

# shades & stains LFU

## Instruction for use

estetic ceram ag



# shades & stains LFU Content



	Page		Page
Indication, Contraindication	3	stains LFU recommendation for the gingival area	12
shades & stains LFU application	4	Firing Chart	13
shades & stains LFU «nature colour»	5	Technical Data	14
shades & stains LFU «individual colour»	6	Regulatory Information	15
shades & stains LFU under UV light	7	Warning notice	16
shades LFU overview (fluorescent)	8	Label Symbols	16
stains LFU	9 - 12	Manufacturer Information	16
stains LFU overview (fluorescent)	10		
stains LFU overview (without fluorescence)	11		
glaze LFU overview	11		

# shades & stains LFU



The esthetic ceram **shades & stains LFU** in powder and paste are based on silicate glass ceramic and are available in a variety of colours. Esthetic ceram **shades & stains LFU** are only intended for dental applications and for use by trained professionals.

## Indication

The **shades & stains LFU** are suitable for the final colour characterization of veneered frameworks or anatomical frameworks in a wide CTE range:

- Monolithic frameworks or frameworks veneered with esthetic ceram **zirkon** made of stabilized tetragonal zirconium oxide (Y-TZP) with a thermal expansion of approx.  $10.6 \cdot 10^{-6} \cdot \text{K}^{-1}$  (25 - 500 °C).
- Monolithic or veneered frameworks made of esthetic ceram lithium silicate glass ceramic (**HS10PC**) with a thermal expansion of  $9.7 - 10.3 \cdot 10^{-6} \cdot \text{K}^{-1}$  (25 - 500 °C).
- Veneered metal esthetic ceram ceramics (**low, classic, classic 920, PFM 790**) in the CTE range  $12 - 14 \cdot 10^{-6} \cdot \text{K}^{-1}$  (25 - 500 °C).
- Monolithic or veneered esthetic ceram press ceramic (**low press**).

## 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.
- 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

# shades & stains LFU

## «Application»

nature colour



individual colour



Application examples:  
monolithic zirconia  
crowns painted with  
shades & stains LFU.



### Application notes

- The **shades & stains LFU** are available in paste form or as a powder in cans.
- Mix **shade & stains LFU** pastes well with a metal-free spatula before each application.
- Use **glaze liquid** to adjust the consistency of **shades & stains LFU** powders and pastes.
- Always use a clean & dry brush or spatula.
- Moisten the brush with **glaze liquid** before application.
- **Note:** The pastes must not come into contact with water.

### Scaffolding preparation

- Process all-ceramic or part-ceramic dentures according to the manufacturer's instructions.
- Before the first **shades & stains LFU** application, carefully blast the surface with 110 µm aluminum oxide and 2 bar pressure.
- Before each application, clean the objects with a steam jet.

### Stain application

- Apply a thin layer of **glaze liquid** to the surface before colouring.  
Stain application see page 5-6.

### Glaze application

- After the stains have been applied to the restoration and fired the glaze is applied homogeneously for the gloss finish.
- Optionally, of course, the application of the stain and the glaze can be done in one go. To do this, first apply a thin layer of glaze to the restoration and then place the stains as desired and fire them in the oven according to the specifications.

### Bake

- Fire according to the firing table (see page 13).

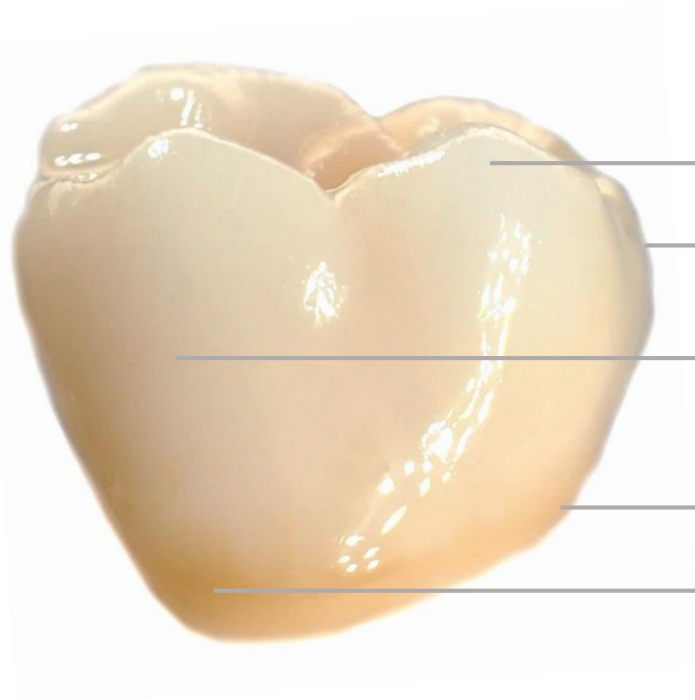
# shades & stains LFU

«nature colour»



esthetic ceram

glaze finish



pigeon blue fluor.

blue fluor.

orange 2 fluor.

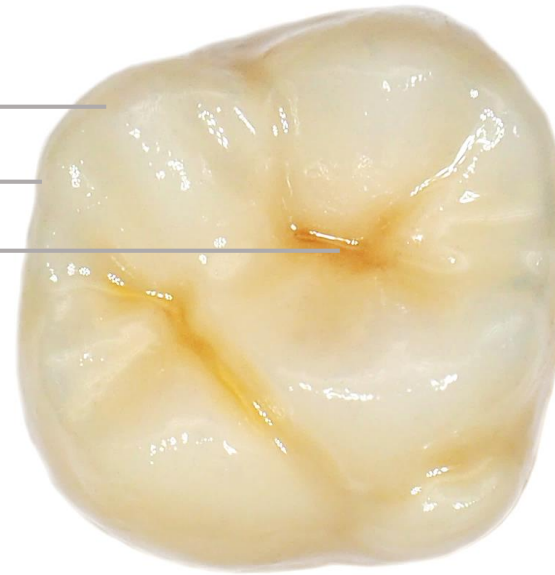
pigeon blue fluor.

blue fluor.

purple fluor.

shade A fluor.

orange 2 fluor.



glaze

## Application example:

According to the slogan "Just stain and glaze", the monolithic zirconium oxide crown was adapted to the natural teeth with **shades & stains LFU** and the targeted application of colour. The crown then got its gloss finish with glaze LFU (firing table see page 13).



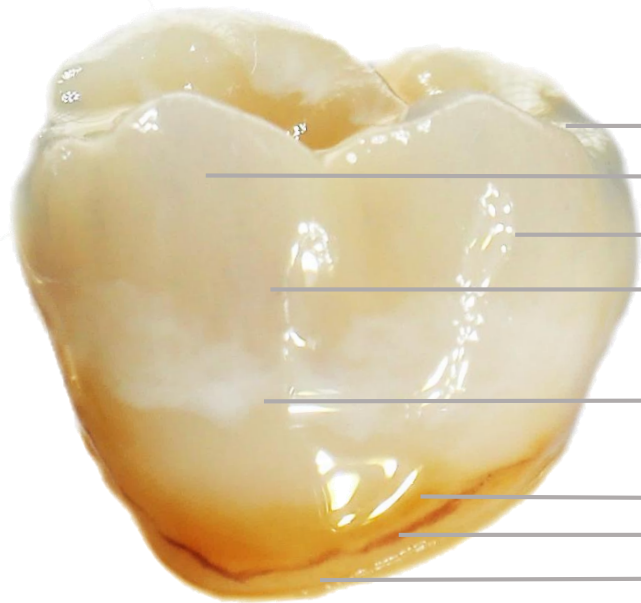
# shades & stains LFU

«individual colour»



esthetic ceram

glaze finish



white fluor.

blue fluor.

orange 2 fluor.

dark brown fluor.

blue fluor.

pigeon blue fluor.

smoke fluor.

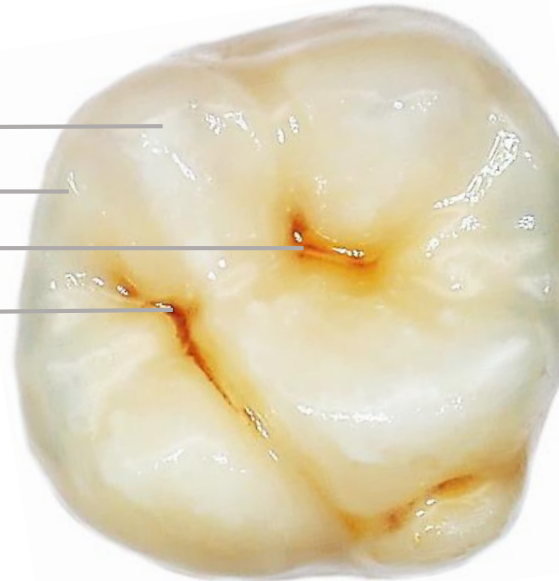
purple fluor.

white fluor.

orange 2 fluor.

dark brown fluor.

shade A fluor.



glaze

## Application example:

The application example shows a monolithic zirconium oxide crown in which **shades & stains LFU** was used for the colouring. Due to the intensified colour application, even strong discolourations and colour effects can be reproduced or adjusted perfectly (firing table see page 13).

# shades & stains LFU

«under UV light»



Monolithic zirconium oxide crown  
after stains/glaze firing



Monolithic zirconium oxide crown  
untreated

# shades LFU fluorescent



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



# stains LFU fluorescent



white fluor.



snow white fluor.



transpa 3 fluor.



vanilla fluor.



beige fluor.



yellow fluor.



yellow 2 fluor.



orange fluor.



orange middle fluor.



orange int. fluor.



orange 2 fluor.



champagne fluor.



safari fluor.



safari+ fluor.



olive fluor.



khaki fluor.



khaki int. fluor.



orange / khaki fluor.



copper fluor.



rose fluor.



purple fluor.



smoke fluor.



pigeon blue fluor.



blue fluor.



green fluor.



brown fluor.



dark brown fluor.



dark brown int. fluor.



black fluor.



grey fluor.

## Effect colours

**Area of application:** Effect colours for extensive characteristic colouring.

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

# stains LFU without fluorescence



rose



rose pink



blue rose



purple



red purple



red



red bright



coral



ec red



yellow 2



blue



pigeon blue



smoke



tobacco intensive



red brown intensive

# glaze LFU



glaze



glaze fluor.



glaze int. fluor.

## Effect colours

**Area of application:** Effect colours without fluorescence for an extensive characteristic colouring. Also ideally suited for use in the gingival area.

## glaze

**Area of application:** For the perfect gloss finish with glaze without fluorescence, or with fluorescence of different fluorescence strengths.

# stains LFU without fluorescence

## Recommendation for the gingival area

red bright    pigeon blue    red    smoke    rose pink    yellow 2    blue



blue rose    rose pink    pigeon blue    purple    yellow 2    blue



The **LFU stains** listed without fluorescence are ideal for an individual shade design in the gingiva area before applying gingiva ceramics and after the finished design.



rose



rose pink



blue rose



purple



red



red bright



coral



ec red



smoke



blue



pigeon blue



yellow 2



# shades & stains LFU

## 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.

Stains / glaze firing	Start temperature [ °C ]	Closing time [ min ]	Vacuum start [ °C ]	Heating rate [K/min ]	Final temperature [ °C ]	(Without vacuum) Holding time [ min ]
low / low press	400	4	---	45	710	1
HS10PC (lithium disilicate)	400	4	---	45	710	1
classic	400	4	---	45	710	1
classic 920	400	4	---	45	710	1
zirkon	400	4	---	45	710	1
zirkon HFZ	400	4	---	45	710	1
zirkon titan	400	4	---	45	710	1

**Note:** Depending on the degree of gloss, the final temperature can be increased by 10 - 20 °C during glaze firing!

**Please note:** For voluminous work, open the oven with an opening time of 2 minutes!



# shades & stains LFU

## Technical Data

shade & stain LFU comply to all applicable standards for dental porcelains (DIN EN ISO 6872 ). All limits are undercut and thresholds are outperformed.

Materials classification	
Material:	Silicate glass ceramics
Chemical 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, Li <sub>2</sub> O, CaO, SrO, B <sub>2</sub> O <sub>3</sub> , ZnO, F <sup>-</sup>

### 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 6872:2019

Property	Specification opaque			
Coefficient of thermal expansion (25 - 450 °C) [ $\cdot 10^{-6} \cdot K^{-1} \pm 0.5$ ]	2 x: 10.0 4 x: 10.0			
Transformation temperature Tg [°C $\pm$ 20]	2 x: 460 4 x: 460			
Bending strength [MPa]	$\geq 50$			
Solubility [µg/cm <sup>2</sup> ]	< 100			

# shades & stains LFU



## Regulatory Information

shades & stains LFU 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:

Ila

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

Ila

UMDNS Code:

16-187 Dental-ceramics

MDR Code acc. MDCG 2019-14:

MDT 2003, MDN 1103

Classification acc. DIN EN ISO 6872:

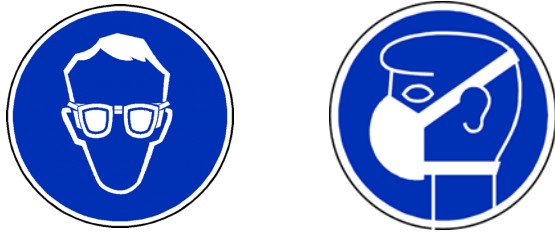
type 1, class 1

# shades & stains LFU

## 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

**esthetic ceram ag**  
Landstrasse 109  
9495 Triesen  
Principality of Liechtenstein

Tel: +423 237 48 58  
Fax: +423 237 48 59  
[info@estheticceram.com](mailto:info@estheticceram.com)  
[www.estheticceram.com](http://www.estheticceram.com)

**CE0483**