



The better dentistry
Education Counts **DENSPLY**

Successful Layering

A basic guide to **Ceramco³**

Dear Ceramco3 user,

We kindly appreciate your decision to use this product.

Ceramco3 is a sophisticated, easy to use and high quality porcelain system.

You will find great satisfaction and success with Ceramco3

as it is designed for safe, quick and economic work.

Please note, this brochure is only a basic aid.
Please refer to the main directions for use (DFU)
booklet for more detailed information.



Ceramco3 has a CTE (WAK) range of 13,9-15,1 @ 600°C.

DENTSPLY recommends MEAlloy for the most economical work and strongest bond.



To guarantee best shades, optical effects and physical properties

these essential components **MUST** be used:



Paste / Powder Opaque Opaceous Dentin Dentin Enamel

The shade accuracy may be compromised by not following this simple guide line.



By using **DENTSPLY MEAlloy** there is NO oxide (de-gas) firing required, saving time !



Paste Opaque Application

Paste Opaque = Quick and easy to apply

Minimal layer thickness

Outstanding bond to alloy with excellent masking and shading properties

BASE PASTE for first opaque firing (975°C)

SHADED PASTE for second opaque firing (975°C)



Base Paste application
Fully masking

Appropriate crystals
See chart !

Shaded paste application
A thin layer

Always LIGHT crystals with
Shaded Paste

Final result
"Sand Paper" finish



The Paste Opaque System contains BASE + SHADED pastes. These must be applied and fired separately as per DFU.

Depending on final shade crystals **medium or dark** are used after base paste application (refer to chart on pg 10).

Light crystals should always be used after application of the SHADED paste.

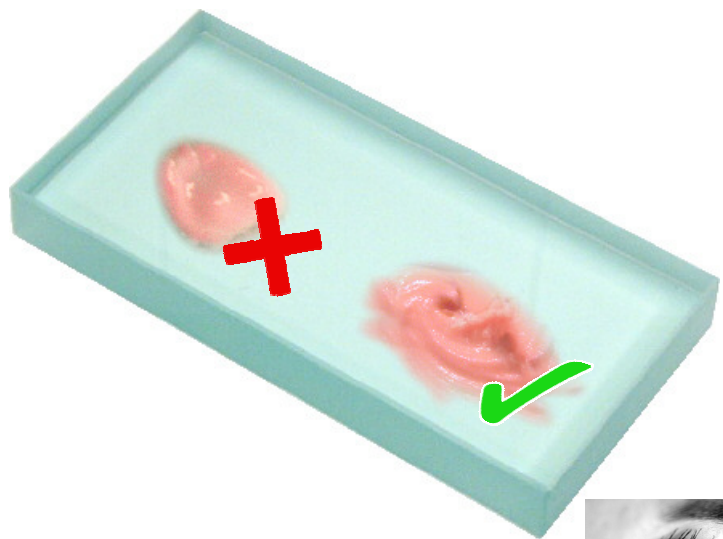


The Perfect Mix

The correct mixing of Ceramco^{®3} liquid and powder will produce a consistency of porcelain that is not only quick and easy to build up with but also helps to control shrinkage.

- To re-wet the powder mix, thoroughly re-mix with distilled water.
- Do not expose the mix to dust or any other possible contamination as this can effect the quality of the finished porcelain.
- Do not put used material back into the bottle.

Think economically - only use as much material as needed to complete the case.



A thin runny mix can result in high shrinkage, shades that are too light, bubbles or loss of contour.

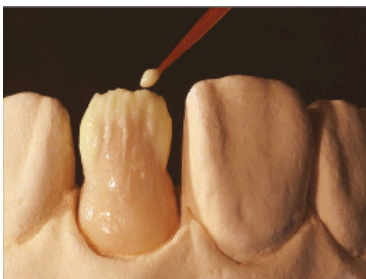


Opaceous Dentin, Dentin and Enamel application

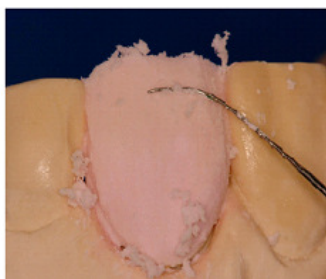
To match the required shade, a thin layer of OPAQUE DENTIN should be applied in key areas, as shown below, prior to dentine build up.

Build to full contour with DENTIN

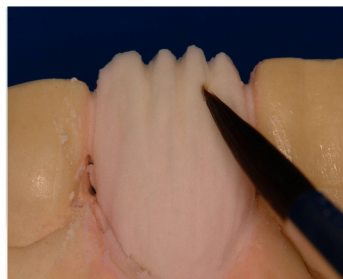
Cut back the incisal by $\frac{1}{3}$ and add the appropriate ENAMEL overbuilding by approx 10%



Opaceous Dentin



Dentin and Dentin Cut-Back at a third of the tooth's length



Enamel to full contour

A wide variety of dentin modifiers, natural and opal enamels and other effect powders are available for individual characterisation of your restorations.



Correct firing parameters

- The visual indicator is an essential guide to correct furnace calibration.
- The crown shown below demonstrates the correct visual indicator for Ceramco[®]3 which should be shiny with slight surface texture
- If the porcelain appears opaque, light and chalky, the furnace is under-firing. (Temp too low)
- If the porcelain appears high in chroma, rounded and very glossy, the furnace is over-firing. (Temp too high)
- If the porcelain is shiny, translucent with slight surface texture, the furnace is firing correctly. (Ideal)



Temperature: A perfect firing

Too low

Too high

Ideal



Basic furnace testing can be done using Ceramco[®]3 Super Clear powder made into samples as above. If the firing result is not satisfactory, increase/decrease temperature by **5°C** and fire a new sample. Continue until correct visual indicator is achieved.



Contouring and Glazing.

If a correction firing is necessary, add the appropriate materials to re-contour the restoration and repeat Dentin / Enamel firing, reducing the firing temperature to 940 °C.

After contouring and characterising the restoration, thoroughly steam clean the porcelain prior to staining and glazing.

There are three ways of glazing:

1. Natural glaze at 935 °C
2. Overglaze at 930 °C
3. Hand polishing



Additions and corrections can be easily made.

Contouring

Finished restoration



Always ensure that the porcelain is thoroughly cleaned by steam, ultrasonic or under running water before making an addition and/or glazing and staining.



Education Counts

Ceramco³ Firing Temps

FIRING PROGRAMS IN °C

Program Description	Time (min)			Time (min)			Vacuum	Set Temp		Temperature			
	Dry	Pre Heat	Vac Hold	Hi Temp Hold	Hold	Cool	Set Point (in. Hg)	Idle	Hi Temp	Vac Start	Vac Stop	Heat Rate °C/min	Night
Paste Opaque	5	3	0	0	0	0	29	500	975	500	975	100	100
Powder Opaque	3	3	0	0	0	0	29	650	970	650	970	70	100
Margin	5	5	0	0	0	0	29	650	965	650	965	70	100
Op Dentin/Dentin/Mod/Enamels	5	5	0	0	0	0	29	650	945	650	945	55	100
Natural Glaze	3	3	0	0.5	0	0	0	650	935			70	100
Overglaze	3	3	0	0.5	0	0	0	650	930			70	100
Correction	5	5	0	0	0	0	29	650	915	650	915	70	100

FIRING PROGRAMS IN °F

Program Description	Time (min)			Time (min)			Vacuum	Set Temp		Temperature			
	Dry	Pre Heat	Vac Hold	Hi Temp Hold	Hold	Cool	Set Point (in. Hg)	Idle	Hi Temp	Vac Start	Vac Stop	Heat Rate °F/min	Night
Paste Opaque	5	3	0	0	0	0	29	932	1787	932	1787	180	212
Powder Opaque	3	3	0	0	0	0	29	1202	1778	1202	1778	126	212
Margin	5	5	0	0	0	0	29	1202	1769	1202	1769	126	212
Op Dentin/Dentin/Mod/Enamels	5	5	0	0	0	0	29	1202	1760	1202	1760	99	212
Natural Glaze	3	3	0	0.5	0	0	0	1202	1733			126	212
Overglaze	3	3	0	0.5	0	0	0	1202	1715			126	212
Correction	5	5	0	0	0	0	29	1202	1679	1202	1679	126	212



Shades		Base Paste	Crystals used Alter Base Paste	Crystals used Alter Shaded Paste
i1, i2, i3, i4, i5, i6, i7, i8		Illumine White	White	White
A1, A2, A3, A3.5, A4		Regular Regular	Medium Dark	Light Light
B1, B2, B3, B4		Regular Regular	Medium Dark	Light Light
C1, C2, C3, C4		Regular Regular	Medium Dark	Light Light
D2, D4, D3		Regular Regular	Medium Dark	Light Light
Ceramco*3 C3 Shades Series	Keyed to Vita*3D Master** Shades ¹	Base Paste	Crystals used Alter Base Paste	Crystals used Alter Shaded Paste
C3-101	1M1	Illumine White	Medium	Light
C3-102	1M2	Illumine White	Medium	Light
C3-203	2L1.5	Regular	Medium	Light
C3-204	2L2.5	Regular	Medium	Light
C3-205	2M1	Regular	Medium	Light
C3-206	2M2	Regular	Medium	Light
C3-207	2M3	Regular	Medium	Light
C3-208	2R1.5	Regular	Medium	Light
C3-209	2R2.5	Regular	Medium	Light
C3-310	3L1.5	Regular	Dark	Light
C3-311	3L2.5	Regular	Dark	Light
C3-312	3M1	Regular	Medium	Light
C3-313	3M2	Regular	Medium	Light
C3-314	3M3	Regular	Dark	Light
C3-315	3R1.5	Regular	Dark	Light
C3-316	3R2.5	Regular	Dark	Light
C3-417	4L1.5	Regular	Dark	Light
C3-418	4L2.5	Regular	Dark	Light
C3-419	4M1	Regular	Dark	Light
C3-420	4M2	Regular	Dark	Light
C3-421	4M3	Regular	Dark	Light
C3-422	4R1.5	Regular	Dark	Light
C3-423	4R2.5	Regular	Dark	Light
C3-524	5M1	Regular	Dark	Light
C3-525	5M2	Regular	Dark	Light
C3-526	5M3	Regular	Dark	Light

**TABLE 1
SUGGESTED ENAMELS and MAMELONS**

Shade	Natural Enamel	Opal Effect Enamel	Mamelon
I1	Extra Light	Opal Light	Yellow-Orange
I2	Extra Light	Opal Light	Yellow-Orange
I3	Extra Light	Opal Light	Yellow-Orange
I4	White	Opal White	Yellow-Orange
I5	White	Opal White	Yellow-Orange
I6	White	Opal White	Yellow-Orange
I7	White	Opal White	Yellow-Orange
I8	White	Opal White	Yellow-Orange
A1	Extra Light	Opal Light	Yellow-Orange
A2	Extra Light	Opal Light	Yellow-Orange
A3	Light	Opal Light	Red-Orange
A3.5	Light	Opal Medium	Red-Orange
A4	Light	Opal Medium	Red-Orange
B1	Extra Light	Opal White	Yellow-Orange
B2	Extra Light	Opal Light	Yellow-Orange
B3	Light	Opal Light	Red-Orange
B4	Light	Opal Light	Red-Orange
C1	Light	Opal Light	Yellow-Orange
C2	Light	Opal Light	Yellow-Orange
C3	Medium	Opal Medium	Red-Orange
C4	Dark	Opal Medium	Red-Orange
D2	Extra Light	Opal Light	Yellow-Orange
D3	Light	Opal Light	Yellow-Orange
D4	Medium	Opal Light	Red-Orange

Ceramco*3 C3 Shades Series	Keyed to Vita*3D Master** Shades ¹	Enamel
C3-101	1M1	C-3Light (EN-2)
C3-102	1M2	C-3Light (EN-2)
C3-206	2M2	C-3Light (EN-2)
C3-209	2R2.5	C-3Light (EN-2)
C3-204	2L2.5	C-3Light (EN-2)
C3-207	2M3	C-3Light (EN-2)
C3-311	3L2.5	C-3Light (EN-2)
C3-313	3M2	C-3Light (EN-2)
C3-314	3M3	C-3Light (EN-2)
C3-315	3R1.5	C-3Light (EN-2)
C3-316	3R2.5	C-3Light (EN-2)
C3-419	4M1	C-3Light (EN-2)
C3-422	4R1.5	C-3Light (EN-2)

Ceramco*3 C3 Shades Series	Keyed to Vita*3D Master** Shades ¹	Enamel
C3-418	4L2.5	C-3Light (EN-2)
C3-420	4M2	C-3Light (EN-2)
C3-421	4M3	C-3Light (EN-2)
C3-423	4R2.5	C-3Light (EN-2)
C3-525	5M2	C-3Light (EN-2)
C3-526	5M3	C-3Light (EN-2)
C3-203	2L1.5	C-3Light (EN-2)
C3-205	2M1	C-3Light (EN-2)
C3-208	2R1.5	C-3Light (EN-2)
C3-312	3M1	C-3Light (EN-2)
C3-310	3L1.5	C-3Light (EN-2)
C3-417	4L1.5	C-3Light (EN-2)
C3-524	5M1	C-3Light (EN-2)

Please contact your local DENTSPLY Representative for any further advice or assistance



Education Count DENTSPLY

Personal notes:

Please contact your local DENTSPLY Representative for any further advice or assistance

