

# HIGH CLASS PORCELAIN

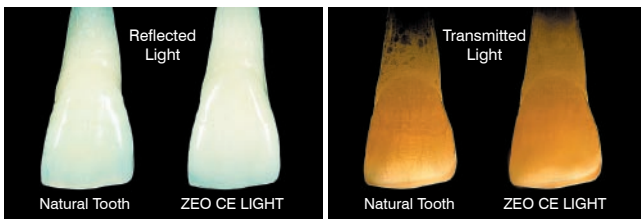
## Ideal High Performance Metal-Ceramics Systems

### Anti-cracking Performance

The most important requirement for porcelain products is to prevent crack on its technical work. ZEO CE LIGHT has "Lucite micro-fine-crystal structure technology" to give moderate hardness and elasticity to control anti-cracking.

### 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

### Natural Color Expression

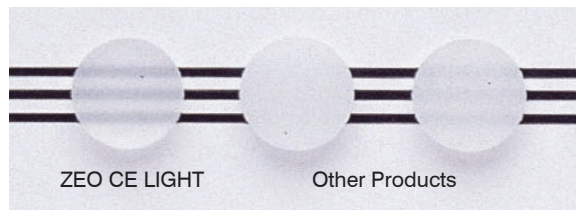
Thanks to crystallization structure, porcelain powder after firing has one of the highest transparency in a market. This makes internal structures with effect powder look much natural. You can feel this with in use of ACCENT, ZEO CE LIGHT original effect powders.



Use of 6 different CTE alloys being pre-soldered at 11 points, 17 times fired with final glazing.

### Higher Transparency

The base material of ZEO CE LIGHT has higher transparency. This brings an energetic expression with its ACCENT porcelain.

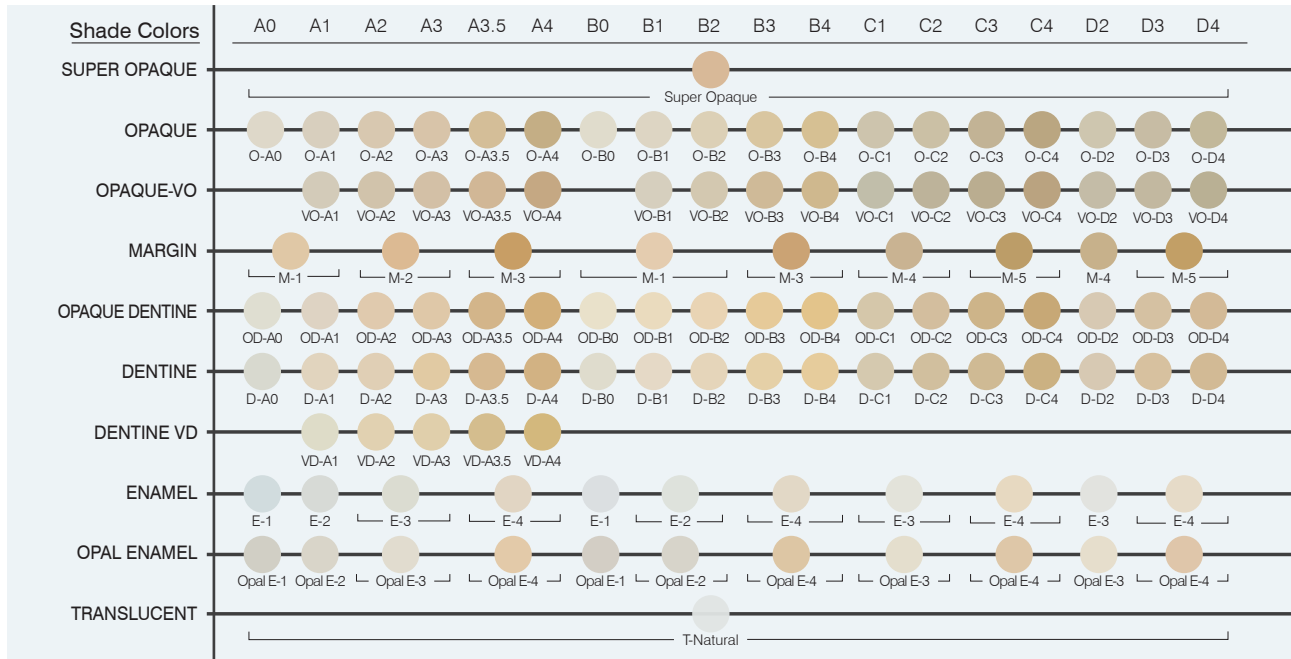


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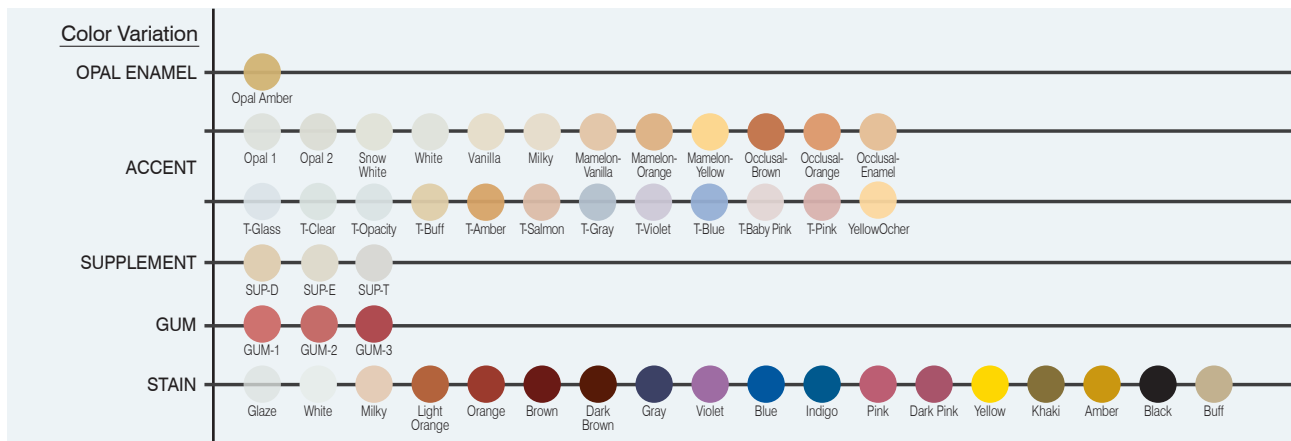
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# Shade Table

## Basic Porcelain



## Special Porcelain



## 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				880		
Additional Dentine Firing				790~830*4		
Glaze	4	820				
Supplement	6	880	Atmosphere			
Stain (Inner)	4			820		97<73>
Stain (Surface)				880		Atmosphere

## 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

## C.T.E. Characteristics

Body 13.6x10<sup>-6</sup>K<sup>-1</sup>(25-500°C)

Opaque 14.0x10<sup>-6</sup>K<sup>-1</sup>(25-500°C)

[Note] Precious or non-precious alloys with CTE of 13.5 to 14.8x10<sup>-6</sup>K<sup>-1</sup>(25-500°C) should be used.

\*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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