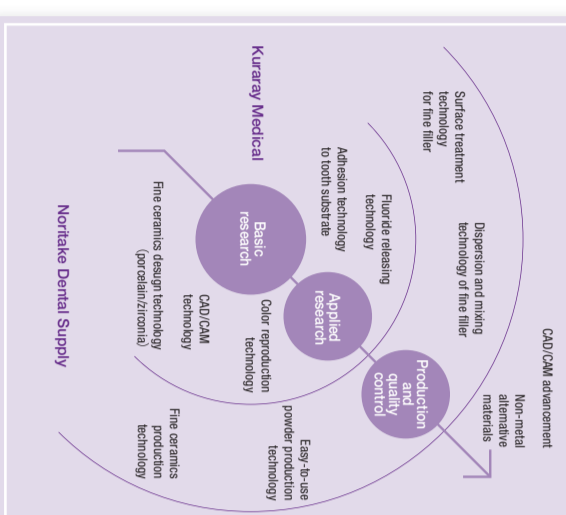


**Company Profile**

Kuraray Medical Inc. and Noritake Dental Supply Co., Ltd. merged in April 2012 with the aim of creating synergy in the areas of development, production, and sales, and strengthening their presence in the Japanese and global markets. The new company, Kuraray Noritake Dental Inc., seeks to develop new products based on the technologies cultivated thus far by the individual companies, and through it, to contribute to enhancing patients' quality of life, continuing to take on the daily challenge of expanding into new technology domains.



**KATANA Zirconia & CERABIEN ZR (CZR) Porcelain Fused Zirconia (PFZ) Solution**

*"The patient expressed a lack of confidence in her smile due to esthetic issues with her maxillary central incisors. Final crowns created using Noritake KATANA all-ceramics were cemented.*

*The result is a beautiful smile with completely natural-looking teeth."*



**KATANA Zirconia : Full Contour Zirconia (FCZ) Solution**

KATANA Zirconia Material can make Full Contour Zirconia which has high cost performance. You can get strong and stable posterior restoration without layering. CERABIEN ZR (CZR) Internal & External Stain and E-Graze will give more esthetic result with minimum intervention.



Preoperative Outcome  
(The model is FCZ made from KATANA Zirconia A Disc by polishing resin with Pearl Surface Z)

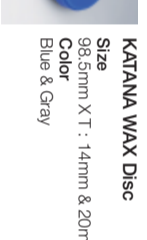
**Related Materials**



**Pearl Surface Z (Polishing Materials)**  
Diamond Paste for Polishing Dental Restorations. Should be used with.



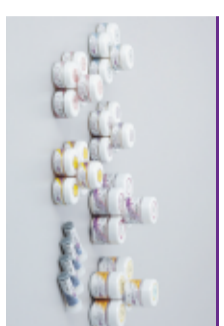
**CERABIEN ZR (CZR) E-Graze**  
Glazing material for Full Contour Zirconia



**KATANA WAX Disc**  
Size 98.5mm X T : 14mm X 20mm  
Color Clear & Gray

**Best matching with KATANA Zirconia Materials.**

CERABIEN ZR (CZR) Series is a porcelain specifically developed for making all ceramic crowns in use with zirconia frameworks. Crown and Bridge made from with **KATANA Zirconia** can be used in the posterior as well as anterior due to its extremely high flexural strength and excellent fracture toughness. The combination of CERABIEN ZR (CZR) Series and **KATANA Zirconia** will give you enhanced esthetics and fitness with maximum strength for an overall superior restoration.



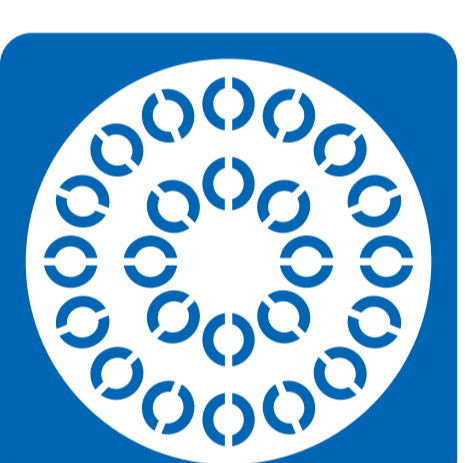
**Kuraray Noritake Dental Inc.**  
300 Higashi-yama, Miyoshi-cho  
Miyoshi, Aichi 470-0293, Japan  
<http://www.kuraraynoritake.com>

MOE-2013.7.26

**KATANA**  
Zirconia Materials



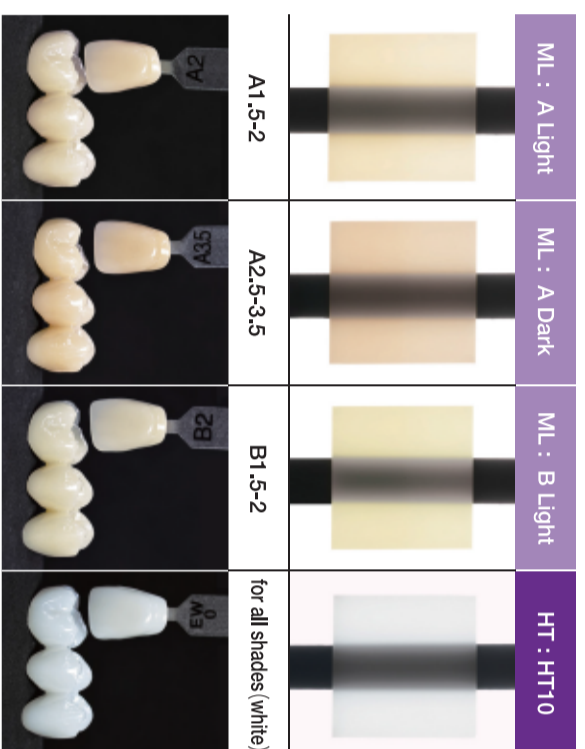
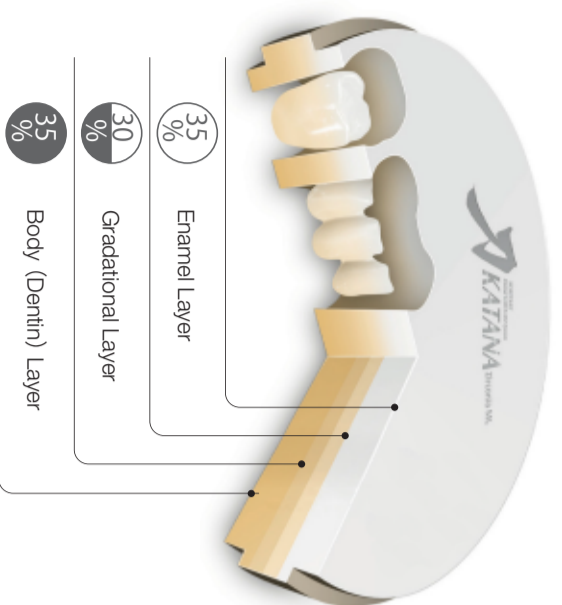
- Pre-colored Technology
- Esthetic High Translucency
- Low Monoclinic Transformation
- High Strength
- Easy Milling



“High Translucency” or “Safety” Which do you choose? You can get both with “KATANA Zirconia (ML & HT)”

### Collaboration between High Translucency & Pre-colored Technology

Multi Layered, KATANA Zirconia (ML)  
Specialized for FCZ (Full Contour Zirconia)

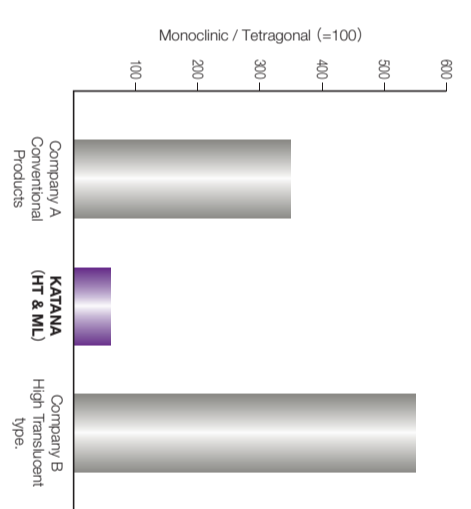


### Low Monoclinic Transformation

What is Monoclinic Transformation ?

Under hydrothermal condition, tetragonal system of zirconia surface transforms to monoclinic and gets brittle. (See figure of Company A) KATANA Zirconia, however, will have minimal monoclinic shift and maintain its strength. (See figure of KATANA Zirconia)

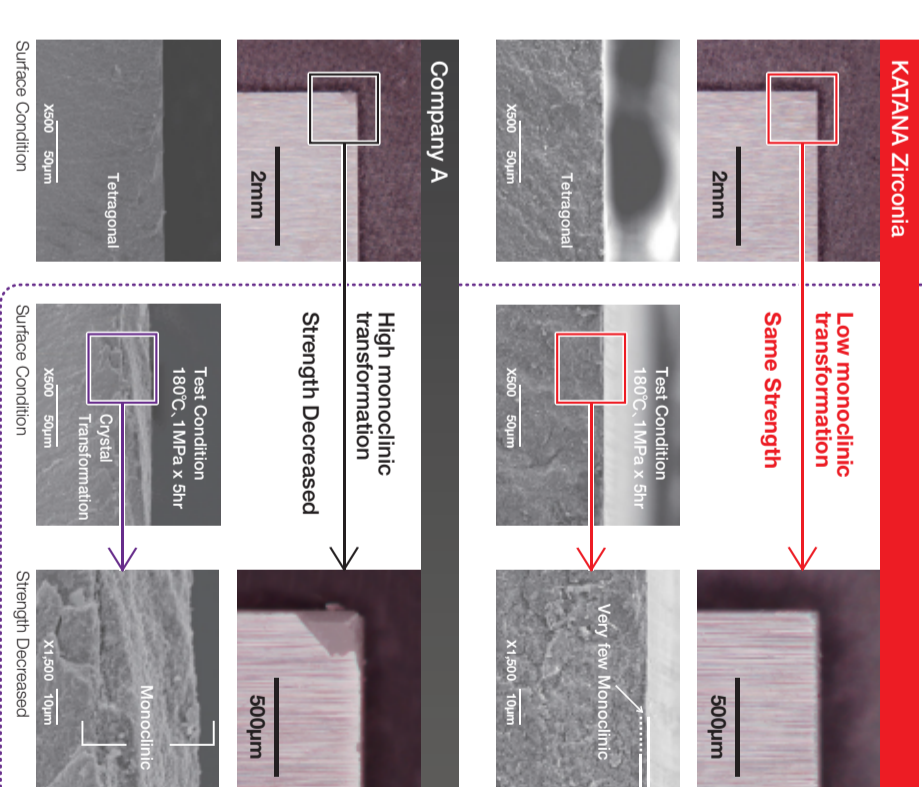
### Outstanding Durability



KATANA Zirconia (ML & HT) have outstanding durability even if they have high translucency.

### Lifetime Strength Persistence

After 24hrs hydrothermal storage



Company A  
High monoclinic transformation  
Strength Decreased

KATANA Zirconia  
Very few Monoclinic  
Same Strength

Company A Conventional Products  
KATANA (HT & ML)  
Company B High Translucent type

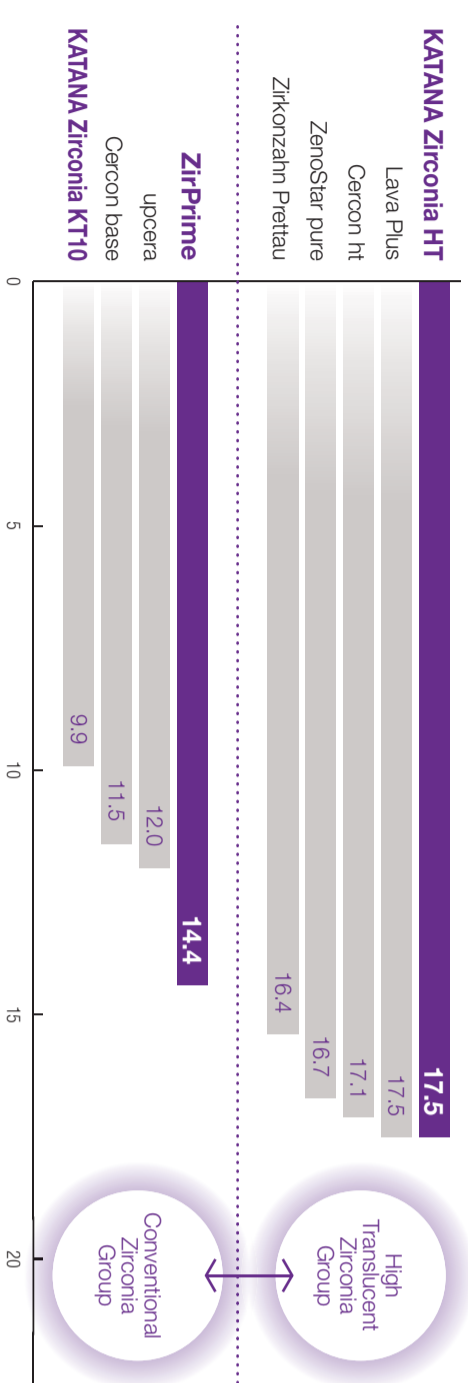
Test Condition 180°C, 1MPa x 5hr  
Tetragonal  
Surface Condition x200 50µm  
2mm

Test Condition 180°C, 1MPa x 5hr  
Very few Monoclinic  
Surface Condition x1500 10µm  
500µm

Test Condition 180°C, 1MPa x 5hr  
High monoclinic transformation  
Surface Condition x200 50µm  
500µm

Test Condition 180°C, 1MPa x 5hr  
Monoclinic  
Strength Decreased  
Surface Condition x1500 10µm

### Translucency parameter



### Esthetic High Translucency & Pre-colored Shade

#### Color Variety

KATANA Zirconia (ML & HT) Disc

ML High-translucent, multi-layered and pre-colored disc for FCZ

HT High-translucent white



### Line-up of KATANA Zirconia Material (All Presintered)

| Zirconia Line-up         |          | KATANA Zirconia (ML)               | KATANA Zirconia (HT) |
|--------------------------|----------|------------------------------------|----------------------|
| Diameter                 | Straight | 10                                 | 98.5mm               |
|                          | Color    | 14                                 | ●                    |
|                          | Color    | 18                                 | ●                    |
|                          | Color    | 22                                 | ●                    |
| Thickness                | Color    | 26                                 | ●                    |
|                          | Color    | 26                                 | ●                    |
| Shade                    | A Light  | ●                                  | HT10 (white)         |
|                          | B Light  | ●                                  |                      |
| <b>Physical Property</b> |          |                                    |                      |
| Flexural Strength        |          | KATANA Zirconia (ML & HT)          |                      |
| Fracture toughness (K1c) |          | 1,100MPa<br>≥5MPa·m <sup>1/2</sup> |                      |