

# Instructions for use

*classica 850*



estetic ceram ag

CE 0483

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# Instructions for use layering ceramic *estetica ceram classica 850*

Acc. VITA®\* classical shade guide colors

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## Material and Indication, Contraindication

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### Material and Indication

The layering ceramic *estetica ceram classica 850* is a leucite glass ceramic and is colored according to the Vita® classical shade guide A1-D4. The *classica 850* layering ceramic is only intended for dental applications and for use by trained professionals. A matching transparency and fluorescence allows the reconstruction of natural looking teeth in the form of metal ceramic crowns or bridges on conventional alloys with a thermal expansion of  $14 - 15 \times 10^{-6} \times K^{-1}$  (25 - 500 °C).

### Contraindications:

- Combinations with ceramic materials outside of the described range of product systems and/or material from another manufacturer.
- Use of non-approved framework materials.
- Sharp edges and corners on the framework or non-anatomically reduced frame shapes.
- Dental ceramic and complete ceramic restorations made of glass ceramics are not recommended for patients with bruxism or parafunction.

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## Fabrication of Metal Framework

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The fabrication of metal framework (casting, processing, cleaning/oxidation) must be performed according to the manufacturer's instructions. The framework must have a reduced anatomical shape and should provide enough space for an even coating of layering ceramic < 2 mm. Sharp edges and corners need to be rounded off.

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## Important: Cleaning of Framework before any porcelain application

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Base metal alloys (Cobalt-Chromium and Nickel-Chromium) create water-soluble chromium oxides during every heat treatment process. The oxide must be removed before porcelain application. Clean the framework and the layering with steam or water and brush thoroughly before another porcelain application.

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## Opaque-Bake

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The *estetica ceram classica* opaques are made in a modern paste form

The paste has a ready-to-use consistency and can be applied as a covering layer that doesn't flow. The canned material allows the original consistency to be recreated, simply by mixing it, in case the opaque separates after prolonged storage.

Please pay attention with all pastes: Water reacts with the paste like an extreme thinning agent, therefore after washing the brush with water please dry it before applying opaque paste to it. Wet the brush before use with opaque liquid only! Apply the first opaque layer onto the clean, dry framework with a flat brush, so that optimum 70% coverage of the metal has been reached (do not suction!).

### 1st Bake

After the opaque application, the crown or bridge is dried under the open furnace at a starting temperature of 400 °C for 1-2 minutes. Subsequently the furnace is closed with a 6 minute drying time and heated at a rate of 80 K/min with vacuum (vacuum starting at 450 °C) to 920 °C. Hold time: 2 minute (without vacuum).

### **2nd Bake**

lean the framework and the layering with steam or water and brush thoroughly before another porcelain application. With the application of the second opaque layer the metal frame work is completely covered. Continue with the same procedure as in the first powder opaque bake (920 °C).

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## ***classica 850* Margin-Bake**

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Apply a thin layer of Margin separator liquid to the shoulder of the die. Mix the ***classica 850*** margin powder with modelling liquid 2 to a creamy consistency. Apply margin shoulder ceramic mix in small portions and condense by tapping, suction any excess liquid and dry well.

### **1st Bake**

Clean the framework and the layering with steam or water and brush thoroughly before another porcelain application. After the margin application, the crown or bridge is placed on a firing tray at a starting temperature of 400 °C. Subsequently the furnace is closed with a 4 minute closing time and then heated at a rate of 80 K/min with vacuum (vacuum starting at 450 °C) to 900 °C (bake temperature). Hold time: 1 minute (without vacuum). After the first bake, place the crown on the die and remove excess materials. A second margin application follows where necessary to optimize the fit.

### **2nd Bake**

See first Bake (900 °C)

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## ***classica 850* Dentine-Bake**

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### *Standard layering*

Important note: Clean the framework and the layering with steam or water and brush thoroughly before another porcelain application.

Mix ceramic powder (Opaque Dentine, Dentine and correlated Incisal) with modelling liquid to a creamy consistency. Apply Opaque Dentine, Dentine and Incisal ceramic in small portions to the cervical and interdental area and compact by light vibration. Then more Opaque Dentine, Dentine or Incisal is applied according to the tooth layering.

Overcontour this first application to compensate for sintering contraction.

### **1st Bake**

After the Dentine application the crown is placed on a firing tray at a starting temperature of 400 °C. Subsequently the furnace is closed with a 4 minute closing time and then heated at 60 K/min with vacuum (vacuum starting at 450 °C) to 850 °C (bake temperature). Hold time: 1 minute (without vacuum).

After the first Dentine/Incisal firing is complete, trim the crown or bridge and clean. Next, apply a second layer of Dentine and Incisal for the second Dentine firing to complete the form of the restoration and to compensate for sintering contraction.

### **2nd Bake**

Same procedure as for the first Dentine firing, except with a firing temperature of 840 °C. Any further Dentine firings should be carried out at 830 °C.

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## Glaze finish /Glaze-Bake

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After completely finishing the surface with a diamond instrument, thoroughly clean the crown or bridge.

For color characterization, **esthetic ceram Glaze, Stains and Shades LFU** can be applied and fired.  
For the firing table, please refer to the firing table or to the separate instructions for use.

### Natural Glaze

Place the crown on a firing tray at a starting temperature of 400 °C. Subsequently close the furnace with a 4 minute closing time and then heat at a rate of 60 K/min with vacuum to 830 °C (bake temperature). Hold time: 1 minute (without vacuum).

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## Correction-Bake

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If small additions (approximal contacts, apical pontic) are necessary to the restoration after complete finishing, **esthetic ceram LFC 710** or **PFM 790** in Dentine or Incisal shading may be applied without altering the result of the layering.  
Before application clean the crown or bridge.

Mix **esthetic ceram LFC 710** or **PFM 790** powder with modelling liquid to a creamy consistency. Apply small portion of porcelain to the desired area of the restoration.

### Bake

After the Dentine application the crown is placed on a firing tray at a starting temperature of 400 °C. Subsequently the furnace is closed with a 4 minute closing time and then heated at 45 K/min with vacuum (vacuum starting at 450 °C) to 710 °C (**LFC 710**) or 790 °C (**PFM 790**) (bake temperature). Hold time: 1 minute (without vacuum).

## Combinations and Firing table

Note: The given firing temperatures were determined in a Zubler Vario 300 dental furnace and are approximate values. For other furnace types, corrections to the firing temperatures may be necessary. Firing data is in the firing table and possible material combinations are mentioned in the combination table below.

### COMBINATIONS TABLE

	A					B				C				D		
<i>classic</i> Opaque	A1	A2	A3	A3.5	A4	B1	B2	B3	B4	C1	C2	C3	C4	D2	D3	D4
<i>classica 850</i> Margin	A1	A2	A3	A3.5	A4	B1	B2	B3	B4	C1	C2	C3	C4	D2	D3	D4
<i>classica 850</i> Opaque Dentine	A1	A2	A3	A3.5	A4	B1	B2	B3	B4	C1	C2	C3	C4	D2	D3	D4
<i>classica 850</i> Dentine	A1	A2	A3	A3.5	A4	B1	B2	B3	B4	C1	C2	C3	C4	D2	D3	D4
<i>Classica 850</i> Incisal	1	2	2	4	4	1	2	3	4	2	2	3	4	1	2	3

### FIRING SCHEDULE

	Start-up Temp.	Closing Time	Vacuum Start.	Heat Rate	1st Bake	2nd Bake	Hold Time
	°C	min	°C	K/min	°C	°C	min
<i>classic</i> Opaque	400	6	450	80	920	920	2
<i>classica 850</i> Margin	400	4	450	80	900	900	1
<i>classica 850</i> Dentine/Incisal	400	4	450	60	850	840	1
<i>classica 850</i> Natural glaze	400	4	450	60	830	---	1
<i>LFU</i> Glaze/Stains	400	4	no	45	710	---	1
<i>LFC 710</i> Correction	400	4	450	45	710	---	1
<i>PFM 790</i> Correction	400	4	450	45	790	---	1

\*VITA is a registered trade mark of the VITA- Zahnfabrik, Bad Säckingen

**Note:** Delayed furnace opening (min. 2 minutes) is recommended after each main fire, especially with voluminous layers, starting with the margin fires.

## Technical data

Materials classification	
Material:	Silicate glass ceramic
composition:	Mayor glass ceramic constituents: SiO <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub> , K <sub>2</sub> O, Na <sub>2</sub> O, CaO, B <sub>2</sub> O <sub>3</sub>

Classification acc DIN EN ISO 6872:2019					
Type:	1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/>	Class:	1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/>	a <input type="checkbox"/> b <input checked="" type="checkbox"/> c <input type="checkbox"/>	

Physical -chemical properties acc. to DIN EN ISO 6872					
Property	Specification classic Opaque	Specification Margin	Specification Dentine /Incisal	Specification Opal	Specification <i>PFM 790</i> correction
Coefficient of thermal expansion (25 - 500 °C)[10 <sup>-6</sup> ·K <sup>-1</sup> ± 0.5]	2 x: 13.0 4 x: 13.0	2 x: 13.5 4 x: 13.5	2 x: 13.0 4 x: 13.0	2 x: 13.0 4 x: 13.0	(25 - 475 °C) [·10 <sup>-6</sup> ·K <sup>-1</sup> ] 2 x: 13.0 4 x: 13.0
Glasstransformation-temperature Tg [°C ± 20]	2 x: 550 4 x: 550	2 x: 560 4 x: 560	2 x: 550 4 x: 550	2 x: 540 4 x: 540	2 x: 500 4 x: 500
Bending strength [MPa]	≥ 50	≥ 50	≥ 50	≥ 50	≥ 50
Solubility [µg/cm <sup>2</sup> ]	< 100	< 100	< 100	< 100	< 100

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## Warnings

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Only to be used by trained personnel

For use in clean working environments only! Contamination of the desktop, the working plate, the preheating furnace or any additional materials as waxes or liquids especially with CoCr-alloy residues may cause discoloration of restorations.

Clean the framework and the layering with steam or water and brush thoroughly before another porcelain application.

When working on ceramic restorations safety glasses should be used.  
Remove dust and fragments by suction.



Be careful of high firing and pressing temperatures. Danger of getting burnt! Use oven pincers and gloves!

Due to the different ceramic ovens available on the market, the firing conditions may differ. This must be taken into account and is under the responsibility of the client!!!

The indicated firing temperatures are only APPROXIMATE VALUES!!!

Warning for Investment Material:

The investment material contains quartz powder. AVOID inhaling dust, wear a protective mask. Read the warning on the investment packaging.

Recommended storage conditions: 12-38° C and normal air humidity 40-60%.

Store in closed containers.

Do not fill back powder mixed with liquid to the container.

Use clean and dry spoon, spatula or brush to take out powder from the containers.

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## Explanation of symbols on the product labels

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Manufacturer



Date of manufacture YYYY-MM-DD



Medical Device



Batch code



Reference number



Caution, consult instruction for use