

The background of the entire page is a vibrant, multi-colored powder explosion. The colors range from deep reds and oranges on the left to bright yellows and greens at the bottom, with a large, dynamic splash of blue and purple in the upper right quadrant. The powder particles are fine and densely packed in some areas, creating a sense of movement and energy.

**InSync® ZR**  
Veneering Ceramic

ZrO<sub>2</sub>

Li-Di

Ti

**PRETTY  
COOL!**

# PROCESSING INSTRUCTION

English

# Jensen Dental

Over the past 30 years, Jensen Dental has developed from being solely a manufacturer of alloys to becoming a comprehensive supplier of dental products and services.

We are proud of our consistently high quality and our personalised customer service, which is supplemented by our technically competent support on site as well as our customer-oriented advanced training courses.

Our aim is to ensure quality and personalised contact and services in every aspect of our business.

We commit ourselves to being able to offer you efficient and cost-effective solutions for your lab and, therefore, for your own personal success.

## Table of Contents

1	InSync ZR Veneering Ceramic System	4	4.4	Applying InSync ZR Modifier Fluor	40
1.1	Product description, intended use and clinical benefit	6	4.5	Completing with InSync ZR Enamel / Dentin	41
1.2	Material and indication	7	5	ADVANCED Layering	42
1.3	Contraindications, side effects and interactions	7	5.1	ADVANCED - Core Dentin	44
1.4	Material characteristics	8	5.2	ADVANCED - Opaque Dentin	45
1.5	System components	10	5.3	ADVANCED - Dentin	46
1.6	Shade combination table	13	5.4	ADVANCED - Mamelons	47
1.7	Colour table	14	5.5	ADVANCED - Enamel	48
1.8	Firing graphs	16	5.6	ADVANCED - Translucent	49
1.9	Firing tables	18	5.7	ADVANCED - Neck Transpa / 1. Dentin firing	50
1.10	Technical data	20	5.8	ADVANCED - 2. Dentin nfiring	51
2	Framework preparation	22	5.9	ADVANCED - Glaze firing	52
2.1	Framework preparation – Zirconia	23	5.10	ADVANCED - Correction	53
2.2	Framework preparation - Lithium Disilicate	26	6	BLEACH Layering	54
2.3	Framework preparation – Titanium	27	7	Finishing	56
3	BASIC Layering	28	8	Notes	58
3.1	BASIC - Dentin / Opaque Dentin	29	8.1	General notes	59
3.2	BASIC - Enamel / 1. Dentin firing	30	8.2	Warning notes concerning processing procedure	59
3.3	BASIC - Enamel / 2. Dentin firing	32	8.3	Disposal	60
3.4	BASIC - Glaze Firing	34	8.4	Residual risks	60
4	Hybrid technique - InSync ZR & MiYO Color	36	8.5	Storage and keeping conditions	60
4.1	Framework preparation for hybrid technique	37	8.6	Disclaimer	60
4.2	Applying InSync Stain / Glaze Liquid	38	8.7	Copyright	60
4.3	Coloring with MiYO Color	39	9	Manufacturer and Sales	61

# 1 InSync ZR Veneering Ceramic



## 1.1 Product description, intended use and clinical benefit

The materials manufactured and distributed by Chemichl AG are dental ceramic medical products intended exclusively for dental use. The medical product group „dental ceramics“ includes powders and pastes as well as modelling liquids.

The dental ceramic medical products represent „semi-finished products“ that are processed by the trained dental technician/dentist into dental restorations such as metal-ceramic bridges, metal and all-ceramic crowns and all-ceramic inlays/onlays and veneers and are placed in the patient's oral cavity by the dentist.

The materials manufactured and distributed by Chemichl AG are not intended for use by laypersons. Special training is not required.

The target patient group is patients for fixed dentures. The clinical benefit is the restoration of chewing function and aesthetics.

## 1.2 Material and indication

Due to its CTE range and low firing temperature, InSync ZR is versatile for veneering zirconia, lithium disilicate, titanium and titanium alloy frameworks.

Coordinated translucency and fluorescence allow the reconstruction of natural-looking teeth on sintered zirconia, titanium/titanium alloys and lithium disilicate frameworks.

Also monolithic restorations made of  $\text{ZrO}_2$  or lithium-disilicate, as well as titanium or titanium alloy can be created with only one ceramic system.

## 1.3 Contraindications, side effects and interactions

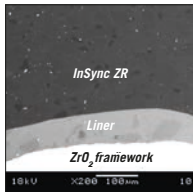
- Clinical problem cases are generally excluded from an indication
- Untreated bruxism (a splint is induced after insertion)
- In cases of proven allergy to ingredients contained in this product
- Combinations with materials outside the described veneering ceramic systems are not permitted.

Side effects and interactions: At the present time, neither side effects nor interactions are known.

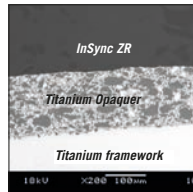
## 1.4 Material characteristics

reliable

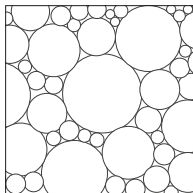
- The high-fusing, fluorescent and translucent Liner and Titanium Opaquer ensure a secure bond between framework and layering ceramic. (1) (2)
- InSync ZR's unique particle size distribution ensures excellent sculptability, paired with low shrinkage. (3)
- The ceramic is leucite-free and has an amorphous crystal structure, which makes it particularly CTE stable. This means problem-free processing, even after repeated firing. (4)
- The combination of Liner or Titanium Opaquer, low firing temperature, CTE stability and adequate hardness minimise the risk of chipping.
- Due to the amorphous crystal structure, restorations with InSync ZR are exceptionally stable and resistant to chipping. (5) (6)
- The hardness of the InSync ZR layering ceramic corresponds to that of a natural tooth. This minimises dysfunctions of the stomatognathic system.
- High biocompatibility (7)



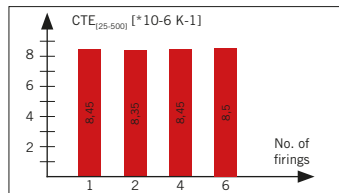
1: REM: Liner for a reliable, tight adhesive bond



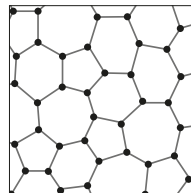
2: REM: Titan Opaquer for a reliable, tight adhesive bond



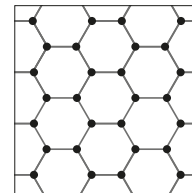
3: Particle size distribution



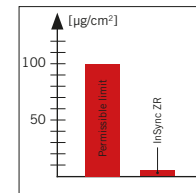
4: CTE stability



5: Amorphous crystal structure of InSync ZR



6: Crystalline structure of leucite ceramic



7: Chemical solubility according to ISO 6872

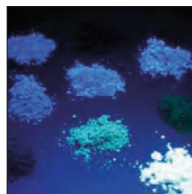


## aesthetic

- For the InSync ZR Ceramic System, the base materials were developed completely from scratch. The fluorescence, translucency and opacity of the ceramic are based on the human tooth. These advantageous optical characteristics lend a high-quality, discerning aesthetic and naturally lifelike effect to all dental restorations.
- Special ingredients create a ceramic material with a subtle auto-fluorescence and unusual brilliance. (8) (9)
- The high colour stability even with multiple firings ensures safety and aesthetics.



8: Colour pigments in daylight conditions

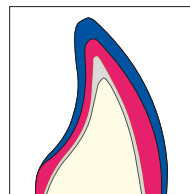


9: Fluorescent colour pigments (UV light)

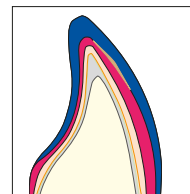
## versatile

- Thanks to its wide CTE range and its low firing temperature, InSync ZR can be used in a wide range of applications for the veneering of zirconia, lithium disilicate, titanium and titanium alloy frameworks.
- With the consistent colour concept of InSync ZR anything is possible, from efficient BASIC layering with two masses to aesthetically demanding, individual ADVANCED layering. (10) (11)
- In combination with MiYO, the InSync ZR layering ceramic is perfect for restorations in smart hybrid technique. (12)
- The comprehensive colour palette - in accordance with the VITA® Classic Colour System\* - offers almost unlimited creative possibilities.
- The ceramic system is rounded off by the high-gloss glaze paste that fires at low temperatures.

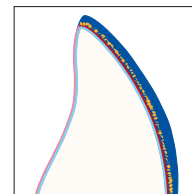
\* VITA® Classic is a registered trademark of VITA Zahnfabrik H. Rauter GmbH & Co. KG



10: Efficient BASIC layering with 2 masses



11: Individual ADVANCED layering



12: Smart hybrid technique in combination with MiYO

## 1.5 System components

### LINER

- Highly fluorescent and translucent in five different shades plus neutral. Fluorescence is the key to managing brightness.
- The high firing temperature ensures that a high degree of surface wetting is achieved. Due to its high fluidity, the Liner creates a perfect adhesive bond with zirconia.
- The five differently shaded Liners support colouration during layering. They are used for concealing white-opaque frames.
- Thanks to its fluorescence, the neutral Liner intensifies the colour effect of the shaded frames, contributing to a result that is identical to natural hues.
- Not suitable for use with lithium disilicate.

### CORE DENTIN

- Available in six colours.
- Masses for a colour-supporting, highly chromatic and fluorescent core firing.
- Increase the light reflection and achieve a natural brightness when applied on ZrO<sub>2</sub> frameworks. The standard layering scheme can be maintained.
- Realisation of ZrO<sub>2</sub> restorations with considerably more brightness on opaque framework materials.
- Chromatic support of e.g. cusp cups.
- Underlining of pontics.
- Compensation of layer differences between pontic and crown.
- Preparing the reduced tooth shape for implant crowns.
- **Increased firing temperature reduces shrinkage risk when firing the final layering.**

### OPAQUE DENTIN

- The Opaque Dentins are available in all VITA® Classic shades as well as A00, A0, B00, B0 and in the Bleach shades BL1 - BL4. In addition, Chroma Opaque Dentines are available in: Ivory, Ivory+, Caramel, Salmon and Indian Corn.
- The degree of fluorescence is lower than that of the shoulder material but has a higher opacity level.
- Due to the opaqueness of the shades, thinner layered areas can be concealed.
- Unlike classic Opaque Dentins, chroma and fluorescence are so aligned that they do not stand out optically from the actual layering.
- With layers under 0.5 mm thickness, Opaque Dentin can be used as a replacement for the respective Dentin.

Use of the Chroma Opaque Dentine:

Depending on the layer thickness, the chroma is more or less intensiv.

- OD Indian Corn: for tooth shades A1-A4.
- OD Caramel: for tooth shades B1-B4.
- OD Salmon: orange - for older chromatic teeth.
- OD Ivory: for opaque, not shiny white teeth.
- OD Ivory+: more white for brightening and covering „grey“ frameworks.



## DENTIN

- Developed for the dual-material layering technique. Due to the special staining, layering of any colour wheel tooth shades can be easily carried out “straight from the pot”.
- Currently available in all VITA® Classic shades as well as A00, A0, B00, B0 and in the Bleach shades BL1-BL4.
- Opacity is set for a minimum layering thickness of 0.5/0.6mm. The use of Opaque Dentin for colour stabilisation is not necessary.
- The fluorescence of the Dentin material matches that of natural teeth.



## ENAMEL / TRANSPA

- Standard Enamel - Light Yellow, Yellow, Orange and Dark Orange shaded form yellowish to orange.
- Standard Enamel (incisal) 57 - 59 shaded from whitish to blueish, is oriented towards the classic layering concept.
- Effect Enamel: Molar White and Light Grey are coloured incisal materials with a lower fluorescence and higher opacity.
- Neutral is used for correcting form without altering brightness.
- Opal and Opal+: opalescent in two different intensities with a lower chroma.



## MAMELON

- High-density non-fluorescent intensive material.
- High chromaticity with a high opacity.
- Available in Salmon, Orange, Yellow and Ivory.

## NECK TRANSPA

- High fluorescence and a high portion of chroma (colour), for the cervical area in order to retain light conductivity in the gingiva.
- Due to the high degree of fluorescence and the intensive colour, the neck transpa material is also suitable for interdental and occlusal lightening and colour intensifying purposes.
- Available in Yellow, Orange, Salmon and Khaki.



## TRANSLUCENT

- Yellow, Orange, Light Brown, Pink, Light Blue, Intensive Blue, Grey, White and Clear were developed to create translucent incisal layering effects.
- Non-fluorescent with high translucency but enough chroma without any fading.
- For individual and dynamic light reflection.



## CORRECTION

- Correction material, available for dentin and incisal margin. Low firing temperatures allow form correction after glaze firing.

## GINGIVA

- Available in seven different shades. The darker shades have a dentin-like opacity, the lighter shades, that of the incisal materials.



## MODIFIER

- Available in the base shades A,B,C,D to intensify the base tone. To be mixed into the Dentin or used to individualise the layering materials.
- The modifiers “dark fluorescent” and “light fluorescent” are used for managing brightness. Dark fluorescent has a violet/grey component, whilst light fluorescent is held in brilliant white.

## BLEACH

- Bleach 1-4 is available as Dentin, Opaque Dentin, as well as the correspondig Enamel.



## TITAN OPAQUE

- The Titan Opaque reliably conceals titanium frames and guarantees an excellent adhesive bond between frame and veneering ceramic. No special bonding agent is needed.
- Available in all VITA® Classic shades.



## GLAZE PASTE

The glazing paste is tested and approved for restorations on full zirconia, lithium disilicate, titanium and metal-ceramics.

Due to its unique glass matrix, the desired result is achieved after only one firing.



## LIQUIDS

InSync one-for-all liquids are for universal use with all InSync ceramic materials.

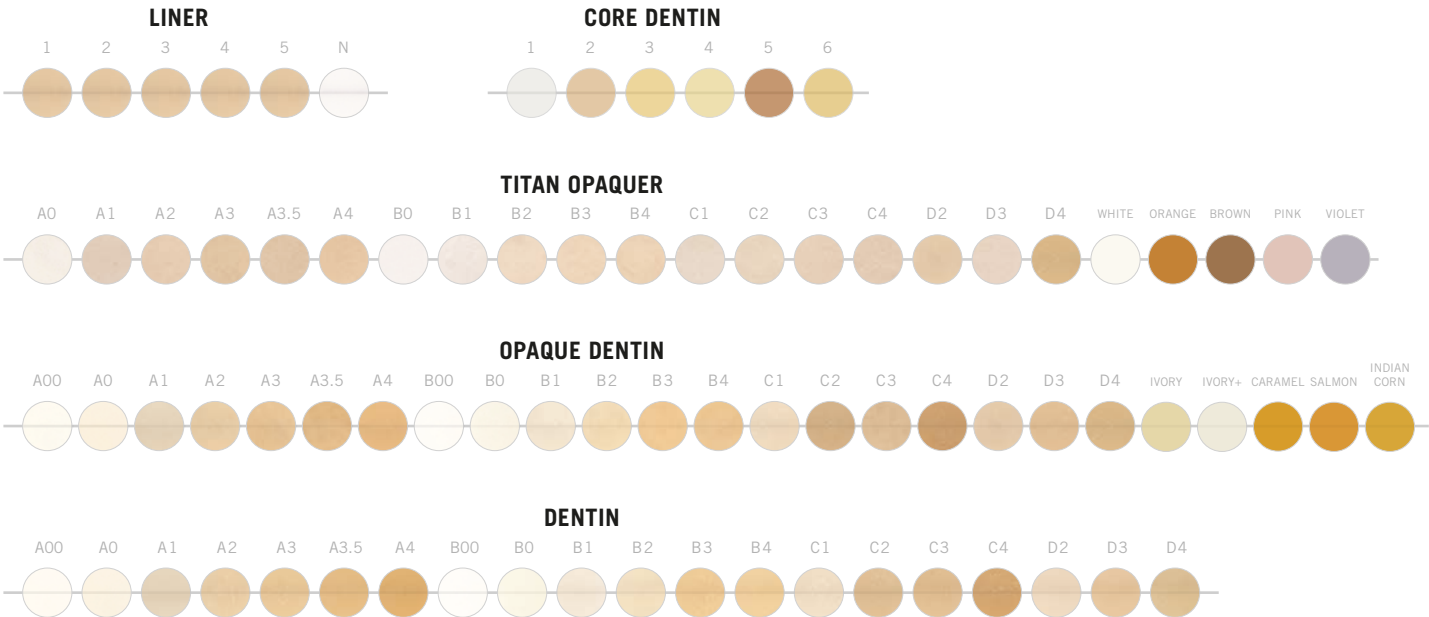
- Liner-/ Ti-Opaker Liquid
- Modelling Liquid
- Opaque Liquid
- Stain / Glaze Liquid

## 1.6 Shade combination table

Shade	A1	A2	A3	A3,5	A4	B1	B2	B3	B4	C1	C2	C3	C4	D2	D3	D4
Liner	1	2	2	2	4	1	1	2	2	1	3	3	4	1	5	5
Titan Opaquer	A1	A2	A3	A3,5	A4	B1	B2	B3	B4	C1	C2	C3	C4	D2	D3	D4
Core Dentin	CD2	CD6	CD6	CD3	CD5	CD6	CD6	CD3 CD5 <sup>1)</sup>	CD5	CD2	CD4	CD5	CD5	CD4	CD5	CD5
Opaque Dentin	A1	A2	A3	A3,5	A4	B1	B2	B3	B4	C1	C2	C3	C4	D2	D3	D4
Dentin	A1	A2	A3	A3,5	A4	B1	B2	B3	B4	C1	C2	C3	C4	D2	D3	D4
Enamel	LIGHT YELLOW	YELLOW	YELLOW	DARK ORANGE	DARK ORANGE	LIGHT YELLOW	YELLOW	ORANGE	DARK ORANGE	YELLOW	YELLOW	ORANGE	DARK ORANGE	LIGHT YELLOW	YELLOW	ORANGE
Enamel <sup>2)</sup>	57	57	58	59	59	57	58	58	59	58	59	59	59	59	59	59

1) CD3 | CD5 in the ratio 50:50 | 2) The Enamel masses 57-59 are used in combination with Core Dentin.

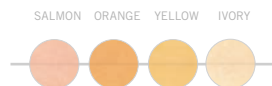
1.7 Colour table



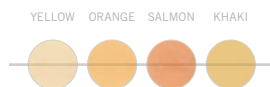
## ENAMEL



## MAMELONS



## NECK TRANSPARENCY



## TRANSLUCENT



## CORRECTION



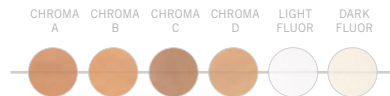
## GINGIVA



## BLEACH

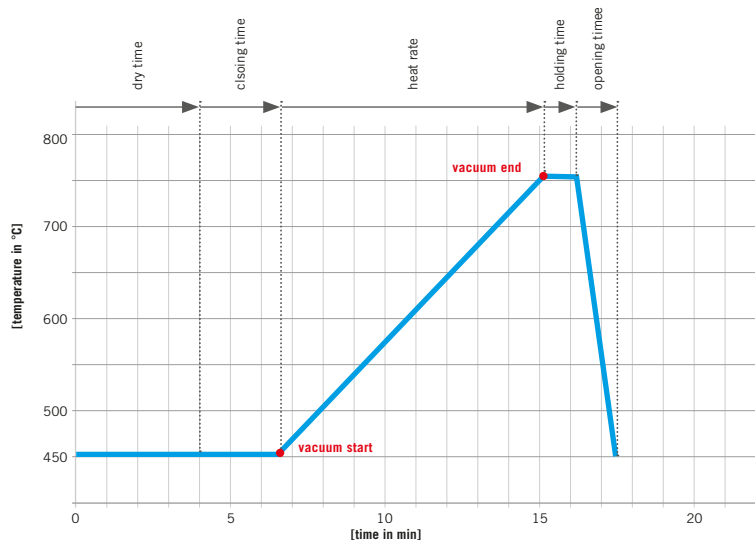


## MODIFIER



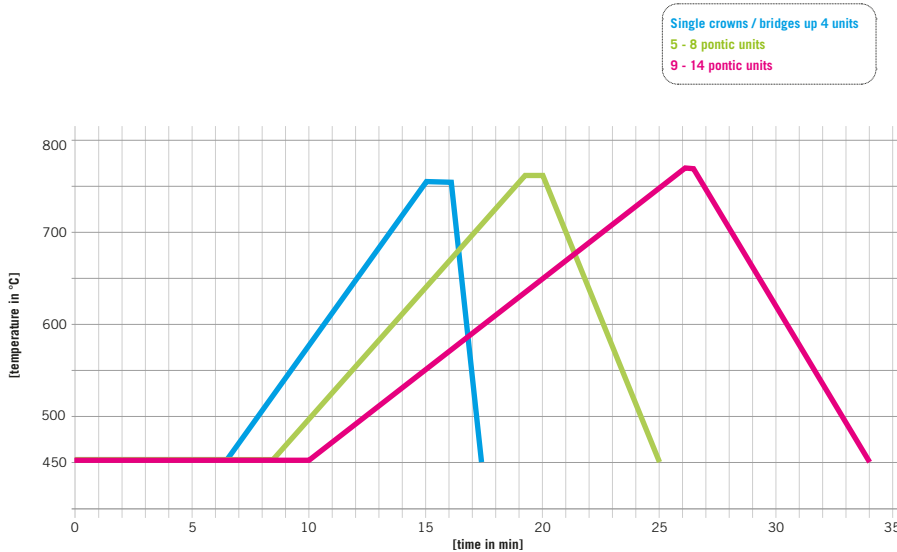
## 1.8 Firing graphs

- ! The firing temperatures indicated in the firing tables are standard values and may vary depending on the type of furnace. On the other hand, since  $\text{ZrO}_2$  is a poor heat conductor, so the size of the restoration has a decisive influence on the firing result.
- The first dentin firing is used as an example to illustrate this; the firing procedure should be adapted accordingly for the other firings.





## Example: 1. Dentin firing



### DRY TIME

- Single crown / 2-4 pontic units : 4 min
- 5 - 8 pontic units: 5 min
- 9 - 14 pontic units: 6 min

### CLOSING TIME

- Single crown / 2-4 pontic units: 2 min
- 5 - 8 pontic units: 3 min
- 9 - 14 pontic units: 4 min

### HEAT RATE

- Single crown / 2-4 pontic units: 40°/ min
- 5 - 8 pontic units: 30°/ min
- 9 - 14 pontic units: 20°/ min

### FINAL TEMPERATURE

- Single crown / 2-4 pontic units: 765°C
- 5 - 8 pontic units: 770°C
- 9 - 14 pontic units: 775°C

### HOLDING TIME

- Single crown / 2-4 pontic units: 1 min
- 5 - 8 pontic units: 40 sec
- 9 - 14 pontic units: 20 sec

### OPENING TIME


- Single crown / 2-4 pontic units: 1 min
- 5 - 8 pontic units: 5 min
- 9 - 14 pontic units: 8 min

## 1.9 Firing tables




The following firing temperatures are reference values and can vary according to furnace type. Please note the information on firing graphs in chapter 1.8 We recommend, where the construction allows, that a slow cooling phase of six minutes to achieve the stand-by temperature be carried out during the last firing (glaze and stain firing).

Firing table for ZrO<sub>2</sub> restorations


	Starting temperature [°C]	Dry time [min]	Closing time [min]	Vacuum start [°C]	Heat rate [°C / min]	End temperature [°C]	Vacuum end [°C]	Holding time [min]	Opening time [min]
1. Liner firing*	450	6	2	450	60	970	970	1	1
2. Liner firing*	450	6	2	450	60	960	960	1	1
Core Dentin firing*	450	4	2	450	40	810	810	1	1
1. Dentin firing	450	4	2	450	40	765	765	1	1
2. Dentin firing	450	4	2	450	40	760	760	1	1
Correction**	450	4	2	450	45	700	700	1	1
Glaze firing I without glazing mat.	450	4	---	---	45	755	---	1	1
Glaze firing I with glazing mat.	450	3	4	580	45	720	720	1	1

\* Not suitable for use with lithium disilicate. | \*\* Correction firing with correction material.


MiYO Color firing (Hybrid technique)

	Starting temperature [°C]	Dry time [min]	Closing time [min]	Heat rate [°C / min]	Holding time 1 [s]	Vacuum start [°C]	End temperature [°C]	Vacuum end [°C]	Holding time 2 [s]	Opening time [min]
ZrO <sub>2</sub>	400 - 450	3	4	45	30 - 45	580	720	720	30 - 60	1
Lithium Disilicate	400 - 450	3	4	45	30 - 45	580	710	710	30 - 60	1

### Firing table for Lithium-Disilicate restorations

	Starting temperature [°C]	Dry time [min]	Closing time [min]	Vacuum start [°C]	Heat rate [°C / min]	End temperature [°C]	Vacuum end [°C]	Holding time [min]	Opening time [min]
1. Dentin firing	450	4	2	450	40	765	765	1	1
2. Dentin firing	450	4	2	450	40	760	760	1	1
Correction**	450	4	2	450	45	700	700	1	1
Glaze firing I without glazing mat.	450	4	---	---	45	755	---	1	1
Glaze firing I with glazing mat.	450	3	4	580	45	710	710	1	1

### Firing table for titanium restorations

	Starting temperature [°C]	Dry time [min]	Closing time [min]	Vacuum start [°C]	Heat rate [°C / min]	End temperature [°C]	Vacuum end [°C]	Holding time [min]	Opening time [min]
Opaque firing*	450	4	2	450	55	800	800	2	1
1. Dentin firing	450	4	2	450	45	760	760	1	1
2. Dentin firing	450	4	2	450	45	750	750	1	1
Correction**	450	4	2	450	45	700	700	1	1
Glaze firing I without glazing mat.	450	4	---	---	45	735	---	1	1
Glaze firing I with glazing mat.	450	3	4	580	45	720	720	1	1

\* Not suitable for use with lithium disilicate. I \*\* Correction firing with correction material.

## 1.10 Technical data

### 1.10.1 Composition: glass-ceramic / veneering ceramics

Oxides	in weight %
SiO <sub>2</sub>	25,0 - 75,0
Al <sub>2</sub> O <sub>3</sub>	2,0 - 22,0
K <sub>2</sub> O	1,0 - 15,0
Na <sub>2</sub> O	1,0 - 15,0
B <sub>2</sub> O <sub>3</sub>	0,0 - 18,0

Other oxides	in weight %
P <sub>2</sub> O <sub>5</sub> , La <sub>2</sub> O <sub>3</sub> , Li <sub>2</sub> O, CaO, ZnO, SnO <sub>2</sub> , CeO <sub>2</sub> , SrO, ZrO <sub>2</sub>	0,0 - 8,0

Other components	in weight %
Fluorine	0,0 - 5,0
Colouring pigments	0 - 25,0

## 1.10.2 CTE, Chemical solubility, flexural strength

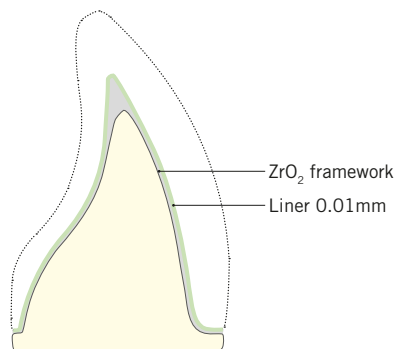
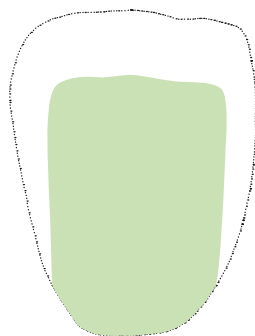
	Type	Class	CTE 2x firing (25 - 500°C) [*10 <sup>-6</sup> K <sup>-1</sup> ] ± 0,5	CTE 4x firing (25 - 500°C) [*10 <sup>-6</sup> K <sup>-1</sup> ] ± 0,5	Tg* 2x/4x firing [°C] ± 20	Chemical solubility		3-point flexural strength	
						InSync ZR [µg/cm <sup>2</sup> ]	Classification acc. to ISO 6872 [µg/cm <sup>2</sup> ]	InSync ZR [MPa]	Classification acc. to ISO 6872 [MPa]
InSync ZR Titan Opaquer	I	1b	9,2	9,2	550	≤ 30	< 100	≥ 125	> 50
InSync ZR Liner	I	1b	9,8	9,8	640	≤ 20	< 100	≥ 80	> 50
InSync ZR Core Dentin	I	1b	8,5	8,5	570	≤ 20	< 100	≥ 70	> 50
InSync ZR Dentin	I	1b	8,5	8,5	530	≤ 20	< 100	≥ 70	> 50
InSync ZR Enamel, Modifier	I	1b	8,5	8,5	530	≤ 20	< 100	≥ 70	> 50
InSync ZR Transpa, Clear, Opal	I	1b	8,5	8,5	530	≤ 20	< 100	≥ 70	> 50
InSync ZR Correction	I	1b	8,5	8,5	500	≤ 20	< 100	≥ 70	> 50
InSync Glaze Paste	I	1b	7,3 (1x)	---	485 (1x)	< 100	< 100	> 50	> 50

Characteristics tested in accordance with ISO 6872 and ISO 9693 / \* For Tg 2x/4x less than 500°C, the CTE value is given as [25 °C -TG]

## 2 Framework preparation



## 2.1 Framework preparation – Zirconia



### APPLICATION

The fluorescent and translucent Liner guarantees a high degree of surface wetting. It ensures a reliable, homogeneous bond as well as a good flow of light between frame and veneering ceramic. The Liner “neutral” uses its fluorescence to intensify the colour effect of the shaded frame. Use the Liners 1-5 in accordance with the colour matching table to achieve the desired shade on white, unshaded zirconia.

### PROCESSING

- Mix Liner powder with Liner-/Ti-Opaker Liquid
- Apply the Liner evenly in a thin layer
- ! • Not suitable for use with lithium disilicate

### FIRING

- Carry out the first Liner firing according to furnace-specific firing parameters
- Optional: second Liner firing if coverage is not satisfactory

### MATERIALS USED

- Liner
- Liner-/Ti-Opaker Liquid



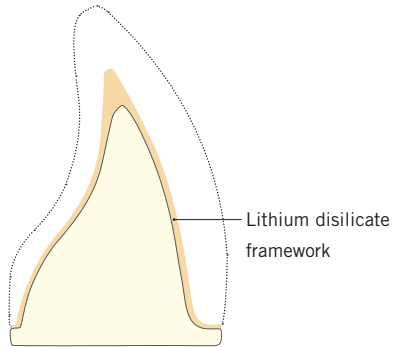
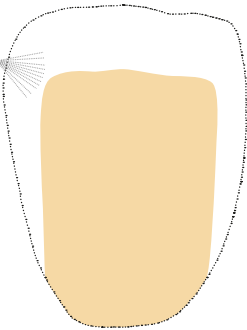






## 2.2 Framework preparation - Lithium Disilicate

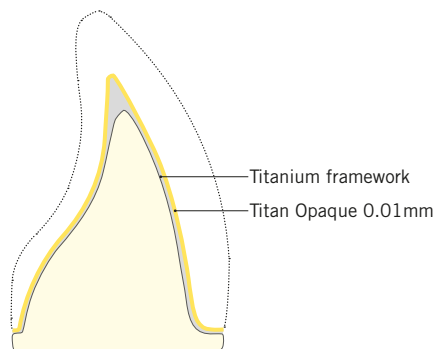
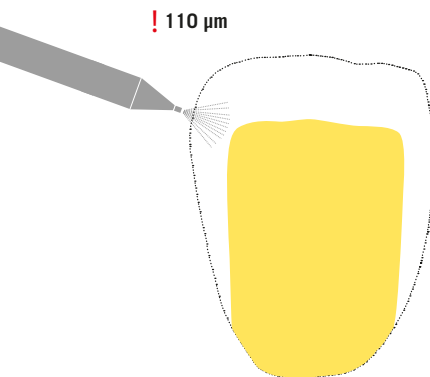
! 50 µm / 2 bar



### PROCESSING

- Sand blast surface with aluminium oxide 50 µm and 2 bar pressure
- Clean carefully with steam jet
- ! • Do not apply Liner

## 2.3 Framework preparation – Titanium



### APPLICATION

Titan Opaque reliably conceals the frame and creates an excellent adhesive bond between frame and veneering ceramic. The use of a bonding agent is not necessary.

### PROCESSING

- Choose Titan Opaque according to the colour matching table
- Mix Titan Opaque with Liner-/Ti-Opaque Liquid to form a creamy consistency
- Sand blast surface with aluminium oxide 110 µm until no more sparks fly
- Clean carefully with steam jet
- Carry out wash firing max. 15 min after sand blasting
- ! Apply Titan Opaque to the frame using a flat brush wetted with Liner-/Ti-Opaque Liquid (remove excess!) so that approx. 70% optimal metal coverage is achieved
- Do not vacuum opaque layer
- Carry out wash firing in accordance with furnace-specific parameters
- Apply second layer of Titan Opaque for complete frame coverage
- Carry out second Opaque firing in accordance with furnace-specific parameters.

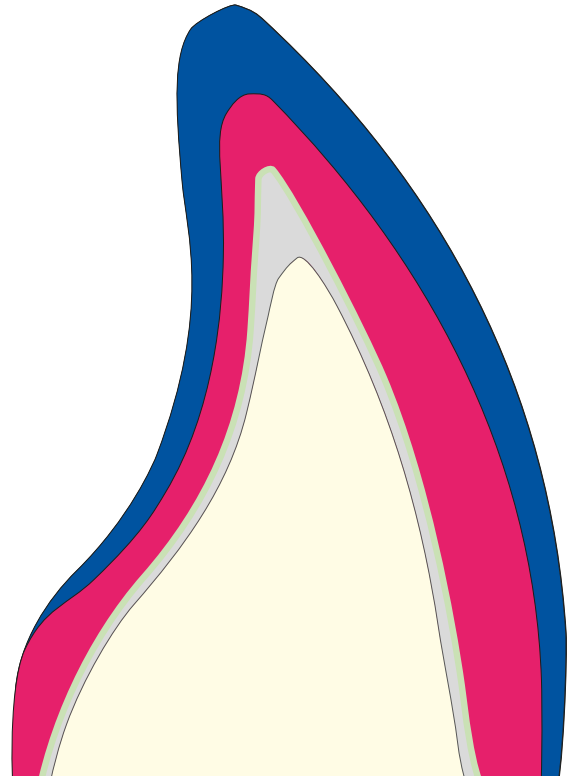
### MATERIALS USED

- Titan Opaque
- Liner-/Ti-Opaque Liquid

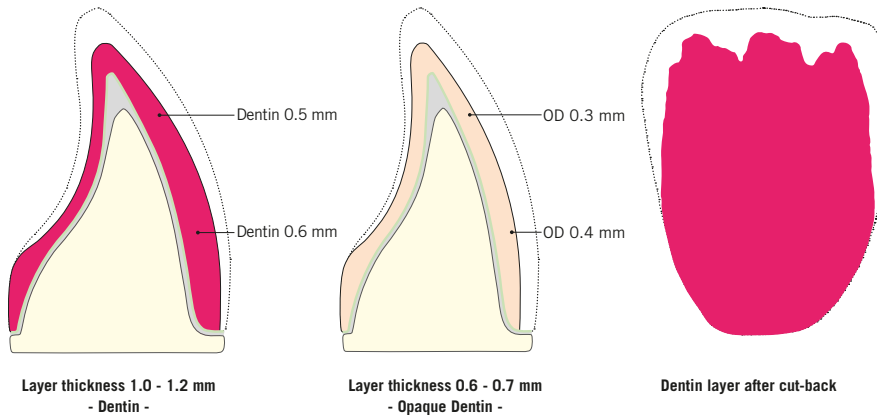


## 3 BASIC Layering

With BASIC standard layering, colour wheel-identical results can be achieved with the smallest amount of effort and in the shortest time.



### 3.1 BASIC - Dentin / Opaque Dentin



#### APPLICATION

Cover anatomical form with Dentin.  
In the case of tight spatial conditions  
(layer thickness 0.6 - 0.7mm), Opaque  
Dentin is used instead of Dentin.

#### PROCESSING

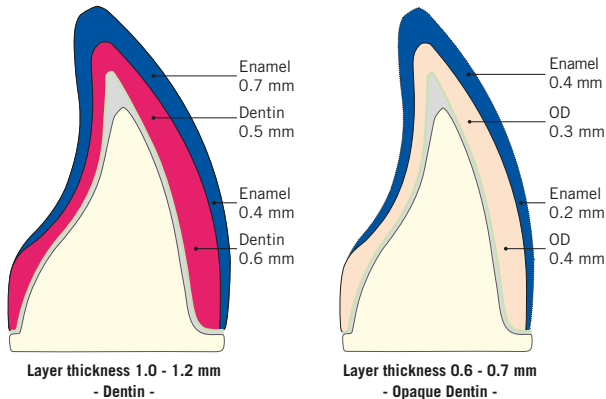
- Mix the Dentin / Opaque Dentin with Modelling Liquid to form a creamy consistency
- Apply the Dentin / Opaque Dentin to create the desired tooth form
- Reduce the incisal area (cut-back)

#### MATERIALS USED

- Dentin / Opaque Dentin
- Modelling Liquid



## 3.2 BASIC - Enamel / 1. Dentin firing



### APPLICATION

Build up the tooth form with Enamel. Standard Enamel shades are based on a classical layering diagram.

### PROCESSING

- Choose the Enamel material according to the colour matching table
- Mix the Enamel with Modelling Liquid to form a creamy consistency

### MATERIALS USED

- Enamel
- Modelling Liquid

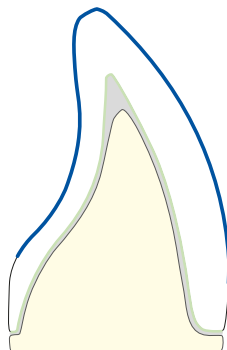
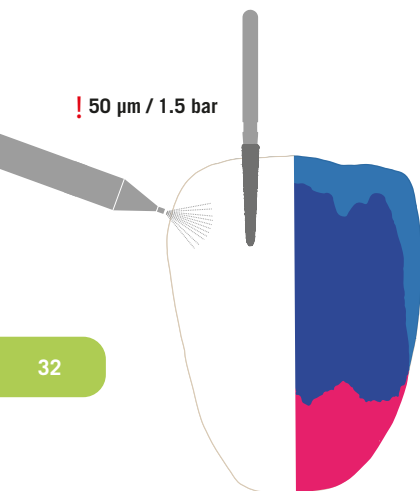


### FIRING

- Carry out 1. Dentin firing according to furnace-specific firing parameters



## 3.3 BASIC - Enamel / 2. Dentin firing



### APPLICATION

For form correction and shrinkage compensation after the first firing, build up the tooth form with Enamel and carry out a 2. Dentin firing in accordance with the firing parameters.

### PROCESSING

- Mix the Enamel with Modelling Liquid to form a creamy consistency
- Roughen the surface by sanding the fired crown with a diamond abrasive head and / or sandblast with 50 µm aluminium oxide and 1.5 bar pressure
- Fill out the tooth form using Enamel

### MATERIALS USED

- Enamel
- Modelling Liquid



### FIRING

- Carry out 2. Dentin firing according to furnace-specific firing parameters





## 3.4 BASIC - Glaze Firing



### GLAZE FIRING WITHOUT GLAZE PASTE

- Create the final contours of the crown/bridge with diamond or carbide abrasive head and polish to the desired gloss level with the rubber polishing head. Then clean with steam jet.
- Carry out Glaze Firing (without Glaze Paste) in accordance with furnace-specific parameters

### GLAZE FIRING WITH GLAZE PASTE

- Create the final contours of the crown/bridge with diamond or carbide abrasive head polisher and clean with steam jet.
- Apply a thin layer of InSync "one-for-all" Glaze Paste or a mixture of Glaze Powder mixed with Stain/Glaze Liquid.
- Carry out Glaze Firing (with Glaze Paste) in accordance with furnace-specific parameters

### MATERIALS USED

- Glaze Paste
- Stain / Glaze Liquid





Glaze paste application/ Photo: ZTM Axel Gütes

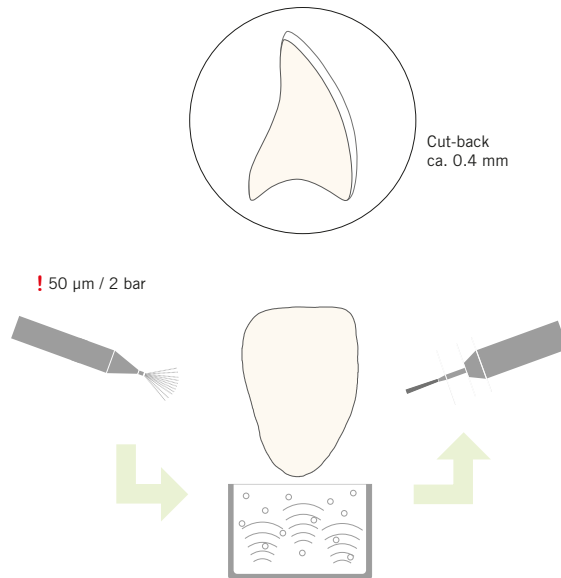
## 4 Hybrid technique

Super smart and super simple, the hybrid technique.

The combination of MiYO color masses for chromatic and esthetic design of the restoration and InSync ZR veneering ceramic for adjusting the depth effect combine efficiency and natural esthetics.



## 4.1 Framework preparation for hybrid technique



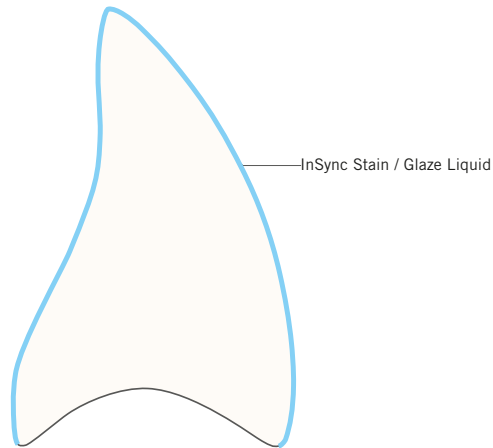
### ZIRCONIA

- Prepare the zirconia frameworks after milling according to the manufacturer's instructions.
- Cut-back in the design or before the sintering process.
- Sandblast the sintered surface with  $\text{Al}_2\text{O}_3$  or glass beads 50 µm and 2 bar pressure.
- Clean with distilled water in an ultrasonic bath.
- Clean carefully with a steam cleaner.

### LITHIUM DISILICATE

- Cut-back in the design.
- Sandblast the surface with  $\text{Al}_2\text{O}_3$  50 µm and 2 bar pressure.
- Clean with distilled water in an ultrasonic bath.
- Clean carefully with a steam cleaner.

## 4.2 Applying InSync Stain / Glaze Liquid



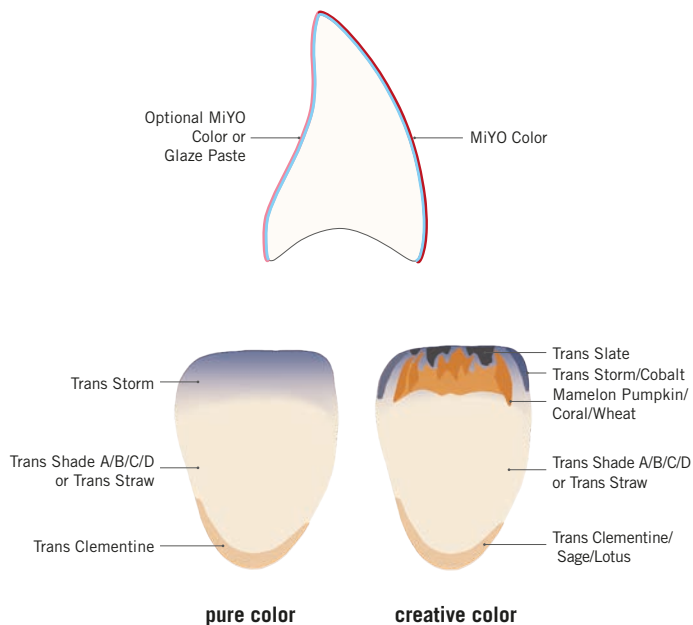
### PROCESSING

- Apply InSync Stain / Glaze Liquid over the entire framework.

### USED MATERIAL

- InSync Stain / Glaze Liquid

## 4.3 Coloring with MiYO Color



### PREPARATION

- Mix MiYO Color thoroughly with a metal free spatula.

### COLORING

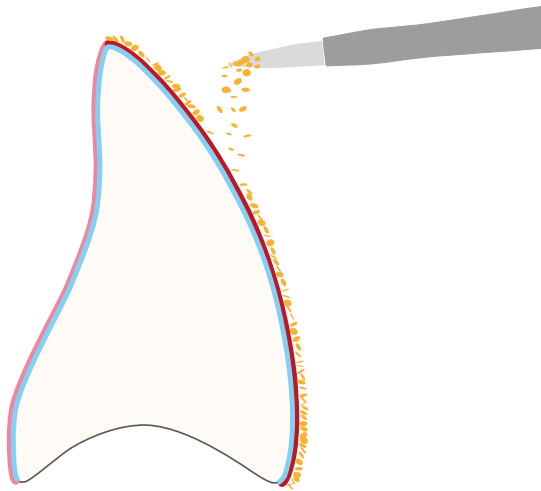
- Colorize the entire labial area with MiYO Color. For the palatal area use either MiYO Color or Glaze Paste.
- pure color: Colorize the entire labial area in three color zones: Trans Shade A/B/C/D or Trans Straw, set occlusal accents with Trans Storm and cervical accents with Trans Clementine.
- creative color: characterize individually with mamelon, halo, effect material and value enhancer.

### USED MATERIAL

- Trans Shade A, B, C, D / Trans Straw
- Trans Storm/ Cobalt
- Trans Clementine/Sage/Lotus
- Mamelon Pumpkin/Coral/Wheat
- Trans Slate
- InSync Glaze Paste
- InSync Stain / Glaze Liquid



## 4.4 Applying InSync ZR Modifier Fluor



### PROCESSING

- Pick up InSync ZR Modifier Fluor with a dry brush and carefully „sprinkle“ over the entire labial surface.

### FIRING



- Carry out MiYO Color Firing as the 1. firing according to furnace-specific firing parameters.

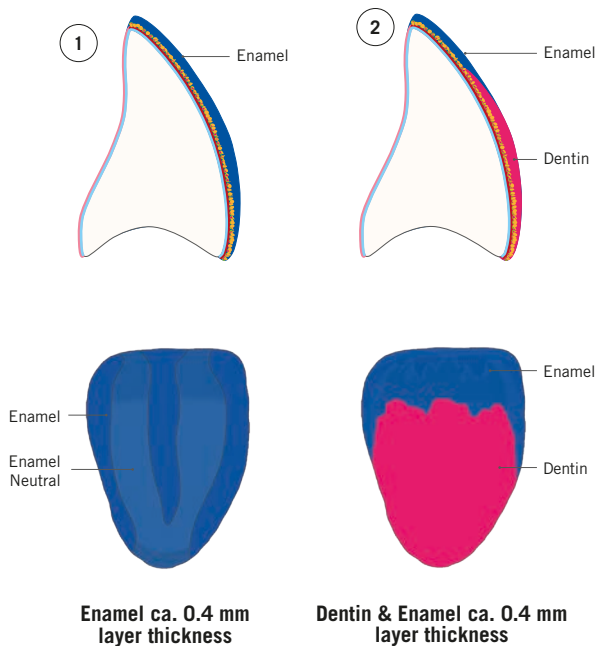
### USED MATERIAL

- InSync ZR Modifier Fluor





## 4.5 Completing with InSync ZR Enamel / Dentin



### PREPARATION

- Mix Enamel / Dentin with Modelling Liquid to form a creamy consistency.

### PROCESSING - 1

- Apply Enamel to create the desired tooth form.

### PROCESSING - 2

- Apply Dentin to create the desired tooth form.
- Reduce the incisal area (cut-back).
- Complete the tooth form with Enamel.

### FIRING

- Carry out Dentin firing according to furnace-specific firing parameters

### USED MATERIAL

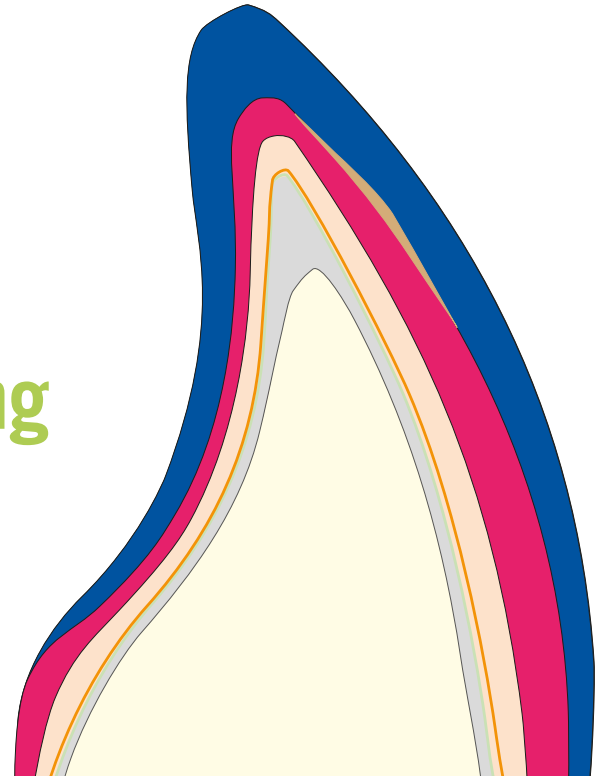
- Enamel
- Dentin
- Modelling Liquid

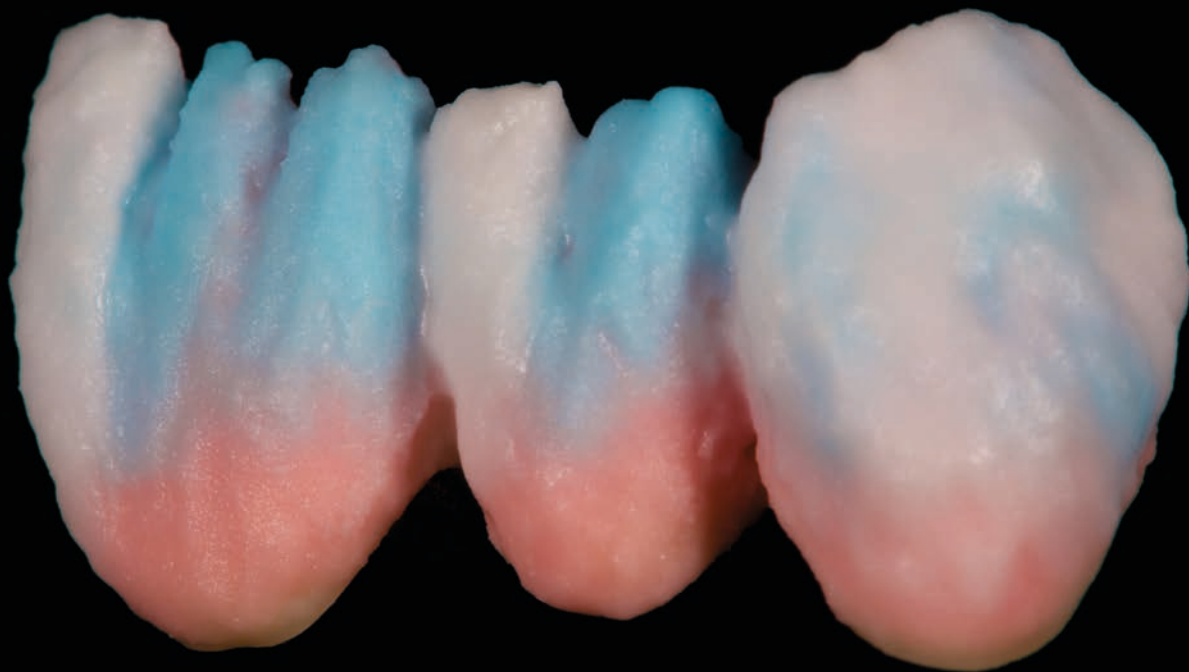


► FINISHING CHAPTER 7

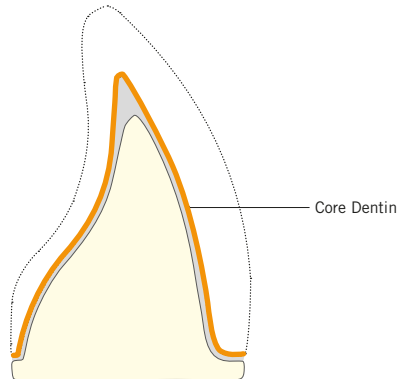
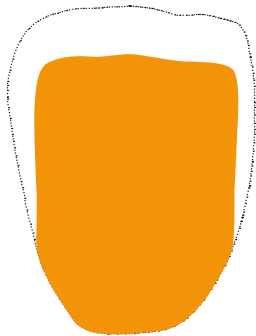
## 5 ADVANCED Layering

Work with the ADVANCED layering technique to achieve individual, creative results.





## 5.1 ADVANCED - Core Dentin



### APPLICATION

High chromatic fluorescent material to support the brightness value in the body area.

### PROCESSING

- Mix Core Dentin with Modelling Liquid to form a creamy consistency
- Apply only reduced tooth form to conceal the framework

### FIRING



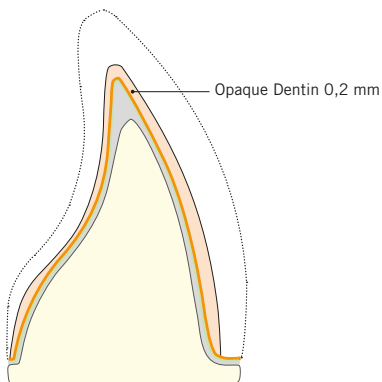
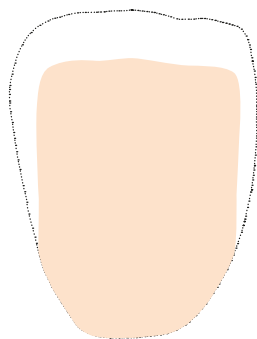
Carry out Core Dentin firing in accordance with furnace-specific firing parameters

### MATERIALS USED

- Core Dentin
- Modelling Liquid



## 5.2 ADVANCED - Opaque Dentin



### APPLICATION

Opaque Dentin is used to conceal the frame. By varying the layer thickness of Opaque Dentin, brightness (value) and colour intensity (chroma) can be managed.

### PROCESSING

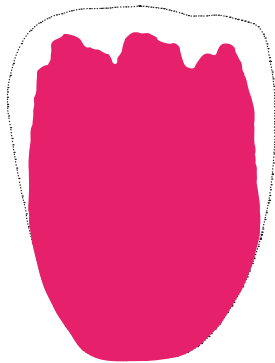
- Apply the Opaque Dentin mixed with Modelling Liquid
- Only apply a reduced tooth form to conceal frame

### MATERIALS USED

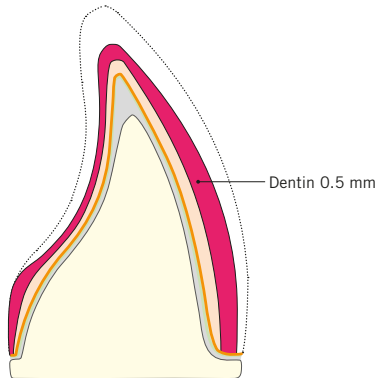
- Opaque Dentin
- Modelling Liquid



## 5.3 ADVANCED - Dentin



Dentin layering after cut-back



### APPLICATION

Apply Dentin to anatomical form. Modifier material can be mixed with the Dentin to individualise the result.

### PROCESSING

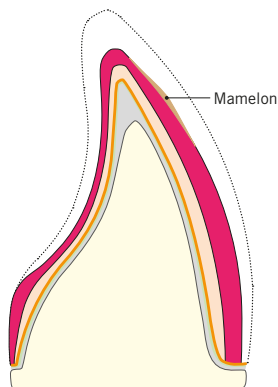
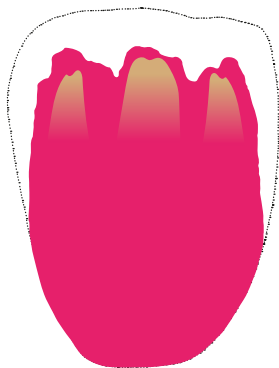
- Mix Dentin with Modelling Liquid to form a creamy consistency
- Apply Dentin to create the desired tooth form
- Reduce the incisal area (cut-back)

### MATERIALS USED

- Dentin
- Modifier (optional)
- Modelling Liquid



## 5.4 ADVANCED - Mamelon



### APPLICATION

The Mamelon materials with high opacity and high chroma are available in salmon, orange, yellow and ivory.

### PROCESSING

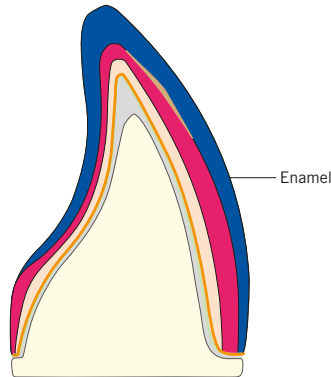
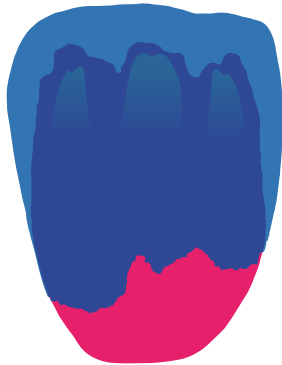
- Mix Mamelon materials with Modelling Liquid
- Apply Mamelon material thinly in the incisal area
- By varying the layer thickness, the intensity of the mamelons can be regulated

### MATERIALS USED

- Mamelon
- Modelling Liquid



## 5.5 ADVANCED - Enamel



### APPLICATION

For individualising the incisal area

### PROCESSING

- Mix Enamel with Modelling Liquid to form a creamy consistency
- Apply Enamel to create the desired tooth form

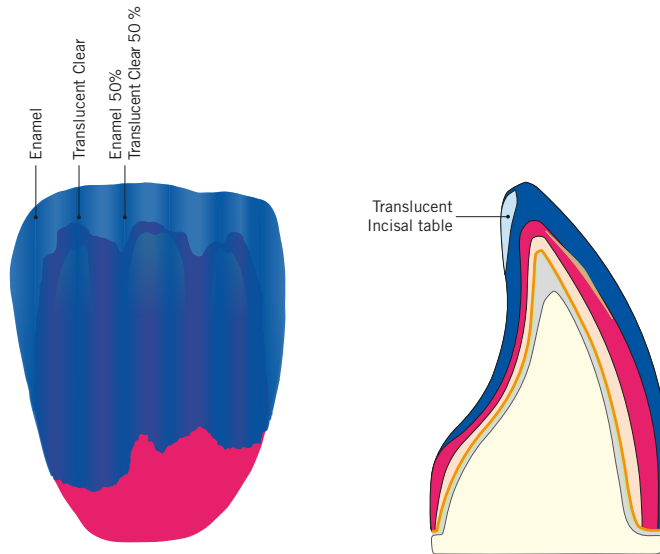
### MATERIALS USED

- Enamel
- Modelling Liquid





## 5.6 ADVANCED - Translucent



### APPLICATION

Build up the tooth form by overlaying with Enamel, Translucent Clear and a mixture (50:50) of Enamel and Translucent Clear. Due to the low shrinkage rate, overcontouring is not necessary.

### PROCESSING

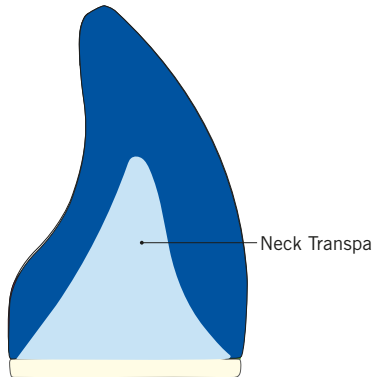
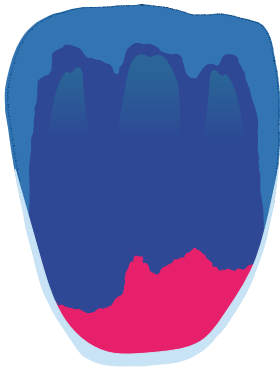
- Mix the materials with Modelling Liquid
- Build palatal area with Translucent, and Neck Transpa to create an incisal table
- Internal effects such as mamelons

### MATERIALS USED

- Enamel
- Translucent
- Modelling Liquid



## 5.7 ADVANCED - Neck Transpa / 1. Dentin firing



### APPLICATION

Neck Transpas are used to intensify the flow of light and support the chroma. In the posterior region, Neck Transpa can be used as an occlusal support.

### PROCESSING

- Mix Neck Transpa with Modelling Liquid
- Apply Neck Transpa to the proximal areas

### FIRING

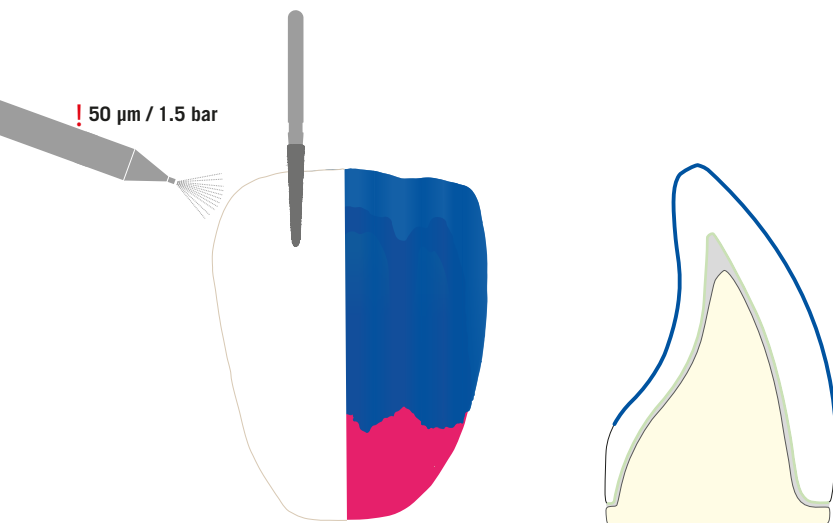
Carry out 1. Dentin firing in accordance with furnace-specific firing parameters

### MATERIALS USED

- Neck Transpa
- Modelling Liquid



## 5.8 ADVANCED - 2. Dentin firing



### APPLICATION

For form correction and shrinkage compensation after the first firing, the materials can be added in accordance with the previous layering and a second dentin firing can be carried out.

### PROCESSING

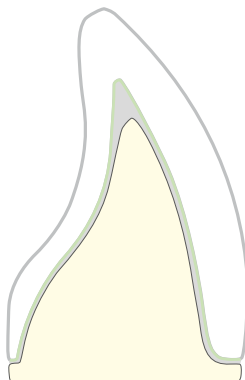
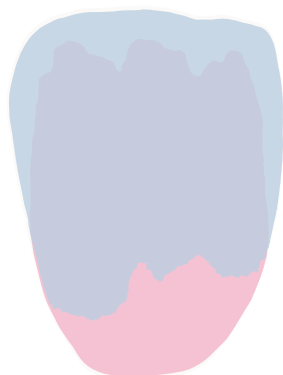
- Mix the materials with Modelling Liquid to form a creamy consistency
- Roughen the surface by sanding the fired crown with a diamond abrasive head and/or sandblast with 50 µm aluminium oxide and 1.5 bar pressure
- Build up the tooth form using the respective materials

### FIRING

- Carry out 2. Dentin firing in accordance with furnace-specific firing parameters

## 5.9 ADVANCED - Glaze Firing

52



### GLAZE FIRING WITHOUT GLAZE PASTE

- Create the final contours of the crown/bridge with diamond or carbide abrasive head and polish to the desired gloss level with the rubber polishing head. Then clean with steam jet.
- Carry out Glaze Firing (without Glaze Paste) in accordance with furnace-specific parameters

### GLAZE FIRING WITH GLAZE PASTE

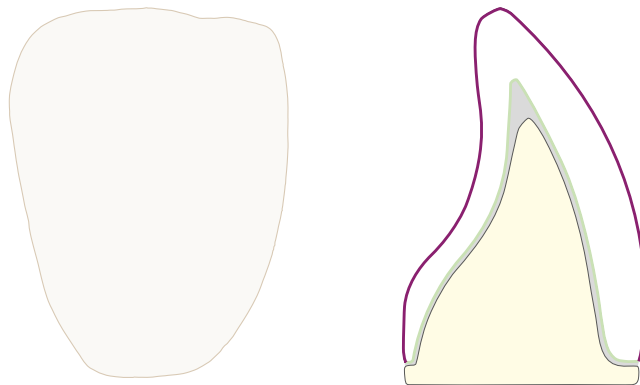
- Create the final contours of the crown/bridge with diamond or carbide abrasive head polisher and clean with steam jet.
- Apply a thin layer of InSync “one-for-all” Glaze Paste or a mixture of Glaze Powder mixed with Stain/Glaze Liquid.
- Carry out Glaze Firing (with Glaze Paste) in accordance with furnace-specific parameters

### MATERIALS USED

- Glaze Paste
- Stain / Glaze Liquid



## 5.10 ADVANCED - Correction



### APPLICATION

Correction Dentin or Correction Enamel material is used for correction work after completion of the crown.

### PROCESSING

- Mix the Correction Dentin / Correction Enamel with Modelling Liquid to form a creamy consistency
- Apply where necessary

### MATERIALS USED

- Correction Dentin
- Correction Enamel
- Modelling Liquid



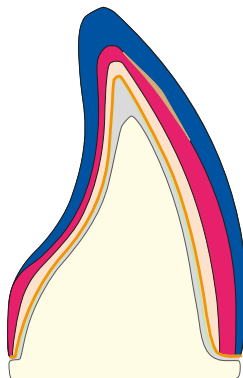
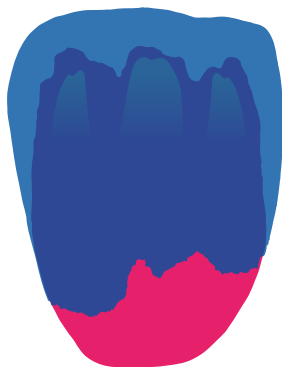
### FIRING



- Carry out Correction Firing in accordance with furnace-specific firing parameters

## 6 BLEACH Layering

The layering of Bleach colours follows the same layering scheme as described under BASIC and ADVANCED.



## APPLICATION

Use of BLEACH materials in accordance with the BASIC layering technique. All individualisation is to be carried out in the same way as described in the section on ADVANCED layering.

## MATERIALS USED

- Bleach Dentin
- Bleach Opaque Dentin
- Bleach Enamel
- For individualisation - all materials used in ADVANCED layering
- Modelling Liquid

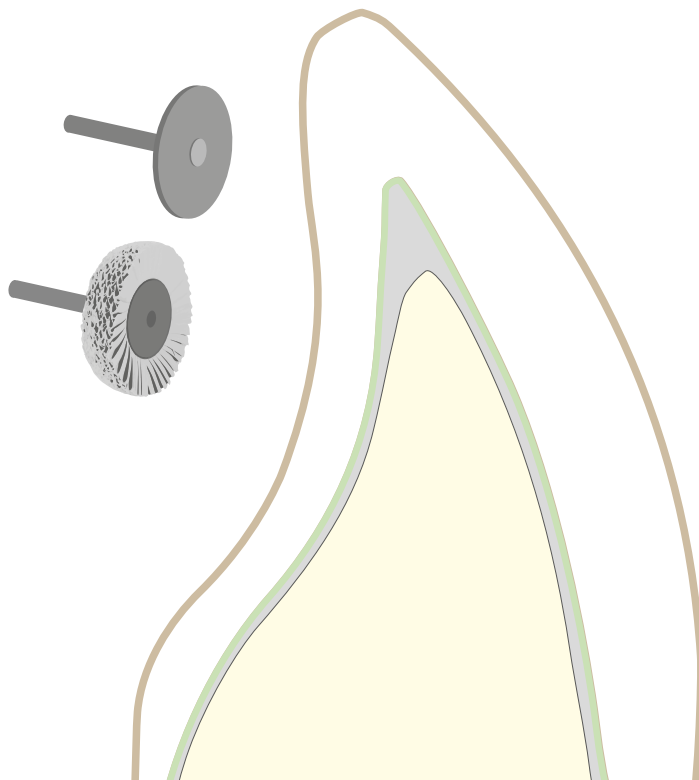


## FIRING

Firing is to be carried out as described for the respective materials under the sections on BASIC and/or ADVANCED layering techniques.

## 7 Finishing

After glaze firing, the crown's degree of gloss can be regulated using the polishing device and pumice powder, or with a hand-held polisher and diamond polishing paste.







## 8 Notes

## 8.1 General notes

The current instruction manual can be found on the Jensen GmbH website in the download centre ([www.jensendental.de/de/download](http://www.jensendental.de/de/download)). Observe the safety data sheets, which are available on the Jensen GmbH website at [www.jensendental.de](http://www.jensendental.de) in the download centre.

In the event of serious incidents which have occurred in connection with the product, contact Chemichl AG, Landstrasse 114, 9490 Vaduz/Liechtenstein, website: [www.chemichl.com](http://www.chemichl.com) and your competent health authority.

The Summary of Safety and Clinical Performance (SSCP) can be downloaded from the European Medical Devices Database (EUDAM). European Database for Medical Devices (EUDAMED) at <https://ec.europa.eu/tools/eudamed>. Base UDI-DI: 042520058001H8

## 8.2 Warning notes concerning processing procedure

- Intended for dental use only.
- The application may only be carried out by trained professionals.
- Dust and splinters may occur during the finishing of ceramic restorations (grinding, polishing). Protect eyes and avoid inhalation of grinding dust. Use of a suction device or wearing a protective mask and goggles is recommended.
- Avoid contact of material with skin, mucous membranes and eyes. Be careful when handling the high temperatures during firing, there is a risk of burns, use gloves if necessary.
- Due to the different designs of ceramic kilns on the market, there are sometimes different firing conditions. This fact must be taken into account and clarified by the customer on his own responsibility. The stated firing temperatures are only guide values.
- Careful attention must be paid to the cleanliness of the brush or spatula. Any external contamination can have a negative influence on the firing result. Danger of contamination!
- Once powder has been mixed or has come into contact with liquid/moisture, it must not be put back into the tin. Do not allow the powder to come into contact with a wet brush or wet instruments in the powder container. Risk of contamination.
- When using zirconia, lithium disilicate or titanium frames, please adhere to the manufacturers' instructions. The recommendations and notes in the respective operating manuals are to be adhered to.
- KEEP CLOSED



## 8.3 Disposal

Small quantities can be deposited in household waste. Remaining stocks or removed restorations must be disposed in accordance with national legal requirements.

## 8.4 Residual risks

Users should be aware that there are generally certain risks associated with dental procedures in the oral cavity: Chipping or/and fracturing of the restorative material can lead to swallowing of material and a renewed dental treatment.

## 8.5 Storage and keeping conditions

No special storage and keeping conditions necessary.

## 8.6 Disclaimer

We accept no liability for damage resulting from improper processing or other use. This material is exclusively intended for dental use. Before using it, the user undertakes to check the suitability of the product for its intended use. Any liability on our part is excluded if the product is processed in incompatible or non-permissible combination with materials of other manufacturers. Furthermore, our liability is limited to the correctness of this information, irrespective of the legal grounds and, as far as legally permissible, in any case to the delivered material value before VAT.

## 8.7 Copyright

The photographic and textual content included in these instructions for use are the sole property of Jensen GmbH.

## 9 Manufacturer and Sales

### **Manufactured by:**

Chemichl AG  
Landstrasse 114  
9490 Vaduz, Liechtenstein  
[info@chemichl.com](mailto:info@chemichl.com)  
[www.chemichl.com](http://www.chemichl.com)



### **Sales and Technical Support Europe:**

Jensen GmbH  
Gustav-Werner-Straße 1  
72555 Metzingen, Germany

Tel: +49 7123 92260  
[info@jensendental.de](mailto:info@jensendental.de)  
[support@jensendental.de](mailto:support@jensendental.de)  
[www.jensendental.de](http://www.jensendental.de)



**More information:**



[www.jensendental.de](http://www.jensendental.de)



4092060523