




# Super Porcelain ADDMATE

## Special Features

ADDMATE is a correction porcelain which can be used with any porcelain fused to metal (PFM) with a thermal expansion coefficient range of  $12.0\sim 13.0\times 10^{-6}/^{\circ}\text{C}$ , except porcelain fused to titanium (PFT). ADDMATE makes even the most difficult porcelain corrections possible, such as post-solder corrections, fine morphological adjustments after glazing and the correction of air bubbles.

### Applications and usage of ADDMATE

Post-glazing Morphological Retouching and Correction

Build-up ADDMATE on contacts and areas of insufficient porcelain. Then, bake it.

**Note** For large area correction or retouching which needs large amounts of porcelain, it is preferable to use regular Noritake Super Porcelain EX-3.

Correction of Areas Contaminated by Dust Particles

Remove dust particles lodged in the porcelain, often appearing as black spots, with a carbide bur. Clean the contaminated area by alumina sandblasting at 0.15MPa. After steaming or ultrasonic cleansing, build-up ADDMATE in a shade compatible to the area of correction. Then, bake it.

Correction of Bubbles

- a. Correction of pinholes.  
Pinholes are pinpoint air bubbles that emanate from within the porcelain to the surface. The correction is made by using a tapered instrument to apply ADDMATE into the pinhole. Do not expand the size of the pinhole. Build up with slightly excessive ADDMATE in consideration of shrinkage then bake it. Grind away excess porcelain with a silicone point and polish it.
- b. Correction of swollen air bubbles.
  - (1) Grind away the swollen air bubble and surrounding porcelain with a carborundum point or carbide bur, widening the pit. To make the correction look natural, we recommend that the pit be ground vertically when the pit is near the incisal  $1/3$ , and in the mesiodistal direction when the pit is near the cervical  $1/3$ .
  - (2) Sandblast the metal at the bottom of the pit by alumina sandblasting at 0.15MPa.
  - (3) Build-up ADDMATE opaque to the same thickness as the surrounding opaque. Avoid excess build-up of opaque as shrinkage is minimal. Using a brush, thoroughly remove all excess ADDMATE opaque adhering to the body porcelain layer.  
(Excess opaque adhering to the body porcelain layer will cause a boundary line after baking.)
  - (4) Before the opaque dries, build-up ADDMATE in a shade compatible with the body porcelain. Build-up ADDMATE slightly excess to allow for shrinkage after baking.
  - (5) After baking, grind away excess porcelain and finish.

Correction of Cracks

**Note** When cracks are caused by the incompatibility of thermal expansion coefficients between the porcelain and the metal, corrections are not possible.

- a. Mix ADDMATE with slightly more ADDMATE forming liquid than usual. Apply a single layer to the area of the crack.
- b. Apply vibration using an ultrasonic condenser or a similar tool.
- c. Bake at a temperature  $40^{\circ}\text{C}$  ( $72^{\circ}\text{F}$ ) lower than the normal glazing temperature of your PFM. For example, if your normal glazing temperature is  $920^{\circ}\text{C}$  ( $1,688^{\circ}\text{F}$ ), bake at  $880^{\circ}\text{C}$  ( $1,616^{\circ}\text{F}$ ).  
(For post-solder corrections, stabilize it with soldering investment.)

Correction of Porcelain Detached from Metal

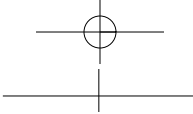
- a. Grind away porcelain in a gradient in order to facilitate additional build-up.
- b. Alumina sandblast the exposed metal area at 0.15MPa.
- c. As per "Baking Schedule", apply opaque wash bake in one thin layer and bake it.
- d. Build-up ADDMATE opaque in the same thickness as the surrounding opaque.
- e. Before the opaque dries, build-up ADDMATE (in excess to allow for shrinkage) in a shade compatible with the body porcelain.
- f. After baking, grind away excess and polish to desired finish.  
(For post-solder corrections, stabilize with soldering investment.)

Correction of Margin Porcelain

- a. Apply Noritake's ADDMATE Separator to the working model and fit the PFM to be corrected onto the model.
- b. Mix ADDMATE body and opaque at a ratio of 10 to 1 and build-up on the chipped area or portion of the margin which needs correction.
- c. Carefully remove the PFM from the working model and bake it at a relatively low temperature, to avoid glossiness or rounding of edges. Polish to desired finish.

Fine Correction of Porcelain Laminate Veneer (PLV) after Removal from the Refractory Model

- a. Apply Noritake's Magic Separator to the master model.
- b. After fitting PLV to the master model, build-up ADDMATE to the deficient area.
- c. Remove PLV from the master model. Bake at a relatively low temperature on a porcelain mat, to avoid glossiness or rounding of edges. Polish to desired finish.



## Baking Schedule

	Dry-out time	Low Temperature		Heat Rate		HIGH TEMP.		Vacuum Level	Release Vacuum		Hold Time
	min.	°C	°F	°C/min.	°F/min.	°C	°F	kPa*	°C	°F	min.
Wash bake of opaque	5	450	842	45	81	700	1292	96	700	1292	1 (UNDER VACUUM)
Correction after post-soldering	5	450	842	40	72	660	1220	96	660	1220	1 (UNDER VACUUM)
Correction on margin or PLV	5	450	842	45	81	680	1256	96	670	1238	0
In case of self-glaze	5	450	842	40	72	700	1292	96	690	1274	0

**Note** The above is only a guideline. Different porcelain furnaces may necessitate adjustments to recommended temperatures.

\*96kPa = 72cmHg (29 inchesHg)

## Color Table

Use the table below as a guide for achieving desired shades when using ADDMATE.

OPAQUE	CORRESPONDING SHADES	BODY	CORRESPONDING SHADES
Light Opaque	A1O, A2O, A3O, B2O	Light Body	A1B, A2B, A3B, B2B
Dark Opaque	A3.5O, B3O, B4O	Dark Body	A3.5B, A4B, B3B, B4B

For shades other than those listed above, use one of the following ADDMATE shades.

<b>E</b>	For all enamel shades	<b>T</b>	For all translucent shades	<b>LT</b>	For Luster Porcelain translucent shades
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## Precautions when using ADDMATE

- ① ADDMATE is a low temperature fusing porcelain. The following precautions must be followed in order to avoid imperfections such as blackening or whitening of the porcelain.
  - a. Use only ADDMATE forming liquid when mixing.
  - b. Use only Noritake Magic Separator when separating PFM from the gypsum die.
  - c. If tissue paper fiber mixes with the porcelain slurry during water absorption of the condense procedure, the fiber will not completely burn off. After drying, check to make sure that no residual tissue fiber remains.
  - d. Always use freshly mixed porcelains.
- ② Periodically fire your porcelain furnace, while empty, at around 1,000°C (1,832°F) to keep the interior clean.
- ③ Temperature variations of the porcelain furnace may be significant at lower ranges. Determine the exact baking program by test before actual baking.
- ④ To prevent deforming of the solder area when using soldering material of a low fusing temperature, first stabilize by using soldering investment. Avoid contact with porcelain. Then, proceed to correction baking.
- ⑤ When making corrections to areas near the solder, thoroughly remove flux, etc.
- ⑥ Do not build-up and fire ADDMATE on top of soldering material. Cracks may result.
- ⑦ After firing ADDMATE, do not subsequently bake any higher temperature porcelains such as Super Porcelain EX-3.
- ⑧ After use, tightly close ADDMATE jars and store.
- ⑨ Always use appropriate protection to avoid inhalation of porcelain dust.
- ⑩ Always use protective eye goggles when grinding or polishing porcelain.

### SYMBOLS USED IN A LABEL

	MANUFACTURER		BATCH CODE	<b>EU Authorized Representative</b> Name: Kuraray Europe GmbH Address: Philipp-Reis-Str.4 65795 Hattersheim am Main, Germany	1639
	USE BY		CATALOGUE NUMBER		
	CONSULT INSTRUCTIONS FOR USE		AUTHORISED REPRESENTATIVE IN THE EUROPEAN COMMUNITY		

**Warning** 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.

*Noritake*

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