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Aidite®

Biomic™ Stain/Glaze

Product manual

Simulation or mimic,
the final purpose is initial natural

Simple Aesthetics for Monolithic Restoration

To replicate natural dentition with the highest esthetics Aidite introduces Biomic Stain/Glaze specially developed for CAD/CAM all-ceramic restorations. The product is designed to allow dental technicians to use a fast, simple method to finish their work, achieving a restoration that replicates natural teeth.
This new set of Biomic Stain/Glaze is designed to match the aesthetics of natural teeth with 2D paste colors. 3D paste effects are added as well. The color mixture of 2D and 3D paste can maximize the aesthetic effects.

“Biomic developed by Aidite completely allow me to finish the zirconia restorations without porcelain buildup, but through the simplest and fastest way. Achieving a restoration just like the natural teeth.
Whether Biomic is applied to zirconia or glass ceramic restorations, it can achieve an incredibly beautiful and natural effect”

By Chen-Ming Kang

Why choose Biomic Stain/Glaze?

All in one

A Stain/Glaze suitable for all types of ceramic restorations, like zirconia, glass ceramic, porcelain, etc., Universal coloration system for all restorations.

Simple to use

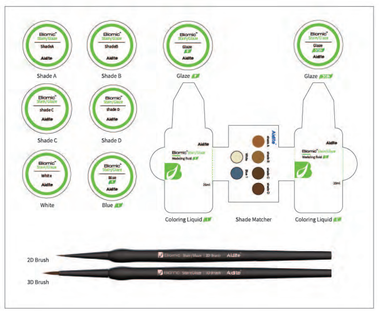
The coloration pastes of the Biomic Stain/Glaze are simple and user friendly. With the recommended schematics from Aidite, technicians can utilize the simple system to achieve ideal aesthetic results.

Bionic aesthetics

The composition of 2D paste color in Biomic Stain/Glaze completely mimics the colors of natural teeth, the 3D paste combination then creates the aesthetic effects. At the same time, 3D pastes can be used to adjust the tooth surface morphology, and slight contour distinctions.

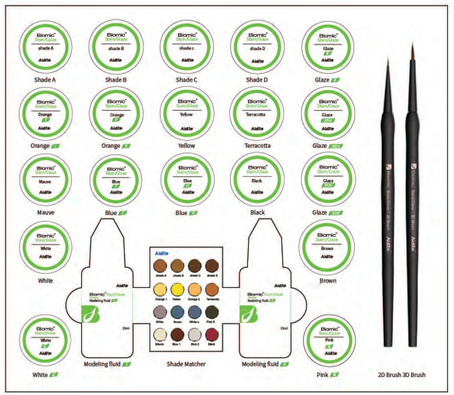
Biomic Stain / Glaze set list

To meet the needs of different artists and technicians, the Biomic Stain / Glaze series is available in two sets, namely the basic set and the aesthetic set. The basic set contains the most used paste colors to meet your basic needs for staining of all-ceramic restorations. The aesthetic set contains the complete range of paste colors. Using the aesthetic set allows technicians to achieve more ideal aesthetic that enhances natural effects.



BASIC

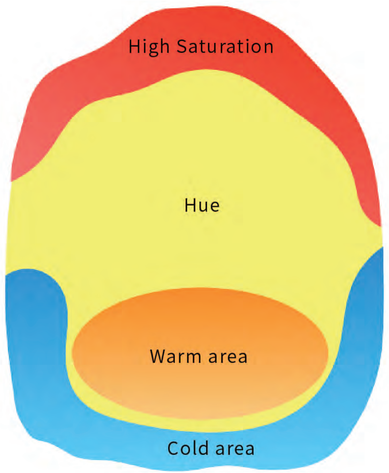
2D paste	Shade A, Shade B, Shade C, Shade D , Blue 1, White, Glaze-F	3D paste	3DN
Liquid	Coloring Liquid 1, Coloring Liquid 2	Accessory products	2D Brush, 3D Brush, 6 shade matcher



AESTIC

2D paste	Shade A, Shade B, Shade C, Shade D, Blue 1, Blue 2, White, White-c Brown, Terracotta, Black, Orange 1, Orange 2, Mauve, Yellow, Pink-R , Glaze-F	3Dpaste	3DN , 3DV
Liquid	Coloring Liquid 1, Coloring Liquid 2	Accessory products	2D Brush, 3D Brush, 16 shade matcher

Color concept



High Saturation

Orange 1 Orange 2 Terracotta

Hue

Shade A Shade B Shade C Shade D

Warm area:

Orange 1 Yellow Orange 2

Cold area:

Mauve Blue 1 Blue 2 Black

Surface color enhancements

Crack line, calcifications, white spots, white band, proximal stain, gum illusion, halo effect.

White Brown White-c Pink-R Terracotta

Mix with the main colors to produce life like results.

Shade A Shade B Shade C Shade D

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One-step staining flow chart

SIMPLE MANIPULATION OF ALL CERAMIC AESTHETICS

1

- Pretreatment

zirconia
After the surface treatment, be sure to clean the surface of zirconia with steam before starting the staining operation.
Glass ceramic
After surface treatment, sandblast with alumina (50μm / 1-2Bar), and then clean the surface of the glass ceramic crown with steam.

2

- Apply Glaze-F paste

The crown must be completely covered by a thin layer of Glaze-F paste.

3

- Apply 2D and 3D paste

Can use the 2D and 3D stain brush in the set. For detailed operation steps, see the next page.

4

- First sintering

See curve chart for the sintering curve.

5

- Finished

If no adjustment is needed, the staining work is completed.

6

- Adjust color and shape (depending on demand)

You can use 2D paste, 3D paste, and Glaze-F paste to adjust the color and shape of the restoration.

7

- Second sintering

You can use 2D paste, 3D paste, and Glaze-F paste to adjust the color and shape of the restoration.

8

- Finished

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One-step standardized staining procedure

After cleaning the surface ofzirconia restoration with steam.

Apply a layer of Glaze-F paste on the surface, including the side of the jaw.

The shade A is used at the 1/3 of the buccal neck of the restoration, and the brushing range includes the lower part of the adjacent surface.

Use Blue 1 at the incisal end to createa sense of transparency.

The shade A is used on the side of the jaw, also the marginal ridge is colored. Use Blue 1 at the incisal end to create a sense of transparency.

Complete the sintering according to the recommended sintering curve,there storation after sintering presents a beautiful natural feeling.

Side view after sintering without affecting the surface texture.

Side view of jaw after sintering.

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One-step personalized staining procedure

After cleaning the surface of the zirconia restoration with steam.

Side view of zirconia restoration.

Apply a layer of Glaze-F paste on the surface, including the side of the jaw.

Use shade A on the 1/3 of the buccal neck of the restoration, and use terracotta on the neck margin and the lower part of the adjacent surface.

Use orange 2 on the upper 1/3 of the incisal edge to build mamelon finger structure.

Use blue 1 on both sides of the top 1/3 of the incisal edge to create transparency, use blue 2 in the middle area, and use black to enhance transparency in the middle area.

Use orange 1 at the incisal edge to create the halo effect, and use brown at the neck edge to create a sense of hierarchy.

Use shade A on the side of the jaw, use white on the edge ridge, blue 1 on the incisal edge to create a sense of transparency, and then use the brown to create personalized features.

Complete the sintering according to the recommended sintering curve, theresto-ration after sintering presents a beautiful natural feeling.

Side view of jaw after sintering

The restoration will not lose the texture characteristics of the surface due to the personalized staining of the surface with Biomic Stain/Glaze.

*The material in the figure is 3D Pro zir

Multi-step staining flow chart

SIMPLE MANIPULATION OF ALL CERAMIC AESTHETICS

1

- Pretreatment

zirconia
After the surface treatment, be sure to clean the surface of zirconia with steam before starting the staining operation.
Glass ceramic
After surface treatment, sandblast with alumina (50μm / 1-2Bar), and then clean the surface of the glass ceramic crown with steam.

2

- Apply 2D and 3D paste

Do the main color staining and high chroma area staining, strengthen the warm color area, Can use the 2D and 3D stain brush in the set. For detailed operation steps, see the next page.

3

- First sintering

See curve chart for the sintering curve

4

- Apply 2D and 3D paste

Staining in cool areas, enhanced transparency, personalization features staining. Can use the 2D and 3D stain brush in the set. For detailed operation steps, see the next page.

5

- Second sintering

See curve chart for the sintering curve.

6

- Adjust color and shape (depending on demand)

You can use 2D paste, 3D paste, and Glaze-F paste to adjust the color and shape of the restoration.

7

- Third sintering

See curve chart for the sintering curve.。

8

- Finished

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Multi-step standardization of staining operations

After cleaning the surface of the zirconia restoration with steam

Apply a thin layer of coloring liquid 1 to the surface of the restoration

Use shade A on the 1/3 of the buccal neck of the restoration

Use terracotta on the neck margin and the lower part of the adjacent surface

Use orange 2 on the upper 1/3 of the incisal edge to build mamelon finger structure, use orange 1 to do the halo effect

Use shade A on the side of the jaw, and use terracotta to create a sense of hierarchy

Complete the first sintering according to the recommended sintering curve

Apply a thin layer of glaze liquid to the surface of the restoration

Use blue 1 on both sides of the top 1/3 of the incisal edge to createtransparency, use blue 2 in the middle area, and use black to enhance transparency in the middle area

Use brown at the neck edge to create a sense of hierarchy

Use blue 1 to create a sense of transparency at the incisal edge of the side of the jaw, and then use brown as the personalized feature

Complete the second sintering according to the recommended sintering curve

Apply a layer of Glaze-F or 3D Natural on the surface

The edge ridge and white spot feature effects can be enhanced with white

Complete the third sintering according to the recommended sintering curve. After using multi-step operation, the anterior crown after sintering shows an aesthetic effect comparable to porcelain

The multi-step staining process jaw side view

*The material in the figure is 3D Pro zir

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Biomic® Color display

Certification

Medical Device Registration of the People's Republic of China, CE Certification 0197, FDA Certification

Indications

Staining, characterization, glazing of ceramic materials, Zirconia full-crown restorations, Glass ceramic full-crown restorations

PORCELAIN CROWN

GLASS CERAMIC
FULL-CROWN RESTORATIONS

ZIRCONIA
FULL-CROWN RESTORATIONS

Physical data

	Test standard	Measurements	Values
Coefficient of thermal expansion	ISO 6872：2015	CTE（25°/-Tg）[$10^{-6}K^{-1}$]	2Dpaste=8.6 3Dpaste=9.1 Glaze-F=8.9
Flexural strength (3 point flex test)	ISO 6872：2015	＞50 Mpa [$10^{-6}K^{-1}$]	＞115 MPa
Chemical solubility	ISO 6872：2015	＜100 μ g/cm²	≈30 μ g/cm²
Transformation temperature	ISO 6872：2015	——	≈480℃-490℃

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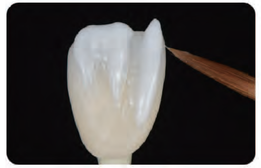
Biomic Stain/Glaze 2D&3D

2D Color Paste

- The viscosity of the paste is moderate, and it can be evenly applied to the surface of any ceramic restoration. It will not collapse and flow, making the paste system easy to use.
- All pastes have ideal high light transmittance and fluorescence. The restoration will exhibit life-like effects with great light transmission, with natural fluorescence.
- Paste mixed with ceramic powder, creates a higher strength after sintering. This can effectively improve the anti-wear performance of the product in clinical use.

3D paste

- 3D Natural paste can be used in combination with 2D color paste. The micro crystal particles infused in the medium creates best esthetics.
- 3D paste has a high degree of plasticity, you can use the micro-stacking method to adjust the tooth shape or adjust the contact points.
- 3D Value paste has the function of improving the brightness, it can be used directly on the surface of the restoration or mixed with a small amount of 2D color paste.



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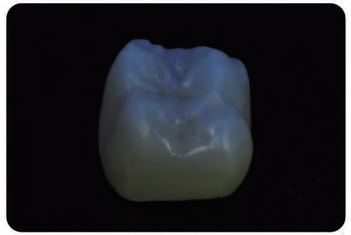
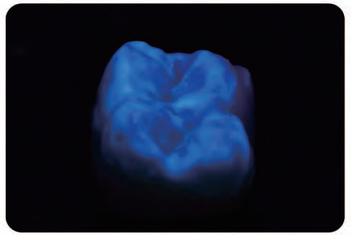
Biomic Stain / Glaze fluorescence effect

Dental zirconia does not have the fluorescence properties of natural teeth. Using Biomic coloration, fluorescence effects are added to the restorations that are like natural teeth. Biomic Stain / Glaze full set of paste products all contain fluorescent effect. Black light pictures show vivid fluorescence in the restoration below.



Effect of zirconia crown before applying Glaze-F under fluorescent lamp



Effect of zirconia crown after applying Glaze-F under fluorescent lamp

Biomic Stain/Glaze Coloring Liquid

Coloring Liquid 1

- Coloring Liquid 1 is used for all 2D staining pastes and serves as a diluent. If a thin layer of paste needs to be applied, it can be used to reduce the viscosity of the paste.
- When the Glaze-F paste is too thick, you can use the coloring liquid 1 to reduce the viscosity of the paste. The Glaze-F paste with the coloring Liquid 1 added can be thinner and have a glazing effect.
- Before using the coloring liquid 1, stir the paste thoroughly with a glass rod to achieve good consistency before adding and adjusting. Too much use of the coloring liquid 1 may affect the operation.
- Do not add the coloring liquid 1 directly into the paste bottle and stir it. It is recommended to mix it with the paste on the palette. Be sure that the paste has been mixed thoroughly to the correct consistency.

Coloring Liquid 2

- Coloring liquid 2 is used for all 3D pastes. If the 3D paste has dried, it can be adjusted with coloring liquid 2.
- Coloring liquid 2 is used to adjust the viscosity of the 3D paste without affecting the characteristics of the 3D paste itself.
- If 3D paste is mixed with other liquids, it will have adverse effects on the entire procedure.
- Coloring liquid 2 contains liquid glass components. After use, cover the bottle to avoid liquid solidification or precipitation.

Processing Tips

- Low-temperature powder can be mixed into Glaze-F to form a special paste. If it is too thick, it can be mixed with coloring liquid 1.
- If you want to make a special color 3D paste, just mix the powder with 3D Natural, and add the coloring liquid 2 to adjust the consistency as needed for easy operation.
- All the surfaces of all-ceramic crowns can be adjusted with 3D paste.
- The 3D pastes contain porcelain powder, which will increase the thickness after sintering, and can be used to increase the occlusal contact area, abutment surface and incisal length.
- When micro-cutting the full crown, 3D paste can be directly used after dyeing to achieve the same effect as porcelain.
- To reduce the surface brightness of the restoration after sintering, the sintering temperature can be reduced to 715 ℃.
- To improve the surface brightness of the restoration after sintering, the sintering temperature can be increased to 750 ℃.
- You can increase or decrease the surface brightness of the restoration by manual polishing after glazing.

Sintering Chart

	Temperature at start (℃)	Drying time (min)	Heat rate (℃/min)	Vacuum start (℃)	Vacuum end (℃)	Sintering temperature (℃)	Holding time (min)	Slow cooling (min)
First sintering (2D paste/3D paste/Glaze-F)	450	8	55	450	730	730	1	-
Second sintering (2D paste/3D paste/Glaze-F)	450	8	55	450	720	720	1	-
Fast sintering (Only using Glaze-F)	450	2	99	450	720	720	0.5	-
Zirconia Long Bridge Sintering (4-7 units)	450	8	40	450	730	730	1	5
Zirconia Long Bridge Sintering (8 units or more)	450	10	30	450	730	730	1	10

Please note when sintering the long bridge restoration:

1. Reduce the heating rate appropriately to improve the sintering quality.
2. Extending the holding time can compensate for poor heat conduction of zirconia.
3. Extend the cooling time to avoid stress cracks caused by rapid cooling of zirconia.

Biomic Stain/Glaze Product List

Product name	Product specifications	Product code
2D paste		
Shade A	4g	ACStain-A
Shade B	4g	ACStain-B
Shade C	4g	ACStain-C
Shade D	4g	ACStain-D
Blue 1	4g	ACStain1-Blue
Blue 2	4g	ACStain2-Blue
White	4g	ACStain-White
White-c	4g	ACStainC-White
Brown	4g	ACStain-Brown
Terracotta	4g	ACStain-Terracotta
Black	4g	ACStain-Black
Orange 1	4g	ACStain1-Orange
Orange 2	4g	ACStain2-Orange
Mauve	4g	ACStain-Mauve
Yellow	4g	ACStain-Yellow
Pink-R	4g	ACStainR-Pink

Product name	Product specifications	Product code
3D paste		
Glaze-3DV	4g	AC3DV-Glaze
Glaze-3DN	4g	AC3DN-Glaze
Glaze		
Glaze-F	4g	ACF-Glaze
Coloring Liquid		
Coloring Liquid 1	25ml	ACMF1-25
Coloring Liquid 2	25ml	ACMF2-25
Brush		
2D Brush	1branch	Biomicbrush-2D
3D Brush	1branch	Biomicbrush-3D
Shade matcher		
6 Shade matcher	1slice	ACO104
16 Shade matcher	1slice	ACO105

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