UPCERA AROUND THE WORLD

Shenzhen Upcera Dental Technology Co., Ltd.

5th Floor, Tsinghua IT Port R&B Bldg. B, Shenzhen,
Guangdong, China

+86 755-8882-0818

sales@upcera.com

www.upcera.com

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Please note that the technical guide cannot replace the product IFU. Please follow the product instructions for proper usage.

Artouch

Technical Guide

UPCERA

Artouch

Artouch offers ready-to-use color and shade, including stain paste, 3D structure paste, and glaze paste, specifically designed to preserve and enhance the light transmission and dynamics of the base framework materials, such as zirconia and lithium disilicate glass ceramic. By unlocking new levels of aesthetics, Artouch transforms full-contour restorations into lifelike works of art. Modern zirconia blanks provide horizontal color grading from cervical to incisal and sometimes additional translucency grading; they lack vertical structures and lifelike fluorescence. To address these deficiencies and to achieve high esthetic restorations, individualized characterization through coloration and layering becomes essential. Artouch is meticulously designed to overcome these challenges, enabling the creation of premium quality all-ceramic restorations. With its stains and shade pastes, any natural tooth color variation can be precisely replicated. The unique structure pastes allow technicians to mimic intricate details of the body, incisal, or gingiva proportions of the tooth, focusing on achieving natural translucency, opalescence, and fluorescence.

CONTENTS

01 Product Information

1.1 Composition and technical data

1.1.1 Chemical Composition

structure mayor glass ceramic constituents	SiO_2 Al_2O_3 K_2O Na_2O Li_2O SrO B_2O_3 CeO_2 ZnO
Shades & stains mayor glass ceramic constituents	SiO_2 Al_2O_3 K_2O Na_2O Li_2O CaO SrO B_2O_3 ZnO F
Mayor paste gel constituents	1,3-Butandiol, water

1.1.2 Technical Data

Artouch Shades & Stains and Artouch Structure comply to all applicable standards for dental porcelains (DIN EN ISO 6872, DIN EN 150 10993-5). All limits are undercut and thresholds are outperformed.

Artouch Structure

physical -chemical properties acc. to DIN EN ISO 6872/ DIN EN ISO 10993-5

Property	Specification	Measured data
Coefficient of thermal expansion (25-475°C)[10^{-6} K^{-1}±0.5]	2 X: 9.5 4 X: 9.5	2 X: 9.5 4 X: 9.6
Transformation temperature Tg [°C± 20]	2 X: 495 4 X: 495	2 X: 495 4 X: 496
Bending strength [MPa]	≥50	145-150
Solubility [µg/cm²]	<100	19-35
Radioactivity [Bq.g^{-1} U^{238}]	<1	Complies*
Cytotoxicity	No Cytotoxicity	Complies**

*) covered by report 170231-20-A,17-02-01,mds, D-Gilching

**) covered by analysis report 17-10238,17-01-20, FZ Jülich, D-jülich

Artouch shades & stains

physical -chemical properties acc. to DIN EN ISO 6872/ DIN EN ISO 10993-5

Property	Specification	Measured data
Coefficient of thermal expansion (25-475°C)[10^{-6} K^{-1}±0.5]	2 X: 10.0 4 X: 10.0	2 X: 9.8* 4 X: 9.5*
Transformation temperature Tg [°C± 20]	2 X: 460 4 X: 460	2 X: 455* 4 X: 455*
Bending strength [MPa]	≥50	>130*
Solubility [µg/cm²]	<100	Complies*
Cytotoxicity	No Cytotoxicity	Complies**
Radioactivity [Bq.g^{-1} U^{238}]	<1	Complies***

*) data for base material

**) coverd by report 170231-20-C,17-02-01,mds, D-Gilching

***) analysis report 17-10237,17-01-20, FZ Jülich, D-jülich

1.2 Intended use

Artouch paste is only intended for dental applications and for use by trained professionals.

Artouch paste is indicated only for the use with following substructure materials:

a. Monolithic or layered zirconia crowns and bridges with thermal expansion of 10.6 × 10^{-6} × K^{-1}(25-500℃)

b. Monolithic or layered lithium disilicate glass ceramic materials with a thermal expansion of approx.10.0 × 10^{-6} × K^{-1} (25-500℃).

1.3 Product specifications

1.3.1 Master Kit For Teeth

Artouch Master Kit For Teeth contains 22 pastes as well as 2 special liquids andn accessories. The set includes color-coordinated pastes which are specially developed for both fully anatomical all-ceramic restorations and restorations with minimum cut- back.

Structure Paste

DA2 SM SunnyBeach M Cream T Blue Opal I 2 Clear

Stain & Glaze Paste

Shade A Flu. Shade B Flu. Shade C Flu. Shade D Flu. White Flu. Vanilla Flu. Yellow Flu. Smoke Flu.

Blue Flu. Dark Brown Flu. Grey Flu. Pigeon Blue Flu. Intensive Red Glaze Paste Glaze Paste Flu.

1.3.2 Master Kit For Gum

Artouch Master Kit For Gum contains 15 pastes as well as 2 special liquids and accessories. The ready-to-use pastes were specially developed for the aesthetic finalization and characterization of the gingiva-colored parts of all ceramic restorations.

Structure Paste

G 1 Bright G 4 Dark G 6 Violet G 9 Orange G 16 BrownPink G 21 Neutral

Stain & Glaze Paste

Red Bright Glaze Paste Orange Intensive Flu.

1.3.3 Refill

1.3.3.1 Shades & Stains paste

Basic shade

Used for the characteristic colouring of the body area.

These pastes are coordinated with the A-D shades and are used to tint the shades of ceramic restorations. Similar to natural teeth, the materials feature a certain fluorescence.

Shade A Flu. Shade B Flu. Shade C Flu. Shade D Flu.

Incisal shade

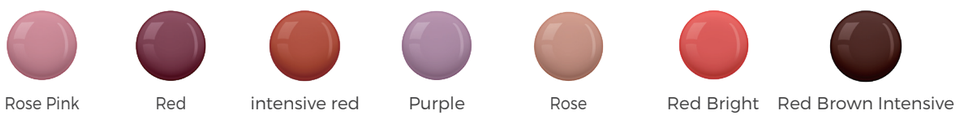
Used for the characteristic colouring of the incisal area.
They can be applied to completely or partially cover the crown surface, to determine the degree of translucency individually.

Effect shade

Used for extensive characteristic colouring.
Effect colors are particularly suitable for the individual characterization of the restoration. Enamel cracks, white spots, discoloured cervicals and fissures can be recreated in a lifelike fashion. The pastes may be used either pure or they can be mixed with each other in any combination. This results in an impressive shade diversity for the staining of restorations.

Gingiva shade

Used for the characteristic colouring of the gingiva area.
Artouch gingiva stain pastes are used for the individualized shade design of the gingiva components. The gingiva colors can be mixed with each other or tinted with any other stain and shade pastes.



1.3.3.2 Strucute paste

Dentin pastes

Used for the characteristic colouring of dentin area.
Artouch Structure dentin pastes are 3D pastes aligned with the shade and translucency of the natural dentin. They result in an accurate reproduction of the selected dentin shade.

Enamel pastes

Used for the characteristic colouring of enamel area.
Artouch Structure enamel pastes are 3D pastes aligned with the shade and translucency of the natural enamel. Transpa and Clear pastes are useful for recreating natural-looking translucent areas, particularly in the incisal area.

Neutral pastes

used for individual features and for brightening of tooth colours with graded opacity

Incisal pastes

Used for modelling on the natural incisal tooth structure.
They result in an accurate reproduction of the A-D shades if used in combination with dentin materials.

I 1 I 2 I 3 I 4

Opal paste

Provides the restoration with a beautiful opalescent effect and recreates a natural luminous enamel.

Opal Clear

Mamelon pastes

Used for the characteristic colouring of incisal third area.
Mamelon paste are intensively shaded Effect materials for creating accents in the incisal third area. They can be applied in thin lines on the reduced dentin.

SM Sunny Beach SM Maple SM Beech tree SM Teak M Cream Cuspid Fosse

Gingiva pastes

Used for the characteristic colouring of gingival area.
Structure gingival pastes are liquid ceramic pastes that are especially shaded. These 3D pastes can be individually combined with each other, depending on the colour you want. With structure gingiva, the natural appearance of the soft-tissue parts can be perfectly reconstructed through individual design in its shape and colour.

G 1 Bright G 2 Middle G 3 Dim G 4 Dark G 5 Dark Orange
G 6 Violet G 7 Light Orange G 8 Middle Orange G 9 Orange G 10 Rose
G 13 Dark Pink G 14 Brown G 16 Brown Pink G 17 Flamingo G 18 Rose Orange
G 19 Dark Pink Opaque G 20 Violet Brown G 21 Neutral G 22 Pink Light G 23 Intensive Red

1.3.3.3 Glaze

Artouch Glaze pastes can be used for the perfect gloss finish with glaze without fluorescence, or with fluorescence of different fluorescence strengths.

Glaze Glaze Flu. Glaze strong Flu.

1.3.3.4 Liquid

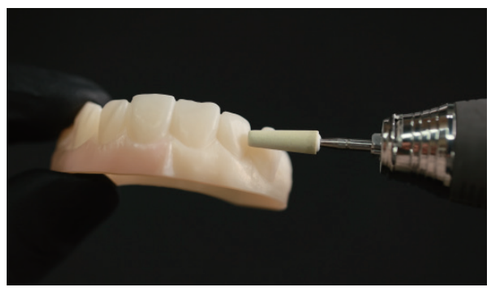
Artouch Glaze Liquid is a special for processing of stains and glaze. The more viscous consistency and slower evaporation of the liquid results in a somewhat higher viscosity of the mixed paste and thus prolongs the processing time. Artouch Structure Liquid is a special liquid to change the flowability of the Structure Pastes. However, it is recommended to obtain a paste like consistency of the Stucture Pastes for best results.

25ml/pc

02 Fabrication Process

2.1 Framework preparation

A. Zirconia Restorations (Sintered)



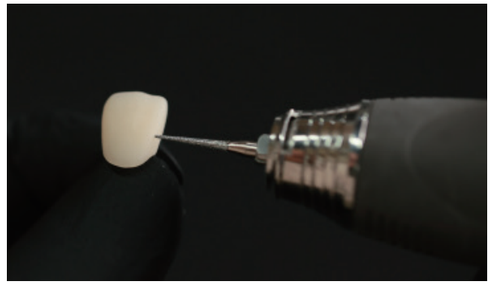
Adjust slightly the structure-supported with professional instruments

Adjust slightly the gum with professional instruments

– The sintered restoration should only be finished if it is absolutely necessary.
– If diamond grinding instruments are used for adjustments, the restoration must be cooled with water.
– The restoration is polished in the area of the incisal/occlusal contacts. This protects the antagonist from unwanted wear should the glaze have worn off.
– A steam jet or ultrasonic bath is suitable for cleaning the restoration.
– The cleaned restoration can now be stained, micro-layered and glazed.

B. Glass-Ceramics Restorations

Adjust the surface with professional grinding instruments



Adjust the micro texture with diamond grinding instruments

- The restoration is finished with diamond bonded grinding instruments.
- As an option, the restoration can be pre-polished with diamond-bonded polishers.
- The individual micro-texture of the restoration surfaces can be achieved with diamond grinding instruments.
– A steam jet and/or ultrasonic bath is suitable for cleaning the restoration.
– The cleaned restoration can now be stained, micro-layered and glazed.

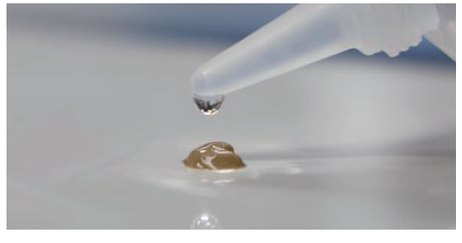
Tips and tricks

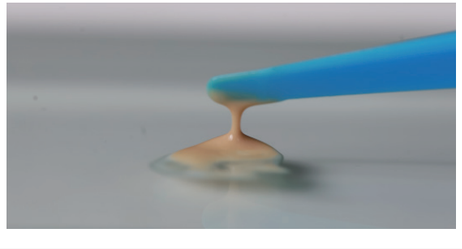
– Please observe the material's instructions for use to select the suitable grinding instruments.
– Finished surfaces must not demonstrate any sharp edges or ridges.
– Areas for which a higher degree of gloss is desired after Glaze firing are smoothed and pre-polished with silicone polishers.
– If gold or silver dust is used, the restoration must be thoroughly cleaned with the steam jet or in an ultrasonic bath.
– The restoration must be free of contaminations and grease residue before staining, micro-layering and glazing.

2.2 Staining technique

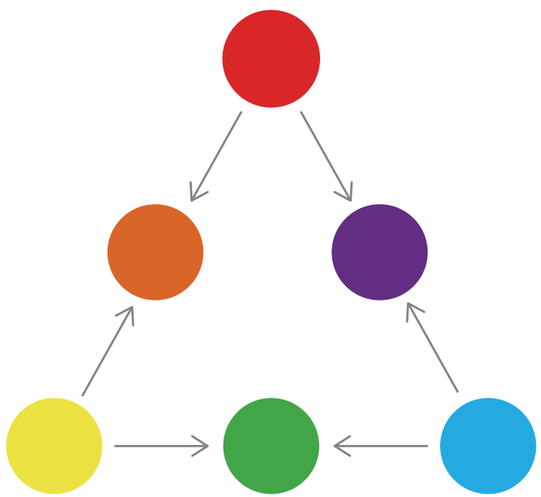
2.2.1 Mixing the materials

The stain and glaze pastes can either be used by themselves or they can be mixed with each other as desired to achieve the individual characterization of the restoration. Glaze liquid can be used to mix the pastes into a appropriate consistency.





If the paste inside the jar has separated, mix thoroughly with a glass, plastic or zirconia spatula. Withdraw desired amount of material from the jar and place it on the mixing palette. If a thinner consistency is desired, dilute the material with the Glaze Liquid with a appropriate ratio.
If the basic shades are mixed in a 1:1 ratio according to the colour triangle, the following additional shades can be achieved:
Blue and red = purple
Red and yellow = orange
Blue and yellow = green
Mixing in another mixing ratio leads to a resultant shade shift towards the respective basic shade.

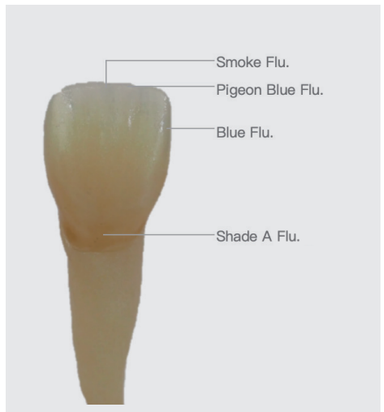


2.2.2 Staining with Shades & Stains Paste

Pure Mink Brush #1 is recommened.

2.2.2.1 For teeth

Slightly wetting the restoration surface with Glaze Liquid is recommended prior to applying the shades, as this will make application easier.
Apply Basic and Incisal Shade paste with a appropriate brush in a thin coating onto the resotoration to achieve the desired dentin and incisal effect.



Effect Shades are particularly suitable for the individual characterization of the restoration. Enamel, discoloured cervicals and fissures can be recreated in a life-like fashion.

2.2.2.2 For gingiva

– Mixing the shade using red colour tones. By mixing the stains, individualized shades can be achieved.
– The gingival shades can be used alone or modified with red (e.g. intensive red) and purple shades.

Rose Pink

To intensify the gingiva area, Rose Pink can be used.

Red Bright

The Paste Red Bright is suitable for mucous area.

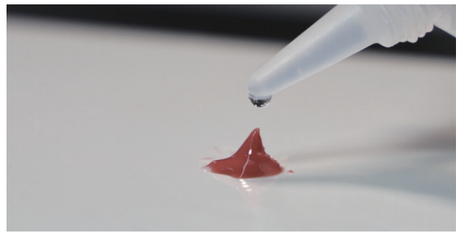
Dark Brown Flu.

The Paste Dark Brown Flu. is suitable for blood vessels.

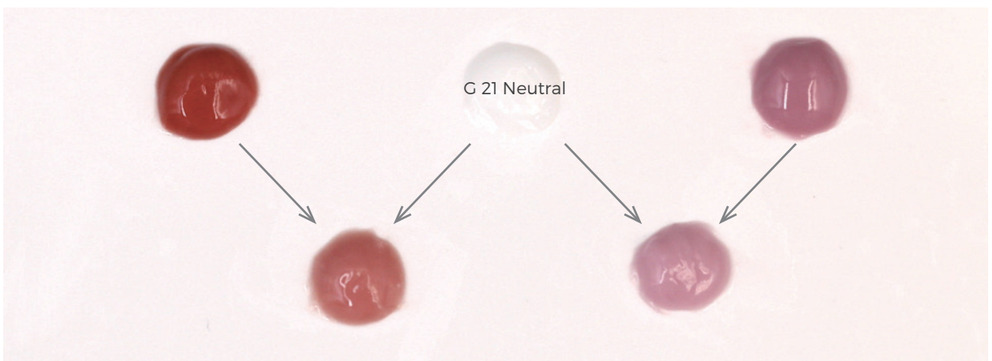
2.3 Micro-layering technique

2.3.1 Mixing the materials

-The Structure Paste can either be used by themselves or they can be mixed with each other as desired to achieve the individual characterization of the restoration. Structue liquid can be used to mix the pastes into a appropriate consistency.



To reduce opacity and intensity, mix G 21 Neutral with other Gingiva pastes

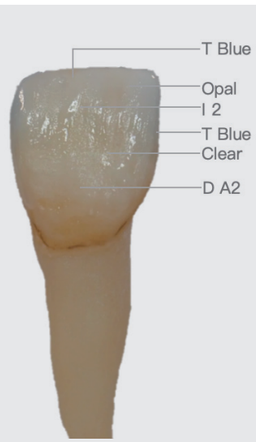


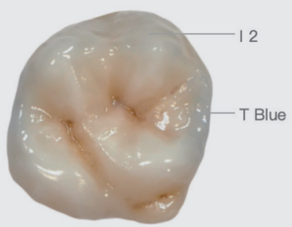
2.3.2 Micro-layering with Structure paste

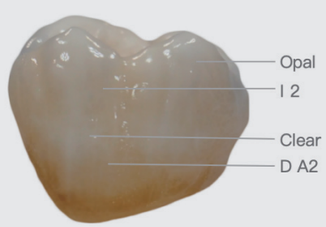
Pure Mink Brush #6 is recommened.

2.3.2.1 For teeth

-Apply Structure individually according to your coloring.
-Integrate nature-identical surface structure with a brush.
-The surface structure of the paste can be modeled (to keep the form, do not add too much liquid).







2.3.2.2 For gingiva

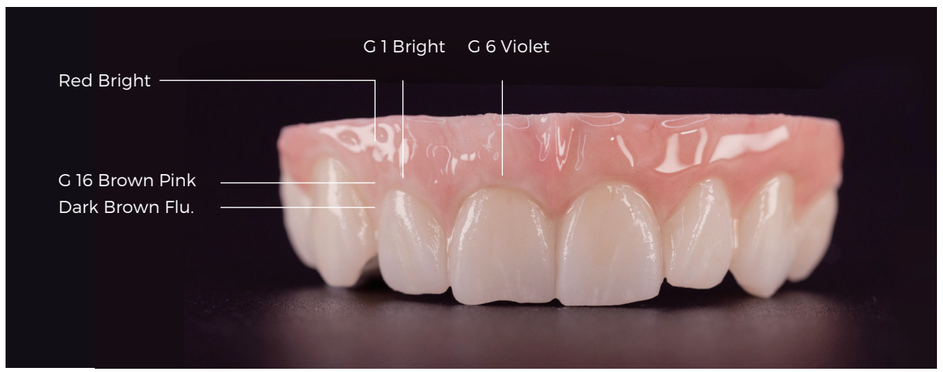
Paint with Gingival Color and then glaze or design the surface texture with Gingival Structure. So esthetic results can be achieved in a very short time with effortless. Design of papilla and alveolar areas as well as blood vessels with Gingival Structure. For example, apply G 4 dark, G 6 violet, or G 1 bright to the unfired Gingival Color.

G 6 Violet

The Paste G 6 Violet is suitable for extended restorations in the mucogingival fold

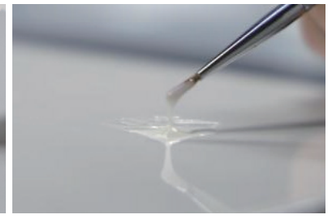
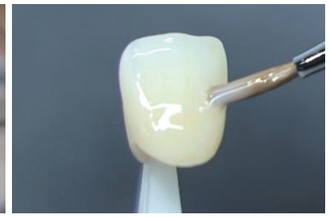
G 1 Bright

The Paste G 1 Bright is most suitable for free gingival



2.4 Glazing

Apply the glazing material in an even layer on the entire restoration. The correctly mixed glazing material remains on the restoration and does not run.
If the glazing material is applied correctly, the restoration demonstrates an even gloss after firing and features the surface texture.

In the staining technique on monolithic zirconia restorations, the application of a fluorescent glazing material (Glaze Flu.) is recommended.

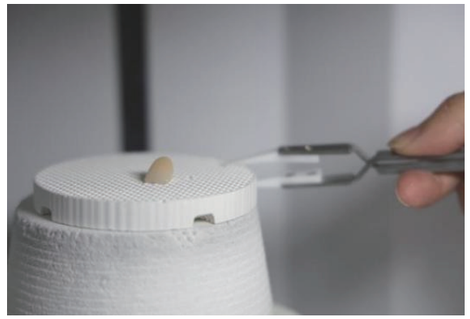
Bridge after glazing with Glaze Flu and Glaze(none Flu) under UV light.

Tips and tricks

– Open products must be immediately resealed after dispensing so that the material properties are maintained.
– Dried Stain and Glaze pastes can be rewetted with the Glaze Liquid. Dried Structure pastes can be rewetted with the Structure Liquid.
– Avoid mixing Stain and Glaze pastes with Structure pastes or Structure Liquid. Similarly, do not mix Structure pastes with Stain and Glaze pastes or Glaze Liquid.
– More intensive shades are achieved by the repeated application of stains and repeated firing, not by applying thicker layers.
- The consistency used affects the application behaviour and the firing result. Pooling and the application of stains in too thick layers must be avoided.
– In the staining technique on monolithic zirconia restorations, the application of a fluorescent glazing material is recommended.
– The degree of gloss of the glazed surface is controlled via the consistency of the glazing material and the applied quantity, not by means of the firing temperature.

2.5 Firing

After applying the stain/structure/glaze pastes, put the restoration on a appropriate firing tray and a firing cycle must be conducted in a proper dental firing furnace. Make sure to following the manufacturer's instructions.




Please use the suggested furnace cycle/program as shown below:

Stain

Start Temperature [°c]	Closing Time [Min]	Vacuum Start [°c]	Heating Rate [K/min]	Final Temperature [°c]	(Without Vacuum) Holding Time [Min]
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!

Structure

Firing parameters	monolithic zirconia	zirconia applied with layering ceranic
Start Temperature [°c]	400	400
Dry- On Time [Min]	3	3
Closing Time [Min]	4	4
Heating Rate [K/min]	45	45
Vacuum Start [°c]	670	670
(Vacuum End) Final Temperature [°c]	770	770
(Without Vacuum) Holding Time [Min]	1	1

Firing parameters	lithium disilicate monolithic	lithium disilicate applied with layering ceramic	layering ceramic
Start Temperature [°c]	400	400	400
Dry- On Time [Min]	3	3	3
Closing Time [Min]	4	4	4
Heating Rate [K/min]	45	45	45
Vacuum Start [°c]	670	670	670
(Vacuum End) Final Temperature [°c]	720	720	720
(Without Vacuum) Holding Time [Min]	2	2	2

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

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

Tips and tricks

– Conduct the Stain and Glaze firing with the stipulated firing parameters on a firing tray suitable for the respective ceramic firing furnace.

– The above mentioned firing parameters are only guidelines and therefore always need to be adjusted to the firing furnace and its correct functionality. Most important is to obtain the right firing result. These firing parameters can only be used as guidelines.

– Please also consider the firing parameters according to the recommendations of the substructure materials manufacturer.

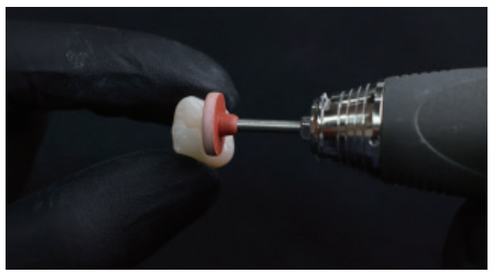
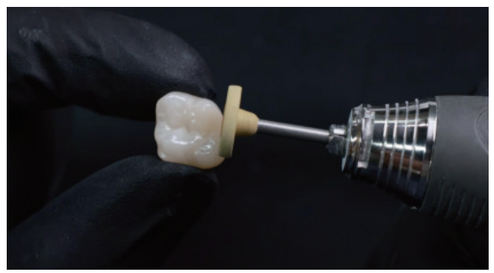
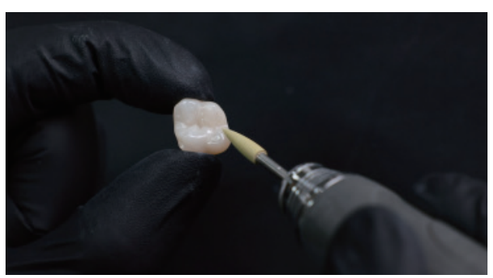
– Please notice that the firing results are influenced by various parameters such as model, performance and age of the firing unit used. Thus, temperature calibration for the furnace may be necessary.

– If several restorations (eg: multi-unit bridges with large pontics or several full- contour restorations) are fired in one firing cycle, heating of the objects to be fired may be delayed. This can be compensated by reducing the heating rate or extending the holding time once the final temperature is achieved.

The heating rate and cooling rate are determined by the unit number of restorations. The more restoration units there are, the lower both the heating and cooling rates will be. Otherwise, there is an increased risk of hidden cracks and fracture in the long span bridge.

2.6 Finishing (optional)

After the glaze firing, the gloss level of the crown can be adjusted by hand with the handpiece and FLNTShine Polishing Paste.


03 Safety Notice

Warnings

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.

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

Be careful of high firing 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!

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

Store in closed original containers -protect from sunlight. Do not refill powder mixed with liquid into the container.
Use clean and dry spoon, spatula or brush to take out paste from the containers.

04 Appendix

4.1 Related product

Grinding and Polishing Kits

Pure Mink Brush

Glaze Brush #0

Used for glazing and external staining.

Glaze Brush #1

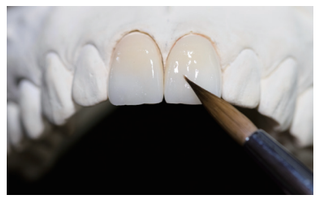
Used for glazing and external staining.

OP Brush #1

Used for applying OP (opaque) coating.

Porcelain Brush #6

Easy to stack transparent porcelain, effect porcelain, and incisal porcelain.



Porcelain Brush #8

Easy to stack body porcelain and cervical porcelain.

Upcera HiFi Fire

FLNTShine Polishing Paste

· Polishing

· Super Polishing

· Polishing Wheel

4.2 FAQ

Q: What can I do when the consistency of the paste is too dry?

A: Dried Stain and Glaze pastes can be rewetted with the Glaze Liquid.

Dried Structure pastes can be rewetted with the Structure Liquid.

Q: The colour doesn't fit with the V-Classic Shade guide?

A: Different material and material thicknesses cause different colour effects.

Therefore, it may be necessary in individual cases, to mix a Shade A with a Shade B

or even with E-Stain Olive. A visual check is always possible.

Q: Can Artouch stain & glaze paste be used to stain ceramics from other manufacturers?

A: Yes. Artouch materials can be used on monolithic or layered zirconia (Y-TZP) crowns and bridges with thermal expansion of 10.6 × 10^{-6} × K^{-1} (25-500° C), and monolithic or layered lithium disilicate glass ceramic materials with a thermal expansion of approx.10.0 × 10^{-6} × K^{-1}(25-500° C).

Q: Can Artouch Shades & Stains 2D pastes be mixed with Artouch Structure 3D pastes?

A: No. To ensure a best final firing result, the Shades & Stains 2D pastes can not be mixed with Structure 3D pastes