VINTAGE Halo

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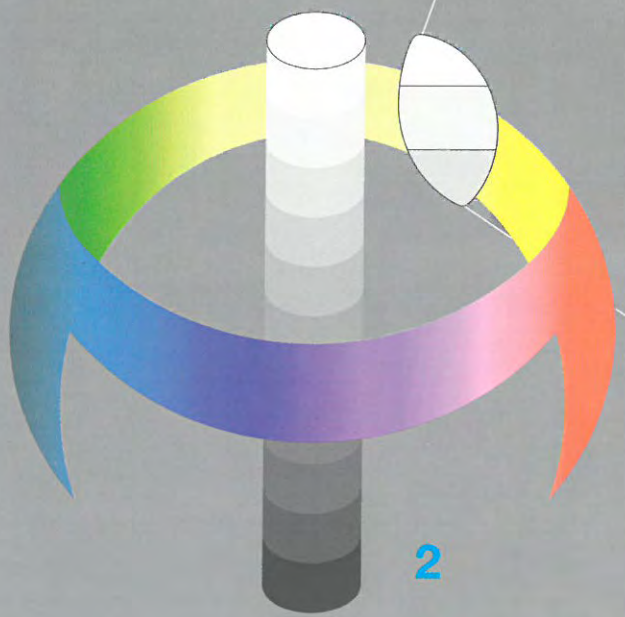
Gebruiksaanwijzing
Bruksanvising

RED SHIFT PORCELAIN
VALUE PLUS PORCELAIN

SHOFU®

VINTAGE HALO Natural Color Concept

1



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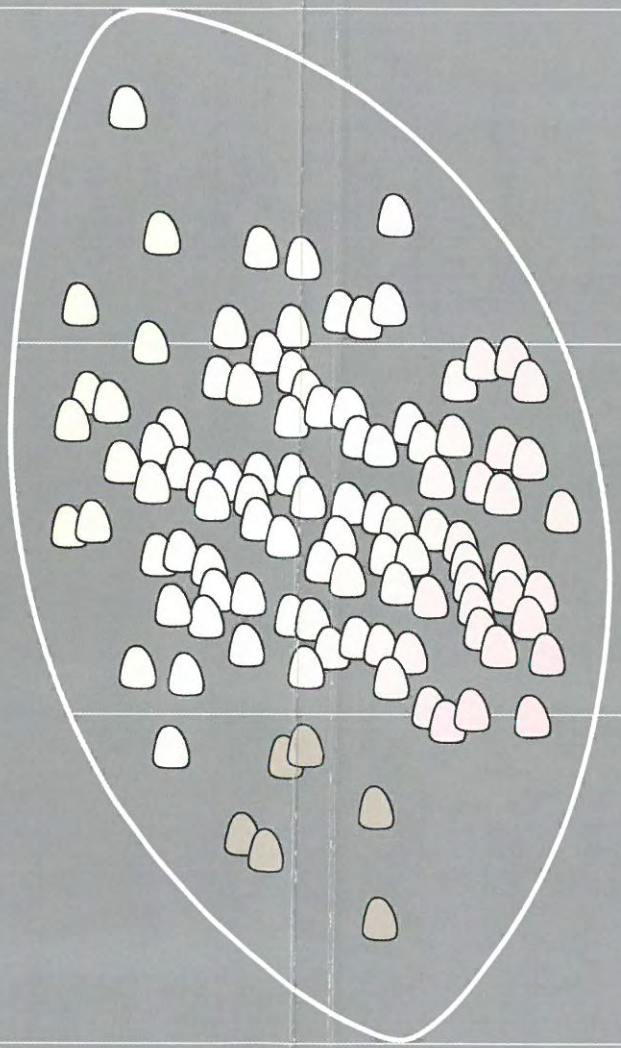

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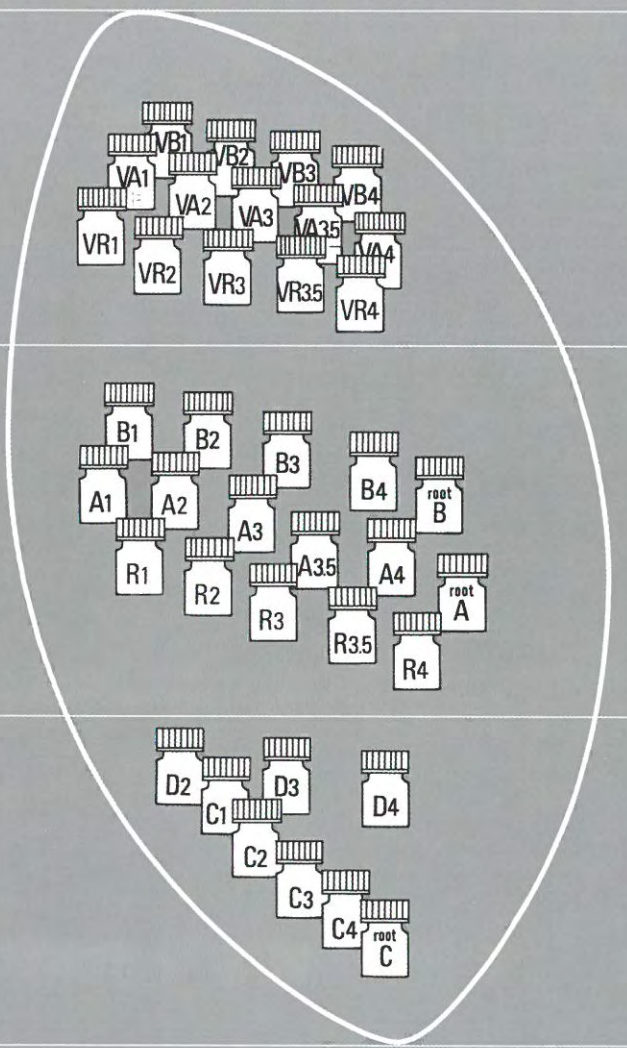

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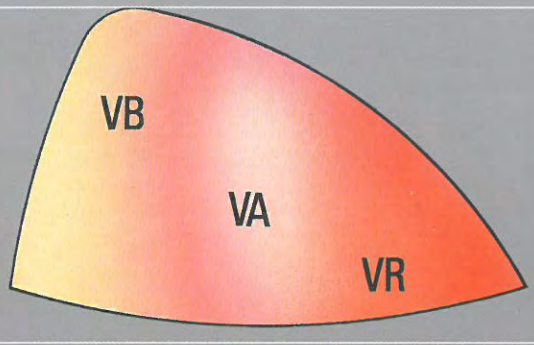
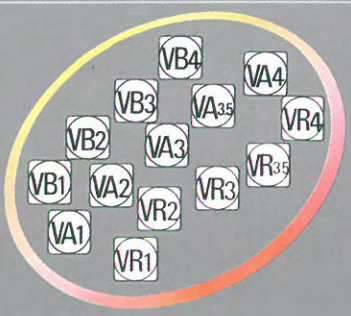

VB
VA
VR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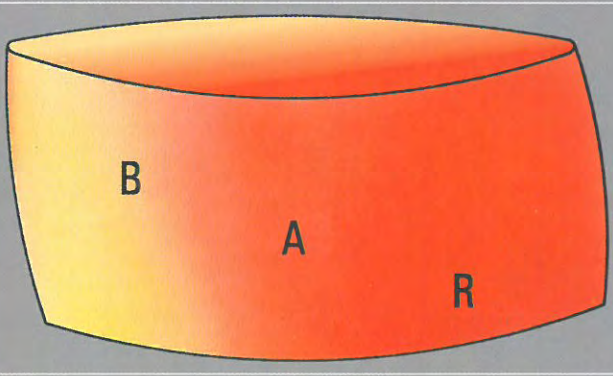
VB3
VA3.5
VR4
VB2
VA3
VR3.5
VB1
VA2
VR3
VR2
VA1
VR1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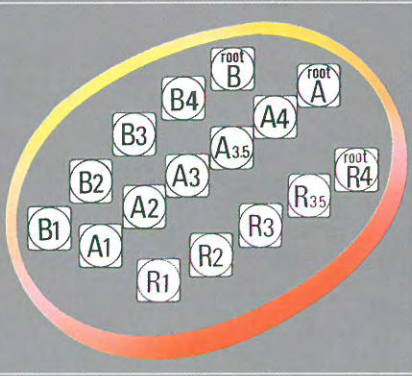
A
R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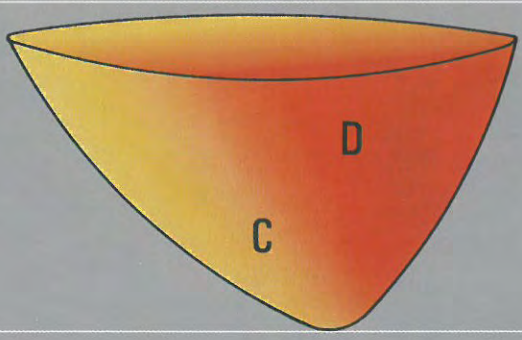
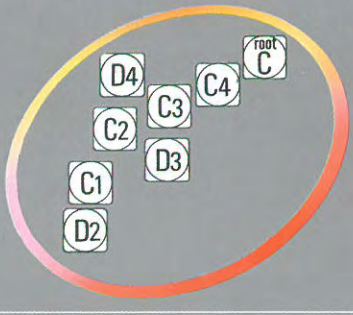
root A
B4
A4
B3
A3.5
root R4
B2
A3
R3.5
A2
B1
R3
A1
R2
R1


D
C


root C
D4
C4
C3
C2
D3
C1
D2

5

6

Firing Schedule for VINTAGE Halo Porcelain System

	Pre-heating (°C)	Drying (min) →	Vacuum	Incr. temperature (°C/min) ↗	Vacuum final temperature	Final temperature	Holding time (min) →
Firing of powder opaque I	650	3	full	60	950	950	1
Firing of powder opaque II	650	3	full	60	940	940	1
Firing of paste opaque I	450	6	full	60	950	950	1
Firing of paste opaque II	450	6	full	60	940	940	1
Firing Margin I	650	5	full	60	940	940	0
Firing Margin II	650	5	full	60	930	935	0
Firing of body, opaque dentin, red shift, value plus, incisal and translucent, effect 1. firing	650	5	full	60	910	910	0
Firing of body, opaque dentin, red shift, value plus, incisal and translucent, effect 2. firing	650	5	full	60	905	905	0
Self-glazing	650	3-5	0	60	0	900	0,5
Firing of correction (Add-On Porcelain)	650	3-5	full	60	870	870	0
CPM/CPM fine	650	5-7	0	60	0	870	0,5

The above-mentioned is to be understood as a recommended guideline.

VINTAGE Halo

Instructions for Use

RED SHIFT PORCELAIN
VALUE PLUS PORCELAIN

SHOFU®

VINTAGE Halo

VINTAGE HALO RED SHIFT PORCELAIN
VINTAGE HALO VALUE PLUS PORCELAIN

Instructions for use

■ The new shade dimensions

■ VINTAGE HALO Red Shift Porcelain

– Shade selection
– Application

■ VINTAGE HALO Value Plus Porcelain

– Shade selection
– Application

■ VINTAGE HALO Red Shift / Value Plus Porcelain

– Building up
– Shade system
– Technical data

VINTAGE Halo

VINTAGE HALO RED SHIFT PORCELAIN
VINTAGE HALO VALUE PLUS PORCELAIN

The new shade dimensions

Taking the shades of natural teeth and reproducing them with porcelain restorations is a challenge which dentists and dental technicians are confronted with daily.
This is a challenging task because it is extremely difficult to determine a shade objectively and convey it to the dental technician exactly, especially considering that standard shade guides only include 16 or possibly 20 different shade tabs.

Value, Hue, Chroma

The only method for defining a shade precisely is to use the parameter values of the three-dimensional colour space (L*a*b* shade system): value, hue and chroma (Figure 1).

The value changes along the vertical axis of the colour space. The value increases from the centre and decreases downwards. (Figure 2)

The hues form the colour circle and are on its outer shell (e.g. yellow, red or blue).

The chroma changes horizontally and increases from the centre outwards. All shades, especially those of natural teeth, can be defined precisely by their value, hue and chroma.

The VINTAGE HALO shade system

Mr. Makoto Yamamoto worked with Shofu Inc. and Minolta, Japan for several years to develop the ShadeEye-EX computer-aided dental chroma meter which makes use of the three-dimensional colour space.

Comprehensive analysis of several thousand teeth indicated that the distribution and frequency of tooth shades differ greatly but that all natural tooth shades are in the top third of the value axis (yellowish-reddish hues).

The natural tooth shades are arranged approximately like a three-dimensional ellipse (Figure 3).
If these are divided into three paralelly separated units, considerable differences in the distribution of the shade values are apparent. Most of the yellowish to reddish natural teeth are located in the central area.

The top sections of the ellipse also show that very light or very dark tooth shades are not found frequently.
As these shades cannot be determined with conventional shade rings, Makoto Yamamoto developed supplementary tooth shades covering the values, hues and chromas encountered in natural teeth.

In addition to the 19 shades of the VINTAGE HALO Basic Shade Guide, 5 reddish standard value and 5 reddish value plus shades were added to the VINTAGE HALO Red Shift Shade Guide and 9 shades of A and B-group with increased values were added to the VINTAGE HALO Value Plus Shade Guide.

If one compares the distribution of the natural shades shown in Figure 3, the relationship and arrangement of the individual shades can be seen quickly.
The top area includes tooth shades which are lighter than the classic A or B shades.
These are the Value Plus shades.

The central area includes the classic A and B shades with the additional, reddish group of R shades.
These are the Red Shift shades.

The bottom area includes the dark shades of the C and D groups.
Figures 5 and 6 show the horizontal arrangement of the porcelain shades taking the various levels of value into account. The top and central areas indicate the distribution of the yellowish B shades in relation to the standard A shades and the reddish Red-Shift shades.

VINTAGE HALO Red Shift Porcelain

Shade selection
All VINTAGE HALO porcelain system shade guides include GUMY® gingiva-coloured shade tab holders which reproduce the surroundings of natural teeth, i.e. the gingiva, during shade taking to enable their effect on the shade to be taken into account.

Selecting the shade without using a GUMY® leads to a contrasting effect which often causes the shade of a restoration to appear slightly too “yellowish” and weak in situ even though the shade tab appeared to match the shade of the natural tooth. The VINTAGE HALO Red Shift shades were developed to take into account this phenomenon and the shade measurements taken by Makoto Yamamoto - they are positioned in the reddish range of the A group and reddish range of the Value Plus A group (refer to graphs 4 + 6).

To correspond with shades A1 – A4 in the A group, these reddish Red Shift shades are termed R1 – R4. The reddish versions of VINTAGE HALO Value Plus shades VA1 – VA4 are termed VR1 – VR4.

Red Shift shades are selected conventionally using a VINTAGE HALO Red Shift Shade Guide with a GUMY® coloured to match the patient’s gingiva.

Building up
Red Shift porcelains are very easily built up using the VINTAGE HALO porcelain basic layering scheme.
Please note: The opal incisal layer should be extended to the cervical area.

Red Shift shades are created with the following VINTAGE HALO porcelains: Opaque, Opaque Dentin, Body and Opal Incisal.
As Red Shift porcelains complement the VINTAGE HALO porcelain system, the various porcelains must be applied and fired as described in the VINTAGE HALO Basic instructions.

Paste opaquer / Powder opaquer
Apart from the conventional opaquer powders, opaquer pastes are also available for Red Shift shades.

Prepare and clean the metal framework. Select the shade of opaquer and apply two coats to the framework, ensuring that the metal has been masked properly. Fire the opaquer as described in the firing chart.
Please note: To ensure that the organic constituents of the paste burn out fully, always heed the special preheating times and firing temperatures for Paste Opaque!

Opaque Dentin
The shade of the opaquer often appears too powerful in the cervical and interdental regions or where the porcelain is too thin and falsifies the shade of the restoration. The reflective properties of Opaque Dentin are virtually identical to those of a natural tooth and provide these regions with excellent values and accurate shades.

Opaque Dentin/Red Shift
The Opaque Dentines for the VINTAGE HALO Red Shift shades are mixed as required. The Opaque Dentine blends for shades R1 – R4 are mixed as indicated in the shade chart (refer to page 25) using porcelains OD-A1 – OD-A4 and Red Dark reddish shade modifier.

Opaque Dentin/Value Plus
Opaque Dentin is not required for Value Plus Red Shift shades. Due to their ultra-fine particle sizes, the shades of Value Plus Body porcelains are more brilliant, lighter and denser than those of the conventional body porcelains in the VINTAGE HALO system.

Please note: Value Plus Body porcelains should be applied directly onto the opaquer, without Opaque Dentin, and built up to match the anatomical contouring of the dentine.

Body porcelain
It is advisable to build up the Red Shift body porcelain to match the anatomical contours, condense the porcelain slightly and cut it back accurately until the desired contours, alignment and dimensions of the dentine area have been achieved.

Opal Incisal porcelain /Standard Incisal porcelain
Optimum natural light guidance can be reproduced in the incisal region with VINTAGE HALO Opal incisals as their structure and particle distribution resemble those of natural enamel very closely. Opal incisal creates restorations with a vital appearance.

Restorations with palatal backings extending to the incisal region must be built up with VINTAGE HALO Standard incisal porcelain and coated with transparent porcelain.
Complete the build-up by adding the appropriate incisal or transparent porcelain as indicated in the layering scheme. Fire as described in the firing chart.

After firing
The fired restoration should always have a dull finish. If the contours require adjustment, porcelain can be added without having to trim the surface in advance with a rotary instrument. In most cases, it is sufficient to add Opal incisal porcelain. Fire the restoration again as described in the firing chart.

Once the surface has been finished properly, carry out the glaze firing.

VINTAGE HALO Value Plus Porcelain

Shade selection

First take the shade of the natural tooth with a VINTAGE HALO Basic Shade Guide and a gingiva coloured GUMY® shade tab holder. As young patients' teeth often appear lighter than the shade tabs on the VINTAGE HALO Basic Shade Guides, a lighter shade guide is useful.

In accordance with the shade measurements taken by Makoto Yamamoto, the VINTAGE HALO Value Plus Shade Guide includes A and B group shade tabs of increased value (Value Plus).
The Value Plus shades are termed VA1 – VA4 to correspond with shades A1 – A4. The Value Plus versions of shades B1 – B4 are termed VB1 – VB4.

The Value Plus shades are selected with the VINTAGE HALO Value Plus Shade Guide and a GUMY® shade tab holder coloured to match the patient's gingiva.

Building up

The Value Plus porcelains are very easy to apply using the basic build-up system for VINTAGE HALO porcelains (refer to the VINTAGE HALO Basic instructions).

Value Plus shades are reproduced with the following VINTAGE HALO porcelains: Opaque, Opaque Dentin, Body and Opal Incisal.
Opaque Dentin is not required. Due to their ultra-fine particle sizes, the shades of Value Plus Body porcelains are more brilliant, lighter and denser than those of the conventional body porcelains in the VINTAGE HALO system.

Paste opaquer/Powder opaquer

To create the Value Plus shades, apply conventional paste opaquer or powder opaquer from the A or B shade groups. For example, to create shade VA2 apply opaquer A2O. All porcelains are listed in the shade chart (refer to page 25).

Prepare and clean the metal framework. Select the shade of opaquer and apply two coats to the framework, ensuring that the metal has been masked properly. Fire the opaquer as described in the firing chart.

Please note: To ensure that the organic constituents of the paste burn out fully, always heed the special preheating times and firing temperatures for Paste Opaque!

VOP (Value Plus Opaque)
Value Plus Opaque is an ultra-fine Opaque Modifier for increasing the value of VINTAGE HALO powder opaquer. To create a shade which is lighter than VA1 or VB1, mix VOP with opaquers A1O or B1O at a ratio of 1:3.

Please note: VOP is only available as a powder and must not be mixed with paste opaquers!

Body porcelain
It is advisable to build up the Value Plus body porcelain to match the anatomical contours, condense the porcelain slightly and cut it back accurately until the desired contours, alignment and dimensions of the dentine area have been achieved.

Please note: Value Plus Body porcelains should be applied directly onto the opaquer, without Opaque Dentin, and built up to match the anatomical contouring of the dentine.

VDL (Value Plus Diluent)
Value Plus Diluent is an ultra-fine body modifier for increasing the value of VINTAGE HALO and Value Plus body porcelains. VDL Modifier should be mixed at the same ratio as VOP Modifier.

To create a shade which is lighter than VA1 or VB1, mix VDL with body porcelains VA1B or VB1B at a ratio of 1:3.

Opal Incisal porcelain/Standard Incisal porcelain

Optimum natural light guidance can be reproduced in the incisal region with VINTAGE HALO Opal incisals as their structure and particle distribution resemble those of natural enamel very closely. Opal incisal creates restorations with a vital appearance.

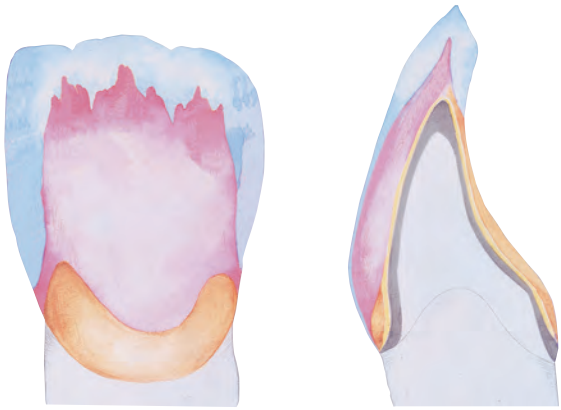
Restorations with palatal backings extending to the incisal region must be built up with Standard incisal porcelain and coated with transparent porcelain.
Complete the build-up by adding the appropriate VINTAGE HALO Standard incisal or transparent porcelain as indicated in the layering scheme. Fire as described in the firing chart.

After firing
The fired restoration should always have a dull finish. If the contours require adjustment, porcelain can be added without having to trim the surface in advance with a rotary instrument. In most cases, it is sufficient to add Opal or Standard incisal porcelain. Fire the restoration again as described in the firing chart.

Once the surface has been finished properly, carry out the glaze firing.

Shade-System

- Opal Incisal
- Body
- Opaque-Dentin
- Opaque
- Metal



Red Shift

Shade		R1	R2	R3	R3.5	R4	VR1	VR2	VR3	VR3,5	VR4
Opaque		R10	R20	R30	R3,50	R40	R10	R20	R30	R3,50	R40
Opaque-Dentin *		OD-A1 10* / Red-D 1*	OD-A2 10* / Red-D 1*	OD-A3 10* / Red-D 1*	OD-A3,5 5* / Red-D 1*	OD-A4 5* / Red-D 1*	—	—	—	—	—
Body		R1B	R2B	R3B	R3,5B	R4B	VR1B	VR2B	VR3B	VR3,5B	R40
Opal Incisal or Standard Incisal	57	❍					❍	❍			
	58	■	❍ ■				■	■	❍	❍	
	59			❍ ■	❍ ■				■	■	❍
	60					❍ ■					■
Translucent	T	■	■	■	■	■	■	■	■	■	■

* = Mixing ratio for Opaque Dentin

Value Plus

Shade		VA1	VA2	VA3	VA3.5	VA4	VB1	VB2	VB3	VB4
Opaque		A10	A20	A30	A3,50	A40	B10	B20	B30	B40
Opaque-Dentin		—	—	—	—	—	—	—	—	—
Body		VA1B	VA2B	VA3B	VA3,5B	VA4B	VB1B	VB2B	VB3B	VB4B
Opal Incisal or Standard Incisal	57	❍	❍				❍	❍		
	58	■	■	❍	❍		■	■	❍	
	59			■	■	❍			■	❍
	60					■				■
Translucent	T	■	■	■	■	■	■	■	■	■

❍ Opal Incisal ■ Standard Incisal

Firing Schedule for VINTAGE Halo Porcelain-System

	Pre-heating (°C)	Drying (min) →	Vacuum	Incr. temperature (°C/min) ↗	Vacuum final temperature (°C)	Final temperature (°C)	Holding time (min) →
Firing of Powder Opaque I	650	3	full	60	950	950	1
Firing of Powder Opaque II	650	3	full	60	940	940	1
Firing of Paste Opaque I	450	6	full	60	950	950	1
Firing of Paste Opaque II	450	6	full	60	940	940	1
Firing Margin I	650	5	full	60	940	940	0
Firing Margin II	650	5	full	60	930	935	0
Firing of Body, Opaque Dentin, Red Shift, Value Plus, Incisal Translucent and Effect 1. firing	650	5	full	60	910	910	0
Firing of Body, Opaque Dentin, Red Shift, Value Plus, Incisal Translucent and Effect 2. firing	650	5	full	60	905	905	0
Self-glazing	650	3-5	0	60	0	900	0,5
Firing of correction (Add-On Porcelain)	650	3-5	full	60	870	870	0
CPM/CPM fine	650	5-7	0	60	0	870	0,5

The above-mentioned is to be understood as a recommended guideline.

Technical Data

VINTAGE HALO porcelain has been tested in accordance with EN/ISO 9693 and fulfills the requirements of the standard.

Coefficient of thermal expansion (CTE 25°-500 ° C):

OPAQUE
2. firing 13.0 x 10^{-6} K^{-1}
4. firing 13.1 x 10^{-6} K^{-1}
MARGIN, OPAQUE-DENTINE, BODY, INCISAL, OPAL INCISAL, TRANSLUCENT, EFFECT, MODIFIER
2. firing 12.6 x 10^{-6} K^{-1}
4. firing 12.8 x 10^{-6} K^{-1}

Glass Transition Temperature (°C):

PASTE- OPAQUE, 590 °C
POWDER-OPAQUE, MARGIN, OPAQUE-DENTINE, BODY, OPAL-INCISAL, TRANSLUCENT, EFFECT, MODIFIER 580 °C.

Alloys:

VINTAGE HALO porcelain can be used in conjunction with alloys which have a CTE (25° - 500°C) of 13.4 - 14.5 x 10^{-6} K^{-1}. By incorporating a special firing procedure after attaining the final temperature, the CTE of the porcelain can be adjusted to an alloy. This is achieved by extending the cooling time and adding a holding time of 10 minutes of 830° C without vacuum. Therefore alloys can also be used with CTE (25°-500°C) of 13,4- 14.7 x 10^{-6} K^{-1}.

Au-Pt alloys	Pd alloys	Np alloys
Herador H (Heraeus)	Duopal 6 (Wieland)	Uni Metall II (Shofu)
CTE (25° - 500°C)	CTE (25° - 500°C)	CTE (25° - 500°C)
13.9 x 10^{-6} K^{-1}	14.1 x 10^{-6} K^{-1}	14.0 x 10^{-6} K^{-1}
Normal cooling	Normal cooling	Normal cooling

Storage:

Protect the porcelain from humidity.

Please note

1. While trimming and polishing restorations, use a dust extractor or wear a face mask to prevent inhalation of the dust.
2. It is advisable to wear safety glasses while trimming and polishing the restoration.
3. This product should be used for the recommended indication only.

Recommended Indication

Metalbond Porcelain

System:
These Instructions are valid for the following components
of the VINTAGE HALO Porcelain System:

VINTAGE HALO Red Shift Porcelain Set (15 g)
Powder Opaque 5 colours, Body 5 colours, Value Plus Body 5 colours,
Mixing-Liquid Opaque 50 ml, 1 Color Indicator Red Shift (No. 5), GUMY® L, M, D.

VINTAGE HALO Red Shift Paste Opaque Set
Paste Opaque 5 colours, 1 Brush No. 5 (Nylon)

VINTAGE HALO Red Shift Intro Set (15 g, Colour R2, R3)
Per each Set: Powder Opaque 1 colour, Body 1 colour,
Value Plus Body 1 colour, GUMY® L, M, D.

Package:
Paste Opaque (3 g)
Powders (15 g/50 g)
Opaque Liquid (50 ml)

VINTAGE HALO Value Plus Porcelain Set
Value Plus Body 9 colours, Value Plus Diluent 1 colour,
Value Plus Opaque Modifier 1 colour, 1 color indicator Value Plus (no. 4),
GUMY® L, M, D

Package:
Powders (15 g/50 g)

CE 0120

SHOFU ®

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