire the restorations (do not use IPS e.max CAD Crystallization Tray or IPS e.max CAD Crystallization Pins). Round the top edges of the support pin to prevent the object from sticking to the pin. Another method of reducing this risk is to cover the pins with platinum foil or a small amount of IPS Object Fix Putty or Flow. Regularly clean the support pins. Do not use contaminated pins.
Wash firing (foundation firing)

The framework must be free of dirt and grease before the wash firing is done. Any contamination of the framework after cleaning must be prevented. Wash firing (foundation) is carried out with Deep Dentin, Dentin or Shade and Essence materials (ZirLiner may not be used. Because of its firing temperature of 960 °C/1760°F it only works on zirconium oxide).

Variant A: Powder

With ideal space, conduct the wash firing (foundation) with the required Dentin or Deep Dentin material. Use the IPS e.max Ceram Build-Up Liquids (allround or soft) to mix the materials. If a more plastic consistency is desired, IPS e.max Ceram Glaze and Stain Liquids (allround or longlife) can be used. Apply the wash in a thin coat on the entire framework.

Variant B: Paste

With limited space or to increase the in-depth chroma, the wash firing can be conducted using IPS e.max Ceram Shades and Essence. Mix the paste or powder with the IPS e.max Ceram Glaze and Stain Liquids (allround or longlife) to the desired consistency. Apply the wash in a thin coat on the entire framework.

Firing parameters for the Wash firing (foundation firing)

<table>
<thead>
<tr>
<th>IPS e.max Ceram on IPS e.max Press MO Layering technique</th>
<th>B</th>
<th>S</th>
<th>t°C</th>
<th>T</th>
<th>H</th>
<th>V1</th>
<th>V2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wash firing (Foundation)</td>
<td>403°C</td>
<td>4.00 min</td>
<td>50°C</td>
<td>750°C</td>
<td>1:00 min</td>
<td>450°C</td>
<td>749°C</td>
</tr>
<tr>
<td></td>
<td>757°F</td>
<td>4.00 min</td>
<td>90°F</td>
<td>1382°F</td>
<td>1:00 min</td>
<td>842°F</td>
<td>1380°F</td>
</tr>
</tbody>
</table>
Optional

Wash firing (foundation firing) characterization

Intensively characterized areas may be designed with IPS e.max Ceram Essence. These materials are ideally suited to apply individualized characterizations. When space is limited, the fully anatomical areas of the framework may be given a true-to-nature design at the beginning of the veneering procedure. These areas are covered with a fluorescent glaze (paste or powder).

Apply individualized characterizations using Essence.…..

Apply individualized characterizations using Essence.….. and fire in a separate characterization firing.

Firing parameters for the Wash firing (foundation firing) characterization

<table>
<thead>
<tr>
<th>IPS e.max Ceram on IPS e.max Press MO Layering technique</th>
<th>B</th>
<th>S</th>
<th>T°</th>
<th>H</th>
<th>V1</th>
<th>V2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wash firing (Foundation)</td>
<td>403°C</td>
<td>4.00 min</td>
<td>50°C</td>
<td>750°C</td>
<td>1.00 min</td>
<td>450°C</td>
</tr>
<tr>
<td></td>
<td>757°F</td>
<td>4.00 min</td>
<td>90°F</td>
<td>1382°F</td>
<td>1.00 min</td>
<td>842°F</td>
</tr>
</tbody>
</table>

Layering materials must not be applied on unfired wash layers (powders and pastes), since this will result in a delamination of the layering ceramic. The wash (foundation) must be fired before the actual layering procedure is started.
1st dentin and incisal firing

Carry out the layering according to the layering diagram. In order to achieve the desired consistency of the ceramic material, the IPS e.max Ceram Build-Up Liquids allround or soft can be used. If another consistency is required, the Liquids may also be mixed with each other using any mixing ratio.

Firing parameters for the 1st dentin and incisal firing

<table>
<thead>
<tr>
<th>IPS e.max Ceram on IPS e.max Press MO</th>
<th>B</th>
<th>S</th>
<th>t°C</th>
<th>T</th>
<th>H</th>
<th>V1</th>
<th>V2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st dentin/incisal firing</td>
<td>403°C/757°F</td>
<td>4.00 min</td>
<td>50°C/90°F</td>
<td>750°C/1382°F</td>
<td>1:00 min</td>
<td>450°C/842°F</td>
<td>749°C/1380°F</td>
</tr>
</tbody>
</table>
2nd dentin and incisal firing (corrective firing)
Complete the missing areas and compensate for the shrinkage.

Compensate for the shrinkage using Dentin, Transpa, and Incisal materials

Firing parameters for the 2nd dentin and incisal firing

<table>
<thead>
<tr>
<th>IPS e.max Ceram on IPS e.max Press MO Layering technique</th>
<th>B</th>
<th>S</th>
<th>t°F</th>
<th>T</th>
<th>H</th>
<th>V1</th>
<th>V2</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd dentin/incisal firing</td>
<td>403°C</td>
<td>4.00 min</td>
<td>50°C</td>
<td>750°C</td>
<td>1:00 min</td>
<td>450°C</td>
<td>749°C</td>
</tr>
<tr>
<td></td>
<td>757°F</td>
<td></td>
<td>90°F</td>
<td>1382°F</td>
<td></td>
<td>842°F</td>
<td>1380°F</td>
</tr>
</tbody>
</table>

Stain and Glaze firing
Stain firing is conducted with Essence and Shades, while Glaze firing is carried out with glaze powder or paste. Depending on the situation, the firings may be conducted together or separately. The firing parameters are identical.

Completed veneered IPS e.max Press restoration

Firing parameters for the Stain and Glaze firing

<table>
<thead>
<tr>
<th>IPS e.max Ceram on IPS e.max Press MO Layering technique</th>
<th>B</th>
<th>S</th>
<th>t°F</th>
<th>T</th>
<th>H</th>
<th>V1</th>
<th>V2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stain firing</td>
<td>403°C</td>
<td>6.00 min</td>
<td>60°C</td>
<td>725°C</td>
<td>1:00 min</td>
<td>450°C</td>
<td>724°C</td>
</tr>
<tr>
<td></td>
<td>757°F</td>
<td></td>
<td>108°F</td>
<td>1337°F</td>
<td></td>
<td>842°F</td>
<td>1335°F</td>
</tr>
<tr>
<td>Glaze firing</td>
<td>403°C</td>
<td>6.00 min</td>
<td>60°C</td>
<td>725°C</td>
<td>1:00 min</td>
<td>450°C</td>
<td>724°C</td>
</tr>
<tr>
<td></td>
<td>757°F</td>
<td></td>
<td>108°F</td>
<td>1337°F</td>
<td></td>
<td>842°F</td>
<td>1335°F</td>
</tr>
</tbody>
</table>
IPS e.max® Press – PRESSING OVER ELECTROPLATED FRAMEWORKS

Step-by-step procedure

The press-on technique with IPS e.max Press represents an economically efficient method to fabricate metal-supported restorations.

Proceed as follows:

– Fabricate the electroplated framework according to the manufacturer's instructions of the respective electroplating system.
– Place the electroplated framework on the die and prepare it for firing.
– Condition the electroplated framework according to the instructions of the manufacturer.
– Subsequently, dispense the desired amount of the ready-to-use IPS e.max Press Opaquer from the syringes and mix thoroughly. After that, thinly apply the first opaquer layer as wash on the electroplated framework and fire.

Firing parameters for the 1st Press opaquer firing

<table>
<thead>
<tr>
<th>IPS e.max Press Opaquer on electroplated frameworks</th>
<th>B</th>
<th>S</th>
<th>T₂</th>
<th>T</th>
<th>H</th>
<th>V₁</th>
<th>V₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Press Opaquer firing</td>
<td>403°C 757°F</td>
<td>6.00 min</td>
<td>100°C 180°F</td>
<td>940°C 1724°F</td>
<td>2:00 min</td>
<td>450°C 842°F</td>
<td>939°C 1722°F</td>
</tr>
</tbody>
</table>

– After the wash firing, apply the 2nd opaquer layer in such a way that the electroplated framework is completely covered with opaquer, i.e. apply as much as necessary, but as little as possible.

Firing parameters for the 2nd Press opaquer firing

<table>
<thead>
<tr>
<th>IPS e.max Press Opaquer on electroplated frameworks</th>
<th>B</th>
<th>S</th>
<th>T₂</th>
<th>T</th>
<th>H</th>
<th>V₁</th>
<th>V₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd Press Opaquer firing</td>
<td>403°C 757°F</td>
<td>6.00 min</td>
<td>100°C 180°F</td>
<td>930°C 1706°F</td>
<td>2:00 min</td>
<td>450°C 842°F</td>
<td>929°C 1704°F</td>
</tr>
</tbody>
</table>

– The fired opaquer should demonstrate a silky mat gloss (eggshell gloss).
– After that, fabricate the wax-up directly on the fired opaquer. Observe the necessary layer thickness of 0.6 mm.
– The wax-up may be designed either as cut-back or fully anatomical.
– Contouring, sprueing, investing, pressing, and divesting (see pages 25–33)
– Remove the reaction layer with IPS e.max Press Invex Liquid (see page 33) and condition the restorations for the veneers and/or characterizations.
– Do not sandblast the restoration prior to veneering. Rather clean it under running water or with steam.
– Veneer, characterize, and finish the restorations as described on pages 53–57.
PREPARING FOR CEMENTATION

Conditioning of the ceramic surface in preparation for cementation is decisive for generating a sound bond between the luting material and the all-ceramic restoration. The following steps must be observed:
– Glass-ceramics must **not** be blasted with Al₂O₃ or glass polishing beads.
– High-strength glass-ceramics are generally etched with hydrofluoric acid gel (IPS Ceramic Etching Gel).
– In order to further increase the bond strength (restoration/cementation material), silanize the surface with Monobond-S if the adhesive cementation method is used.

---

IPS e.max® Press – GENERAL INFORMATION

**GENERAL INFORMATION**

IPS Do not blast IPS e.max Press restorations. Etch for 20 sec. with IPS Ceramic Etching Gel. Let react Monobond-S for 60 sec. and blow dry.

**1) For adhesive cementation, the restorations must be silanized.**

**2) Partial crowns and veneers must be adhesively cemented.**

---

### IPS e.max Press

<table>
<thead>
<tr>
<th>Material</th>
<th>Lithium disilicate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indication</td>
<td>Veneers ¹), partial crowns ²), anterior and posterior crowns, 3-unit bridges up to the 2nd premolar</td>
</tr>
<tr>
<td>Cementation method</td>
<td>Adhesive cementation</td>
</tr>
<tr>
<td>Etching</td>
<td>20 sec. with IPS Ceramic Etching Gel</td>
</tr>
<tr>
<td>Conditioning / Silanization</td>
<td>60 sec. with Monobond-S</td>
</tr>
<tr>
<td>Cementation system</td>
<td>Variolink® Veneer, Variolink® II, Multilink® Automix</td>
</tr>
</tbody>
</table>

¹) For adhesive cementation, the restorations must be silanized.

²) Partial crowns and veneers must be adhesively cemented.

**Please observe the IPS Ceramic Etching Gel Instructions for Use.**
CARE INSTRUCTIONS

Proxyt® – Professional care

Like natural teeth, high-quality IPS e.max Press restorations require regular professional care. This is not only beneficial to the health of the gingiva and teeth but also to the overall aesthetic appearance. You can care for valuable surfaces without abrasion using the pumice-free polishing paste Proxyt pink. The low RDA* value = 7 gives you peace of mind of cleaning with a low-abrasion paste. Scientific investigations and longstanding practical experience confirm the gentle effect compared to other pastes.

*Relative Dentin Abrasion
## Press and Firing Parameters

### Press Parameters

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>S</th>
<th>t²</th>
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<th>H</th>
<th>V₁</th>
<th>V₂</th>
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<tbody>
<tr>
<td><strong>EP 600 / EP 600 Combi</strong></td>
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<td>15°</td>
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<td></td>
</tr>
<tr>
<td>Large investment ring</td>
<td>700°C</td>
<td>108°F</td>
<td>920°C</td>
<td>25°</td>
<td>500°C</td>
<td>920°C</td>
<td>1688°F</td>
<td>300</td>
</tr>
<tr>
<td><strong>EP 500</strong></td>
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<td></td>
</tr>
<tr>
<td>Small investment ring</td>
<td>700°C</td>
<td>60°C</td>
<td>925°C</td>
<td>15°</td>
<td>500°C</td>
<td>925°C</td>
<td>1697°F</td>
<td>300</td>
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<tr>
<td><strong>EP 500</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Large investment ring</td>
<td>700°C</td>
<td>108°F</td>
<td>930°C</td>
<td>25°</td>
<td>500°C</td>
<td>930°C</td>
<td>1706°F</td>
<td>300</td>
</tr>
</tbody>
</table>

If the Programat EP 5000 furnace is used, select the press program according to the investment ring size and the ingot to be used.

### Firing Parameters

#### IPS e.max Press LT – Staining technique

<table>
<thead>
<tr>
<th>IPS e.max Ceram on IPS e.max Press LT</th>
<th>B</th>
<th>S</th>
<th>t²</th>
<th>T</th>
<th>H</th>
<th>V₁</th>
<th>V₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stain and Characterization firing</td>
<td>403°C</td>
<td>6:00 min</td>
<td>60°C</td>
<td>1418°F</td>
<td>1:00 min</td>
<td>450°C</td>
<td>769°C</td>
</tr>
<tr>
<td>Glaze firing</td>
<td>403°C</td>
<td>6:00 min</td>
<td>60°C</td>
<td>1418°F</td>
<td>1:00 min</td>
<td>450°C</td>
<td>769°C</td>
</tr>
<tr>
<td>Add-On after Glaze firing</td>
<td>403°C</td>
<td>6:00 min</td>
<td>50°C</td>
<td>1292°F</td>
<td>1:00 min</td>
<td>450°C</td>
<td>699°C</td>
</tr>
</tbody>
</table>

#### IPS e.max Press LT – Cut-back technique

<table>
<thead>
<tr>
<th>IPS e.max Ceram on IPS e.max Press LT</th>
<th>B</th>
<th>S</th>
<th>t²</th>
<th>T</th>
<th>H</th>
<th>V₁</th>
<th>V₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wash firing (Foundation)</td>
<td>403°C</td>
<td>4:00 min</td>
<td>50°C</td>
<td>1382°F</td>
<td>1:00 min</td>
<td>450°C</td>
<td>749°C</td>
</tr>
<tr>
<td>Incisal firing</td>
<td>403°C</td>
<td>4:00 min</td>
<td>50°C</td>
<td>1382°F</td>
<td>1:00 min</td>
<td>450°C</td>
<td>749°C</td>
</tr>
<tr>
<td>Stain firing</td>
<td>403°C</td>
<td>6:00 min</td>
<td>60°C</td>
<td>1337°F</td>
<td>1:00 min</td>
<td>450°C</td>
<td>724°C</td>
</tr>
<tr>
<td>Glaze firing</td>
<td>403°C</td>
<td>6:00 min</td>
<td>60°C</td>
<td>1337°F</td>
<td>1:00 min</td>
<td>450°C</td>
<td>724°C</td>
</tr>
<tr>
<td>Add-On with Glaze firing</td>
<td>403°C</td>
<td>6:00 min</td>
<td>60°C</td>
<td>1337°F</td>
<td>1:00 min</td>
<td>450°C</td>
<td>724°C</td>
</tr>
<tr>
<td>Add-On after Glaze firing</td>
<td>403°C</td>
<td>6:00 min</td>
<td>50°C</td>
<td>1292°F</td>
<td>1:00 min</td>
<td>450°C</td>
<td>699°C</td>
</tr>
</tbody>
</table>

#### IPS e.max Press LT – Thin Veneer

<table>
<thead>
<tr>
<th>IPS e.max Ceram on IPS e.max Press LT</th>
<th>B</th>
<th>S</th>
<th>t²</th>
<th>T</th>
<th>H</th>
<th>V₁</th>
<th>V₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stain and Characterization firing</td>
<td>403°C</td>
<td>6:00 min</td>
<td>60°C</td>
<td>1418°F</td>
<td>1:00 min</td>
<td>450°C</td>
<td>769°C</td>
</tr>
<tr>
<td>Glaze firing</td>
<td>403°C</td>
<td>6:00 min</td>
<td>60°C</td>
<td>1418°F</td>
<td>1:00 min</td>
<td>450°C</td>
<td>769°C</td>
</tr>
<tr>
<td>Add-On after Glaze firing</td>
<td>403°C</td>
<td>6:00 min</td>
<td>50°C</td>
<td>1292°F</td>
<td>1:00 min</td>
<td>450°C</td>
<td>699°C</td>
</tr>
</tbody>
</table>
### IPS e.max Press HO/MO – Layering technique

<table>
<thead>
<tr>
<th>IPS e.max Ceram auf IPS e.max Press MO</th>
<th>B</th>
<th>S</th>
<th>t°</th>
<th>T</th>
<th>H</th>
<th>V₁</th>
<th>V₂</th>
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</thead>
<tbody>
<tr>
<td>Wash firing (foundation)</td>
<td>403°C</td>
<td>4:00 min</td>
<td>50°C</td>
<td>750°C</td>
<td>1:00 min</td>
<td>450°C</td>
<td>749°C</td>
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<tr>
<td></td>
<td>757°F</td>
<td>4:00 min</td>
<td>90°F</td>
<td>1382°F</td>
<td>1:00 min</td>
<td>842°F</td>
<td>1380°F</td>
</tr>
<tr>
<td>Wash firing (foundation) characterization</td>
<td>403°C</td>
<td>4:00 min</td>
<td>50°C</td>
<td>750°C</td>
<td>1:00 min</td>
<td>450°C</td>
<td>749°C</td>
</tr>
<tr>
<td></td>
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<td>4:00 min</td>
<td>90°F</td>
<td>1382°F</td>
<td>1:00 min</td>
<td>842°F</td>
<td>1380°F</td>
</tr>
<tr>
<td>1st dentin/incisal firing</td>
<td>403°C</td>
<td>4:00 min</td>
<td>50°C</td>
<td>750°C</td>
<td>1:00 min</td>
<td>450°C</td>
<td>749°C</td>
</tr>
<tr>
<td></td>
<td>757°F</td>
<td>4:00 min</td>
<td>90°F</td>
<td>1382°F</td>
<td>1:00 min</td>
<td>842°F</td>
<td>1380°F</td>
</tr>
<tr>
<td>2nd dentin/incisal firing</td>
<td>403°C</td>
<td>4:00 min</td>
<td>50°C</td>
<td>750°C</td>
<td>1:00 min</td>
<td>450°C</td>
<td>749°C</td>
</tr>
<tr>
<td></td>
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<td>4:00 min</td>
<td>90°F</td>
<td>1382°F</td>
<td>1:00 min</td>
<td>842°F</td>
<td>1380°F</td>
</tr>
<tr>
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<td>403°C</td>
<td>6:00 min</td>
<td>60°C</td>
<td>725°C</td>
<td>1:00 min</td>
<td>450°C</td>
<td>724°C</td>
</tr>
<tr>
<td></td>
<td>757°F</td>
<td>6:00 min</td>
<td>108°F</td>
<td>1337°F</td>
<td>1:00 min</td>
<td>842°F</td>
<td>1335°F</td>
</tr>
<tr>
<td>Glaze firing</td>
<td>403°C</td>
<td>6:00 min</td>
<td>60°C</td>
<td>725°C</td>
<td>1:00 min</td>
<td>450°C</td>
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<tr>
<td></td>
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<td>1337°F</td>
<td>1:00 min</td>
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<td>1335°F</td>
</tr>
<tr>
<td>Add-On with Glaze firing</td>
<td>403°C</td>
<td>6:00 min</td>
<td>60°C</td>
<td>725°C</td>
<td>1:00 min</td>
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<td>724°C</td>
</tr>
<tr>
<td></td>
<td>757°F</td>
<td>6:00 min</td>
<td>108°F</td>
<td>1337°F</td>
<td>1:00 min</td>
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<td>1335°F</td>
</tr>
<tr>
<td>Add-On after Glaze firing</td>
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<td>6:00 min</td>
<td>50°C</td>
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<td>1:00 min</td>
<td>450°C</td>
<td>699°C</td>
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<tr>
<td></td>
<td>757°F</td>
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<td>1:00 min</td>
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### IPS e.max Press Opaquer on electroplated frameworks

<table>
<thead>
<tr>
<th>IPS e.max Press Opaquer on electroplated frameworks</th>
<th>B</th>
<th>S</th>
<th>t°</th>
<th>T</th>
<th>H</th>
<th>V₁</th>
<th>V₂</th>
</tr>
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<tbody>
<tr>
<td>1st Press opaquer firing</td>
<td>403°C</td>
<td>6:00 min</td>
<td>100°C</td>
<td>940°C</td>
<td>2:00 min</td>
<td>450°C</td>
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<tr>
<td></td>
<td>757°F</td>
<td>6:00 min</td>
<td>180°F</td>
<td>1724°F</td>
<td>2:00 min</td>
<td>842°F</td>
<td>1722°F</td>
</tr>
<tr>
<td>2nd Press opaquer firing</td>
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<td>6:00 min</td>
<td>100°C</td>
<td>930°C</td>
<td>2:00 min</td>
<td>450°C</td>
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<td>180°F</td>
<td>1706°F</td>
<td>2:00 min</td>
<td>842°F</td>
<td>1704°F</td>
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</tbody>
</table>

- The parameters listed represent standard values and apply to the Ivoclar Vivadent furnaces: P300, P500, P700, EP 600, EP5000. The temperatures indicated also apply to furnaces of older generations, such as the P20, P80, P90, P95, P100, P200, PX1 and EP 600 Combi. If one of these furnaces is used, however, the temperatures may deviate by ± 10 °C/18 °F, depending on the age and type of the heating muffle.
- If furnaces other than those from Ivoclar Vivadent are used, temperature adjustments may be necessary.
- Regional differences in the power supply or the operation of several electronic devices by means of the same circuit may render adjustments of the firing and press temperatures necessary.
Shade selection of the IPS e.max Press LT ingot

In order to determine the required ingot shade, both the desired tooth shade (A–D or Bleach BL) and the shade of the preparation (ND1–ND8) is determined. The selection of the ingot shade is a combination of the desired tooth shade and the actual shade of the preparation. The shades which are not available as ingot are achieved by characterization and/or intensifying the dentin shade. The recommendations are standard values and have to be adjusted by staining, if required.

<table>
<thead>
<tr>
<th>Shade of preparation</th>
<th>Desired tooth shade: A–D</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPS Natural Die Material</td>
<td>A1</td>
</tr>
<tr>
<td>ND 8</td>
<td>**</td>
</tr>
<tr>
<td>ND 9</td>
<td>**</td>
</tr>
</tbody>
</table>

* as a basis for the Staining Technique
** in order to achieve the desired tooth shade, the preparation has to be lightened or an IPS e.max Press HO ingot has to be used.
<table>
<thead>
<tr>
<th>Shade of preparation</th>
<th>Desired tooth shade: Bleach BL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IPS Natural Die Material</strong></td>
<td>BL1</td>
</tr>
<tr>
<td>ND 1</td>
<td>LT BL1</td>
</tr>
<tr>
<td>ND 2</td>
<td>LT BL1</td>
</tr>
<tr>
<td>ND 3</td>
<td>**</td>
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<tr>
<td>ND 4</td>
<td>**</td>
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<td>ND 5</td>
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<td>ND 6</td>
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<td>ND 7</td>
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<tr>
<td>ND 8</td>
<td>**</td>
</tr>
<tr>
<td>ND 9</td>
<td>**</td>
</tr>
</tbody>
</table>

* as a basis for the Staining Technique

** In order to achieve the desired tooth shade, the preparation has to be lightened or an IPS e.max Press HO ingot has to be used.
Shade selection of the IPS e.max Press MO ingot

IPS e.max Press MO is available in 5 shades (MO 0 - MO 4). The following combination table shows the allocation of the individual ingot shades to the shade groups of the A-D and Chromascop shade guides.

### Pressing over electroplated frameworks

The listed combinations are standard possibilities. The ultimate shade determination must be conducted in conjunction with the IPS e.max Ceram shades.
When is the IPS e.max Press LT ingot used?
The IPS e.max Press LT ingot is used for the fabrication of restorations in the staining and cut-back technique. The restorations are subsequently completed using IPS e.max Ceram.

Is IPS e.max Press LT suitable for the fabrication of frameworks to be subsequently veneered?
The shade and translucency of the IPS e.max Press LT material are set for restorations in the staining and cut-back technique. If frameworks are fabricated using IPS e.max Press LT and subsequently fully veneered with IPS e.max Ceram (Dentin and Incisal materials), a shift of shade and brightness occurs and the tooth shade differs from the shade guide.

Is IPS e.max Press suitable for the fabrication of 3-unit bridges up to the first molar as the abutment?
The material can be used for 3-unit bridges from the first premolar to the first molar as abutment. However, the molar must be given a fully anatomical design and connector dimensions of 20 mm² (IPS Connector C6) must be observed.

Is IPS e.max Press LT suitable for fabricating fully anatomically pressed crowns?
IPS e.max Press LT is particularly suitable for fully anatomically pressed restorations. Characterization and Glaze firing are conducted using IPS e.max Ceram.

How have the frameworks made of the HO ingot have to be designed in order to achieve the desired tooth shade?
The shade of the Wash firing has to be designed in such a way that a shade match is achieved already at this stage. Only once the framework features such a shade, should layering be started.

Is IPS e.max Press suitable to press-over Captek or other metal frameworks?
IPS e.max Press cannot be pressed-over Captek and other metal frameworks, since the corresponding CTE values are not coordinated with each other.

Can IPS Empress Universal Shades, Stains and Glaze be used for IPS e.max Press?
IPS Empress Universal Shades, Stains, and Glaze have been especially developed for the IPS Empress System and thus cannot be used for IPS e.max products.

Can IPS e.max Alox plungers also be used for IPS Empress?
IPS e.max Alox plungers are exclusively for the IPS e.max System and the corresponding investment ring system specifically developed for this purpose. Since the diameter has been increased, the Alox plunger would not fit into the IPS Empress investment ring system.

Can the IPS e.max Alox Plunger Separator also be used for other pressed ceramics, such as IPS Empress Esthetic?
The IPS e.max Alox Plunger Separator can only be used for IPS e.max Press and IPS e.max ZirPress ingots, since the press temperature of the IPS Empress Esthetic ingots of 1075 °C (1967 °F) is too high and results in the Separator losing its effect.

Can other press furnaces be used to press IPS e.max Press ingots?
IPS e.max Press is specifically coordinated with the Ivoclar Vivadent press furnaces (EP 500, EP 600, EP 600 Combi and Programat EP 5000). If other press furnaces are used, the parameters have to be adjusted accordingly by the user.
May IPS e.max Press frameworks be blasted using Al₂O₃ after completion (on the cavity side)?

IPS e.max Press restorations must not be sand blasted prior to cementation, since this would damage the ceramic surface and alter its properties. Prepare the internal surfaces by etching.

May IPS e.max Ceram Margin materials also be used for IPS e.max Press?

IPS e.max Ceram Margin materials must not be used on the glass-ceramic materials (IPS e.max Press and CAD), since the firing temperatures are too high and the reduction for the shoulder would weaken the restoration.

How can IPS e.max Press restorations be cemented?

IPS e.max Press restorations may be either adhesively, self-adhesively or conventionally cemented. For conventional cementation, however, an appropriately retentive preparation design must be observed. If this is not possible, adhesive cementation, e.g. with Variolink® II and Multilink® Automix should be used. We advise against the use of traditional phosphate cements, since they negatively influence the light transmission through the all-ceramic and compromise the aesthetic appearance of the all-ceramic restorations.
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