IPS STYLE KERAMIKA

IVOCLAR VIVADENT

IPS Style® Ceram Opaquer

- Light blocking material for cove
  metal copping
- High and low fusing (960°C/ 87

MAKE IT STYLE YOUR!

IPS Style® Ceram Deep Dentin

Opaque dentin material

- in areas with limited layer thickness
- at the incisal ends of the framework. Masks light optical refractive edges and supports the attainment of true-to-nature results.

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IPS Style® Ceram Incisal

- Related to natural enamel

IPS Style® Ceram Occlusal Dentin

- Characterization, in particular the occlusal and palatal areas

IPS Style® Ceram Mamelon

Intense, opaque effect material

- Characterization of the incisal area
- Application in thin stripes on the cut back dentin

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IPS Style® Ceram Opal Effect

- Special colored incisal material
- Imitation of the dynamic lightoptic properties of natural teeth.

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IPS Style® Ceram Transpa

- Nature like imitation of colored-transparent areas, especially in the incisal third

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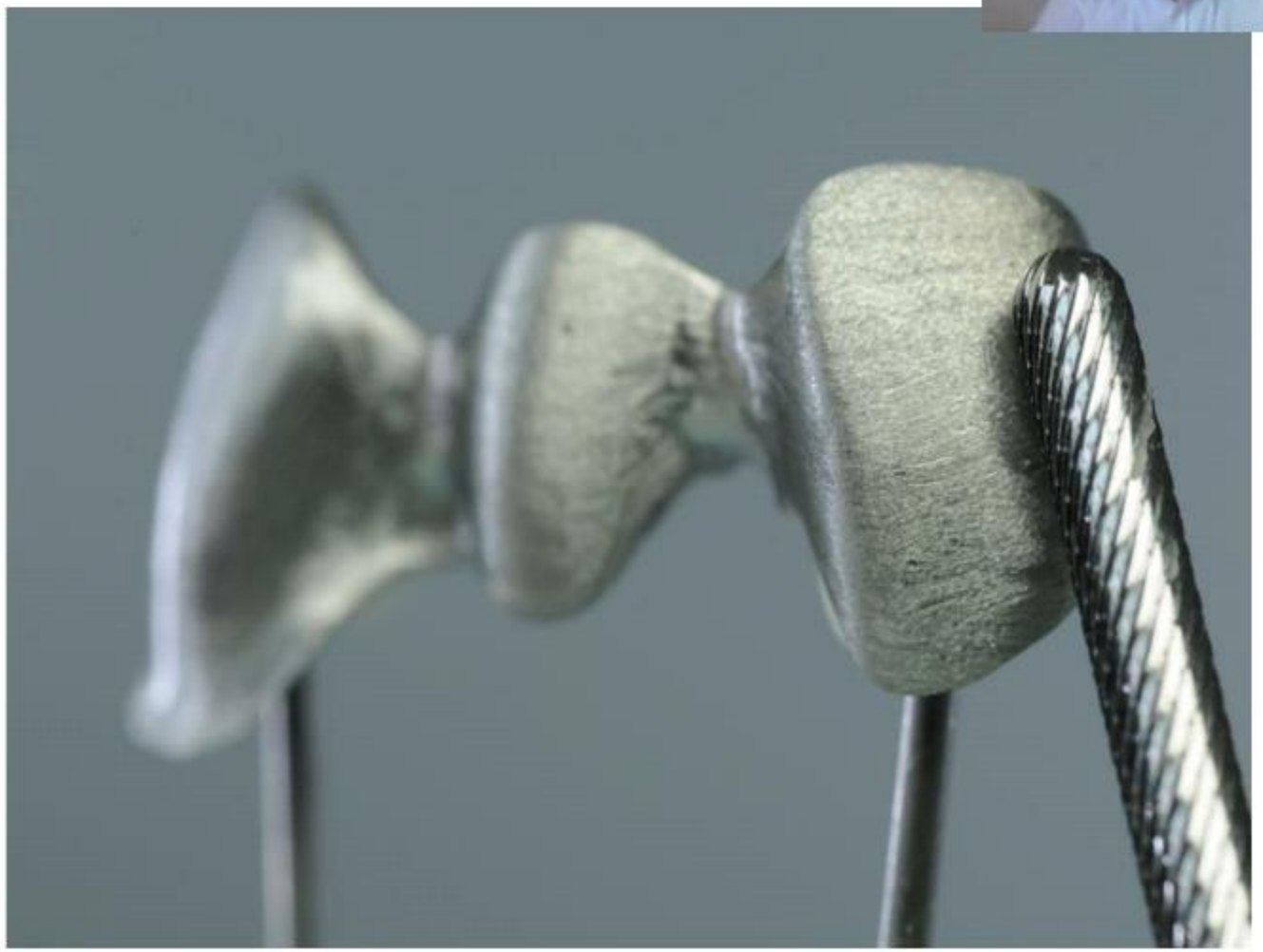
Chapter 1

Framework fabrication and preparation



CTE Coefficient of thermal expansion

The CTE of the alloy has to be within the CTE range from the ceramic layering material.

IPS Style is a feldspar-free veneering ceramic in the CTE range of 13.8 to15.2 x 10^{-6}/K (25 – 500°C).

IPS Style can be used in conjunction with:
–high-gold, reduced-gold, palladium-based alloys
–base metal alloy frameworks

Alloy table

Alloy	Shade	CTE 25–500 °C
High-gold alloys		
Brite Gold®	rich yellow	14.8
Brite Gold® XH	rich yellow	14.5
Golden Ceramic®	rich yellow	14.5
Aquarius Hard	yellow	14.5
d.SIGN® 98	rich yellow	14.3
BioPorta G	rich yellow	14.5
Aquarius XH	yellow	14.1
Porta® Reflex	rich yellow	14.3
Porta® P6	white	14.0
Porta® Geo Ti	rich yellow	14.1
Sagittarius	white	
d.SIGN® 96	yellow	
Reduced gold alloys		
d.SIGN® 91	white	
Porta® SMK 82	white	13.9
W	white	14.2
W-5	white	14.0
Lodestar®	white	14.1
Leo	white	13.9
Evolution® Lite	white	14.2
Euro 45	white	14.1

Alloy	Shade	CTE 25–500 °C
Palladium-based alloys		
Simidur® S2	white	14.2
Spartan® Plus	white	14.1
Spartan®	white	14.2
Capricorn	white	13.9
d.SIGN® 84	white	13.8
Protocol®	white	13.8
Callisto® 75 Pd	white	13.9
Duo Pal 6	white	14.1
Aries	white	14.4
d.SIGN® 67	white	13.9
® 59	white	14.5
® S1S	white	14.8
® 53	white	14.8
	white	15.0
orn 15	white	14.3
Callisto® CPG	white	14.2
Implant alloys		
Callisto® Implant 78	white	13.9
Euro 33 Implant	white	14.3
Callisto® Implant 60	white	14.5
Base metal alloys		
Colado® NC	white	14.0
4all®	white	13.9
d.SIGN® 30	white	14.5
Colado® CC	white	14.2
Base metal CAD/CAM alloys		
Colado® CAD CoCr4	white	14.4

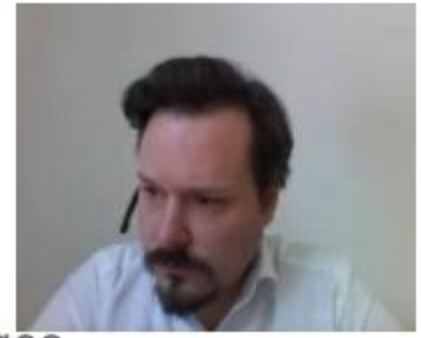
On condition of the following requirements, these alloys can be used with standard cooling in the Programat® furnaces:

- If the required framework design with metal scallops is ensured
- Ceramic layer thicknesses up to max. 1.5 mm **

* The range of available alloys may vary from country to country.

** If the ceramic layer thickness on metal frameworks is more than 1.7 mm, long-term cooling may be favourable for base metal alloys or using alloys with a high CTE.

Functional support of the veneering ceramic



The framework should be designed in such a way that it supports the cusps and incisal edges.

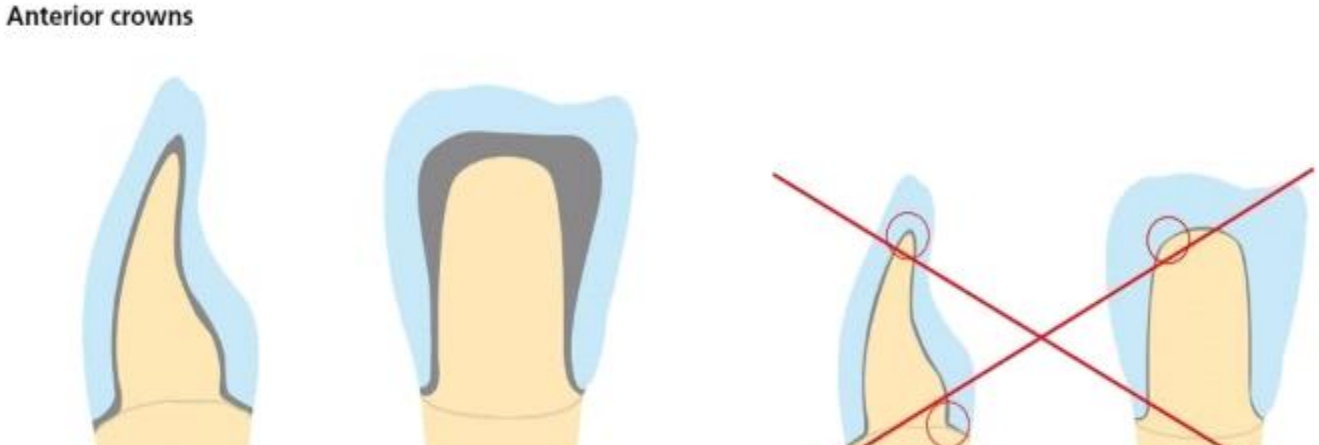
→ Virtually even layer thicknesses of the veneering ceramic should be ensured.

→ Masticatory forces occurring during functional chewing are exerted on the framework.

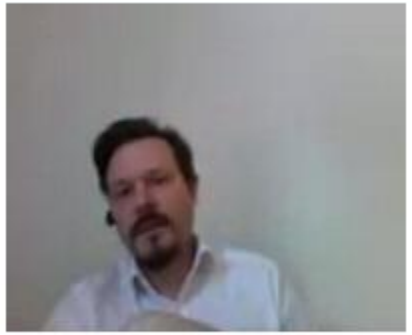
Edges and angles should be avoided.

→ Prevention of tension peaks and the resulting delamination and cracks

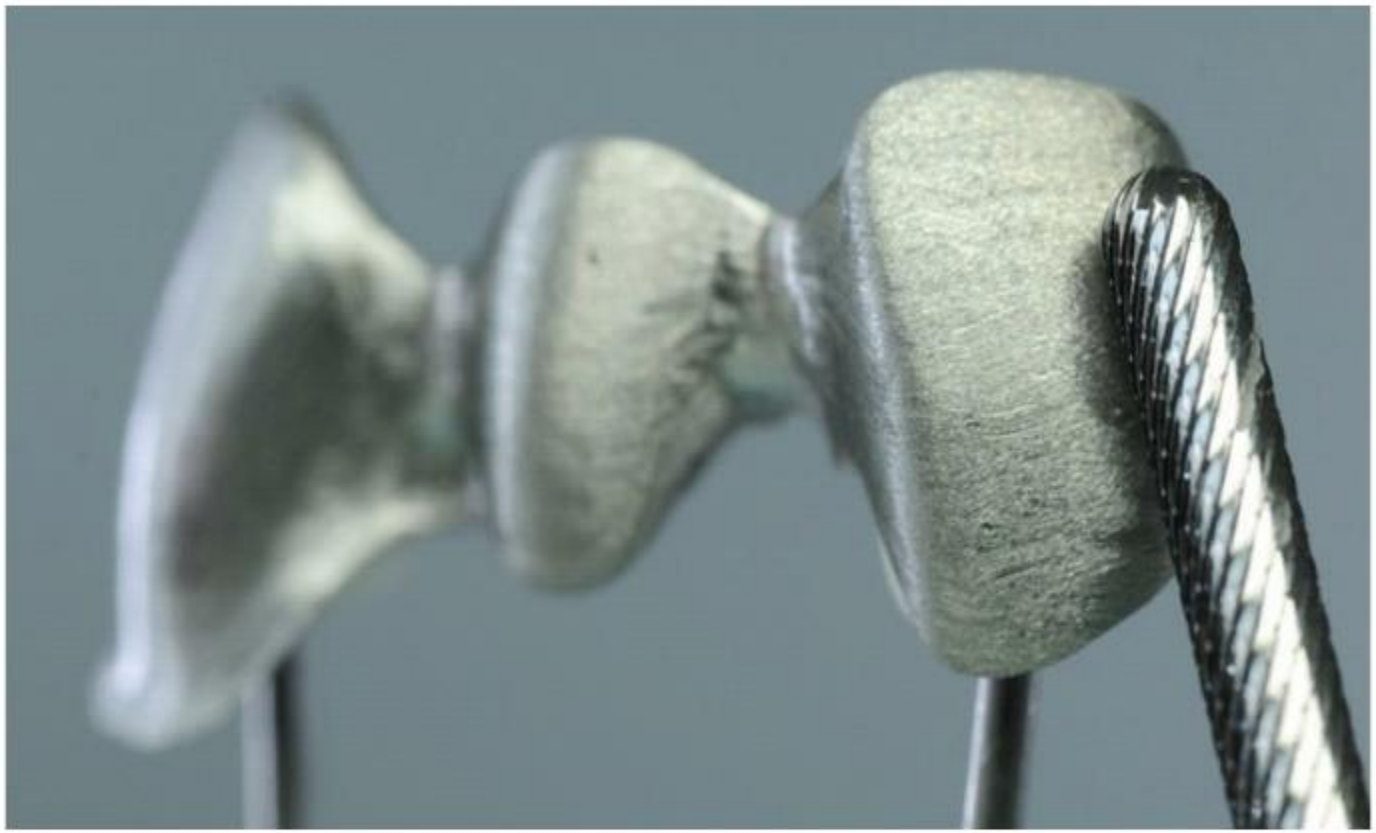
Wall thickness of single crowns: minimum 0.3 mm after finishing;



Framework preparation – Finishing metal framework

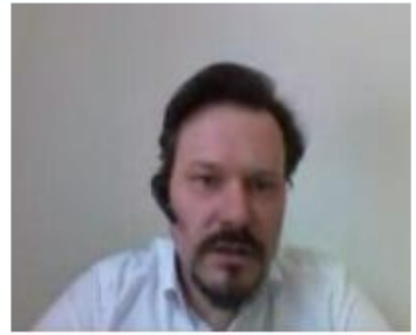


Use tungsten carbide metal burs or ceramic-bonded grinding instruments.



Do not use diamond grinding instruments.
→ Bubbles in the ceramic material during firing

Work in one direction only.
→ Avoids overlapping and inclusions



Framework preparation – Sand-blasting

Carefully blast the framework with aluminium oxide Al_2O_3 50 – 100 µm after finishing. The blasting pressure depends on the hardness of the framework alloy.

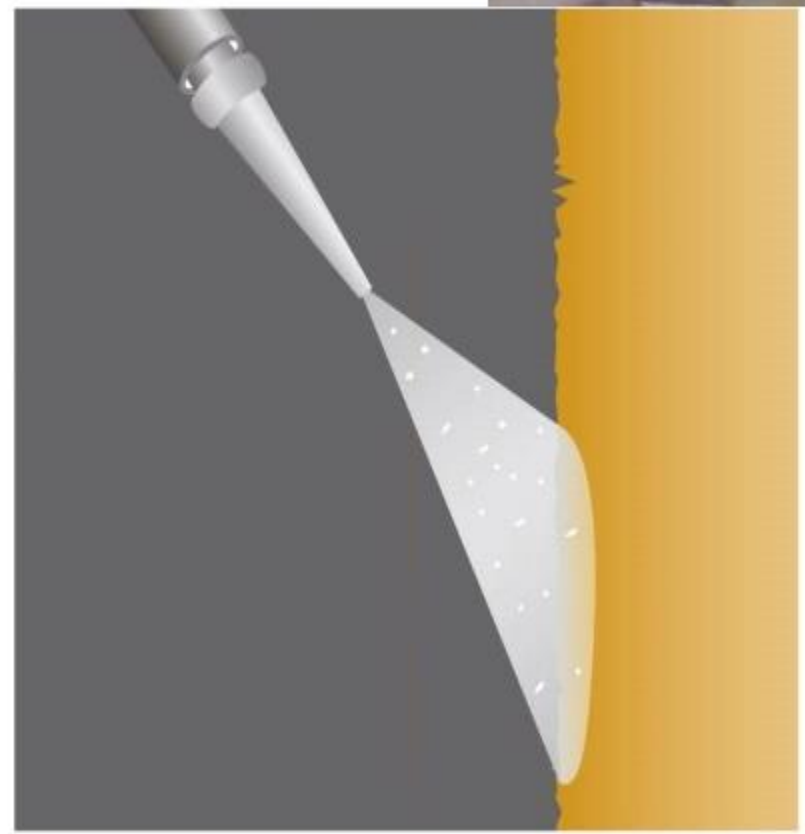
- Use only pure Al_2O_3 disposable jet medium to blast the alloys surface.
- Please also observe the instructions for use of the corresponding alloy.

Framework preparation – Sand-blasting

Blast the alloy with the indicated pressure while keeping the nozzle at a flat angle to the object surface.

→ Prevents inclusions of blasting particles

→ Prevents the formation of bubbles due to contamination during the firing procedure



The surface extension and formation of microretentions generated by blasting enhance the mechanical bond and thus the quality of the restoration.

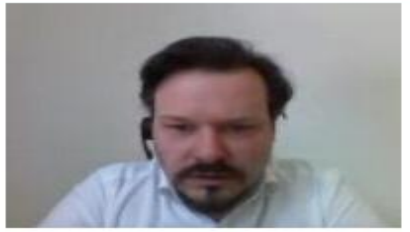
Framework preparation – Oxide firing

After blasting, clean the metal framework with a steam jet and dry with oil-free compressed air.

Framework preparation – Oxide firing

Conduct the oxide firing according to the manufacturer's instructions.

- Surface conditioning and oxidation of the frameworks is performed in accordance with the instructions for use of the alloy.



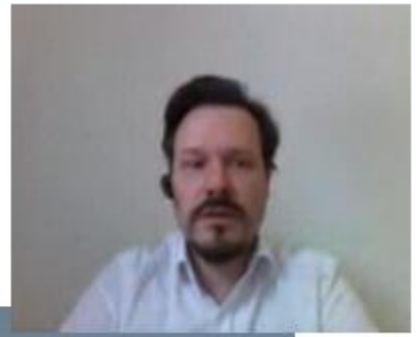
Framework preparation – Oxide firing

After oxidation, check the framework for porosities or uneven oxide. If spots appear, the framework must be refinished, blasted and oxidized again.

An oxide layer is formed on the surface of the metal framework.
→ Establish a chemical bond to the ceramic and enhance the adhesive bond
→ Not all alloys require an oxide firing. Therefore, carefully observe the instructions for use of the respective alloy

Framework preparation – Oxide firing

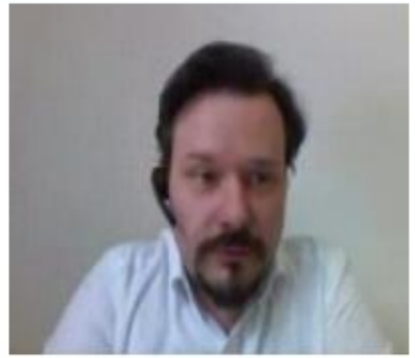
After cleaning again with the steam jet, the framework is ready for the ceramic veneer.
→ Use tweezers and clips when touching the objects.



Chapter 2

Ceramic layering and processing

1st Opaquer application



The pastes have to be stirred up with a glass or plastic instrument before use. Remove the desired quantity from the jar.

- The IPS Style Ceram Paste Opaquer must only be diluted with the IPS Paste Opaquer Liquid. Use only very small amounts of the IPS Paste Opaquer Liquid, if necessary.

1st Opaquer application

Application of IPS Style Ceram Paste Opaquer

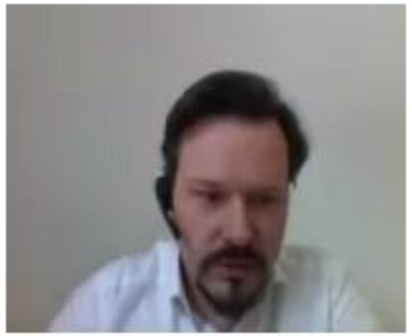
Thinly apply the first non-covering opaquer layer (wash) on the clean metal framework using a brush, agitate it into the microretentions and slightly roughen it.

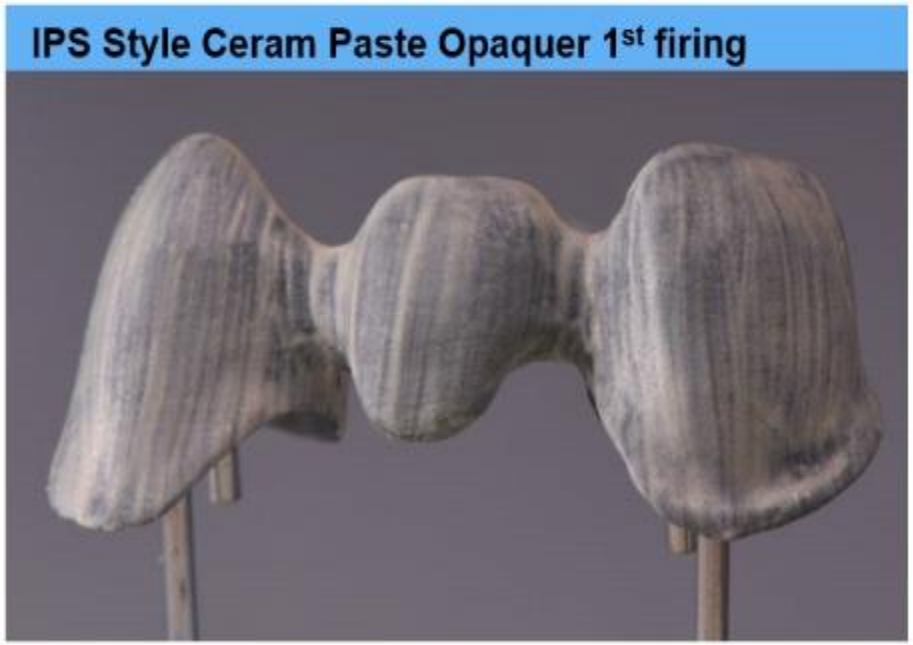
The framework can be wetted with the corresponding liquid before the 1st opaquer application.

→ Leads to a mechanical anchoring and a chemical-atomic bond of the opaquer

→ Adhesion-enhancing layer between the metal and all subsequent ceramic layers

1st Opaquer firing





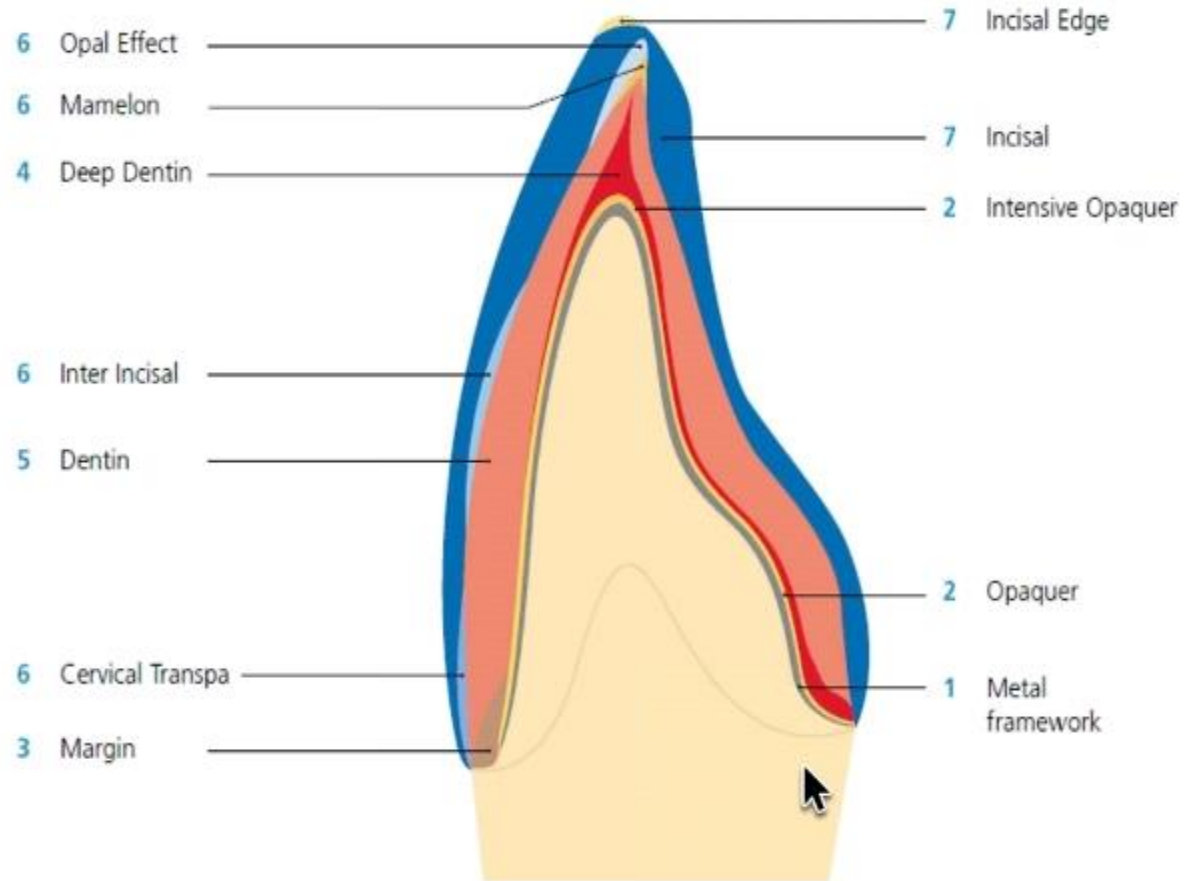
After firing and cooling, thoroughly clean the opaquerized metal framework with the steam jet and subsequently dry with oil-free air. Do no longer touch the framework with your fingers after cleaning. Use tweezers and clips.

2nd Opaquer application

Apply the second opaquer layer in an even, covering layer. Brushes or ceramic ball-shaped instruments are ideal for this purpose.

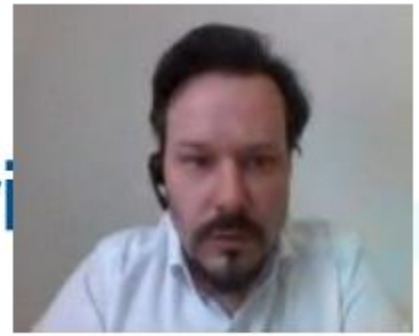
IPS Style® Ceram – Individual layering technique

Layering example:



Step-by-step:

Individual layering technique – 1st Dentin/ Incisal firi



Application of IPS Style Ceram Deep Dentin in areas with limited layer thickness and at the incisal ends of the framework

→ Masks light optical refractive edges and supports the attainment of true-to-nature results.

For an optimum bond between the ceramic material and the opaquer surface, apply a small amount of IPS Style Ceram Deep Dentin material in the cervical and interdental areas *(for bridges)* and slightly roughen it.

Individual layering technique – 1st Dentin/ Incisal firi

Layer the dentin core with Dentin material either directly outlining a mamelon shape or build-up the material to full contour and subsequently reduce it *(cut-back technique)*.

Perform the individual build-up of the incisal area. Design the incisal area using Incisal or Opal Effect materials *(e.g. OE2)*.

Individual layering technique – 1st Dentin/ Incisal firi

Place the Mamelon materials on the incisal third of the labial surface outlining a mamelon shape *(e.g. light and yellow orange)*.

Individually layer Opal Effect materials *(e.g. OE1)* to achieve a true-to-nature translucency along the incisal margin just below the incisal edge.

For better representation, certain layering materials were shaded with pigments that fire without leaving residue.

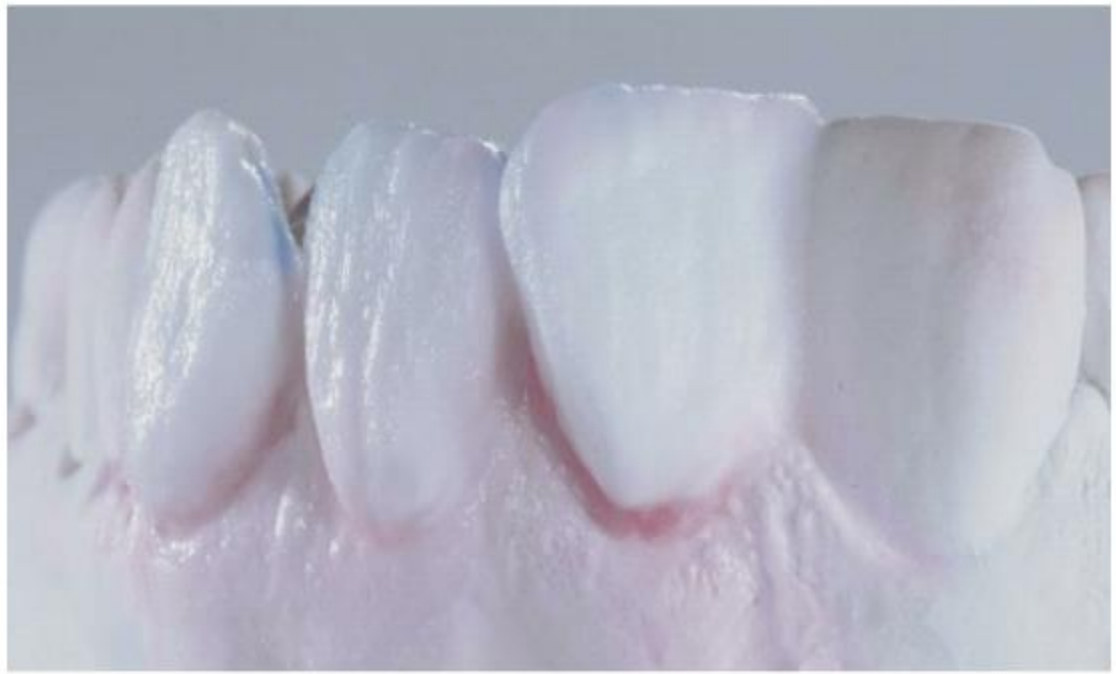
Individual layering technique – 1st Dentin/ Incisal firi

Place the Mamelon materials on the incisal third of the

Individually layer Opal Effect materials *(e.g. OE1)* to

Individual layering technique – 1st Dentin/ Incisal firi

Slightly over-contour the labial and incisal aspects ...



… in order to achieve a lifelike shade gradation; thinning out the Incisal material towards the cervical is recommended.

Use **IPS Build-Up Liquid allround** or **IPS Build-Up Liquid soft** to adjust the stability of your ceramic materials.

Individual layering technique – 1st Dentin/ Incisal firi

Cover the palatal fossa of the restoration with Occlusal Dentin material *(e.g. orange)*.

Line the marginal areas with Dentin material…

Individual layering technique – 1st Dentin/ Incisal firi

… and cover the cingulum and the marginal ridges with Incisal and Transpa materials.

After lifting the bridge off the model, supplement the contact points with the corresponding layering materials. Before firing, circularly separate the entire interdental area down to the opaquer

Individual layering technique – 2nd Dentin/ Incisal fir

Finish the restoration. Clean under running water and with the steam jet. If there is superficial contamination after cleaning, blast the restoration with Al_2O_3 (50 µm) at 1 bar (15 psi) pressure.

Isolate adjacent model components with IPS Ceramic Separating Liquid. Thoroughly dry the restoration and complete the missing areas using the corresponding layering materials. Pay special attention to interdental spaces and contact points. If necessary: slightly separate the interdental spaces

Individual layering technique – 2nd Dentin/ Incisal fir

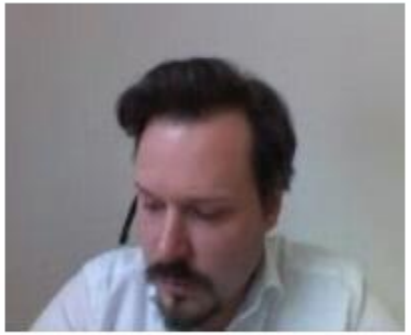
Fire the layered restoration using the
2nd Dentin/Incisal firing.
→ Additional firing cycles are conducted using the firing parameters for the **2nd Dentin/Incisal firing**.

Individual layering technique – Finishing

Design a lifelike shape and surface texture, such as growth lines and convex/concave areas, using diamonds.

Prepolish elevated spots and areas that are to show a stronger gloss after Glaze firing using silicone polishers.

Individual layering technique – Finishing



Finished restoration ...

... featuring a true-to-nature surface texture.