classic

estetic ceram

Instruction for use

estetic ceram ag

CE 0483

classic Content

classic

The estetic ceram layering ceramic **classic** is a leucite glass ceramic and is coloured according to the Vita®* classical shade guide A1-D4. The **classic** 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 $14 - 15 \cdot 10^{-6} \cdot K^{-1}$ (25 - 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 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 EMF-Bonder

CoCr-metal framework before bonder bake

CoCr-metal framework after bonder bake

The estetic 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 × 10^{-6} x 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 estetic 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 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 920 °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 (920 °C).

classic 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 900 °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 (900 °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 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 880 °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 870 °C. Any further dentine firings should be carried out at 860 °C.

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

classic 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, estetic ceram estetic 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 860 °C (bake temperature). Hold time: 1 minute (without vacuum).

classic Modeling «nature»

opaque A3 — CoCr-metal coping after opaque bake

opaque dentine A3 — opaque dentine layering

dentine A3 — dentine layering

incisal 2 — incisal layering

after bake

shades & stains LFU — shade A fluor. — blue fluor. — orange 2 fluor. — after stain firing

glaze — after glaze firing

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 Colour Matching

classic Modeling «individual»

estetic ceram

shades & stains LFU

margin A3 | opaque A3 | opaque dentine A3 | neutral | dentine modifier white | smart mamelon sunny beach | mamelon citro | dentine A3 | transpa blue | dentine modifier orange | transpa t-lightblue | opal 2 | opal clear | incisal 2 | opal 2 | orange 2 fluor. | blue fluor. | glaze

| CoCr-metal coping with opaque after margin bake | before dentine bake | after dentine bake | before incisal bake | after incisal bake | after stain firing | after glaze firing |

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 the **glaze LFU** the crown got its gloss finish. (Firing chart see page 25)

Coloured Modeling Liquids

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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.

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classic Monolayer

monolayer
M1

monolayer
M2

monolayer
M3

estetic ceram **classic monolayer** materials combine the properties of dentine and incisal. With **classic 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

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classic Monolayer Modeling

estetic ceram

shades & stains LFU   colour matching

opaque A3

monolayer M3

monolayer M3

blue fluor.

pigeon blue fluor.

violet fluor.

shade A light fluor.

smoke fluor.

blue fluor.

glaze

| CoCr-metal coping after opaque bake | monolayer before 1st bake | monolayer after 1st bake | monolayer before 2nd bake | monolayer after 2nd bake | monolayer after stain firing | monolayer after glaze firing |

In order to obtain the tooth shade A3, the complete tooth shape was enlarged with the **classic 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 estetic 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 estetic ceram **glaze LFU**.

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classic Gingiva

Colour overview

| gingiva 1 bright | gingiva 2 middle | gingiva 3 | gingiva 4 dark | gingiva 5 dark orange | gingiva 6 violet | gingiva 7 light orange | gingiva 8 middle orange | gingiva 9 orange | gingiva 10 rose | gingiva 11 bright | gingiva 12 dark |

| gingiva 13 dark pink | gingiva 14 brown | gingiva 15 violet | gingiva 16 brown pink | gingiva 17 flamingo | gingiva 18 rose orange | gingiva 19 dark pink opaque | gingiva 20 violet brown | gingiva 21 neutral | gingiva 22 pink light | gingiva 23 intensive red |

The **classic 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 gingiva** materials were combined in order to achieve a natural appearance of the gum restoration.

gingiva 6 + gingiva1 violet bright

gingiva1 bright

gingiva 6 violet

gingiva 8 middle orange

classic Gingiva

Colour overview on the model

gingiva 1 bright · gingiva 2 middle · gingiva 3 · gingiva 4 dark · gingiva 5 dark orange · gingiva 6 violet · gingiva 7 light orange · gingiva 8 middle orange · gingiva 9 orange · gingiva 10 rose · gingiva 11 bright · gingiva 12 dark

gingiva 13 dark pink · gingiva 14 brown · gingiva 15 violet · gingiva 16 brown pink · gingiva 17 flamingo · gingiva 18 rose orange · gingiva 19 dark pink opaque · gingiva 20 violet brown · gingiva 21 neutral · gingiva 22 pink light · gingiva 23 intensive red

classic Correction Bake

correction
dentine

correction
incisal

correction
neutral

Small corrections to the aproximal contacts or to the pontic of the completed restoration can be applied with dentine or incisal-coloured powders from the estetic 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 (Page 25) with the respective program for **LFC 710** or **PFM 790**.

bridge after
correction bake

shades & stains LFU

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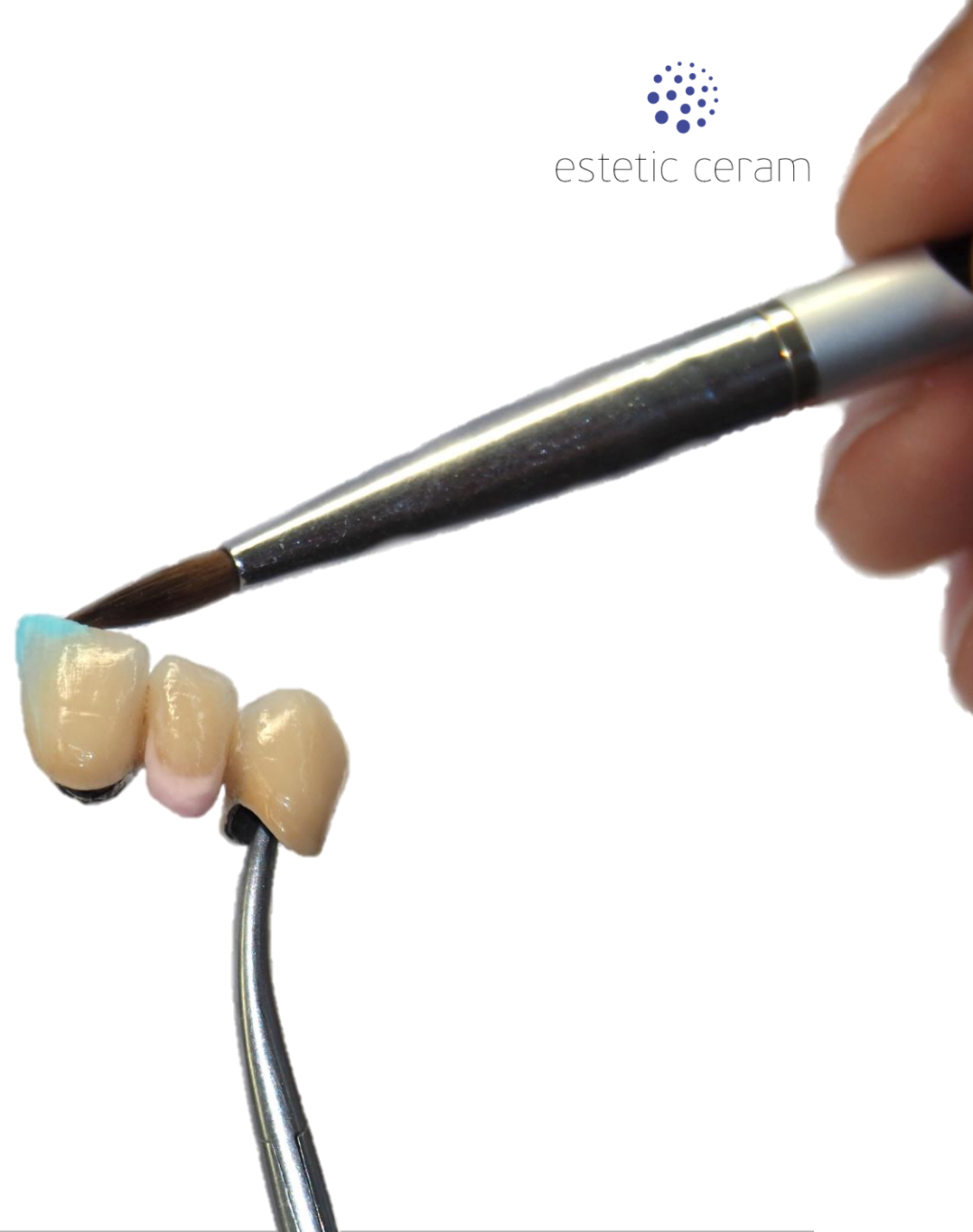
shades LFU

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.
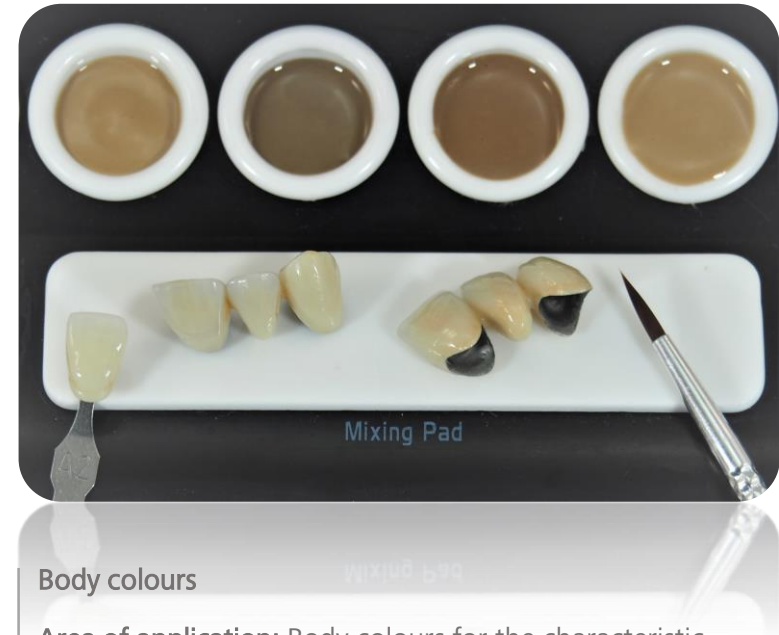
Body colours

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

stains LFU

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stains LFU

estetic ceram

white fluor.	snow white fluor.	vanilla fluor.	beige fluor.	yellow fluor.	yellow 2 fluor.	orange fluor.	orange middle fluor.

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.
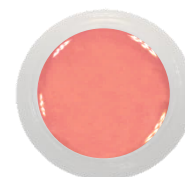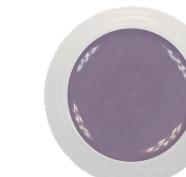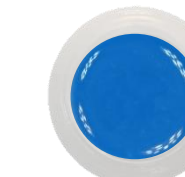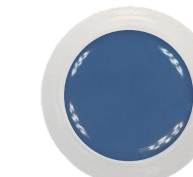
green fluor. brown fluor. dark brown fluor. red brown fluor. black fluor. grey fluor.

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

rose	rose pink	red purple	red bright	blue rose	purple	red	smoke	blue	pigeon blue	yellow 2

classic Combinations Table

estetic ceram

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 opaque	A1	A2	A3	A3,5	A4	B1	B2	B3	B4	C1	C2	C3	C4	D2	D3	D4
classic margin	A1	A2	A3	A3,5	A4	B1	B2	B3	B4	C1	C2	C3	C4	D2	D3	D4
classic 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 opaque dentine	A1	A2	A3	A3,5	A4	B1	B2	B3	B4	C1	C2	C3	C4	D2	D3	D4
classic dentine	A1	A2	A3	A3,5	A4	B1	B2	B3	B4	C1	C2	C3	C4	D2	D3	D4
classic chroma modifier	A					B				C				D		
classic incisal	1	2	2	4	4	1	2	3	4	2	2	3	4	1	2	3
classic opal incisal	1	2	2	4	4	1	2	3	4	2	2	3	4	1	2	3
classic monolayer	M1	M2	M3	M3	M3	M1	M2	M3	M3	M1	M3	M3	M3	M1	M2	M2
shades 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 shades LFU colour combinations were specially designed for the colour scheme of the classic monolayer.

classic Firing Chart

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 parameters	Start temperature [°C]	Closing time [min]	Vacuum start [°C]	Heating rate [K/min]	(Vacuum end) 1st Bake [°C]	(Vacuum end) 2nd Bake [°C]	(Without vacuum) Holding time [min]
EMF-Bonder	450	6	450	80	980	---	6
classic opaque	400	6	450	80	920	920	2
classic margin	400	4	450	80	900	900	1
classic dentine/incisal	400	4	450	60	880	870	1
classic monolayer	400	4	450	60	880	870	1
classic natural glaze	400	4	450	60	860	---	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 Technical Data

estetic ceram

Classic 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 ☒ 2 ☐	Class:	1 ☒ 2 ☐ 3 ☐	a ☐ b ☒ c ☐

classic
Physical-chemical properties acc. to DIN EN ISO 6872

Property	Specification opaque	Specification margin, dentine, incisal	Specification opal	Specification PFM 790 correction	Specification PFM 710 correction
Coefficient of thermal expansion (25 - 500 °C) [·10^{-6}·K^{-1}± 0.5]	2 ×: 13.0 4 ×: 13.0	2 ×: 13.0 4 ×: 13.0	2 ×: 13.0 4 ×: 13.0	(25 - 475 °C) [·10^{-6}·K^{-1}] 2 ×: 13.0 4 ×: 13.0	(25 - 450 °C) [·10^{-6}·K^{-1}] 2 ×: 13.0 4 ×: 13.0
Transformation temperature Tg [°C ± 20]	2 ×: 540 4 ×: 540	2 ×: 560 4 ×: 560	2 ×: 550 4 ×: 550	2 ×: 500 4 ×: 500	2 ×: 470 4 ×: 470
Bending strength [MPa]	≥ 50	≥ 50	≥ 50	≥ 50	≥ 50
Solubility [µg/cm²]	< 100	< 100	< 100	< 100	< 100

classic Regulatory Information

Classic 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:	IIa
Medical device classification acc. annex VIII, rule 8 of MDR 2017/745	IIa

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

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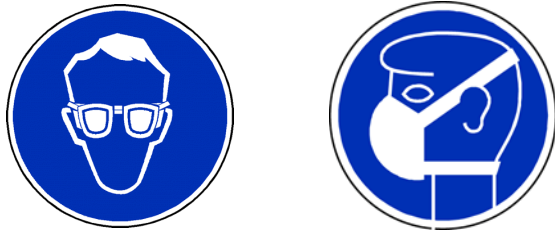
Be careful with the high temperatures when burning. There is a risk of burns! Use oven tongs / tweezers and gloves!

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
MD	Medical Device
LOT	Batch code /LOT number
REF	Reference number
UDI	Unique Device Identification
⚠	Caution, consult instruction for use

Manufacturer Information

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