

KATANA™ Zirconia YML

EMPOWER YOUR DENTAL LAB.
Discover next evolution multi-layered.



REVOLUTIONARY ALL-IN-ONE DISC DESIGN

KATANA™ Zirconia YML is a new definition of zirconia in dentistry. Characterized by a unique raw material combination of highly translucent zirconia with high strength, this innovative material will truly empower your dental lab. See how it can help you bring more efficiency, clarity, simplicity and precision into your procedures without compromising the quality of the outcomes!



Image of gradation

Layer	Flexural Strength ¹	Translucency ²
High translucency		
Enamel (35%)	750 MPa	49%
Body 1 (15%)	1.000 MPa	47%
Body 2 (15%)		
Body 3 (35%)	1.100 MPa	45%
High strength		

(..%) the thickness of each layer in a disc in %



Measurement condition: Evaluated by base material (white color).

1 According to ISO 6872: 2015, Sample size: 3 x 4 x 40mm,

2 All light transmittance, illuminant: D65, Thickness of sample: 1.0mm

Data source: Kuraray Noritake Dental Inc. The numerical value varies according to a condition.

WE CONTROL EVERY DETAIL

KATANA™ Zirconia YML is the latest KATANA™ multi-layer disc with a well-balanced combination of color/translucency and flexural strength gradation. Thanks to Kuraray Noritake Dental Inc.'s (Kuraray Noritake Dental) proprietary multi-layer technology, this latest development has been realized by matching three raw materials with different yttria contents. These layers are perfectly harmonized to each other due to the fact that all fundamental production steps, including purification, refining of the zirconia raw material and the addition of essential components such as yttria, are all processed in-house by Kuraray Noritake Dental.

Combined with a proprietary zirconia pressing technique as well as our refined pre-sintering process, the new KATANA™ Zirconia YML fits harmoniously in the KATANA™ family. As a "All-In-One Solution" KATANA™ Zirconia YML offers exceptional design flexibility from long-span full-arch monolithic bridge restorations to highly aesthetic anterior monolithic crown restorations.

FEATURES

BENEFITS

FAST PROCESSING

- ▶ High-speed sintering (54 minutes) offers completely new possibilities. Waiting time is reduced to a minimum. For re-make and rush cases, it is now possible to finish the work easily within one day. In addition, the minimized overnight-sintering cycles enable shorter delivery time to increase your business efficiency.

ALL-IN-ONE SOLUTION

- ▶ Due to the high translucency and high strength combined within one disc, the entire indication spectrum can be covered. This minimizes your inventory of different zirconia discs.

SIMPLE AESTHETICS

- ▶ A seamless multi-layered technology eliminates visible transition lines, emphasizing natural color and translucency, that ensures a simplified, time-saving procedure.

CONTROLLED FIRING DEFORMATION

- ▶ Improving the fitting accuracy of restorations after the final sintering process reduces risk of remanufacturing, which is definitely one added benefit for dental labs. No waste of time and materials.

NO LIMITS TO YOUR DESIRES

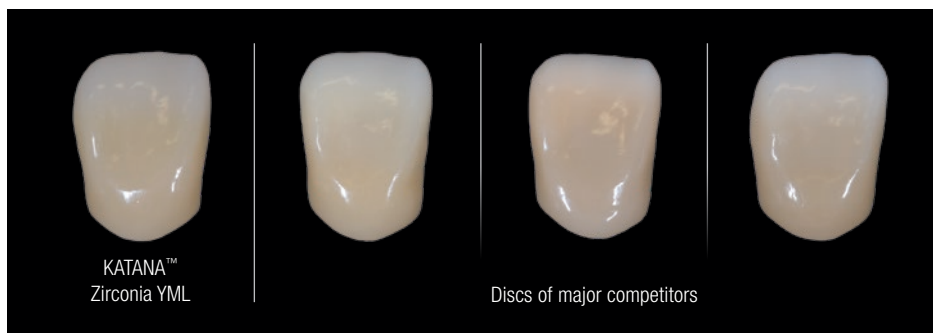


Based on KATANA™ Zirconia YML A3 with CERABIEN™ ZR FC Paste Stain
Courtesy of DT Marco Stoppaccoli – L'Aquila

HIGH-SPEED SINTERING UP TO 3-UNIT BRIDGE

Outstanding quality paired with velocity is an absolute unique feature of KATANA™ Zirconia over all competitive products. The unique pressing and pre-sintering technique is the key to allow our customers to realize restorations of up to 3-unit bridges without any compromise in terms of aesthetics or mechanical properties using the 54-minute high-speed sintering* process.

*The material is removed from the furnace at 800°C. A furnace with a configurable YML firing program is required.



KATANA™ Zirconia YML displays superior optical properties after 90-minute sintering compared to discs of major competitors after 90-minute sintering.*

*This sintering program is not recommended by other competitor's zirconia discs.

SINTERING PROGRAM

	Temp.1	Rate of Temp. Increase °C/°F min	Temp.2	Rate of Temp. Increase °C/°F min	Temp.3	Rate of Temp. Increase °C/°F min	Temp.4	Hold Time	Rate of Temp. Increase °C/°F min	Temp.5
54-minute	Room Temp.	120°C/216°F	1450°C/2642°F	10°C/18°F	1600°C/2912°F	—	—	20 min.	-120°C/216°F	800°C/1472°F
90-minute	Room Temp.	50°C/90°F	1400°C/2552°F	4°C/7°F	1500°C/2732°F	10°C/18°F	1560°C/2840°F	16 min.	-50°C/90°F	800°C/1472°F
7-hour	Room Temp.	10°C/18°F	1550°C/2822°F	—	—	—	—	2-hour	-10°C/18°F	RT.

The above sintering recommendation is only a guideline; some adjustments may be required depending on each individual furnace.
If the 54 or 90-minute sintering program is not programmable in your furnace, it is not possible to set the furnace according to one of these schedules.

VERSATILITY OF APPLICATION RANGE

Exceptional design flexibility is offered – from veneers to full-arch restorations. In each case, you may choose a monolithic, cut-back or framework design with the appropriate fabrication procedure depending on individual needs.



ALL-IN-ONE SOLUTION

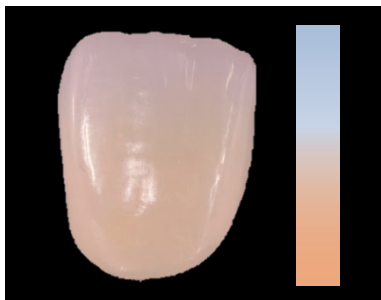
- ✓ Laminate veneer
- ✓ Inlay, onlay
- ✓ Anterior / posterior crown
- ✓ Long span bridge
- ✓ Framework



NATURAL COLOR AND TRANSLUCENCY

KATANA™ Zirconia YML was developed based on the concept of being “lifelike”, that accurately and naturally expresses the color and translucency of natural teeth.

SEAMLESS COLOR AND TRANSLUCENCY



Enamel Layer

To provide high translucency that harmonizes with the anterior teeth.

Body Layer 1

To provide seamless color and translucency towards the Enamel Layer.

Body Layer 2, 3

To provide deep and vivid color while reducing whitening.

SHADE / THICKNESS SELECTION

Select the target shade and the correct disc thickness to achieve an appropriate graduation between crown length, enamel and body (dentin).

SERIES	SHADE							SIZE (Diameter/Thickness)
	A1	A2	A3	A3.5	A4	B1	B2	
YML								98.5 mm/14, 18, 22 mm
	B3	C1	C2	C3	D2	D3	NW	

KATANA™ Zirconia YML color should be set for glazing, and for polishing, it tends to become darker during the polishing procedure. Therefore, select lighter shade than the target shade color.

MAKING THE MOST OF KATANA™ YML'S FEATURES

CONTROLLED FIRING DEFORMATION

KATANA™ Zirconia YML, with its different composition layers, achieves high precision shrinkage and stable CTE values by controlling the whole process from refining to molding. Additionally, an extensive quality control, i.e. optimizing all processes combined with unique in-house developed raw materials deliver our best KATANA™ material of all time. KATANA™ Zirconia YML.



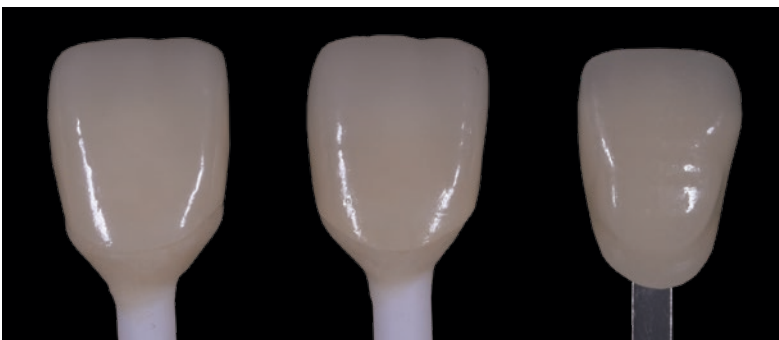
Kuraray Noritake Dental distinguishes itself by its unique in-house production of zirconia raw materials. Many years of expertise in manufacturing the company's own powder have brought the material quality of KATANA™ to completely new dimensions, not only by controlling the degree of purity and particle sizes, but also by creating an optimal balance of binders, color pigments, stabilizers and other ingredients. In this way Kuraray Noritake Dental guarantees its customers a material they can always rely on.

POSSIBLE TO REDUCE FOR THINNER RESTORATIONS

KATANA™ Zirconia YML and STML are shown below with body layer thickness adjusted to 0.4*mm for YML, and 0.8*mm for STML. The body layer of YML can be adjusted thinner than that of high translucency zirconia, increasing its translucency even more.

*This is the minimum thickness recommended by the manufacturer.

COMPARISON WITH HIGH TRANSLUCENCY ZIRCONIA



* Test condition: All light transmittance, Illuminant: D65, thickness of YML (Body3) sample: 0.4mm, STML (Body3) 0.8mm

KATANA™ Zirconia
YML A3

KATANA™ Zirconia
STML A3

Shade Guide A3

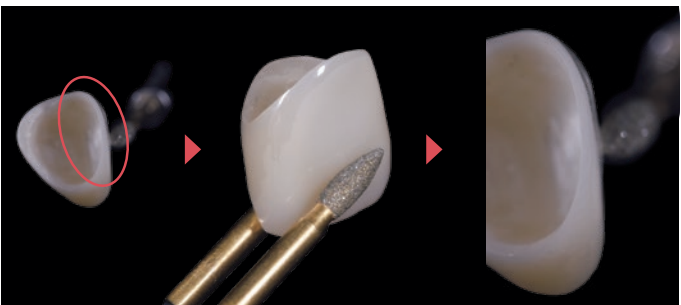
0.4mm (44%)

0.8mm (41%)

Thickness of Body Layer (Translucency*)

MARGINAL STABILITY AND ENHANCED FITTING ACCURACY

KATANA™ Zirconia YML shows sharp margins and less chipping, thereby leading to better marginal fit. Thinner restorations show that this good result in sharp margin supports the use of KATANA™ Zirconia YML.



Even if the restoration margins have been milled to a very thin profile, they still show smooth margins without any chipping.

A NEW FORMULA FOR AESTHETIC MONOLITHIC LONG-SPAN RESTORATIONS

By MDT Daniele Rondoni

Usually, the aesthetic potential of a dental ceramic material – specifically its translucency – may be increased only at the expense of a decreased flexural strength. The new KATANA™ Zirconia YML from Kuraray Noritake Dental Inc. is different. With its high flexural strength of 1,100 MPa in the lower half of the blank and high translucency in the upper body and incisal areas, it has a high aesthetic potential and an unlimited indication range, as shown using the following case example.



Figure 1: KATANA™ Zirconia YML 4-unit and 6-unit bridges after milling and sintering. A natural vestibular surface texture plays a decisive role in the creation of aesthetic monolithic restorations.



Figure 2: The two bridges on the model after ultra-micro layering with CERABIEN™ ZR FC Paste Stain (Kuraray Noritake Dental Inc.).

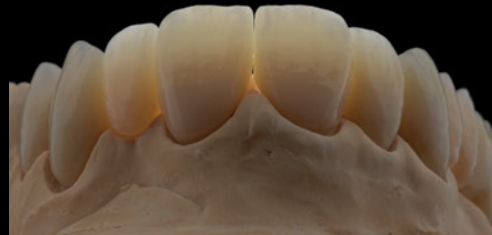


Figure 3: Stained and glazed restorations and their translucency in transmitted light.



Figure 4: Buccal view of the 6-unit bridge cemented in the patient's mouth.



Figure 5: Buccal view of the 4-unit bridge cemented in the patient's mouth.

With this new type of multi-layered zirconia, it is possible to produce aesthetic monolithic restorations suitable even for use in the anterior area. A high design flexibility is offered despite strength gradation, and the high translucency in the incisal area is responsible for a natural look after sintering. Ultra-micro layering and glazing on the monolithic surface will be sufficient to produce outcomes to our patients' satisfaction.

PRODUCT ASSORTMENT

KATANA™ ZIRCONIA YML

KATANA™ Zirconia YML	A1	14 mm	KATANA™ Zirconia YML	B3	14 mm
KATANA™ Zirconia YML	A1	18 mm	KATANA™ Zirconia YML	B3	18 mm
KATANA™ Zirconia YML	A1	22 mm	KATANA™ Zirconia YML	B3	22 mm
KATANA™ Zirconia YML	A2	14 mm	KATANA™ Zirconia YML	C1	14 mm
KATANA™ Zirconia YML	A2	18 mm	KATANA™ Zirconia YML	C1	18 mm
KATANA™ Zirconia YML	A2	22 mm	KATANA™ Zirconia YML	C1	22 mm
KATANA™ Zirconia YML	A3	14 mm	KATANA™ Zirconia YML	C2	14 mm
KATANA™ Zirconia YML	A3	18 mm	KATANA™ Zirconia YML	C2	18 mm
KATANA™ Zirconia YML	A3	22 mm	KATANA™ Zirconia YML	C2	22 mm
KATANA™ Zirconia YML	A3.5	14 mm	KATANA™ Zirconia YML	C3	14 mm
KATANA™ Zirconia YML	A3.5	18 mm	KATANA™ Zirconia YML	C3	18 mm
KATANA™ Zirconia YML	A3.5	22 mm	KATANA™ Zirconia YML	C3	22 mm
KATANA™ Zirconia YML	A4	14 mm	KATANA™ Zirconia YML	D2	14 mm
KATANA™ Zirconia YML	A4	18 mm	KATANA™ Zirconia YML	D2	18 mm
KATANA™ Zirconia YML	A4	22 mm	KATANA™ Zirconia YML	D2	22 mm
KATANA™ Zirconia YML	B1	14 mm	KATANA™ Zirconia YML	D3	14 mm
KATANA™ Zirconia YML	B1	18 mm	KATANA™ Zirconia YML	D3	18 mm
KATANA™ Zirconia YML	B1	22 mm	KATANA™ Zirconia YML	D3	22 mm
KATANA™ Zirconia YML	B2	14 mm	KATANA™ Zirconia YML	NW	14 mm
KATANA™ Zirconia YML	B2	18 mm	KATANA™ Zirconia YML	NW	18 mm
KATANA™ Zirconia YML	B2	22 mm	KATANA™ Zirconia YML	NW	22 mm

EASY FINISHING WITH LIQUID CERAMICS

KATANA™ Zirconia YML has a high esthetic potential that eliminates the need for a complex finishing procedure. Instead, the best option to obtain beautiful results with KATANA™ Zirconia YML is ultra-micro layering with Kuraray Noritake Dental's CERABIEN™ ZR FC Paste Stain. This portfolio of liquid ceramics is used in ultra-thin layers in the micron range. Hence, although being additive, the technique allows for a monolithic design without any cutback. This process is highly efficient and very well controllable, leading to predictable outcomes.

BENEFITS

- ✓ Easy-to-control paste-type external stain gives desirable appearance of full zirconia characterization
- ✓ Can be baked at 750°C/1382°F, lower than conventional external stain temperatures

