

Esthetic Porcelain
VINTAGE

THE UNIVERSAL PORCELAIN SYSTEM
RELIABLE • CONSISTENT • BRILLIANT



INSTRUCTIONS FOR USE





The **VINTAGE** Porcelain System combines proven porcelain technology with an efficient working method for manufacturing metal-ceramic and metal-free restorations.

The ceramic materials are easy to handle and perfectly suited to non-precious metal and universal PFM-alloys.

Using matched up opaque, opaque dentin and body powders in combination with the opalescent incisal powders, true-to-life colors can be reproduced according to the VITA* Classical Color system right from the basic layers.

Please read the working instructions in this manual before using **VINTAGE**. This is the only way you can guarantee that the porcelain powders will be used properly. Then please keep this guide in a place where you can find it easily, so that you can check things again if necessary.

*VITA is a registered trademark of VITA Zahnfabrik, Bad Säckingen, Germany.

COMPANY PHILOSOPHY

Your patients' health is important to us.

This is why we work exclusively with selected raw materials and manufacture our products with the utmost care and according to strict guidelines. All materials and components are certified according to the ISO standards 9001/2 and bear the CE symbol. They are subject to constant quality controls for your safety. SHOFU offers you a comprehensive selection of innovative and high-quality dental products – for the health of your patients.

We are committed to keep high quality standards and to do everything necessary to meet this goal within the company. At the same time, our company philosophy is:

“Research is our best Product”.

Our company slogan:

“SHOFU Quality with every turn!”

means permanent conformity and improvement of our customer related activities.

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1. NOTES

1.1 General Notes

- Use of eye-protective glasses is recommended for contouring work.
- Use of dust extractor or mask is recommended for contouring work.
- This product must only be used for the intended purposes.
- Dental professionals must only use this product.

1.2 Important Notes

- If allergic reactions occur such as eruption or skin inflammation while using this product, discontinue use immediately and seek medical advice.
- Please note that the firing procedures involve high temperatures; there is a risk of burns. You should therefore only use appropriate tools, to protect yourself against potential burns.

2. SYSTEM COMPONENTS

2.1 System and Shades

SYSTEM	SHADES
Paint-On Opaque (21 shades) 15g & 50g	PA10, PA20, PA30, PA3.50, PA40, PB10, PB20, PB30, PB40, PC10, PC20, PC30, PC40, PD20, PD30, PD40, POM-1, POM-2, POM-3, POM-4, POM-5
Opaque Dentin (16 shades) 15g & 50g	OD-A1, OD-A2, OD-A3, OD-A3.5, OD-A4, OD-B1, OD-B2, OD-B3, OD-B4, OD-C1, OD-C2, OD-C3, OD-C4, OD-D2, OD-D3, OD-D4
Margin Porcelain No longer available!	Please use the margin powders of the VINTAGE Halo system.
Body (16 shades) 15g & 50g & 200g	A1B, A2B, A3B, A3.5B, A4B, B1B, B2B, B3B, B4B, C1B, C2B, C3B, C4B, D2B, D3B, D4B
Incisal Standard (4 shades) 15g & 50g & 200g	57, 58, 59, 60
Opal Incisal (4 shades) 15g & 50g	Opal 57, Opal 58, Opal 59, Opal 60
Incisal Effect (2 shades) 15g & 50g & 200g	T, T-Glass
Opal Effect (6 shades) 15g & 50g	Opal T, Opal SL, Opal OC, Opal WE, Opal MI, Opal AM
Color Effect (9 shades) 15g & 50g	EF1, EF2, Yellow, White, Orange, Brown, Light Pink, Blue, Grey
Value Plus (14 shades) 15g & 50g	VA1, VA2, VA3, VA3.5, VA4, VB1, VB2, VB3, VB4, VC2, VC4, VD3, VDL, VOP
Cervical (4 shades) 15g & 50g	AC, BC, CC, DC
Gum (2 shades) 15g & 50g	Pink, Dark Pink
Correction (2 shades) 15g	ADD-ON T, ADD-ON B
Stains (9 shades) 3g	Pink, Yellow, Blue, Dark Red Brown, Light Brown, Orange, Black, White, Grey
Glaze (1 shade) 5g	Glaze powder

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2.2 Components

- **Paint-On Opaque** (21 shades)
Powder opaque covers well even when thin layers are applied. Available in the 16 basic shades. There are also 5 modifiers available for creating the characteristics. These can be used directly or mixed with the opaque powders.
 - **POM-1** Grey shade
For individualisation of incisal areas or for achieving depth where limited space exists
 - **POM-2** Pink shade
For reproduction of gingival parts
 - **POM-3** Light brown shade
For supporting the opaque powders in cervical / occlusal areas
 - **POM-4** Brown shade
For reproduction of strikingly aging colors
 - **POM-5** Yellow shade
As well as the option of using POM-5 for getting the exact shade character, it can be used as the wash firing on non-precious alloys to give a warmer basic shade for subsequent opaque layers.
- **Opaque Dentin** (16 shades)
Opaque dentines have the same shading effect as the body powders, but provide a higher opacity. They are used when only limited space is available for the ceramic layers in cervical, lingual or gingival areas.

- **Margin Porcelain** (no longer available)
Please use the Margin Porcelain powders of the VINTAGE Halo porcelain system for the reproduction of the margins. These are available in the 16 basic shades.

- **Body** (16 shades)
Build up porcelain for the reproduction of dentine shades
- **Incisal Standard** (4 shades)
For the reproduction of enamel areas with a greyish effect or for restorations that have a palatal metal part up to the incisal edge
- **Opal Incisal** (4 shades)
These incisal powders ensure light is transmitted in the same way as with natural dental enamel (opalescence).
Applied in two layers on top of the body porcelain, these powders allow to simply create natural enamel shades.

2. SYSTEM COMPONENTS

- 6**
- **Incisal Effect** (2 shades)
Translucent effect powders without opalescence
 - **T** Porcelain with standard translucency
 - **T-Glass** Highly transparent, glass clear porcelain powder

 - **Opal Effect** (6 shades)
These incisal effect powders ensure natural transmission of light in the incisal area.
 - **OPAL T**
Porcelain with standard opalescent translucency
 - **OPAL SL** (Superlucent)
Light bluish translucent porcelain with high opalescence
 - **OPAL OC** (Occlusal)
Slightly cloudy porcelain for use in the occlusal region
 - **OPAL WE** (White Enamel)
Slightly whitish cloudy porcelain for edges or approximal regions
 - **OPAL MI** (Milky)
Milky effect porcelain for reproduction of molar cusps or white-shaded areas
 - **OPAL AM** (Amber)
Yellow-orange colored translucent porcelain for producing enamel effects

 - **Color Effect** (9 shades)
These effect powders can be used directly or mixed with body / incisal porcelain powders.
 - **EF1** (Light caramel)
For supporting the mamelon structure
 - **EF2** (Caramel)
For supporting the mamelon structure
 - **Yellow**
For supporting yellowish shades, particularly of the B group
 - **White**
For reproduction of demineralised areas or occlusal effects
 - **Orange**
For adjusting to the age-related changes in the natural teeth
 - **Brown**
For adjusting to the age-related changes in the natural teeth, where the orange effect powders are not intense enough
 - **Light Pink**
To provide a somewhat warmer basic tone for the body powders or to support the mamelon structure

- **Blue**
For reproducing bluish effects in the enamel area
- **Grey**
For reproducing greyish effects in the enamel area
- **Value Plus** (1 Powder Opaque and 13 body shades)
Mixing these with opaque or body powders for controlled raising of the brightness
- **Cervical** (4 shades)
For the reproduction of characteristic cervical tones
Mixing these with the body powders gives particularly intense tones, such as those for A4 or B4.
- **Gum** (2 shades)
These pink-shaded porcelains are used to reproduce the gingiva. Because they have a low firing temperature, they can be fired after the standard powders have been fired.
 - **Pink** Light pink-shaded gingiva porcelain
 - **Dark Pink** Dark pink-shaded gingiva porcelain
- **Correction** (2 shades)
Can be used in small quantities for correction after contouring or after glazing
 - **ADD-ON B** Correction porcelain for body, shade A3B
 - **ADD-ON T** Translucent correction porcelain for enamel regions
- **Stain colors** (9 shades)
Stain colors for internal / external application or mixing in the porcelain powders support natural appearance of the ceramic restorations
 - **41** Pink
 - **42** Yellow
 - **43** Blue
 - **44** Dark Red-Brown
 - **45** Light Brown
 - **46** Orange
 - **47** Black
 - **48** White
 - **49** Grey

2. SYSTEM COMPONENTS

- **Glaze** (1 shade)
Produces a homogenous and glossy surface
- **VINTAGE OPAQUE LIQUID** (50ml & 500ml)
For mixing up the powder opaque
- **VINTAGE PAINT OPAQUE LIQUID** (50ml & 350ml)
Gives paste-like properties for working the powder opaques
- **VINTAGE ANTI-GREENING OPAQUE LIQUID** (50ml)
For mixing the powder opaques when firing VINTAGE porcelain onto alloys containing max. 20% silver
- **VINTAGE MODELLING LIQUID** (50ml & 500ml)
Liquid for mixing the VINTAGE porcelains (except Paint-On Opaque). Prevents fast drying out of the mixed materials and improves the working characteristics when building up the layers
- **VINTAGE ANTI-GREENING BODY MODELLING LIQUID** (50ml)
Liquid for mixing the VINTAGE porcelain (except Paint-On Opaque) when using VINTAGE porcelain onto alloys containing max. 20% silver. Prevents fast drying out of the mixed materials and improves the working characteristics when building up the layers
- **VINTAGE MARGIN PORCELAIN ISOLATION LIQUID** (7ml) - Pen
Isolation liquid for the margin porcelain powders
Application onto the plaster model makes it easy to separate the layered porcelain.
- **VINTAGE ISOLATION LIQUID** (10ml) - Bottle
Isolation liquid for porcelain powders
Application onto the plaster model makes it easy to separate the layered porcelain.
- **VINTAGE STAIN LIQUID** (10ml)
Liquid for mixing the VINTAGE stain colors and the glaze powder

3. PREPARATIONS BEFORE USE

3.1 Design of the framework

Wax modelling of the metal framework should be done at an anatomically reduced scale. The aim is to obtain an even and targeted shrinkage of the porcelain, thereby guaranteeing a tension-free bond between the metal and the porcelain.

To achieve sufficient stability of the framework, it is recommended that the wall thickness should be approx 0.3 mm for single crowns and 0.4 mm for bridgeworks.

Frameworks for items covering greater gaps must be supported stably in the interdental region; sharp edges must absolutely be avoided.

3.2 Surface treatment of the framework

Grinding of the framework should be done using sharp cross-linked carbide burs.

Make sure that the framework is only processed in a single direction, so that material overlaps are avoided.

After processing the framework using a cross-linked carbide bur, the final grinding must be done using ceramic bonded stones such as SHOFU Lab Series stones.

Note:

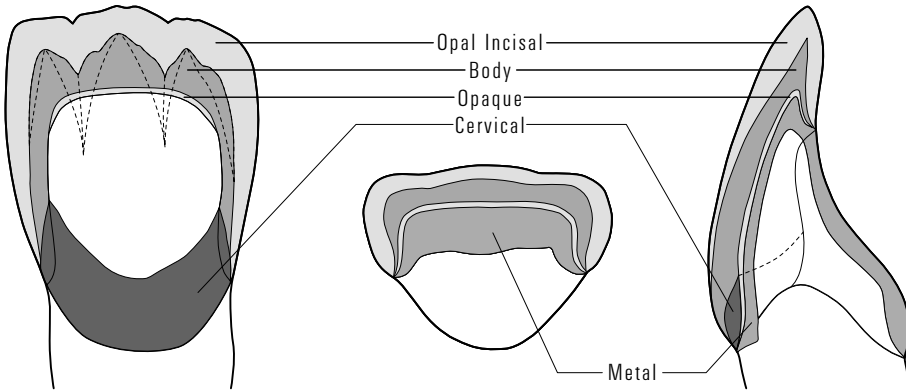
Material overlaps can cause blistering during the firing process. Please do not use silicon bonded stones to treat the metal surfaces, since this causes blistering.

3.3 Sandblasting of the framework

After having grinded the framework, it must be sand blasted by using aluminium oxide (110 µm) at 2-3 bar. The framework should then be cleaned thoroughly with steam cleaner or boiling distilled water, and degreased with alcohol. Refer to the alloy manufacturer's information for details of the oxidation of the framework.

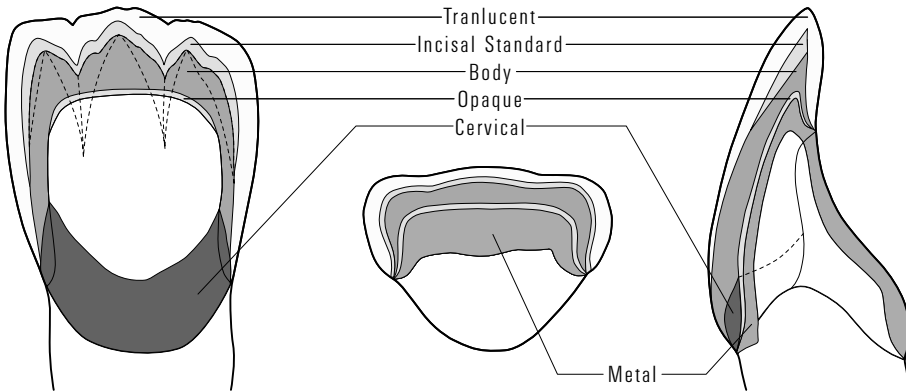
4. APPLICATION

4.1 Layering diagram using OPAL Incisal (2-layer technique)



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4.2 Layering diagram using Incisal Standard (3-layer technique)



4.3 Shade Chart

Shade	A1	A2	A3	A3.5	A4	B1	B2	B3	B4
Opaque	PA10	PA20	PA30	PA3.50	PA40	PB10	PB20	PB30	PB40
Margin*	A1M	A2M	A3M	A3.5M	A4M	B1M	B2M	B3M	B4M
Cervical		A2B:1 AC:1	A3B:1 AC:1	A3.5B:1 AC:1	AC		B2B:1 BC:1	B2B:1 BC:1	BC
Opaque Dentin	OD-A1	OD-A2	OD-A3	OD-A3.5	OD-A4	OD-B1	OD-B2	OD-B3	OD-B4
Body	A1B	A2B	A3B	A3.5B	A4B	B1B	B2B	B3B	B4B
Incisal Standard	58	58	59	59	60	57	58	59	59
Opal Incisal	57:1 58:1	58	59	59:1 60:1	60	57	58	59	59:1 60:1

Shade	C1	C2	C3	C4	D2	D3	D4
Opaque	PC10	PC20	PC30	PC40	PD20	PD30	PD40
Margin*	C1M	C2M	C3M	C4M	D2M	D3M	D4M
Cervical		C2B:1 CC:1	C3B:1 CC:1	CC	DC	DC	D4B:1 DC:1
Opaque Dentin	OD-C1	OD-C2	OD-C3	OD-C4	OD-D2	OD-D3	OD-D4
Body	C1B	C2B	C3B	C4B	D2B	D3B	D4B
Incisal Standard	58	59	59	60	59	60	59
Opal Incisal	58	59	59:1 60:1	60	58:1 59:1	59:1 60:1	59

* Please use the Margin Porcelain powders of the VINTAGE Halo porcelain system.

4. APPLICATION

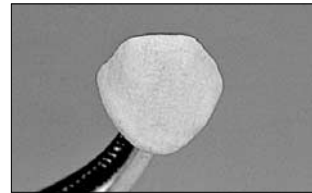
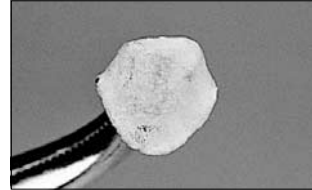
4.4 Opaque application

Mix the Powder Opaque with OPAQUE LIQUID to achieve the desired consistency.

The first application of the Opaque corresponds to a traditional wash firing and covers the entire framework with thin layer.

This gives optimum coverage of the metal by the second application of the Opaque.

Gentle condensing of the individual layers e.g. with the Ceramosonic condenser will improve the adhesion to the metal.



Note:

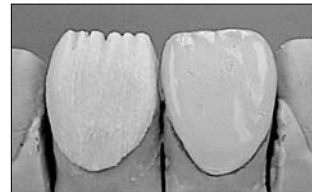
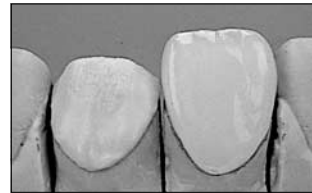
When mixing the Powder Opaque for firing on alloys containing max. 20% silver, VINTAGE ANTI-GREENING OPAQUE LIQUID must be used.

4.5 Body and Incisal layers

To smooth out the shades in the cervical region, Opaque Dentin or Cervical powders should be used, depending on the desired effect.

The proven method is first to build up the final anatomical shape of the tooth with body powder, and then, after condensation using Ceramosonic condenser, to obtain the exact dimensions of the body by targeted cutting back.

Use opalescent incisal porcelain powder to complete the anatomical shape of the tooth. Consider the shrinkage of the porcelain during firing and compensate by over-dimensioning the layer.



Palatal cut-back of the build up

The translucency of the incisal area is mainly influenced by the tapered shape of the body build up.



With thin layers the central area of the coping should be covered with Opaque Dentin in advance. Subsequently complete the build up with Opal Incisal and expand the interproximal areas slightly oversized after removing the crown.



The finished crown is the result of an easy and fast basic build up technique.



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Note:

When mixing the VINTAGE porcelains on alloys containing max. 20% silver, VINTAGE ANTI-GREENING MODELLING LIQUID must be used.

After firing, use Dura-Green stones or CeraMaster silicone polishers for the contouring of the surfaces. VINTAGE stains can be used to correct the shade as necessary before firing the glaze.

Patient-specific adjustment of the surface gloss can be achieved fast and easily with DURA-POLISH DIA polishing paste.

5. SPECIFICATIONS

5.1 Firing Schedule

	Preheating (°C)	Drying (min.)	Vacuum Start temp. (°C)	Heating rate ² (°C / min.)	Vacuum Final temp. (°C)	Final temp. (°C)	Hold time (min.)
Wash Opaque firing	650	1	670	80	960	960	0-0.5
Opaque firing	650	2-3	670	80	960	960	0-0.5
1 st V. Halo Margin ¹	650	5	670	60	950	950	0-0.5
2 nd V. Halo Margin ¹	650	5	670	60	940	940	0-0.5
1 st Body/Enamel	650	3	670	80	920	920	0-0.5
2 nd Body/Enamel	650	3-5	670	80	915	915	0-0.5
Glaze firing	650	3-5	–	80	–	915	0-0.5
Correction firing	650	3-5	670	80	870	870	0-0.5
Gingival materials	650	3-5	670	80	870	870	0-0.5

¹ This data refers to the **VINTAGE Halo** Margin porcelain materials.

Note:

The firing data described above are recommended guidelines and may vary depending on the different construction methods and operational voltages of the various ceramic furnaces.

Depending on the coefficient of thermal expansion of the alloy used, it is recommended that the heating rate should be modified as follows:

Average CTE of PFM-alloy
(in 10⁻⁶K⁻¹, 25 °C – 500 °C)

13.6 – 13.9

14.0 – 14.2

14.3 – 14.6

14.7 – 15.0

² Recommended heating rate
(°C/min.)

100 – 80°C

80 – 60°C

60 – 50°C

50 – 40°C (slow cooling)

Depending on the difference between the thermal conductivity of non-precious metal alloys and the VINTAGE porcelain powders, it can be necessary to process a long-time cooling. This allows the alloy and porcelain powders to cool at the same rate, reducing the risk of subsequent cracks. Please follow the alloy manufacturers' instructions.

5.2 Technical Data

		Coefficient of thermal expansion 25 °C – 500 °C	Glass transformation point
Opaque	2 nd firing	12.2 x 10 ⁻⁶ K ⁻¹	580 °C
	4 th firing	12.2 x 10 ⁻⁶ K ⁻¹	
Opaque Dentin	2 nd firing	13.4 x 10 ⁻⁶ K ⁻¹	585 °C
	4 th firing	13.6 x 10 ⁻⁶ K ⁻¹	
Body	2 nd firing	13.4 x 10 ⁻⁶ K ⁻¹	585 °C
	4 th firing	13.6 x 10 ⁻⁶ K ⁻¹	
Cervical	2 nd firing	13.4 x 10 ⁻⁶ K ⁻¹	585 °C
	4 th firing	13.6 x 10 ⁻⁶ K ⁻¹	
Incisal Standard	2 nd firing	13.4 x 10 ⁻⁶ K ⁻¹	585 °C
	4 th firing	13.6 x 10 ⁻⁶ K ⁻¹	
Opal Incisal	2 nd firing	13.4 x 10 ⁻⁶ K ⁻¹	585 °C
	4 th firing	13.6 x 10 ⁻⁶ K ⁻¹	

Note:

Since VINTAGE has a different CTE than VINTAGE Halo, VINTAGE LF, VINTAGE AL and VINTAGE ZR, you should never mix or combine these powders together!

(The exception is the VINTAGE Halo Margin porcelain powders)



MANUFACTURED BY

SHOFU INC. 11 Kamitakamatsu-cho, Fukuine, Higashiyama-ku, Kyoto 605-0983, Japan
SHOFU INC. Singapore Branch 10 Science Park Road #03-12, The Alpha, Science Park II, Singapore 117684
SHOFU DENTAL CORPORATION 1225 Stone Drive, San Marcos, CA 92078-4059, USA
SHOFU DENTAL PRODUCTS LTD. Duke's Factory, Chiddingstone Causeway, Tonbridge, Kent, TN11 8 JU, UK
SHOFU DENTAL SUPPLIES (Shanghai) CO. LTD. No.645 Jiye Road, Sheshan Industry Park, Songjiang 201602, Shanghai, China
EU REPRESENTATIVE: SHOFU DENTAL GmbH Am Brüll 17, 40878 Ratingen, Germany

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