

HIGH CLASS PORCELAIN



a reliable brand manufacturer of dental materials



ZEO CE LIGHT

Designed for Beauty

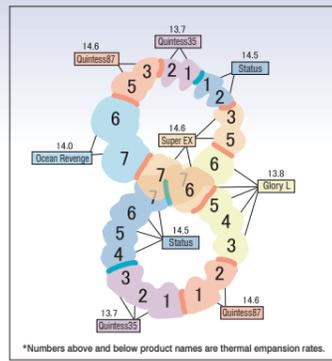


*Designed for Beauty,
Designed for That Special Someone*



Giving patients security and satisfaction
Making it easy for dental technicians to demonstrate their skills

Its outstanding physical properties are plain for all to see; no product comes near ZEO CE LIGHT in reproducing the natural appearance of the human tooth. There are hundreds of porcelain fused-to-metal products on the market, but ZEO CE LIGHT has been garnering strong support from discerning customers and professionals who place value on quality and a natural look. Especially in recent years, esthetic dentistry, such as whitening and orthodontic treatment is becoming more and more popular. In line with this trend, demand for ZEO CE LIGHT is also going from strength to strength, thanks to its reproduction of natural tooth appearance and its high quality. ZEO CE LIGHT is now a long-established high-selling product loved by consumers all around the world.



Metals used for ∞ Full-mouth Ring



In order to put the specimen in even more severe environment than 1st step, twisting motion is added in 2nd step. Thermal expansion behavior changes from 2D to 3D. With 11 soldering and 17 firing in total, very high level technique was required just to make the model. There was no cracking occurred to the end of the test.

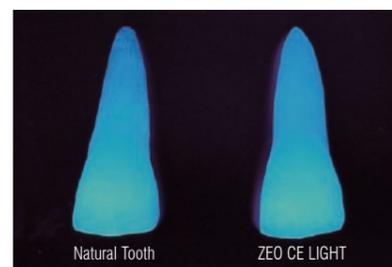
Features of ZEO CE LIGHT

The features of ZEO CE LIGHT are shown below. It is outstanding in many aspects in reproducing almost identical characteristics as natural teeth. Ideal firing temperature, stable thermal expansion and strong adhesion to any metals prevent cracks. Optical properties such as fluorescence, transparency, opalescence and light transmission provide a similar or same appearance as natural teeth.

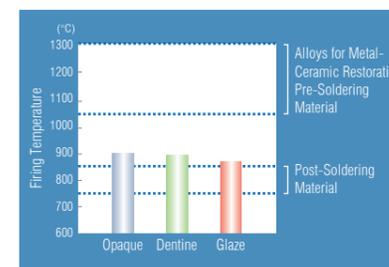


The Same Fluorescence as Natural Teeth

Natural teeth emit a peculiar fluorescence under ultraviolet rays. Moreover, a natural tooth is composed of enamel, dentine and dental pulp, each of which exhibits different fluorescence. ZEO CE LIGHT succeeds in faithfully reproducing the fluorescence of natural teeth.



Natural Tooth Fluorescence and ZEO CE LIGHT



Firing Temperature of Porcelain
Operating Temperature of Alloys, Pre-Soldering and Post-Soldering Material Firing Temperature

Ideal Firing Temperature

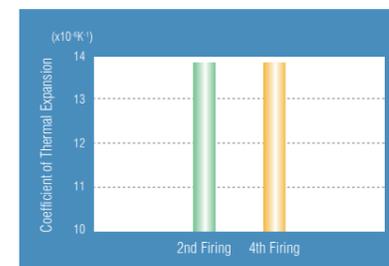
The firing temperature of ZEO CE LIGHT is between 880°C and 920°C. This presents no danger of metal frames or pre-soldering materials changing their shape, and prevents surface properties being subject to the detrimental influence of soldering after firing the porcelain. That is, its firing temperature is ideal for porcelain fused to metal.

Opalescence

Natural teeth have the characteristic of looking pale in reflected light and orange in transmitted light, and both combined appear as the natural color of teeth. This effect is called opalescence, and very important in reproducing natural teeth.



Opalescence of Natural Teeth and ZEO CE LIGHT



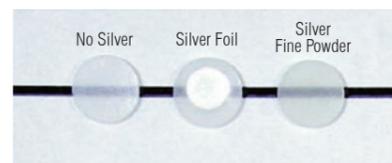
Fluctuation of Thermal Expansion by Repeated Firing

Prevention of Cracks by Stable Thermal Expansion

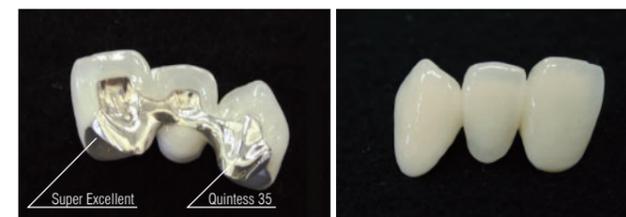
ZEO CE LIGHT is an epoch-making porcelain, suitable for a wide range of metals. Cracks caused by the mismatch of thermal expansion coefficient have often arisen in the existing metal-ceramic systems. Because ZEO CE LIGHT stabilizes leucite crystals in an original way, its thermal expansion coefficient is so stable that it prevents cracks even if it is fired repeatedly.

Safe Suppression of Yellowish Discoloration

At present, harmful chemical elements are used in many kinds of porcelain in order to suppress yellowish discoloration by silver. Using new technology, ZEO CE LIGHT succeeds in effectively suppressing yellowish discoloration without using harmful chemical elements. ZEO CE LIGHT is superior in safety, having been developed with consideration given to bioaffinity and the environment.



Discoloration test of ZEO CE LIGHT Translucent porcelain against silver



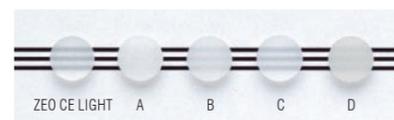
Crack test result of metal ceramic restoration combining different types of alloys

Anti-Crack Behavior

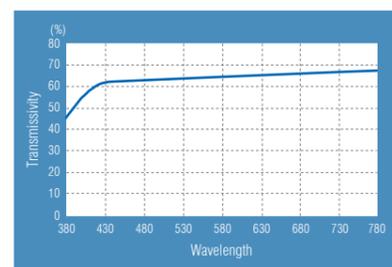
For metal ceramic restoration products, problems such as cracks after firing or fractures in the mouth must be avoided. ZEO CE LIGHT exhibits stable anti-crack behavior, even in cases where alloys with different thermal expansion rates (13.7 vs. 14.6) are combined.

Reproduction of the Subtle Colors of Natural Teeth

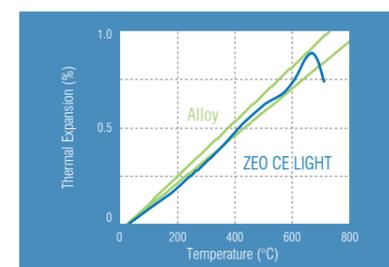
In order to reproduce the color of natural teeth, colorless and transparent porcelain - the color of which is easy to adjust with pigments and emulsifiers - is required. ZEO CE LIGHT is produced with colorless and transparent porcelain as its base. Furthermore, ZEO CE LIGHT uses a special porcelain, "Accent", to reproduce the subtle color tones of natural teeth.



Transparency of Translucent Porcelain



Curve of Transmissivity of Translucent Porcelain



Thermal Expansion between ZEO CE LIGHT and Alloy

Strong Adhesion

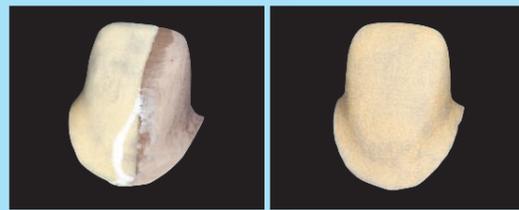
Using our own special technique, our opaque material comes in two kinds, so as to remarkably improve adhesive strength. Super Opaque is superior in adhesion, while Shade Opaque has the same color as Dentine. This solves the problems of cracks and exfoliation after being fitted in the mouth and realizes strong adhesion for metal-ceramics.

ZEO CE LIGHT Method of Basic Build up

Basic Build up Layering Technique



Super Opaque + Firing

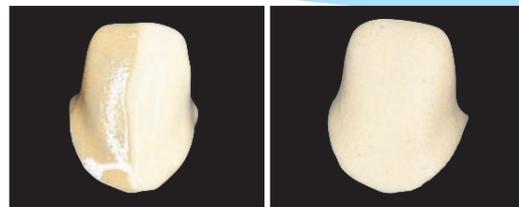


Apply Super Opaque (Apply Super Opaque thinly)

After firing

Please follow manufacturer's instructions for metal frame preparation before applying Super Opaque. The color of metal doesn't have to be covered perfectly since Opaque will be applied at the next step. Applying Super Opaque too thickly will cause air bubble mixture and results of coming off. Please refer to the picture.

Opaque + Firing



Apply Opaque after firing Super Opaque

After firing Opaque (O-A3)



Fluorescence of Opaque

Opaque Dentine

*If sufficient thickness cannot be secured around the cervical area, use Opaque Dentine.

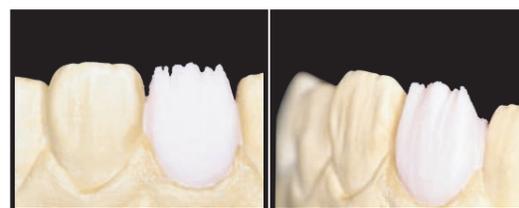
Dentine

Apply Dentine (D-A3)

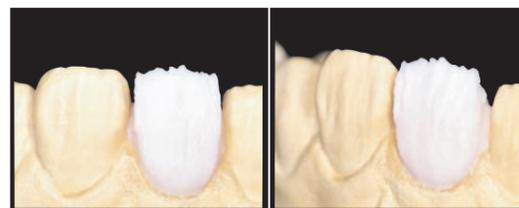


Cut Back

The volume of Dentine should be reduced correspondingly to allow sufficient space for Enamel.



Accent



Enamel + Firing

Apply Enamel (E-3)

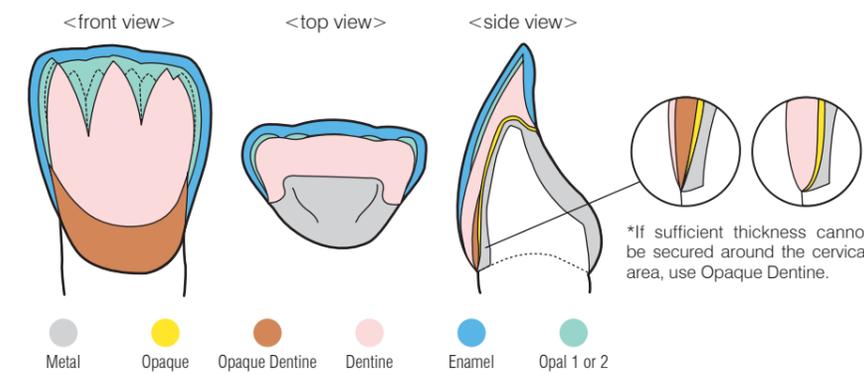


Final fluorescence

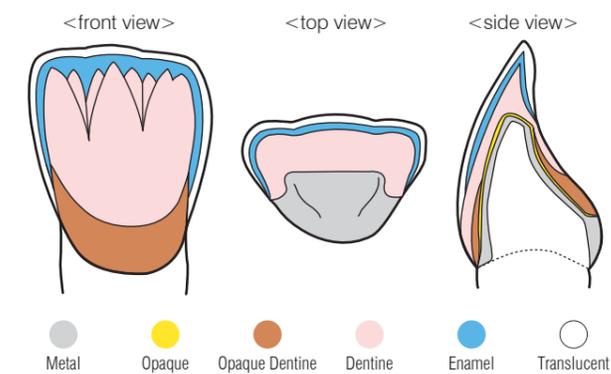
Correction to Shape

Glaze Firing and Polish

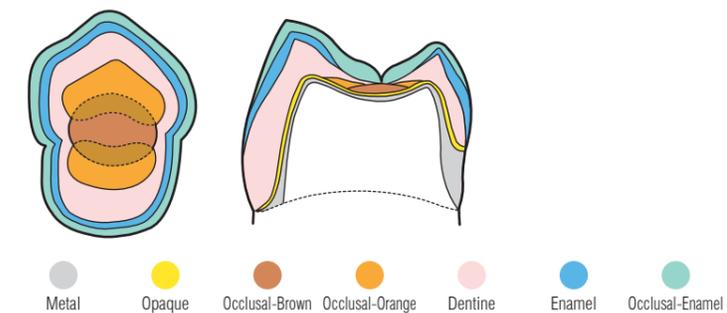
Front Tooth (Using Opal porcelain)



Front Tooth (Using Translucent porcelain)



Posterior



ZEO CE LIGHT Product Line-up

ZEO CE LIGHT Shade Table



Basic Porcelain

- Super Opaque** 1 color/ 3.5g (Paste), 50g (Powder)
This improves the bonding strength to alloy and covers the metal color. Please make sure to use this product for better finishing.
- Opaque** Total: 18 colors/ 3.5g (Paste)
Choose shades as required for each case.
In case you need to match general shade guide, use Opaque VO.
- Opaque VO** Total: 16 colors/ 3.5g (Paste), 50g (Powder)
Use in case you need to match general shade guide.
- Margin 2004** Total: 5 colors/ 5g (Powder)
Use as Margin Porcelain. Use exclusive Margin Separator.
- Opaque Dentine** Total: 18 colors/ 20g, 50g, 200g (Powder)
Body powder for cervical application; it can also be used as foundation color in cases where there is not sufficient thickness for Dentine.
- Dentine** Total: 18 colors/ 20g, 50g, 200g (Powder)
Porcelain to express dentine.
Dentine A shade was designed to be more reddish than general shade guide for expressing Japanese teeth color tone.
In case you need A shade to match general shade guide, use Dentine VD.
- Dentine VD** Total: 5 colors/ 20g, 50g, 200g (Powder)
In cases you need to modify A shade to match general shade guide, use this Dentine VD or mix Dentine VSP with Dentine.
- Dentine VSP** 1 color/ 20g, 50g, 200g (Powder)
Porcelain to modify Dentine A shade
In the case you need to modify A shade to match general shade guide, mix Dentine VSP with Dentine.
- Enamel** Total: 4 colors/ 20g, 50g, 200g (Powder)
Porcelain to express the enamel layer of natural teeth.
- Opal Enamel** Total: 5 colors/ 20g, 50g, 200g (Powder)
Reproduces the enamel layer of natural teeth. Though used in the same way as Enamel, the opalescence effect works to express the natural teeth more naturally. Amber is used by itself or mixed with Opal E1-4 to express brown color.
- Translucent** 1 color/ 20g, 50g, 200g (Powder)
Basic translucent porcelain. Use Accent T-Clear for higher transparency, and use T-Opacity for lower transparency.
T-Glass has the highest transparency.

Special Porcelain

- Accent** Total: 24 colors/ 20g (Powder)
*T-Glass and T-Clear 20g, 50g, 200g (Powder)
Effect porcelain for Dentine and Enamel.
- Supplement** Total: 3 colors/ 5g (Powder)
Firing temperature is set low for fixing porcelain after Glaze. Set the temperature between 790°C - 830°C depending on the amount of porcelain to be used; of Porcelain D size is for Dentine, E is for Enamel, and T is for translucent. This product cannot be used after post-soldering.
- Gum** Total: 3 colors/ 20g (Powder)
Porcelain for gum. There are 3 colors to match clinical uses.
- Stain** Total: 18 colors/ 3.5g (Paste), 2g (Powder)
*Glaze 3.5g (Paste), 2g, 10g (Powder)
Can be used for both inner and surface stains. Colors may be adjusted by mixing small amounts with other porcelains.

Accessories

- Modeling Liquid** 2 kinds/ 100mL, 500mL
Mixing liquid for powder porcelain. It has a little more viscosity than distilled water, delays the drying up of powders, and makes forming easier. It works to spread the color pigment equally so that an ideal color can be achieved using this liquid.
- Powder Opaque Liquid** 2 kinds/ 100mL, 500mL
Mixing Liquid for Powder Super Opaque and Powder Opaque. It has a little more viscosity than distilled water, delays the drying up puff powders, and makes forming easier. It works to spread the color pigment equally so that an ideal color can be achieved using this liquid.
- Opaque Liquid** 1 kind/ 10mL
Dilution liquid for Super Opaque, and Opaque. Place desired amount on the plate for use.
- Stain Liquid** 1 kind/ 10mL
Dilution liquid for Stains (Paste). Place desired amount on the plate for use.
- Margin Separator** 1 kind/ 3.5mL
Separator exclusively developed for Margin 2004.
- Color Guide** Total: 6 kinds (Type A-F)
A: 42 colors (Super Opaque, Opaque, Dentine, Enamel, Translucent)
B: 23 colors (OpaqueDentine, Margin 2004)
C: 6 colors (Supplement, Gum)
D: 24 colors (Accent)
E: 18 colors (Stain)
F: 11 colors (Dentine VD, VSP, Opal Enamel)

Basic Porcelain

Shade colors	A0	A1	A2	A3	A3.5	A4	B0	B1	B2	B3	B4	C1	C2	C3	C4	D2	D3	D4
SUPER OPAQUE	Super Opaque																	
OPAQUE	O-A0	O-A1	O-A2	O-A3	O-A3.5	O-A4	O-B0	O-B1	O-B2	O-B3	O-B4	O-C1	O-C2	O-C3	O-C4	O-D2	O-D3	O-D4
OPAQUE-VO	VO-A1 VO-A2 VO-A3 VO-A3.5 VO-A4 VO-B1 VO-B2 VO-B3 VO-B4 VO-C1 VO-C2 VO-C3 VO-C4 VO-D2 VO-D3 VO-D4																	
MARGIN	M-1 M-2 M-3 M-1 M-3 M-4 M-5 M-4 M-5																	
OPAQUE DENTINE	OD-A0	OD-A1	OD-A2	OD-A3	OD-A3.5	OD-A4	OD-B0	OD-B1	OD-B2	OD-B3	OD-B4	OD-C1	OD-C2	OD-C3	OD-C4	OD-D2	OD-D3	OD-D4
DENTINE	D-A0	D-A1	D-A2	D-A3	D-A3.5	D-A4	D-B0	D-B1	D-B2	D-B3	D-B4	D-C1	D-C2	D-C3	D-C4	D-D2	D-D3	D-D4
DENTINE VD	VD-A1 VD-A2 VD-A3 VD-A3.5 VD-A4																	
ENAMEL	E-1	E-2	E-3	E-4	E-1	E-2	E-4	E-3	E-4	E-3	E-4							
OPAL ENAMEL	Opal E-1	Opal E-2	Opal E-3	Opal E-4	Opal E-1	Opal E-2	Opal E-4	Opal E-3	Opal E-4	Opal E-3	Opal E-4							
TRANSLUCENT	T-Natural																	

Special Porcelain

Color Variation																		
OPAL ENAMEL	Opal Amber																	
ACCENT	Opal 1	Opal 2	Snow White	White	Vanilla	Milky	Marmelon-Vanilla	Marmelon-Orange	Marmelon-Yellow	Occlusal-Brown	Occlusal-Orange	Occlusal-Enamel						
SUPPLEMENT	T-Glass	T-Clear	T-Opacity	T-Buffer	T-Amber	T-Salmon	T-Gray	T-Violet	T-Blue	T-BabyPink	T-Pink	YellowOther						
GUM	SUP-D	SUP-E	SUP-T															
GUM	GUM-1	GUM-2	GUM-3															
STAIN	Glaze	White	Milky	Light Orange	Orange	Brown	Dark Brown	Gray	Violet	Blue	Indigo	Pink	Dark Pink	Yellow	Khaki	Amber	Black	Buff

ZEO CE LIGHT Set Product Line-up



Starter Set (A3 Total: 8 colors)



The most basic set. For your first introduction to ZEO CE LIGHT, and a way to experience the potential of ZEO CE LIGHT.

- Super Opaque (3.5g, 1 color)
- Opaque (3.5g, 1 color) O-A3
- Opaque Dentine (20g, 1 color) OD-A3
- Dentine (20g, 1 color) D-A3
- Enamel (20g, 1 color) E-3
- Translucent (20g, 1 color) T-Natural
- Accent (20g, 2 colors) Opal1, Snow White
- Opaque Liquid (2mL)

Regular Set (Total: 31 colors)



For building up your ZEO CE LIGHT palette. Other colors can be added in single packages for better results.

- Super Opaque (3.5g, 1 color)
- Opaque (3.5g, 5 colors) O-A2, 3, 3.5, O-B2, 3
- Opaque Dentine (20g, 5 colors) OD-A2, 3, 3.5, OD-B2, 3
- Dentine (20g, 5 colors) D-A2, 3, 3.5, D-B2, 3
- Enamel (20g, 3 colors) E-2, 3, 4
- Translucent (20g, 1 color) T-Natural
- Accent (20g, 7 colors) Opal1, Snow White, Vanilla, Occlusal-Brown, Occlusal-Orange, Occlusal-Enamel, T-Amber
- Stain (3.5g, 4 colors) White, Light Orange, Orange, Brown
- Opaque Liquid (10mL, 1 bottle)
- Stain Liquid (10mL, 1 bottle)
- Modeling Liquid (100mL, 1 bottle)

Stain Set (Total: 13 colors)



13 colors of Stain to fix and add color, and characterize. This product has an outstanding reputation for its convenience in working with both inner and surface stains.

- Stain (3.5g, 13 colors) Glaze, White, Milky, Light Orange, Orange, Brown, Dark Brown, Gray, Violet, Blue, Pink, Yellow, Black
- Stain Liquid (10mL, 1 bottle)
- Color Guide (Type E, 1 kind)

Full Set (Total: 69 colors)



Covers every shade of ZEO CE LIGHT. The perfect set if only basic shades are needed at first.

- Super Opaque (3.5g, 1 color)
- Opaque (3.5g, 18 colors) O-A0, 1, 2, 3, A3.5, 4, O-B0, 1, 2, 3, 4, O-C1, 2, 3, 4, O-D2, 3, 4
- Margin (5g, 5 colors) M-1, 2, 3, 4, 5
- Opaque Dentine (20g, 18 colors) OD-A0, 1, 2, 3, 3.5, 4, OD-B0, 1, 2, 3, 4, OD-C1, 2, 3, 4, OD-D2, 3, 4
- Dentine (20g, 18 colors) D-A0, 1, 2, 3, 3.5, 4, D-B0, 1, 2, 3, 4, D-C1, 2, 3, 4, D-D2, 3, 4
- Enamel (20g, 4 colors) E-1, 2, 3, 4
- Translucent (20g, 1 color) T-Natural
- Stain (3.5g, 4 colors) White, Light Orange, Orange, Brown
- Opaque Liquid (10mL, 1 bottle)
- Stain Liquid (10mL, 1 bottle)
- Margin Separator (3.5mL, 1 bottle)
- Modeling Liquid (100mL, 1 bottle)
- Color Guide (Type A, B, 2 kinds)

Professional Set (Total: 28 colors)



This set is a MUST to express more natural tooth quality using ZEO CE LIGHT.

- Accent (20g, 22 colors) Opal1, 2, Snow White, White, Vanilla, Milky, Mamelon-Vanilla, Mamelon-Orange, Occlusal-Brown, Occlusal-Orange, Occlusal-Enamel, T-Glass, T-Clear, T-Opacity, T-Buffer, T-Amber, T-Salmon, T-Gray, T-Violet, T-Blue, T-BabyPink, T-Pink
- Supplement (3 colors, 5g) SUP-D, E, T
- Gum (3 colors, 20g) GUM-1, 2, 3
- Modeling Liquid (100mL, 1 bottle)
- Color Guide (Type C, D, 2 kinds)

Total Set <Full set + Professional Set> (Total: 97 colors)



With the combination of Full set and Professional Set, you can bring out the full potential of ZEO CE LIGHT.

- Full Set + Professional Set
- Opaque Liquid (10mL, 1 bottle)
- Stain Liquid (10mL, 1 bottle)
- Margin Separator (3.5mL, 1 bottle)
- Modeling Liquid (100mL, 1 bottle)
- Color Guide (Type A, B, C, D, 4 kinds)

World Standard Ceramics



ZEOQUICK is a product well designed to meet the needs with a 3-step O-D-E application.

ZEOQUICK is developed based on technicians' demand to match the shade guide with simple application. Because of the very fine color arrangement of Enamel and eliminating Translucent step, ZEOQUICK has become an universal ceramic used worldwide, providing technicians with simple usability.

ZEOQUICK has the same mechanical property as ZEO CE LIGHT such as bending strength and coefficient of thermal expansion, and even firing program is the same. It makes it possible to use stain and accent of ZEO CE LIGHT with ZEOQUICK to improve aesthetic expression.



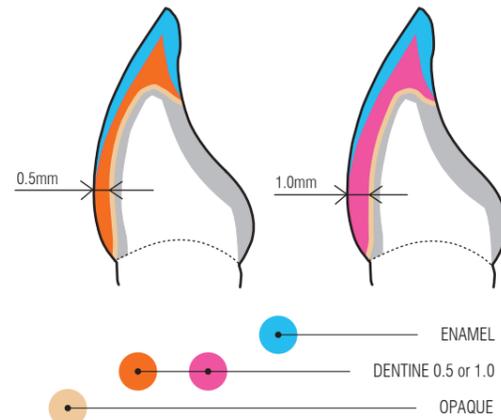
Same Mechanical Property as ZEO CE LIGHT

- Bending Strength
- Firing Program
- Vickers Hardness
- Coefficient of Thermal Expansion
- Adhesive Strength

Simple Application For Time Saving



Metal-Ceramic restoration is one of the most popular techniques to reproduce natural aesthetics. At the same time, it is the most complicated and time-consuming work for dental technicians. Even though lots of technicians try to simplify procedures in order to save time, they must follow the manufacturer's instructions so as to avoid any physical trouble in the final finish. The main point in saving time is minimizing the number of steps in building-up application with the maximum aesthetic finish. ZEOQUICK is a product well designed to meet their needs with a 3-step O-D-E application.

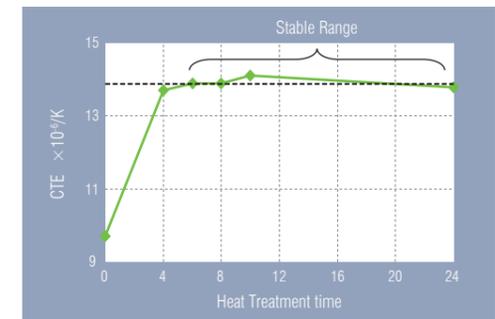


There are two types for Dentine, 0.5 and 1.0, depending on the layering thickness. 0.5 can be used for thin layering to achieve sufficient color.

Simply Reliable



ZEOQUICK has physical properties admired worldwide, derived from the HIGH CLASS PORCELAIN "ZEO CE LIGHT" technique, using 100% industrial synthetic glass material with well-controlled LEUCITE crystals. It features excellent crack prevention, higher bending strength, and great transparency. Also, the elimination of contamination through selecting pure industrial materials helps foster biocompatibility with the human body.



Stability of CTE
Stable range is over 20 hours.

Simple Shade Matching

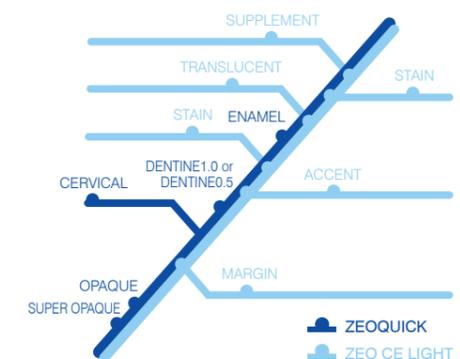


Shade matching is always a highly perplexing problem for technicians in Metal-Ceramic Restoration work. Even when technicians put in 100% of their imagination and skill on creative restoration work, they can find their efforts have all gone in vain due to unexpected product return calls. ZEOQUICK has ideal shade matching properties for a broad range of shade checking conditions, such as under incandescent light, fluor lamp or natural sunlight.

Advanced Technique



ZEOQUICK has only basic powders (OPAQUE + DENTINE + ENAMEL) in its line-up for SIMPLE applications. However, for considerations of aesthetic work, there are many more natural colors available. 100% of ZEO CE LIGHT products are available for combination use with ZEOQUICK.



ZEOQUICK can be used with ZEO CE LIGHT special porcelains such as ACCENT and STAIN to improve aesthetic expression.

ZEOQUICK Shade Table

		A1	A2	A3	A3.5	A4	B1	B2	B3	B4	C1	C2	C3	C4	D2	D3	D4
SUPER OPAQUE	7g PASTE 20, 50g POWDER	●															
OPAQUE	7g PASTE 20, 50g POWDER	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
CERVICAL	20, 50, 200g POWDER	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
DENTINE-0.5	20, 50, 200g POWDER	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
DENTINE-1.0	20, 50, 200g POWDER	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
ENAMEL	20, 50, 200g POWDER	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●



Committed to being a top reliable brand manufacturer of dental materials

YAMAKIN is committed to providing safe, reliable and high-quality products for customer's full satisfaction. In order to achieve this commitment, we have adopted the following rigorous criteria:

Quality Management System for Global Standard Compliance

We were audited and approved by the designated third party TÜV SÜD, Germany, in order to obtain ISO 13485 (Quality Management System of Medical Devices) certification. We have realized an advanced high-level quality management system as a manufacturer of Controlled Medical Devices.



Monitoring of Safety Information

Regarding safety information from the production management stage through to safety management post-marketing surveillance:

In order to judge quality standards objectively, we set up an independent sales monitoring system, under a marketing supervisor-general. We have assigned a quality assurance manager to the system, who is responsible for Good Quality Practice; and we have also assigned a safety management supervisor, who is responsible for Good Vigilance Practice. We monitor all information reported to us from clinical practices.

Firing Program (ZEO CE LIGHT & ZEOQUICK)

item/type	Drying time (Min.)	Start Temp. (°C)	Heat Rate (°C/Min.)	Firing Temp. (°C)	Hold Time (Min.)	Vacuum Rate (kPa)<cmHg>
Opaque*1	5~10	450~500	60	920	1	97<73>
Margin*2	6~9	550~600		900		
Dentine etc*3				Atmosphere		
Additional Dentine Firing	880					
Glazing	4	790~830*4				97<73>
Supplement	6	820				Atmosphere
Stain (Inner)	4	880				
Stain (Surface)						

Recommended Firing Program for Ni-Cr or Co-Cr alloys

Ni-Cr alloys basically have low thermal conductivity. So, a longer Hold Time is recommended to avoid insufficient firing (unbaked). This procedure allows porcelain to maintain sufficient strength and will prevent cracks even when tensile stresses are put on the porcelain. Therefore, we recommend the following firing program. These firing instructions are strongly recommended, especially for dental implant cases where the metal volume is large.

	Drying time (Min.)	Start Temp. (°C)	Vacuum	Heat rate (°C/min)	Firing temp. (°C)	Hold time (min: air)
Opaque*1	5~10	450~500	○	60	940	2~3
Dentine*3	6~9	550~600	○	60	920	2~3

*1 Super Opaque, Shade Opaque

*2 Margin

*3 Opaque Dentine, Dentine, Enamel, Opal Enamel, Translucent, Accent, Gum

*4 Fire at lower temperature if gloss is not preferable. Fire at higher temperature if gloss is preferable

(Note) Depending on the firing conditions, there may be cases where the original properties are not demonstrated. Please confirm the points below for use.

●Conditions of firing differ depending on types or shapes of furnaces. Adjust the temperature in the range of ±20°C.

●Appropriate condition of Opaque after firing is slightly glossy, and appropriate condition of Dentine after firing is a light gloss.

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