

CERABIEN

PRESS

LF

TECHNICAL INSTRUCTIONS

Noritake

Noritake

ERABIEN **PRESS** LF

ERABIEN **PRESS** LF Internal Stain

ERABIEN **PRESS** LF External Stain

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Please access Noritake Web-site for update.

<http://www.noritake-dental.co.jp>

Noritake CZR PRESS LF is a porcelain to be built up to make an enamel layer after pressing CZR PRESS ingot. By using this porcelain with CZR Pressed ceramic (ingot) and without a zirconia framework, you can make an anterior single crown, a porcelain laminate veneer, an inlay and an onlay.

Porcelain Products

Features

- 1) CZR PRESS LF has an ideally matched CTE with CZR PRESS ingot.
- 2) Baking CZR PRESS LF on the CZR Pressed ceramic without a zirconia framework does not deform the pressed ceramic.
- 3) If properly bonded with adhesive resin cement, CZR PRESS LF will produce enough strength in the mouth.
- 4) A wide variety of shades with aesthetics are available.
- 5) An ideal opalescence has been realized in Luster porcelain.
- 6) CZR PRESS LF can also be used for correcting shades of CZR Pressed Ceramic and CZR porcelain.

Available shades

LF Enamel (3 shades) 10g/50g/200g each

E1	E2	E3
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LF Translucent (4 shades) 10g/50g/200g each

Tx	To	T1	T2
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LF Luster Porcelains (8 shades) 10g/50g/200g each

LT0	LT1	T Blue	LT Natural
Creamy Enamel	Sun Bright	Incisal Aureola	Creamy White

LF Add-on (1 shade) 10g/50g/200g each

AD-T

LF Liquid

Applicable Porcelain Products:

- 1) CZR PRESS/L-Ingot (Low Transparency)
- 2) CZR PRESS/H-Ingot (High Transparency)

CZR PRESS LF Stain Products

Using CZR PRESS LF Internal Stain (CZR PRESS LF IS), it is possible to replicate many of the most intricate three dimensional patterns of shade variation found in natural teeth.

CZR PRESS LF External Stain (CZR PRESS LF ES) reproduces the great variety of color shades observed on the surface of natural teeth.

Features

1) Outstanding Resistance to Bubbles

CZR PRESS LF IS is specially formulated to have a similar coefficient of thermal expansion as CZR Pressed ceramic and CZR PRESS LF Porcelain.

CZR PRESS LF IS has outstanding resistance to bubbling and fractures.

CZR PRESS LF ES has minimal risk of separation even after long term intraoral function.

2) Assortment of Shades

The shades were carefully selected using a detailed examination of the colors in natural teeth. Accurate color reproduction can be easily obtained by applying stains to the appropriate areas.

3) Easy Reproduction of Shades

By applying internal stain, either for special effects or to increase chroma, shades can be easily reproduced like painting a picture.

4) Controlling Reflectivity

By applying stain on the CZR Pressed ceramic, excessive reflectivity can be easily controlled, lowering value.

CZR PRESS LF IS KIT

White	Incisal Blue 1	Incisal Blue 2	Mamelon Orange 1
Mamelon Orange 2	Cervical 1	Cervical 2	Cervical 3
Earth Brown	Reddish Brown	Salmon Pink	Red
A+	B+	C+	D+

16 Shades 3g each 1 Bright (Dilution Stain), 3g
 1 IS Liquid, 10ml 1 IS Color Guide
 1 Technical Instructions

CZR PRESS LF ES KIT

Pure White	Gray	Black	Blue
Green 1	Green 2	Yellow	Orange 1
Orange 2	Cervical 1	Cervical 2	Cervical 3
Earth Brown	Reddish Brown	Salmon Pink	Pink
Red	A+	B+	C+
D+	-	-	-

21 Shades 3g each 1 Glazing Powder, 10g
 1 ES Liquid, 10ml 1 ES Color Guide
 1 Technical Instructions

Working Procedures

Fabrication of a single crown



1) Wax- up

In case a zirconia framework is not used, directly wax-up to the dentin shape with about 90% size of a targeted restoration. Do not make a mamelon structure .
 (Refer to Page 8 of CZR PRESS Technical Instructions)
 The thickness in the margin area should be more than 1.0mm in order to avoid chipping.

2) Spruing and Investing

Perform Spruing and investing. (Refer to Pages 8-10 of CZR PRESS Technical Instructions)

3) Preheating of Investment Ring

After half an hour from investing, place the investment ring into the preheated burn-out furnace at 850° C (1,562° F) and hold for an hour.
 (Refer to Page 11 of CZR PRESS Technical Instructions)



4) Pressing of CZR PRESS Ingot

Place the investment ring with the inserted ceramic ingot in the PRESS Furnace and heat-press at the specified temperature .
 (Refer to Pages 24-26 of CZR PRESS Technical Instructions)



5) Divesting and Sprue-cutting

Carefully deinvest the ring to avoid breaking the pressed ceramic. Using a diamond disk for sprue separation.
 (Refer to Page 13 of CZR PRESS Technical Instructions)



6) Morphological Correction of Pressed Ceramic

Securing enough build-up thickness for the Enamel, Translucent (Luster) porcelains that are built-up later, adjust the thickness of labial surface and make the mamelon structure.



7) Alumina Sandblasting

Perform Alumina sandblasting all over the surface of the pressed ceramic at the pressure of 0.2MPa (29psi) .

8) Cleaning

Clean the pressed ceramic for 5 minutes in acetone with an ultrasonic cleaner or steam cleaner.

9) Build-up of Enamel Porcelain

Mix enamel porcelain with specially prepared Noritake LF Liquid and build-up to one third of the length from the incisal edge.



10) Application of CZR PRESS LF IS.

In case of Internal Staining, use Noritake IS Liquid. Apply the first Internal Stain horizontally, then bake it according to the baking schedule. (Refer to Page 7 of schedule A) If vertical characterization is necessary, apply the second Internal Stain and bake it.



11) Build-up of Translucent (Luster) Porcelain

Similarly, mix translucent porcelain with Noritake LF Liquid and build-up the entire surface of the crown. After that, check if the extra porcelain is attached to the inside of the crown. If it is attached, wipe it off with a dry brush.

Note

This is a low fusing porcelain. In case any fiber such as tissue paper remains after baking, it should be removed.



12) Baking

Bake the built up crown according to Schedule B.

(Refer to Page 7)



13) Morphological Correction

Perform morphological correction, using Meister Point, Meister Cones and Pearl Surface and smooth the surface.

14) Cleaning

Clean the restoration for 5 minutes in acetone with an ultrasonic cleaner.

15) Application of ES and Glaze Baking

Working Methods are different depending upon the surface condition of the crown.

A : CZR PRESS LF Porcelain has been built up and baked on the entire surface of the crown and there is no part where the CZR Pressed ceramic can be seen.

B : CZR PRESS LF Porcelain has been built up only partially on the surface of the crown and baked. Therefore, there are some parts where CZR Pressed ceramic can be seen underneath.

Stain and Glaze Method for A :

Bake the crown according to Schedule C. (Refer to Page 7)

If necessary, Mix the CZR PRESS LF Glaze Powder or/and CZR PRESS LF ES with Noritake ES Liquid to the same consistency as with ordinary stains. Apply the mixture and baking to the Schedule C. (Refer to Page 7)

Stain and Glaze Method for B :

B1. Application of Stain and Baking

Mix CZR PRESS LF ES with Noritake ES Liquid. Mix ES to the same consistency as with ordinary stains. If too much liquid is used, the stain will move after the application. Apply the mixture over the surface of the restoration for the final shades. Then, bake according to the baking schedule C. (Refer to Page 7)

This procedure is not required in the clinical cases where stain is not needed. Please proceed to the next step B2.

B2. Glaze Baking

Using Noritake ES Liquid, mix with CZR PRESS LF Glaze Powder to create a cold “honey-like” glaze paste. Do not wet the surface of the restoration with **ES liquid prior to glaze application, otherwise inconsistent coverage may result.** On the CZR PRESS LF Porcelain baked surface, apply glaze thinly as usual. Where CZR PRESS LF Porcelain is not baked, apply glaze liberally and evenly in a 0.2mm thickness. Inspect the restoration to verify complete coverage. Perform the glaze baking according to the baking schedule D.

In case more glossiness is required on the surface where CZR PRESS LF is not baked, apply glaze again and bake.



16. Completion

Baking Schedule for CZR PRESS LF

	Schedule A	Schedule B	Schedule C	Schedule D	Schedule E
	Internal Stain 1 st and 2 nd Bake	LF Porcelain 1 st and 2 nd Bake	Self Glaze and External Stain Bake	Glaze with Glazing Powder	LF AD-T Bake
Dry-Out Time	5min.	7min.	5min.	5min.	5min.
Low Temperature	600°C	600°C	600°C	600°C	500°C
	1112°F	1112°F	1112°F	1112°F	932°F
Start Vacuum	-	600°C	-	600°C	500°C
	-	1112°F	-	1112°F	932°F
Heat Rate	45°C /min.	45°C /min.	45°C /min.	45°C /min.	45°C /min.
	81°F/min.	81°F/min.	81°F/min.	81°F/min.	81°F/min.
Vacuum Level	-	96kPa ※	-	96kPa ※	96kPa ※
Release Vacuum	-	840°C	-	800°C	750°C
	-	1544°F	-	1472°F	1382°F
High Temperature	800°C	840°C	840°C	840°C	750°C
	1472°F	1544°F	1544°F	1544°F	1382°F
Hold Time (in the air)	-	1min.	1min.	1min.	1min.
Cool Time	-	4min.	4min.	4min.	4min.

Note The above program is only a guideline. Baking Temperature may be varied with the peculiarities of different furnace.

※96kPa=72cmHg (29inchesHg)

VII. Precautions for Handling

Porcelain

- 1) The only restorations that can be made by CZR PRESS ingot and LF Porcelain without using a zirconia framework are an anterior single crown, a porcelain laminate veneer, an inlay and an onlay. Do not make a bridge without a zirconia framework.
- 2) Do not use CZR PRESS LF for the clinical cases where the thickness of the pressed ceramic cannot be more than 0.8mm, cross bite and attrition of the tooth. The restoration receives unexceptionally strong pressure.
- 3) In order to avoid chipping, the best thickness at the margin area of the framework should be more than 1.0mm.
- 4) Be sure to read CZR PRESS technical instructions from wax-up to divesting and Sprue-cutting and follow the instructions.
- 5) Be sure to use Noritake Press Investment for investing.
- 6) As to the investment powder/liquid ratio, refer to the baking schedule of CZR PRESS Technical Instructions.
- 7) For inserting CZR PRESS ingot, Noritake Disposable plunger is recommended as it has a perfect matching CTE.
- 8) Carefully grind the pressed ceramic not to produce cracks and chipping.
- 9) Do not mix with other porcelain, including other Noritake porcelain or other manufacturer's porcelain.
- 10) When without a zirconia framework, CZR Enamel, Translucent and Luster porcelain cannot be used on the CZR Pressed ceramic. Use CZR PRESS LF Porcelain only.
- 11) Use only Noritake LF Liquid or distilled water.
- 12) CZR PRESS LF is baked properly when the surface has a slight luster after baking. Please adjust your furnace to achieve this result.
- 13) CZR PRESS LF is a low fusing porcelain. In case any fiber such as tissue paper remains after baking, it should be removed.
- 14) For porcelain separation, please use Noritake Magic Separator that can be used for low fusing porcelain.
- 15) Observe the recommended cool time. Do not cool CZR PRESS LF too quickly.
- 16) Do not use metal baking pegs. The metal may stain the inside of the framework. The pegs must be clean. Leftover porcelain may fuse to the inside of the framework.
- 17) Keep all liquids in a dry cool place, avoiding direct sunlight.

18) Be sure to use adhesive resin cement for bonding.

Resin Cement Examples

Product Name	Manufacturer
Panavia F2.0	Kuraray
Panavia 21	Kuraray
Relyx Unicem	3M






Stain

- 1) Be sure to use CZR PRESS LF IS or ES for staining and glazing powder. Other stains cannot be used.
- 2) There is a risk of blackening when using the stain liquid of other manufacturers. It is very important to use Noritake IS Liquid or ES Liquid exclusively.
- 3) CZR PRESS LF IS is made exclusively for internal staining.
- 4) Noritake IS Liquid should not be mixed with water, use as is without diluting.
- 5) After mixing Internal Stain with Noritake IS Liquid on the palette, avoid letting it sit for a long time and avoid making repeated additions to the original mixture. Using stain from which too much moisture has evaporated will result in bubbles.
- 6) If different colored stains are applied over on the same area without baking between applications, they may blend unpredictably. To avoid this, divide the staining process into two parts and bake between applications.
- 7) Noritake IS Liquid contains ingredients that dissolve some plastics. Please handle with extreme caution in the presence of plastic materials.

REMARKS ON SAFETY

- Work in a well-ventilated room during firing porcelain.
- LF porcelain contains Silica. Avoid inhaling the dust. Use a dust collector and an approved dust mask. Over exposures may cause delayed lung injury.
- Avoid exposure to eyes. Wear the goggles for eye protection during cutting or polishing works. In case of contact with eyes, flush eyes with copious amounts of water and consult an eye-doctor.
- Avoid eye contact with Noritake LF Liquids. In case of contact with eyes, flush eyes with copious amounts of water and consult an eye-doctor.
- Do not touch items heated by the furnace with your bare hand.
- Noritake IS Liquid away from flames and high temperatures. They are flammable.
- Some people are sensitive to skin contact. Wear rubber gloves to protect your skin.
- Avoid ingesting. Keep out of the reach of children.
- This material is for dental application only. Do not use for any purpose not specified in the instruction manual.

■ SYMBOLS USED IN A LABEL

SYMBOL	MEANING
	MANUFACTURER
	USE BY
	BATCH CODE
	CAUTION, CONSULT ACCOMPANYING DOCUMENTS. ATTENTION, SEE INSTRUCTIONS FOR USE.
	AUTHORISED REPRESENTATIVE IN THE EUROPEAN COMMUNITY

· Contraindications

If the patient is hypersensitive to Dental Porcelain or any of the other components, this medical product should not be used. Or it should be only used under the strict supervision of the patient's doctor/dentist.

· EU Authorized Representative

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