

classic 920

Instruction for use

esthetic ceram ag

CE 0483

classic 920 Content

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classic 920



The esthetic ceram layering ceramic **classic 920** is a leucite glass ceramic and is coloured according to the Vita®* classical shade guide A1-D4. The **classic 920** layering ceramic is only intended for dental applications and for use by trained professionals.

Indication

- Veneering of suitable dental alloys for metal-ceram technology with a thermal expansion (CTE) of $14 - 15 \cdot 10^{-6} \cdot \text{K}^{-1}$ (RT - 500 °C)
 - Precious metal alloys, cast or milled.
 - CoCr or NiCr alloys, cast, milled or laser-sintered.
- The frameworks must have an anatomically reduced shape, have sufficient stability and allow uniform ceramic layer thicknesses with a maximum layer thickness of 1.5 - 2 mm. Edges and tips are to be rounded off. Missing substance must be replaced with an alloy.

Contraindication

- 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.

* VITA® is a registered trademark of VITA-Zahnfabrik, Bad Säckingen

classic 920 Framework Fabrication



prepared CoCr-metal framework

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.

Important note: Cleaning of framework before any porcelain application. 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.



classic 920 EMF-Bonder



CoCr-metal framework before bonder bake



CoCr-metal framework after bonder bake

The esthetic ceram **EMF-Bonder** can be used with non-precious metal alloys and reduces the problems of strong oxide formation (green discolouration and flaking of the ceramic). The **EMF-Bonder** serves as an intermediate layer between cobalt-chromium-based ones Dental alloys and dental ceramics for the reconstruction of metal-ceramic crowns and bridges on cobalt-chrome alloys with a thermal expansion of $14 - 15 \times 10^{-6} \times K^{-1}$ (25 - 500 °C).

The **EMF-Bonder** is offered in paste form or as powder in cans. The paste has a ready-to-use consistency and can be applied as a covering layer that does not run off.

The powder must be mixed with esthetic ceram **opaque liquid** to a paste-like consistency.

Please note with all pastes: Water acts as an extreme diluent for the pastes, so please dry the brush for the pastes with water after washing out, and then moisten with **opaque liquid** before applying.

Apply the **EMF-Bonder** with a brush or a glass instrument to the well-cleaned, dry framework in a thin, even layer.

Bonder Bake

After the bonder has been applied, the restoration is dried under the open oven at a starting temperature of 450 °C for 1-2 minutes. The furnace is then closed with a closing time of 6 minutes and at 80 K/min and vacuum (vacuum on at 450 °C) heated to 980 °C. Holding time: 6 minutes (without vacuum).

After the bonder firing, the **EMF-Bonder** shows a yellowish colour and an eggshell luster. Then the opaque is applied as usual.

classic 920 Opaque Bake



CoCr-metal framework after opaque bake

The opaques are made in a modern paste form or as powders.

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 coverage of the metal has been reached (do not suction!).

1st Opaque 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 950 °C. Hold time: 2 minute (without vacuum)

2nd Opaque Bake

Clean 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 (950 °C).

classic 920 Margin Bake

CoCr-prepared
coping



CoCr-coping before
bonder bake*



CoCr-coping after
bonder bake*



CoCr-coping after
opaque bake



CoCr-coping before
margin bake



CoCr-coping after
margin bake



1st Margin Bake

Apply a thin layer of **isolation liquid** to the shoulder of the die. Mix the margin powder with **modeling liquid L2 (margin)** to a creamy consistency. Apply margin shoulder ceramic mix in small portions and condense by tapping, suction any excess liquid and dry well. 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 930 °C (bake temperature). Hold time: 1 minute without vacuum. After the first bake, place the crown on the die and remove excess materials.

2nd Margin Bake

A second margin application follows where necessary to optimize the fit. 2nd bake see first bake (930 °C).

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

*For instructions regarding **EMF-Bonder** firing, see page 5.

classic 920 Dentine/Incisal Bake



before dentine bake*



after dentine bake



before incisal bake



after incisal bake

Mix ceramic powder (dentine and correlated incisal) with **modeling 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.

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

1st Dentine/Incisal 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 920 °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.

2nd Dentine/Incisal Bake

Same procedure as by the first dentine firing, except with a firing temperature of 910 °C. Any further dentine firings should be carried out at 900 °C.

* Dentine and incisal firing is also possible in one go and this is also common practice.

classic 920

Glaze Finish/Glaze Firing



elaborated for stains/glaze firing



after stains/glaze firing

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

Apply the **glaze LFU paste** or the **glaze LFU powder** mixed with the **glaze liquid** in a thin layer.

For colour characterization, esthetic ceram **glaze, shades & stains LFU** can be applied and fired. For the firing, please refer to the firing table or to the separate instructions for use.

Glaze Firing

After the stains/glaze 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 45 K/min without vacuum to 710 °C (bake temperature). Hold time: 1 minute (without vacuum).

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 900 °C (bake temperature). Hold time: 1 minute (without vacuum).

classic 920 Modeling «nature»

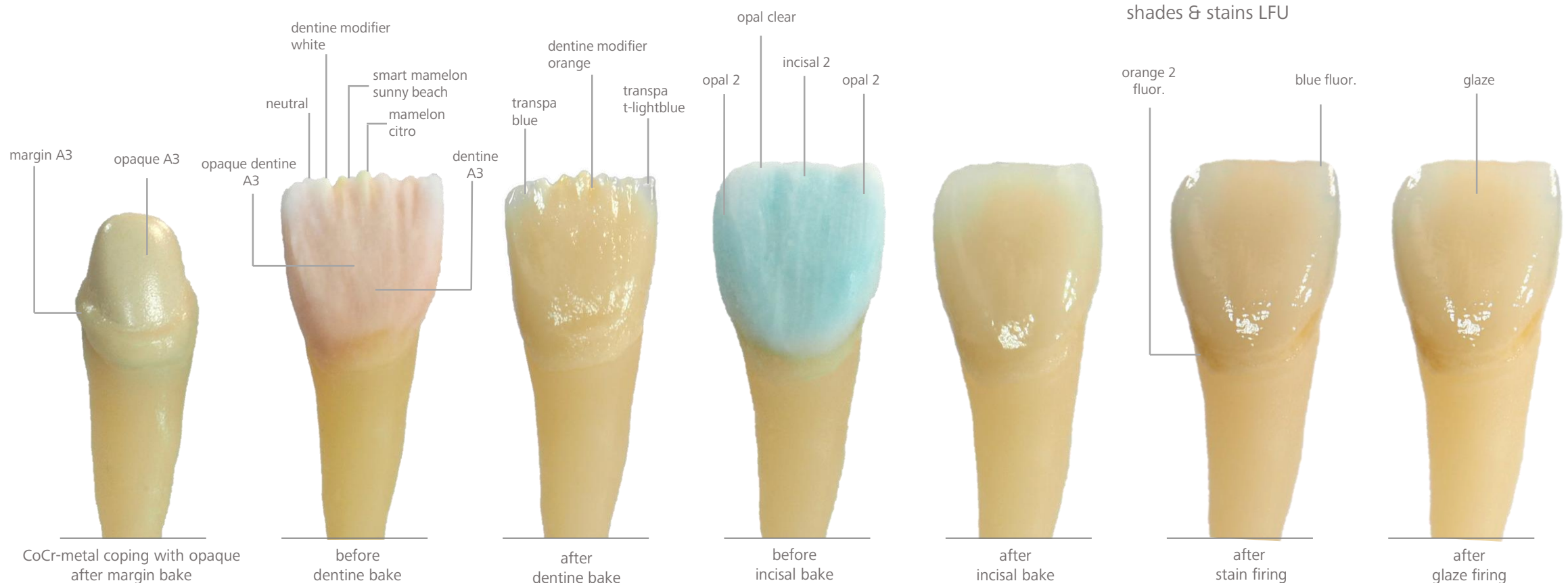


For the simpler «nature» modeling, a thin layer of opaque dentine was applied after the bond and opaque firing to create a deep effect. The tooth body is built up with dentine materials, slightly contoured and covered with incisal material. After the dentine/incisal firing has been completed, **shades & stains LFU** can be used to highlight aspects of the finished crown that match the tooth colour. The gloss finish was then made with the **glaze LFU**. (Firing chart on page 25)

classic 920 Colour Matching



classic 920 Modeling «individual»



For the «individual» modeling, a thin layer of opaque dentine was applied after the bonder, opaque and margin firing for the optical depth effect. Dentine, modifiers, mamelons and various transpa materials were then applied analogously to the internal structure of natural teeth. After the dentine firing, the crown was completed with various incisal and opal materials and fired. Special colour aspects of the finished crown can be highlighted with the **shades & stains LFU**. With **glaze LFU** the crown got its gloss finish. (Firing chart see page 25)

Coloured Modeling Liquids



esthetic ceram

If desired, our ceramic powders can be coloured with coloured modeling liquid. This makes it easier for the dental technician to distinguish between the powders when layering.



classic 920 Monolayer



monolayer
M1



monolayer
M2



monolayer
M3

esthetic ceram **classic 920 monolayer** materials combine the properties of dentine and incisal. With **classic 920 monolayer** it is possible to produce all 16 *Vita® tooth shades with coordinated transparency and fluorescence simply, quickly and efficiently with just 3 ceramic materials.

Note: Combination table on page 24.

colour matching



* VITA® is a registered trademark of VITA-Zahnfabrik, Bad Säckingen

classic 920 Monolayer Modeling



In order to obtain the tooth shade A3, the complete tooth shape was enlarged with the **classic 920 monolayer M3** and applied to the coping that was opaque with opaquer A3. After firing and finishing the crown, the tooth shade (A3) can be optimally matched to the *Vita® shade guide with esthetic ceram **shades & stains LFU**. (see the matching colour assignment of the **shades LFU** in the combination table on page 24). The gloss finish was done with the esthetic ceram **glaze LFU**.

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classic 920 Gingiva

Colour overview



The **classic 920 gingiva** powders are used for reconstruction in the gum area. For this, our gingiva powders can be individually combined with each other depending on the colour you want. The illustration shows a dental work in which several **classic 920 gingiva** materials were combined in order to achieve a natural appearance of the gum restoration.



classic 920 Gingiva

Colour overview on the model



classic 920

Correction Bake



correction
dentine



correction
incisal

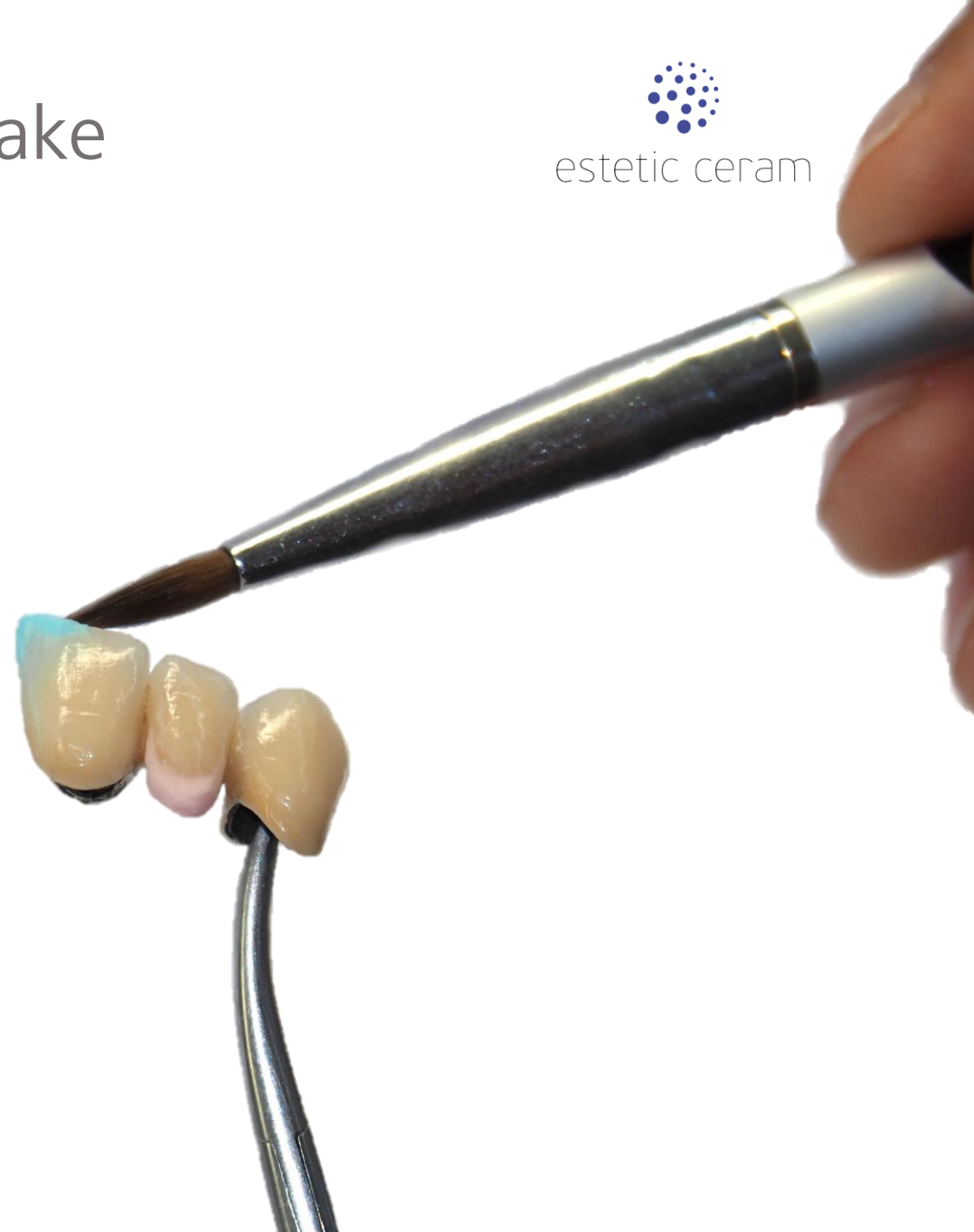


correction
neutral

Small corrections to the approximal contacts or to the pontic of the completed restoration can be applied with dentine or incisal-coloured powders from the esthetic ceram **LFC 710** or **PFM 790** product lines without affecting the layering. To do this, mix the **LFC 710** or **PFM 790** correction powder with **modeling liquid** to a creamy consistency and apply in small portions to the desired areas and model. After application, place the work on a firing tray and fire according to the firing table with the respective program for **LFC 710** or **PFM 790**. (Page 25)



bridge after
correction bake



shades & stains LFU



shades LFU



shade A light
fluor.



shade B light
fluor.



shade C light
fluor.



shade D light
fluor.



shade A
fluor.



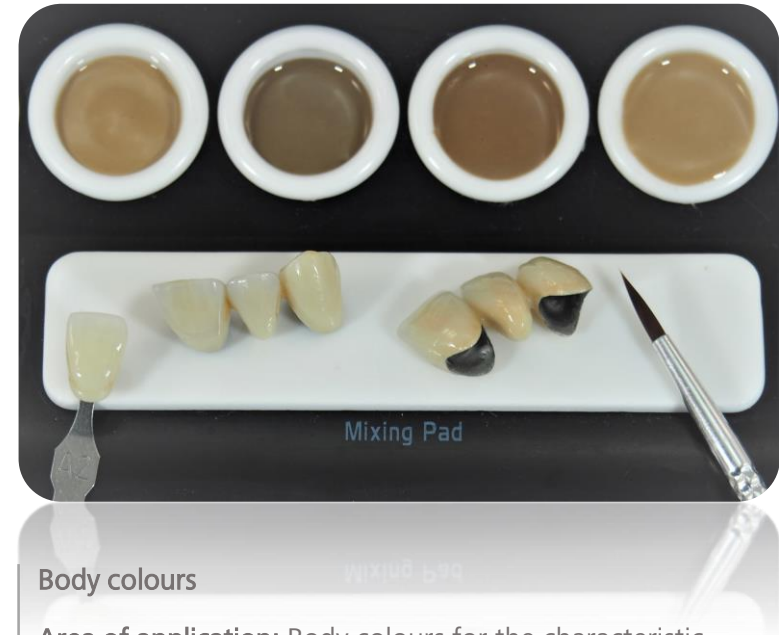
shade B
fluor.



shade C
fluor.



shade D
fluor.



Body colours

Area of application: Body colours for the characteristic colouring of A - D colours.

stains LFU



estetic ceram



stains LFU



white fluor.



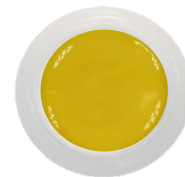
snow white fluor.



vanilla fluor.



beige fluor.



yellow fluor.



yellow 2 fluor.



orange fluor.



orange middle fluor.



orange 2 fluor.



champagne fluor.



safari fluor.



safari + fluor.



olive fluor.



khaki fluor.



rose fluor.



rose pink



red purple fluor.



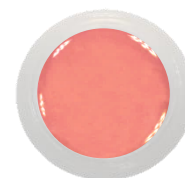
blue rose fluor.



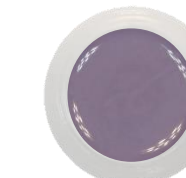
purple fluor.



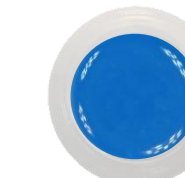
red



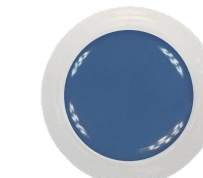
red bright



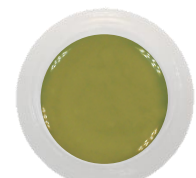
smoke fluor.



blue fluor.



pigeon blue fluor.



green fluor.



brown fluor.



dark brown fluor.



red brown fluor.



black fluor.



grey fluor.

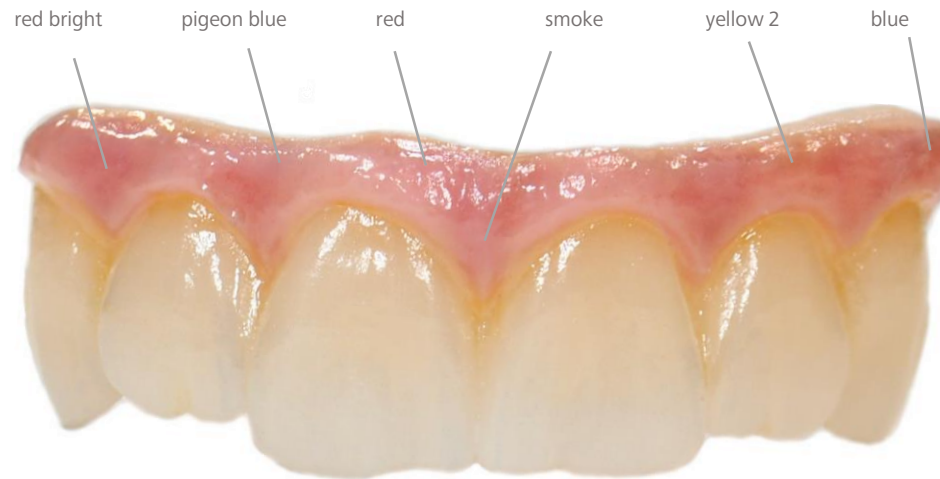
Effect colours

Area of application: Effect colours for extensive characteristic colouring.

Note: The colours shown are only a selection of our wider range.

stains LFU

Recommendation for the gingival area



The below shown **stains LFU** without fluorescence are ideal for an individual shade design in the gingival area.



classic 920

Combinations Table

Combinations table	A					B				C				D		
Tooth colour	A1	A2	A3	A3,5	A4	B1	B2	B3	B4	C1	C2	C3	C4	D2	D3	D4
classic 920 opaque	A1	A2	A3	A3,5	A4	B1	B2	B3	B4	C1	C2	C3	C4	D2	D3	D4
classic 920 margin	A1	A2	A3	A3,5	A4	B1	B2	B3	B4	C1	C2	C3	C4	D2	D3	D4
classic 920 margin (SM)	1 + 2*	2	2	3 + 4*	4 + 5*	1 + 2*	1 + 3*	3	3 + 5*	1 + 5*	1 + 5*	5	5	2 + 5*	2 + 5*	3 + 5*
classic 920 opaque dentine	A1	A2	A3	A3,5	A4	B1	B2	B3	B4	C1	C2	C3	C4	D2	D3	D4
classic 920 dentine	A1	A2	A3	A3,5	A4	B1	B2	B3	B4	C1	C2	C3	C4	D2	D3	D4
classic 920 chroma modifier	A					B				C				D		
classic 920 incisal	1	2	2	4	4	1	2	3	4	2	2	3	4	1	2	3
classic 920 opal incisal	1	2	2	4	4	1	2	3	4	2	2	3	4	1	2	3
classic 920 monolayer	M1	M2	M3	M3	M3	M1	M2	M3	M3	M1	M3	M3	M3	M1	M2	M2
Shade LFU	A					B				C				D		
shades LFU (monolayer)**	A light	A light	A light	A light	A	B light	B light	B	B	C light	C light	C	C	D light	D light	D light

* Margin (SM) mixing ratio 1:1

** The shade LFU colour combinations were specially designed for the colour scheme of the classic 920 monolayer.

classic 920 Firing Chart

Note: The below 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 parameters	Start temperature [°C]	Closing time [min]	Vacuum start [°C]	Heating rate [K/min]	(Vacuum end) 1 st Bake [°C]	(Vacuum end) 2 nd Bake [°C]	(Without vacuum) Holding time [min]
EMF-Bonder	450	6	450	80	980	---	6
classic 920 opaque	400	6	450	80	950	950	2
classic 920 margin	400	4	450	80	930	930	1
classic 920 dentine/incisal	400	4	450	60	920	910	1
classic 920 monolayer	400	4	450	60	920	910	1
classic 920 natural glaze	400	4	450	60	900	---	1
LFU glaze/stains	400	4	---	45	710	---	1
LFC 710 correction	400	4	450	45	710	---	1
PFM 790 correction	400	4	450	45	790	---	1

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

classic 920 Technical Data



Classic 920 comply to all applicable standards for dental porcelains (DIN EN ISO 6872, DIN EN ISO 10993-5). All limits are undercut and thresholds are outperformed.

Materials classification	
Material:	Silicate glass ceramics
Chemical composition:	Mayor glass ceramic constituents: SiO_2 , Al_2O_3 , K_2O , Na_2O , CaO , B_2O_3

Physical-chemical properties acc. to 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 opaque	Specification margin, dentine, incisal	Specification opal	Specification PFM 790 correction
Coefficient of thermal expansion (25 - 500 °C) [$\cdot 10^{-6} \cdot \text{K}^{-1} \pm 0.5$]	2 x: 13.0 4 x: 13.0	2 x: 13.0 4 x: 13.0	2 x: 13.0 4 x: 13.0	(25 - 475 °C) [$\cdot 10^{-6} \cdot \text{K}^{-1}$] 2 x: 13.0 4 x: 13.0
Transformation temperature Tg [°C \pm 20]	2 x: 550 4 x: 550	2 x: 580 4 x: 580	2 x: 570 4 x: 570	2 x: 500 4 x: 500
Bending strength [MPa]	≥ 50	≥ 50	≥ 50	≥ 50
Solubility [$\mu\text{g}/\text{cm}^2$]	< 100	< 100	< 100	< 100

classic 920

Regulatory Information



Classic 920 meet all requirements of applicable directives and regulations for medical devices. The manufacturing complies to a certified Quality Management System acc. **ISO 13485**, annex 2 of **Medical Device Directive 93/42**, annex IX, Chapter 1 of regulation (EU) 2017/745 and further international requirements.

Medical device classification acc. annex IX, rule 8 of MDD 93/42:
Medical device classification acc. annex VIII, rule 8 of MDR 2017/745

Ila
Ila

UMDNS Code:

16-187 Dental-ceramics

MDR Code acc. MDCG 2019-14:

MDT 2003, MDN 1103

Classification acc. DIN EN ISO 6872:

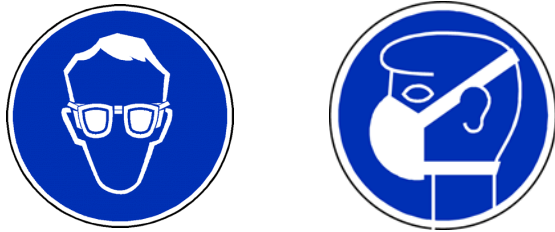
type 1, class 1

classic 920

Warnings

Use only by trained specialists.

Wear protective goggles or suitable face protection when finishing the ceramic restorations. Remove splinters and dust with a suction device or wear a suitable dust mask.



Be careful with the high temperatures when burning. There is a risk of burns! Use oven tongs / tweezers and gloves!

Use only in a clean work environment! Contamination of the aids (waxes) and devices (mixing plate, preheating furnace) through residues from alloy processing, especially CoCr or NiCr alloys, can lead to discoloration of the ceramic.








Noble metal-free alloys based on cobalt-chromium or nickel-chromium form water-soluble oxides with every fire, which must be removed from the ceramic mass before each application. The framework or framework that has already been veneered must be cleaned thoroughly with steam or under running water with a brush before each ceramic application.

There are different firing conditions due to the different ceramic furnaces on the market. This fact must be taken into account and clarified by the customer on his own responsibility!

The specified firing temperatures are only guide values!

Recommended storage conditions: 12-38 °C and normal humidity 40-60%. Store in tightly closed original containers. Protect from direct sunlight. Do not put mixed powders back into the can. Use clean, dry instruments for removal.

Label Symbols

-  Manufacturer
-  Date of manufacture YYYY MM
-  Medical Device
-  Batch code /LOT number
-  Reference number
-  Unique Device Identification
-  Caution, consult instruction for use

Manufacturer Information

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