Technical Guide

IPS e.max® Ceram Art

Each smile
a piece of art

Making People Smile

ivoclar

IPS e.max® Ceram Art

IPS e.max Ceram Art is an innovative line of universal ready-to-use stain, glaze and structure pastes for the individualized design of ceramic restorations. Staining, characterizing and structuring dental and gingival surfaces can be performed at the highest esthetic level – quickly, efficiently and with the proven quality of IPS e.max. The materials are compatible with zirconium oxide, lithium disilicate, glass-ceramics and veneering ceramics. They can be used safely and flexibly on a wide range of surfaces.

IPS e.max Ceram Art has been developed for professional dental design, combining the highest esthetic standards with economic efficiency – especially in the processing of monolithic restorations.

All-ceramics	IPS e.max Ceram Art	Metal-ceramics
Zirconium oxide **IPS e.max ZirCAD**	Stains and glazes **IPS e.max Ceram Art** • Magic Glaze • Shade • Essence • Illusion • Illusion Gingiva • Structure • Structure Gingiva • Universal Liquid	Metal-supported veneering ceramics **IPS Style Ceram** **IPS InLine**
Lithium disilicate **IPS e.max CAD** **IPS e.max Press**		
Leucite-reinforced glass-ceramics **IPS Empress CAD**		
Metal-free veneering ceramics **IPS e.max Ceram**		

Please observe the regulatory Instructions for Use (www.ivoclar.com/eIFU).

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Explanation of symbols

Symbol	Note
	Information
	Note on firing
	See Instructions for Use

Product information

Product description

IPS e.max Ceram Art pastes are optimally coordinated with the layering, press and CAD ceramics[1] from Ivoclar. They are suitable for use on ceramic materials in the CTE range of 9.4–17.5 × 10^{-6}/K (25–500 °C).

The ready-to-use IPS e.max Ceram Art pastes can be applied to ceramic surfaces undiluted, diluted or custom-mixed. They allow for time-efficient and highly esthetic customization of both monolithic and layered ceramic restorations through various application techniques:

Wet-on-wet technique / one-shot:
simultaneous glazing, staining and characterization in a single firing cycle.
= efficient for streamlined and time-saving procedures

Conventional individual staining technique:
more intense, individual staining and characterization with a separate Stain and Glaze firing cycle.
= intense, individual and creative

Structuring technique (3D effect):
applying structure paste to monolithic restorations to create a three-dimensional surface texture.
= effective for creating a natural depth effect with refined esthetics

Staining, glazing and structuring of tooth- and gingiva-coloured ceramics
- IPS e.max® ZirCAD (sintered)
- IPS e.max® CAD (crystallized)
- IPS e.max® Press
- IPS Empress® CAD[2]
- IPS e.max® Ceram
- IPS Style® Ceram
- IPS InLine®

1 Except for partially crystallized IPS e.max CAD restorations.
2 IPS Empress CAD restorations must not be veneered with IPS e.max Ceram Art Structure paste.

IPS e.max Ceram Art assortment

White esthetics

IPS e.max Ceram Art Magic Glaze FLUO, 3 g / 9 g

IPS e.max Ceram Art Universal Liquid, 15 ml / 60 ml

IPS e.max Ceram Art Shade, 3 g

Dentin 1 | Dentin 2 | Dentin 3 | Dentin 4 | Dentin 5 | Incisal 1 | Incisal 2

IPS e.max Ceram Art Essence, 3 g

white | cream | lemon | sunset | copper | khaki | mahogany | anthracite

IPS e.max Ceram Art Illusion, 5 g

Mamelon reddish-orange | Mamelon light-salmon | Opal light-blue | Opal sky-blue | Opal night-blue | Halo ivory | Halo ocher | Enamel pearl

Absorber light-violet | Absorber fog | Absorber quartz | Cervical yellow-pink | Cervical nude

IPS e.max Ceram Art Structure, 5 g

Structure neutral | Structure cloud

Red esthetics

IPS e.max Ceram Art Magic Glaze, 3 g / 9 g

IPS e.max Ceram Art Illusion Gingiva Base, 5 g

rose pink orange-pink

IPS e.max Ceram Art Illusion Gingiva, 5 g

soft-mauve intense-mauve soft-bone intense-bone light-margin dark-margin

capillary fibers intense-red

IPS e.max Ceram Art Structure Gingiva, 5 g

soft-pink pink

Glaze pastes

The two new IPS e.max Ceram Art Magic Glaze pastes, available with or without fluorescence, are used for glazing, as carrier medium for staining, and for wetting fully ground ceramic surfaces or those that are air-abraded or partially pre-polished with a rubber polisher. They can also be used to reduce surface tension. They do not produce a beading effect.

IPS e.max Ceram Art Magic Glaze FLUO

IPS e.max Ceram Art Magic Glaze FLUO paste is designed for use on monolithic tooth-coloured restorations made of zirconium oxide (ZrO_2) and lithium disilicate (LS_2).

- Undiluted glaze paste for conventional glazing and the one-shot technique.
- Diluted glaze paste for the conventional technique.

IPS e.max Ceram Art Magic Glaze

IPS e.max Ceram Art Magic Glaze paste is designed for use on gingival areas made of zirconium oxide (ZrO_2) or lithium disilicate (LS_2) and on ceramic veneering materials.

- Glaze paste for the layering technique with veneering materials.
- Adjusting the colour intensity of the gingiva pastes.

IPS e.max Ceram Art Universal Liquid

IPS e.max Ceram Art Universal Liquid is a fluid for diluting the following pastes: IPS e.max Ceram Art Magic Glaze, Shade, Essence, Illusion and Illusion Gingiva.

Note: IPS e.max Ceram Structure pastes must not be diluted with IPS e.max Ceram Art Universal Liquid.

IPS e.max Ceram Art pastes

IPS e.max Ceram Art pastes can be integrated into the glaze over the entire surface or selectively applied to create individualizations and subtle surface effects. The appearance before firing matches the final results, providing more control and confidence during the design process.
The ready-to-use pastes have a **form-stable** consistency that allows for easy and precise fabrication of individualized, modern restorations.

Shade

IPS e.max Ceram Art Shade

IPS e.max Ceram Art Shade pastes are used for adjusting the shade of ceramic restorations to match A–D and Bleach shades.
IPS e.max Ceram Art Shade Incisal 1 and Incisal 2 are incisal materials designed to enhance depth and translucency.

Shade correspondence with A–D and BL shades

IPS e.max Ceram Art Shade

Dentin 1	Dentin 2	Dentin 3	Dentin 4	Dentin 5
				

VITA* classical shades

BL	A	B	C	D

* no registered trademark of Ivoclar Vivadent AG.

IPS e.max Ceram Art Shade

Incisal 1	Incisal 2
	

Essence

IPS e.max Ceram Art Essence

IPS e.max Ceram Art Essence pastes are highly pigmented and can be applied to the restoration for individualized surface characterization.

Essence white	Essence cream	Essence lemon
		
Essence sunset	**Essence copper**	**Essence khaki**
		
Essence mahogany	**Essence anthracite**	
		

IPS e.max Ceram Art Illusion

Special enamel

IPS e.max Ceram Art Illusion Opal are effect enamel pastes in a variety of nuances to create specific effects.

IPS e.max Ceram Art Illusion Opal

IPS e.max Ceram Art Illusion Opal are specially shaded pastes designed to reproduce the dynamic light-optical properties of natural teeth in the enamel area.

Opal light-blue

Opal sky-blue

Opal night-blue

IPS e.max Ceram Art Illusion Enamel

IPS e.max Ceram Art Illusion Enamel paste is applied to increase the value (brightness) in the incisal third and along the marginal ridges to create a butterfly effect.

Enamel pearl

Light reflectors

IPS e.max Ceram Art Illusion Mamelon pastes are light-reflecting effect materials.

IPS e.max Ceram Art Illusion Mamelon

IPS e.max Ceram Art Illusion Mamelon pastes are intensely coloured pastes designed for the representation of mamelon structures. They are applied to accentuate the dentin structure in the incisal third.

Mamelon reddish-orange

Mamelon light-salmon

Light absorbers

IPS e.max Ceram Art Illusion Absorber

IPS e.max Ceram Art Illusion Absorber pastes are light-absorbing materials used to lower the value (brightness) in the incisor region and to create areas of light absorption in the incisal and cervical thirds as well as along the proximal surfaces.

Absorber light-violet

Absorber fog

Absorber quartz

Special Effect Halo

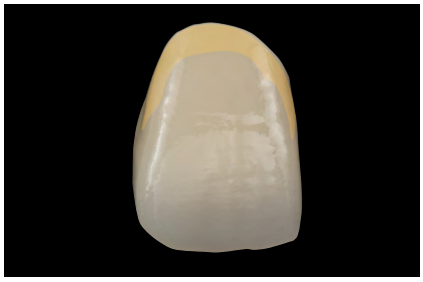
IPS e.max Ceram Art Illusion Halo

IPS e.max Ceram Art Illusion Halo pastes are used to reproduce the halo effect, a natural optical phenomenon created by light reflection at the incisal edge of natural teeth.

Halo ivory

Halo ocher

Special Effect Cervical



IPS e.max Ceram Art Illusion Cervical

IPS e.max Ceram Art Illusion Cervical pastes help create a natural transition between the restoration and gingiva.

Cervical yellow-pink

Cervical nude

IPS e.max Ceram Art Illusion Gingiva

IPS e.max Ceram Art Illusion Gingiva pastes offer a new dimension in the reproduction of lifelike artificial gingiva.

The IPS e.max Ceram Art Illusion Gingiva pastes allow for the true-to-nature replication of various gingival phenotypes, ranging from pale pink and orange-yellow to intense purple-brown tones.
Three newly designed, especially intense cadmium-free red shades further enhance the options for the individualized design of natural-looking artificial gingiva.

Due to their self-glazing properties, the IPS e.max Ceram Art Illusion Gingiva pastes do not require additional glaze firing.

Gingival phenotypes


pink


red-blue


red-yellow


purple

Shade correspondence with gingival phenotypes

Gingival phenotype	pink	red-blue	red-yellow	purple
IPS e.max Ceram Art Illusion Gingiva*	Base rose	Base pink	Base orange-pink	Base pink

* IPS e.max Ceram Art Illusion Gingiva materials can be used for mixing purposes. Red-shaded IPS e.max Ceram Art Illusion Gingiva intense-red is not intended for mixing purposes with other shades.

Gingiva base

IPS e.max Ceram Art Illusion Gingiva Base

IPS e.max Ceram Art Illusion Gingiva Base pastes are used to build up the bulk of the gingival tissue, with the shade selected to match the particular gingival phenotype.

Gingiva Base rose

Gingiva Base pink

Gingiva Base orange-pink

Gingiva effects

IPS e.max Ceram Art Illusion Gingiva mauve

IPS e.max Ceram Art Illusion Gingiva pastes in mauve are primarily used for effect characterization in the reproduction of dark gingival tissue (phenotype – purple/brown). In addition, they can be employed to simulate the intense purple vascular structure at the end of the alveolar mucosa.

Gingiva soft-mauve

Gingiva intense-mauve

IPS e.max Ceram Art Illusion Gingiva margin

IPS e.max Ceram Art Illusion Gingiva margin pastes can be used to characterize the marginal gingiva and interdental papillae.

Gingiva light-margin

Gingiva dark-margin

IPS e.max Ceram Art Illusion Gingiva bone

IPS e.max Ceram Art Illusion Gingiva bone pastes are applied in the root region of the gingiva to simulate the appearance of the underlying bone showing through the attached gingiva.

Gingiva soft-bone

Gingiva intense-bone

IPS e.max Ceram Art Illusion Gingiva capillary, fibers, intense-red

IPS e.max Ceram Art Illusion Gingiva pastes in intense red are used in gingival areas requiring an increased reddish tone, such as areas with vascularization. The red stain is applied to the free gingiva and distributed along the border between the attached gingiva and the mucogingival line. In addition, the stains can be used to intensify the representation of the alveolar mucosa.

Gingiva capillary

Gingiva fibers

Gingiva intense-red

IPS e.max Ceram Art Structure

When applied in a targeted fashion, IPS e.max Ceram Art Structure pastes intensify the optical depth and internal light refraction, especially in monolithic restorations, producing a lifelike 3D effect. Morphology and surface structure provide restorations with an especially natural appearance.

IPS e.max Ceram Art Structure

Fluorescent IPS e.max Ceram Art Structure pastes can be easily layered over characterized and glazed restorations to create subtle three-dimensional shade effects and achieve natural macro- and microstructures as well as surface texture.

Structure neutral

Structure cloud

IPS e.max Ceram Art Structure Gingiva

Non-fluorescent IPS e.max Ceram Art Structure Gingiva pastes can be layered over characterized and glazed gingival areas to create a subtle three-dimensional shade effect and to reproduce natural macro- and microstructures as well as texture on the surface of the gingiva.

Structure Gingiva soft-pink

Structure Gingiva pink

After each use, opened products must be immediately resealed to preserve their material properties.

An overview of the complete assortment can be found on pages 6/7 and at www.ivoclar.com

Application

Preparing the ceramic surface

NOTICE! Depending on the material, the restoration surface must be prepared in varying ways. Observe the Instructions for Use of the respective material.

NOTICE! Smooth or prepolish the areas for which a higher gloss is desired after glaze firing using silicone polishers.

Monolithic restorations made of zirconium oxide (ZrO_2) – IPS e.max® ZirCAD

NOTICE! Make changes to sintered restorations only if absolutely necessary.

1. If absolutely necessary: Prepare the restoration with suitable grinding instruments (see Instructions for Use) at low pressure and low speed.
2. Optional: Blast the restoration with aluminium oxide (Al_2O_3) 25–70 µm at 1 bar 1 bar (15 psi) pressure or 70–110 µm at 1.5 bar (22 psi) pressure.
3. Smooth the incisal and occlusal contact points and the basal side of the bridge connectors using rubber polishers.
4. Thoroughly clean the restoration with running water or a steam jet.
5. Dry the restoration.

Monolithic restorations made of lithium disilicate (LS_2) CAD – IPS e.max® CAD

NOTICE! Do not blast lithium disilicate restorations with Al_2O_3 or polishing beads.

✓ The restoration is in its precrystallized (blue) state.

1. Prepare the restoration using diamond-bonded grinding instruments at low pressure and low speed. Observe the Instructions for Use.
2. Clean the restoration with ultrasound in a water bath and / or with a steam jet.
3. Dry the restoration.
4. Crystallize the restoration.

Monolithic restorations made of lithium disilicate (LS_2) Press – IPS e.max® Press

1. Prepare the restoration using ceramic- and / or diamond-bonded grinding instruments at low pressure and low speed. Observe the Instructions for Use.
2. Blast the restoration with Al_2O_3, 100 µm at 1 bar (15 psi) pressure.
3. Thoroughly clean the restoration with running water or a steam jet.
4. Dry the restoration.

Monolithic restorations made of leucite-reinforced glass-ceramic CAD – IPS Empress® CAD

1. Prepare the restoration using ceramic- and / or diamond-bonded grinding instruments at low pressure and low speed. Observe the Instructions for Use.
2. Carefully prepare the restoration margins using rubber and silicone polishers. Observe the Instructions for Use.
3. Thoroughly clean the restoration with running water or a steam jet.
4. Dry the restoration.

Veneering ceramics – IPS e.max® Ceram, IPS Style® Ceram, IPS InLine®

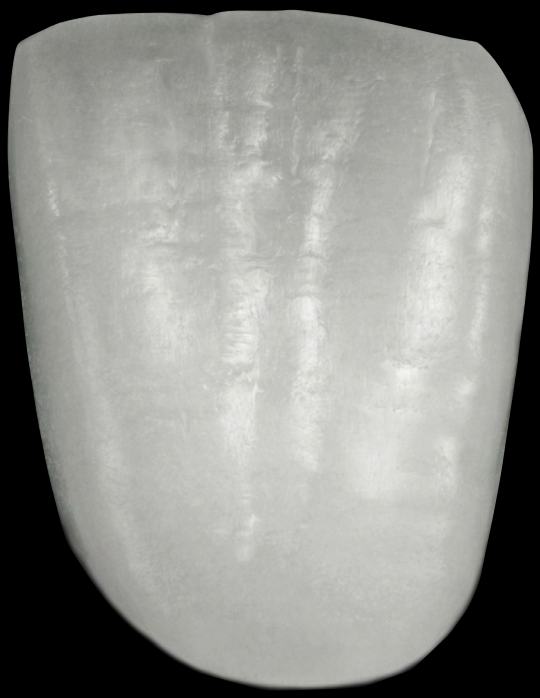
1. Prepare the restoration using ceramic- and / or diamond-bonded grinding instruments at low pressure and low speed. Observe the Instructions for Use.
2. Thoroughly clean the restoration with running water or a steam jet.
3. Dry the restoration.

NOTICE! Select the appropriate grinding tools according to the recommendations provided in the Instructions for Use of the material.

Preparing the ceramic surface

Monolithic restorations

Standard surface finish of the restoration after processing



Veneered restorations

Surface of the restoration after processing
Individual natural macro- and microtextures with smoothing using silicone polishers

Artistry with brushes and instruments

Standard dental instruments and brushes can be used to process the new generation of viscous IPS e.max Ceram Art pastes. The new pastes offer versatile options for finalizing restorations and adding an artistic touch. Embrace your creativity and turn each restoration into a small work of art – true 'ART'.

Medium viscosity

Medium-viscosity **IPS e.max Ceram Art Magic Glaze, Shade, Essence, Illusion and Illusion Gingiva** pastes can be applied with modern synthetic brushes or brushes made with natural bristles. Medium-sized brushes are recommended for applying Magic Glaze and for incorporating stains, e.g. Shade Dentin, on larger areas. Fine-tipped brushes in the smallest size are ideal for artistic characterization.

High viscosity

High-viscosity **IPS e.max Ceram Art Structure** and **Structure Gingiva** pastes should first be lightly spatulated on a mixing pad using a metal-free spatula to achieve a workable consistency. Very stiff brushes and metal-free instruments are ideal for applying and shaping the highly viscous structure paste over large areas on dental and gingival surfaces. Microtexture can be added to the surface using a fine brush with a firm tip or a fine instrument. To subtly replicate the natural stippling effect, or 'orange-peel' texture, on the gingival surface, a stiff, flat brush is recommended.

Characterization, glazing and structuring

- ✓ The restoration is free of dirt and grease residues.
- ✓ The restoration demonstrates a smooth surface without sharp edges / ridges.

White / red esthetics for monolithic restorations

IPS e.max® ZirCAD, IPS e.max® CAD, IPS e.max® Press, IPS Empress® CAD

Wet-on-wet technique / one-shot
simultaneous glazing, staining and characterization in a single firing cycle.
= efficient for streamlined and time-saving procedures

IPS e.max Ceram Art pastes:
- before use, mix thoroughly in the tub using a clean, metal-free spatula.
- can also be mixed together on a mixing pad to further expand the variety of shades.

Note: IPS e.max Ceram Art Illusion Gingiva pastes are applied directly to the surface of the restoration (no wetting with glaze paste is required).

White / red esthetics for monolithic restorations

Wet-on-wet staining / one-shot

Prepared surface / restoration,
see page 16.

1. Apply **undiluted** IPS e.max Ceram Art Magic Glaze FLUO on the teeth in an even layer using a brush.

2. Stain the teeth with IPS e.max Ceram Art Shade Dentin/Incisal and adjust the shade in accordance with the shade guide.
3. Characterize the teeth with IPS e.max Ceram Art Illusion and IPS e.max Ceram Art Essence.
4. Conduct Stain and Glaze firing.
5. Repeat Steps 1–4, if required.

Firing parameters, see pages 46/47

Final restoration

IPS e.max Ceram Art
Magic Glaze FLUO
- Shade Dentin 2
- Shade Incisal 1
- Illusion Mamelon light-salmon
- Illusion Absorber fog

Prepared surface / restoration,
see page 16.

1. Apply **undiluted** IPS e.max Ceram Art Glaze FLUO on the teeth in an even layer using a brush.

Final restoration

2. Stain the teeth with IPS e.max Ceram Art Shade Dentin/ Incisal and adjust the shade in accordance with the shade guide.
3. Characterize the teeth with IPS e.max Ceram Art Illusion and IPS e.max Ceram Art Essence.
4. Apply undiluted IPS e.max Ceram Art Illusion Gingiva Base on the gingival area (self glazing).
5. Characterize the gingival area with IPS e.max Ceram Art Illusion Gingiva (self glazing).
6. Conduct Stain and Glaze firing.
7. Repeat Steps 1–6, if required.

Firing parameters, see pages 46/47

IPS e.max Ceram Art
Magic Glaze FLUO
- Shade Dentin 2
- Shade Incisal 1
- Illusion Mamelon light-salmon
- Illusion Absorber fog
- Illusion Gingiva Base rose
- Illusion Gingiva soft-bone
- Illusion Gingiva capillary

Conventional, individual staining technique

more intense, individual staining and characterization with a separate Stain and Glaze firing cycle.
= intense, individual and creative

IPS e.max Ceram Art pastes:

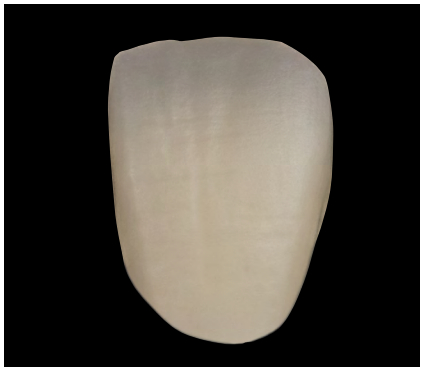
- before use, mix thoroughly in the tub using a clean, metal-free spatula.
- can also be mixed together on a mixing pad to further expand the variety of shades.
- the viscosity of the pastes can be diluted and individually adjusted using IPS e.max Ceram Universal Liquid.

NOTICE! Avoid pooling and overly thick stain layers.
More intensive shades are achieved by repeating the staining procedure and firing, not by applying thicker layers.

NOTE: IPS e.max Ceram Art Illusion Gingiva pastes are directly applied on the surface of the restoration (no wetting with glaze paste required).

White / red esthetics for monolithic restorations

Conventional, individual staining technique



Prepared surface / restoration,
see page 16.

1. Apply IPS e.max Ceram Art Glaze FLUO alone or slightly diluted with IPS e.max Ceram Art Universal Liquid on the teeth in a **thin** layer using a brush.

2. Stain the teeth with IPS e.max Ceram Art Shade Dentin/Incisal and adjust the shade in accordance with the shade guide.
3. Characterize the teeth with IPS e.max Ceram Art Illusion and IPS e.max Ceram Art Essence.
4. Conduct stain firing.
5. Repeat Steps 1–4, if required.

6. Apply undiluted IPS e.max Ceram Art Glaze FLUO on the teeth in an even layer using a brush.
7. Conduct Stain and Glaze firing.
8. Repeat Steps 6–7, if required.

Firing parameters, see pages 46/47

Final restoration

IPS e.max Ceram Art
Magic Glaze FLUO
- Shade Dentin 2
- Shade Incisal 1
- Illusion Absorber fog
- Illusion Mamelon reddish-orange
- Essence sunset
- Illusion Enamel pearl
- Illusion Opal night-blue
- Illusion Halo ocher

1. Apply IPS e.max Ceram Art Glaze FLUO alone or slightly diluted with IPS e.max Ceram Art Universal Liquid on the teeth in a thin layer using a brush.

Prepared surface / restoration, see page 16.

3. Stain the teeth with IPS e.max Ceram Art Shade Dentin/Incisal and adjust the shade in accordance with the shade guide.
4. Characterize the teeth with IPS e.max Ceram Art Illusion and IPS e.max Ceram Art Essence.
5. Conduct stain firing.
6. Repeat Steps 1–5, if required.

2. Apply undiluted IPS e.max Ceram Art Illusion Gingiva Base on the gingival area (self glazing).
   Optional: When applying the first base layer, selectively leave out the lighter zones at the tooth root and marginal gingiva.

Final restoration

7. Apply undiluted IPS e.max Ceram Art Glaze FLUO on the teeth in an even layer using a brush.
8. Characterize the gingival area with IPS e.max Ceram Art Illusion Gingiva (self glazing).
9. Conduct Stain and Glaze firing.

Firing parameters, see pages 46/47

IPS e.max Ceram Art

Magic Glaze FLUO
Shade Dentin 2
Shade Incisal 1
Illusion Absorber fog
Illusion Mamelon reddish-orange
Essence sunset
Illusion Enamel pearl
Illusion Opal night-blue
Illusion Halo ocher
Illusion Gingiva Base pink
Illusion Gingiva intensive-bone
Illusion Gingiva light-margin
Illusion Gingiva capillary

Structuring technique (3D effect)

applying structure paste to monolithic restorations to create a three-dimensional surface texture.
= effective for creating a natural depth effect with refined esthetics

IPS e.max Ceram Art Structure:

- the surface of the restoration has been characterized and glazed using the wet-on-wet / one-shot or conventional technique.
- lightly mix the high-viscosity IPS e.max Ceram Art Structure and IPS e.max Ceram Art Structure Gingiva pastes on a mixing pad using a clean, metal-free spatula to achieve a smooth viscosity.
- for better sculpting, lightly moisten the brush / instrument with IPS e.max Ceram Art Universal Liquid.
- use IPS e.max Art Magic Glaze to spread IPS e.max Ceram Art Structure paste thinly along the transitions in the proximal, incisal and tapered areas of the restoration.

IMPORTANT! IPS e.max Ceram Art Structure & Structure Gingiva pastes must not be diluted with IPS e.max Ceram Art Universal Liquid.

NOTICE! After the structure firing of IPS e.max Ceram Art Structure, check the contact area to the antagonist and the contact points.

Layer thicknesses of IPS e.max Ceram Art Structure and IPS e.max Ceram Art Structure Gingiva

A maximum layer thickness of approx. 0.8 mm is recommended for the application of IPS e.max Ceram Art Structure pastes. After the firing process, this results in an a maximum layer thickness of approx. 0.5 mm, creating a 3D effect.

Adjusting the gloss

The restoration's surface gloss can be adjusted with additional mechanical polishing, if desired. By creating shiny and matte areas, the surface can be made to look even more natural. This works especially well on restorations fired with IPS e.max Ceram Art Structure or IPS e.max Ceram Art Structure Gingiva. With the polishing instruments of the OptraGloss® Extra Oral range, mechanical pre- and high-gloss polishing can be achieved quickly and easily.

OptraGloss® Extra Oral from Ivoclar comprises universal polishers for the high-gloss polishing of ceramic restorations in two steps and a polishing paste for extraoral use.

White / red esthetics for monolithic restorations

Structuring technique (3D effect)

Application in the wet-on-wet technique or conventional technique has been performed, see pages 20–22.

1. Apply undiluted IPS e.max Ceram Art Structure to the glazed surface of the restoration (self glazing).
2. Sculpt the morphology of the restoration.
3. Incorporate the microtexture in the surface using instruments and brushes.
4. Conduct structure firing.

Firing parameters, see pages 46/47

Final restoration

IPS e.max Ceram Art
- Structure neutral
- Structure cloud

Application in the wet-on-wet technique or conventional technique has been performed, see pages 20–27.

1. Apply undiluted IPS e.max Ceram Art Structure and Structure Gingiva to the glazed surface of the restoration (self glazing).
2. Sculpt the morphology of the restoration.
3. Incorporate the microtexture in the surface using instruments and brushes.
4. Conduct structure firing.

Firing parameters, see pages 46/47

Final restoration

IPS e.max Ceram Art

- Structure neutral
- Structure cloud
- Structure Gingiva soft-pink
- Structure Gingiva pink

Monolithic restorations characterized with IPS e.max Ceram Art

Individual staining technique and structuring technique

Phenotype: Gingiva pink

Phenotype: Gingiva red-blue

Phenotype: Gingiva red-yellow

Phenotype: Gingiva purple

White / red esthetics for veneering materials

IPS e.max® Ceram, IPS Style® Ceram, IPS InLine®

IPS e.max Ceram Art pastes:

- the restoration has been partially or completely veneered with all-ceramic or metal-ceramic veneering materials.
- before use, mix thoroughly in the tub using a clean, metal-free spatula.
- can also be mixed together on a mixing pad to further expand the variety of shades.

TIP! To achieve a higher gloss effect with diluted IPS e.max Ceram Magic Glaze, use a firing temperature 10–20 °C (50–68 °F) below the last firing of the veneering ceramic.

White / red esthetics for veneering materials

Layering technique

Prepared surface / restoration,
see page 16

1. Apply IPS e.max Ceram Art Glaze in a **thin** even layer to the teeth using a brush.

2. Stain the teeth with IPS e.max Ceram Art Shade Dentin/Incisal and adjust the shade in accordance with the shade guide.
3. Characterize the teeth with IPS e.max Ceram Art Illusion and IPS e.max Ceram Art Essence.
4. Conduct Stain and Glaze firing.
5. Repeat Steps 1–4, if required.

Firing parameters, see pages 46/47

Final restoration

IPS e.max Ceram Art
Magic Glaze
Shade Dentin 2
Essence creme
Essence white

Prepared surface / restoration,
see page 16

1. Apply IPS e.max Ceram Art Glaze in a **thin** even layer to the teeth using a brush.

Final restoration

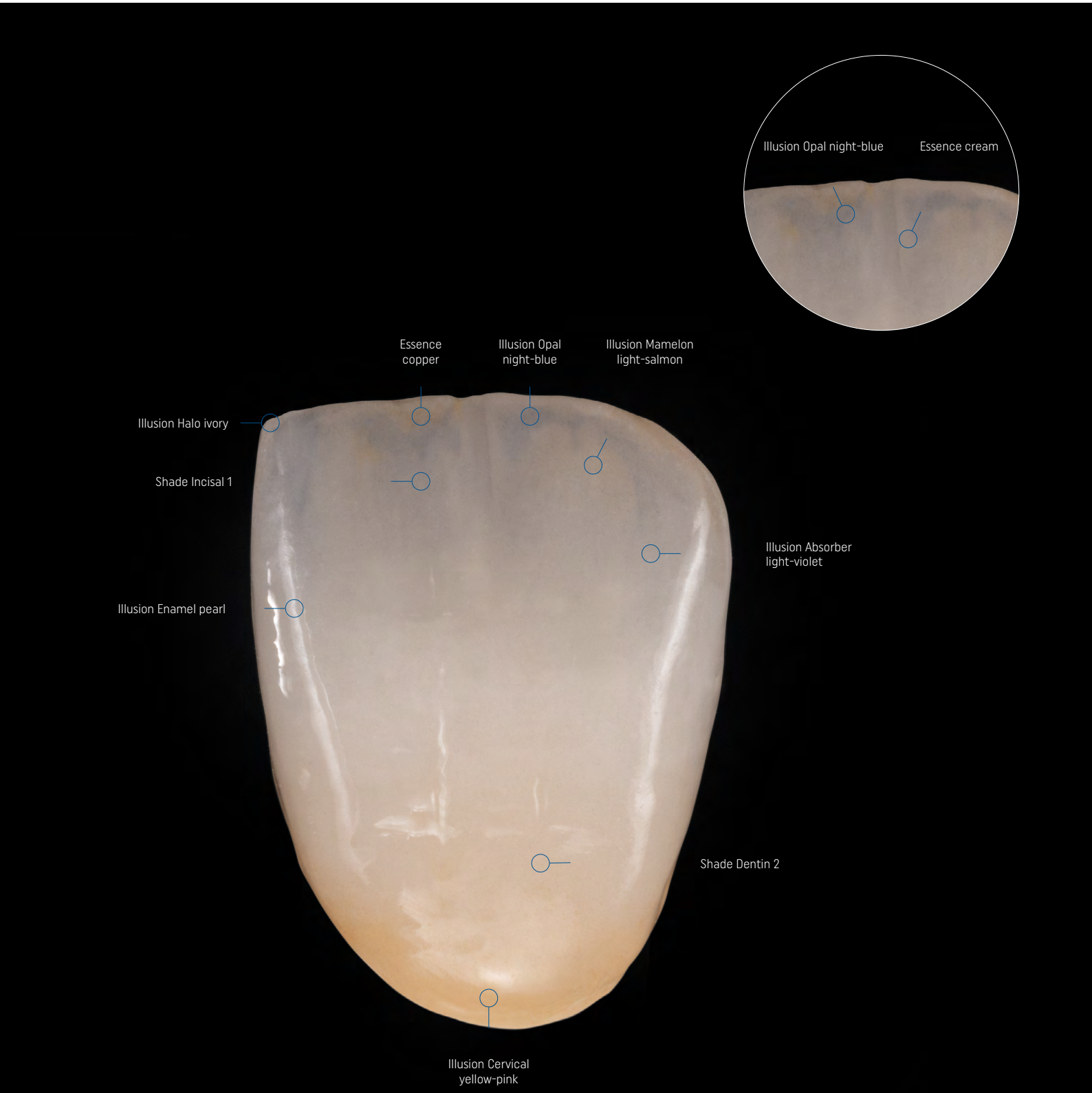
2. Stain the teeth with IPS e.max Ceram Art Shade Dentin/Incisal and adjust the shade in accordance with the shade guide.
3. Characterize the teeth with IPS e.max Ceram Art Illusion and IPS e.max Ceram Art Essence.
4. Apply undiluted IPS e.max Ceram Art Illusion Gingiva Base to the gingival area (self glazing).
5. Characterize the gingival area with IPS e.max Ceram Art Illusion Gingiva and IPS e.max Ceram Art Essence.
6. Conduct Stain and Glaze firing.
7. Repeat Steps 1–6, if required.

Firing parameters, see pages 46/47

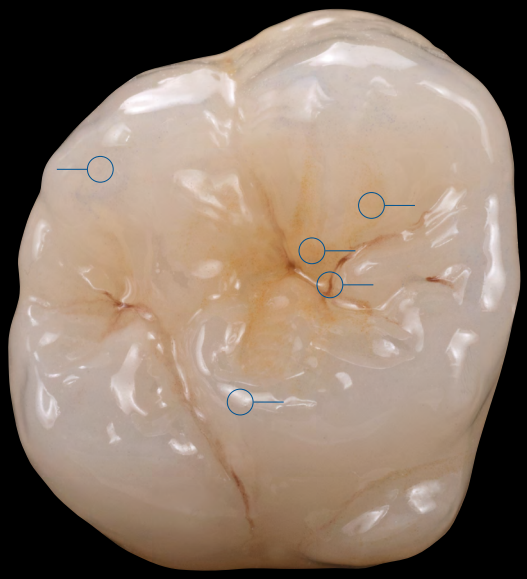
IPS e.max Ceram Art
Magic Glaze
- Shade Dentin 2
- Essence creme
- Essence white
- Illusion Gingiva fibers
- Illusion Gingiva capillary

Art gallery

Artistic characterization using IPS e.max Ceram Art



White esthetics – anterior

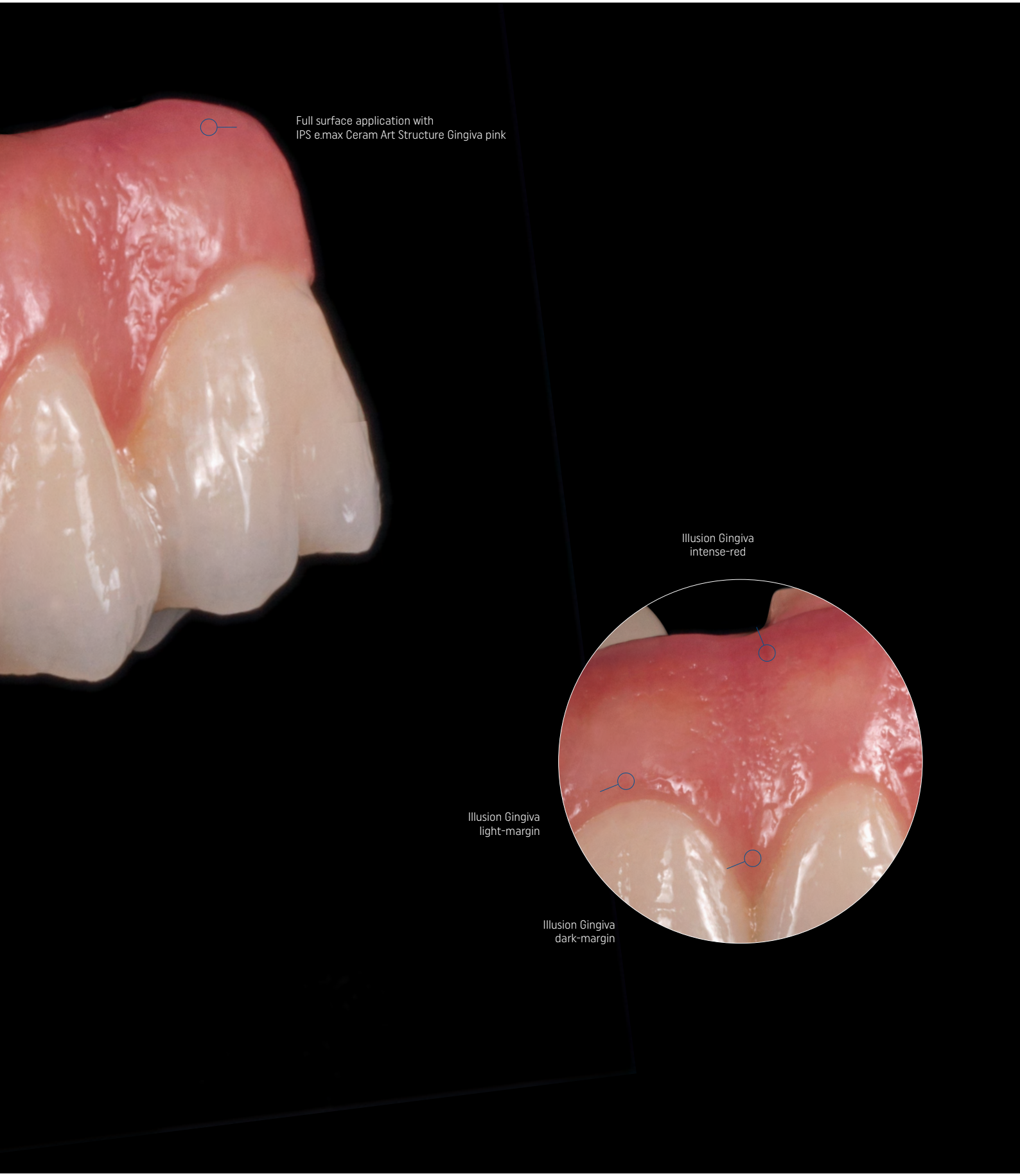


White esthetics – posterior

Art gallery

Artistic characterization using IPS e.max Ceram Art

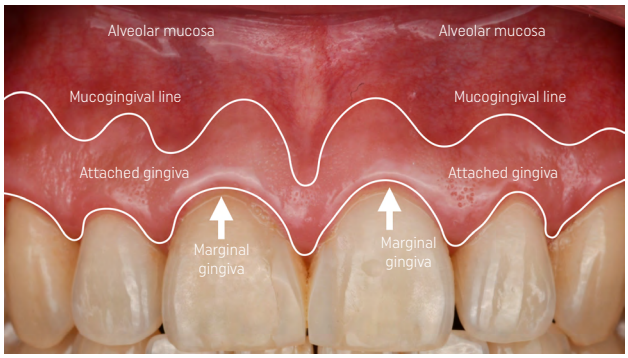
White / red esthetics – anterior and gingiva

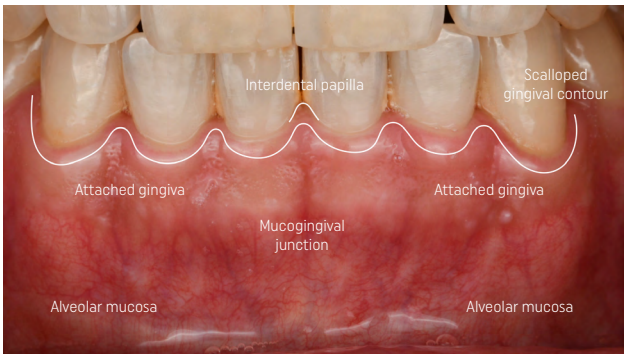

Full surface application with
IPS e.max Ceram Art Structure Gingiva pink
Illusion Gingiva
intense-red
Illusion Gingiva
light-margin
Illusion Gingiva
dark-margin

Fundamentals of gingival anatomy

Gingival morphology

Replicating gingiva with lifelike esthetics requires a fundamental understanding of the natural gingival morphology.

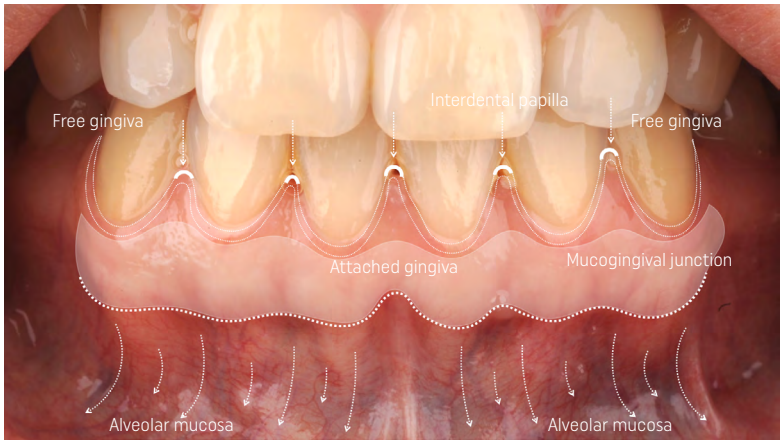




1. In the cervical area, you will find the marginal gingiva (=sulcus gingivalis) and the free gingiva, which contain microscopic spaces. The tissue in this region is flexible and is partially compressed or stretched during procedures such as implant placement, for example, when performing a sinus lift.
2. The attached gingiva is a firm tissue anchored to the alveolar bone, creating a connection to the teeth.
3. Below this, the gingiva extends along a wavy line, the mucogingival line. This is followed by the alveolar mucosa, the movable oral mucosa.

The areas of the marginal gingiva (sulcus gingiva) and the free gingiva, which surround the tooth like a band, appear slightly curved and light reddish in colour. The slightly curved, rounded ridge between the teeth, known as the interdental papilla, may exhibit varying degrees of recession depending on the patient's gingival condition. It is essential to adequately recreate the interdental papillae and preserve a healthy shape to prevent food particles from getting trapped.

The underlying attached gingiva appears as if the bone is pushing it outward. The tissue appears slightly tense and curved and it looks somewhat whitish. The alveolar mucosa extends below the gingival line (mucogingival line) of the attached mucosa. Its movable tissue has a slightly increased colour saturation in a reddish tone. Due to the thin tissue, fine blood vessels or violet colourations may also become visible.



Pictures courtesy of DT Ilhwan Jang

General information

Frequently asked questions

Can I use IPS e.max Ceram Art for staining ceramic materials from other manufacturers?

Yes. IPS e.max Ceram Art can be used for all ceramic materials that fall within the specified CTE range. IPS e.max Ceram Art pastes are compatible with ceramics in the CTE range of 9.4–17.5 x 10^{-6}/K (25 - 500 °C).

- Important: The use of IPS e.max Ceram Art on ceramic materials from other manufacturers is the sole responsibility of the user.

Can I use IPS e.max Ceram Art for the crystallization firing of IPS e.max CAD restorations?

No. IPS e.max Ceram Art is not suitable for staining and glazing IPS e.max CAD restorations in the 'blue' state. After crystallization firing, IPS e.max Ceram Art can be used for characterization and glazing.

Is it possible to mix the IPS e.max Ceram Art Shade, Essence, Illusion and Illusion Gingiva pastes with each other to further expand the variety of shades?

Yes. The IPS e.max Ceram Art pastes can be mixed with each other.

- Important: Red-shaded IPS e.max Ceram Art Illusion Gingiva intense-red is not intended for mixing with gingiva shades.

Can I dilute IPS e.max Ceram Art pastes with IPS e.max Ceram Art Universal Liquid?

Yes.

- Important: IPS e.max Ceram Art Structure and Structure Gingiva pastes must not be diluted with IPS e.max Ceram Art Universal Liquid.

Can I fire IPS e.max Ceram Art in furnaces from other manufacturers?

Yes. When using furnaces other than the Programat® furnaces from Ivoclar Vivadent AG, the specified firing parameters should be adopted. However, these firing parameters should be considered as guidelines only, as every furnace type may produce different firing results. We recommend carrying out a test firing first.

Can I use the IPS Ivocolor Shade Dentin pastes, IPS Ivocolor Shade Incisal pastes and IPS Ivocolor Essence powders together with IPS e.max Ceram Art?

Yes. IPS Ivocolor Shade pastes and IPS Ivocolor Essence powders can be used together with the IPS e.max Ceram Art pastes.

Can I carry out multiple Stain and Glaze firing cycles with the IPS e.max Ceram Art pastes?

Yes. When using the conventional staining technique in conjunction with IPS e.max Ceram Art Shade, Essence, Illusion and Illusion Gingiva, stain firing can be carried out multiple times.

Yes. For the one-shot technique using IPS e.max Ceram Art Magic Glaze FLUO, a second Stain and Glaze firing can be performed as an add-on.

Can I carry out a corrective (add-on) firing cycle after Stain-Glaze firing?

Yes. A corrective firing can be performed with the following add-on materials: IPS e.max Ceram Add-On 690 °C, IPS Style Ceram Add-On 690 °C and IPS InLine Add-On 690 °C.

- Important: The firing temperature of the add-on materials must not exceed the firing temperature of the IPS e.max Ceram Art pastes.

As an alternative, can I perform a corrective (add-on) firing with the IPS e.max Ceram Art Structure pastes after the Stain-Glaze firing?

Yes. It is possible to perform a corrective firing with the IPS Art Structure pastes (structure firing).

- Important: Only one corrective firing may be performed with the IPS e.max Ceram Art Structure pastes.

Is a final glaze firing required after the structure firing and should it be performed at all?

No. An additional glaze firing cycle is not required, because the IPS e.max Ceram Art Structure pastes are self-glazing.

- Note: If a higher level of gloss is required after the structure firing, high-gloss polishing can easily be achieved using OptraGloss® Extra Oral.

Can I use rotary instruments to rework a fired IPS e.max Ceram Art Structure surface?

Yes. Reworking of the fired IPS e.max Ceram Art Structure surface is possible.

- Note: Subsequently, the fired surface can be pre-polished and high-gloss polished using OptraGloss Extra Oral or, alternatively, a glaze firing can be performed without glaze paste at 20 °C (68 °F) below the structure firing temperature, with a reduced holding time of max. 1 minute.

Firing parameters

Stain and Glaze firing when using the staining technique (monolithic)

IPS e.max Ceram Art Magic Glaze FLUO, Shade, Essence, Illusion, Illusion Gingiva

IPS e.max Ceram Art	Stand-by temperature B [°C/°F]	Closing time S* [min]	Heating rate t [°C/°F/min]	Firing temperature T [°C/°F]	Holding time H [min]	Vacuum on V1 [°C/°F]	Vacuum off V2 [°C/°F]	Long-term cooling L [°C/°F]
IPS e.max® ZirCAD 1–4 units	403/757	IRT/6	45/81	710/1310	2:00	–	–	–
IPS e.max® ZirCAD 5–7 units	403/757	IRT/6	40/72	720/1328	2:00	–	–	**
IPS e.max® ZirCAD 8–14 units	403/757	IRT/6	30/54	730/1346	2:00	–	–	**
IPS e.max® CAD	403/757	IRT/6	45/81	710/1310	2:00	–	–	***
IPS e.max® Press	403/757	IRT/6	45/81	710/1310	2:00	–	–	–
IPS Empress® CAD	403/757	IRT/6	45/81	710/1310	2:00	–	–	–

* IRT standard mode
** In case of significant differences in the cross-sections of individual units within a restoration, long-term cooling L down to 500 °C/932 °F is recommended for each firing cycle.
*** For layer thicknesses exceeding 2 mm, long-term cooling L down to 500 °C/932 °F is required.

Structure firing in the structuring technique (monolithic)

IPS e.max Ceram Art Structure / IPS e.max Ceram Art Structure Gingiva

IPS e.max Ceram Art	Stand-by temperature B [°C/°F]	Closing time S* [min]	Heating rate t [°C/°F/min]	Firing temperature T [°C/°F]	Holding time H [min]	Vacuum on V1 [°C/°F]	Vacuum off V2 [°C/°F]	Long-term cooling L [°C/°F]
IPS e.max® ZirCAD 1 unit	403/757	IRT/6	45/81	710/1310	2:00	550/1022	710/1310	–
IPS e.max® ZirCAD 2–4 units	403/757	IRT/6	40/72	710/1310	2:00	550/1022	710/1310	–
IPS e.max® ZirCAD 5–7 units	403/757	IRT/6	45/81	720/1328	2:00	550/1022	720/1328	500/932
IPS e.max® ZirCAD 8–14 units	403/757	IRT/6	30/54	720/1328	2:00	550/1022	720/1328	500/932
IPS e.max® CAD	403/757	IRT/6	45/81	710/1310	2:00	550/1022	710/1310	***
IPS e.max® Press	403/757	IRT/6	45/81	710/1310	2:00	550/1022	710/1310	–

* IRT standard mode
*** For layer thicknesses exceeding 2 mm, long-term cooling L down to 500 °C/932 °F is required.

Stain and Glaze firing in the layering technique (full veneering / partial veneering)

IPS e.max Ceram Art Magic Glaze Shade, Essence, Illusion, Illusion Gingiva

IPS e.max Ceram Art	Stand-by temperature B [°C/°F]	Closing time S* [min]	Heating rate t [°C/°F/min]	Firing temperature T [°C/°F]	Holding time H [min]	Vacuum on V1 [°C/°F]	Vacuum off V2 [°C/°F]	Long-term cooling L [°C/°F]
IPS e.max® Ceram / IPS e.max® ZirCAD 1–4 units	403/757	IRT/6	45/81	710/1310	1:00	–	–	450/842
IPS e.max® Ceram / IPS e.max® ZirCAD 5–7 units	403/757	IRT/6	40/72	720/1328	1:00	–	–	450/842
IPS e.max® Ceram / IPS e.max® ZirCAD 8–14 units	403/757	IRT/6	30/54	720/1328	1:00	–	–	450/842
IPS e.max® Ceram / IPS e.max® CAD	403/757	IRT/6	60/108	710/1310	1:00	–	–	–
IPS e.max® Ceram / IPS e.max® Press	403/757	IRT/6	60/108	710/1310	1:00	–	–	–
IPS Style® Ceram	403/757	IRT/6	60/108	750/1382	1:00	–	–	–
IPS InLine®	403/757	IRT/6	60/108	830/1526	1:00	–	–	–

* IRT standard mode

These firing parameters are guidance values and they are valid for the Programat® furnaces from Ivoclar Vivadent AG.
Deviations (approx. ± 10 °C/50 °F) may occur:

- Depending on the furnace generation.
- Ceramic furnaces of other manufacturers.
- Regional differences in the supply voltage.
- Operating several electrical devices in the same circuit.

Manufacturer
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9494 Schaan/Liechtenstein
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ivoclar.com