

FREQUENTLY ASKED QUESTIONS

KATANA™ Zirconia HTML PLUS



What has been improved compared to "KATANA™ Zirconia" HTML?

Compared to "KATANA™ Zirconia" HTML, "KATANA™ Zirconia" HTML PLUS has higher translucency, and can optimize colors to harmonize better with the oral cavity. "KATANA™ Zirconia" HTML PLUS is compatible with the 54-minute sintering program, and can be sintered according to same sintering schedule as UTML, STML and YML.



Photo source : Kuraray Noritake Dental Inc.

Comparison of color:

"KATANA™ Zirconia" HTML PLUS A3.5 vs. previous HTML A3.5.

Color of HTML PLUS is brighter, deeper and more vivid even on the gum area.

How has the translucency of "KATANA™ Zirconia" HTML PLUS been improved compared to that of HTML?

"KATANA™ Zirconia" HTML PLUS is made from a completely new raw material developed in-house, allowing us to improve its translucency.

What is the mechanical property of “KATANA™ Zirconia” HTML PLUS?

“KATANA™ Zirconia” HTML PLUS has the same mechanical strength as HTML, while its translucency has been improved compared to HTML. Please refer to the inserted chart below.

Comparison of physical properties of “KATANA™ Zirconia” series

	Layer	Flexural Strength ¹	Translucency ²
UTML	All layers	550 MPa	51%
STML	All layers	750 MPa	49%
HTML PLUS	All layers	1,150 MPa	45%
YML	Enamel	750 MPa	49%
	Body 1	1,000 MPa	47%
	Body 2, 3	1,100 MPa	45%

* 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 existing conditions.

What is the sintering schedule of “KATANA™ Zirconia” HTML PLUS? Can HTML PLUS be sintered according to the conventional sintering schedule?

“KATANA™ Zirconia” HTML PLUS, YML, UTML, and STML can be sintered using 54-minute, 90-minute, or standard sintering schedule. UTML and STML can be sintered according to either the new or conventional sintering schedule, but HTML PLUS cannot be sintered according to the conventional HTML sintering schedule.

Sintering program	UTML	STML	HTML PLUS	YML						
	Temp.1	Rate of Temp. Increase °C/min. (°F/min.)	Temp.2	Rate of Temp. Increase °C/min. (°F/min.)	Temp.3	Rate of Temp. Increase °C/min. (°F/min.)	Temp.4	Hold Time	Rate of Temp. Increase °C/min. (°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.
In case of 54, 90-minute sintering, if it cannot be set according to the schedule, it cannot be sintered.

Why has the 90-minute sintering program been changed?

HTML PLUS and HTML are made from different raw materials. The sintering schedule has been adapted to sinter the raw materials of HTML PLUS appropriately.

What would be the result if the “KATANA™ Zirconia” HTML PLUS is sintered using the conventional sintering schedule?

This is not recommended as you will not be able to achieve your desired level of translucency or mechanical strength.

Why is the translucency measurement condition of “KATANA™ Zirconia” HTML PLUS different from conventional ones.

The measurement conditions differ depending on the manufacturer. Some manufacturers do not disclose this information. We adopt the All Light Transmittance Testing Method (Illuminant: D65, Thickness of sample: 1.0mm) of Tosoh, Ltd., which other major manufacturers also adopt.

In what shades, disc size (thickness/diameter) is “KATANA™ Zirconia” HTML PLUS available?

“KATANA™ Zirconia” HTML PLUS is available in a selection of 14 shades. Please refer to the following table overview for more information about shade and disc thickness.

Shade / Thickness selection

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

Is it possible to speed sinter a “KATANA™ Zirconia” HTML PLUS long span bridge?

No, this is not possible. 54 or 90-minute sintering is only possible for up to a three-unit bridge restoration.

Which finishing methods are recommended for “KATANA™ Zirconia” HTML PLUS?

“KATANA™ Zirconia” HTML PLUS can be finished by glazing, staining or porcelain application.

COMPATIBLE MATERIALS

CERABIEN™ ZR

- ✓ Glaze and Stain
 - FC Paste Stain,
 - External & Internal Stain
 - FL Glaze, VC Glaze
- ✓ Layering porcelain
 - Luster, etc.

CZR PRESS LF

- ✓ Stain and Glaze
 - LF External & Internal Stain
- ✓ Layering porcelain
 - LF Luster, etc.

Is it possible to finish “KATANA™ Zirconia” HTML PLUS restorations by simply polishing them after sintering?

Of course, this is possible. For this purpose, the desired high-polished finishing can easily be achieved with “PEARL SURFACE™ Z” (polishing paste).

Please note that the shade of “KATANA™ Zirconia” HTML PLUS should be pre-set for glazing, due to the fact that zirconia has a tendency to become darker during the polishing process. Therefore, select in advance one shade lighter than the target shade.

Can I apply other manufacturers' coloring liquids on "KATANA™ Zirconia" HTML PLUS?

This is not recommended as you will not be able to achieve your desired level of translucency or color development.

How have the colors "KATANA™ Zirconia" HTML PLUS been improved compared to HTML?

"KATANA™ Zirconia" PLUS has brighter, deeper and more vivid colors allowing it to harmonize better with the oral cavity, as well as, the gum color. The translucency has also been improved made possible by our newly developed in-house raw materials.

Is there any difference in the recommended frame design (minimum thickness, connector size) between "KATANA™ Zirconia" HTML PLUS and HTML?

Recommended frame design and points to be kept in mind for "KATANA™ Zirconia" HTML PLUS are the same as those of HTML. Only the sintering schedule is different. Please use the new sintering schedule for "KATANA™ Zirconia" HTML PLUS.

Is it possible to wet mill "KATANA™ Zirconia"?

It is generally not recommended to wet-mill this product, because the desired aesthetic effect may not be achieved due to the possibility of contamination, which can reduce translucency.

After sintering "KATANA™ Zirconia", white spots appeared on the restoration surface. What could be the reason for this?

If a restoration is contaminated before sintering, it will cause white spots to appear on the restoration during the sintering process. Causes for this are, for example, oily fingers, excessive purging with high air pressure, residuals of silicon point substance that were applied to the pre-sintered zirconia during adjustment procedures, the use of scanning spray, or the insufficient removal of zirconia powder that were created during the milling process/removal of sprue. Please take care not to contaminate the restoration.

Are the sintering schedules for "KATANA™ Zirconia" the same as other manufacturers' zirconia products?

The sintering parameters differ depending on manufacturers. "KATANA™ Zirconia" UTML, STML, YML and HTML PLUS (excluding HT and LT) can be sintered according to same sintering schedule. The maximum sintering temperature for the 54-minute program is 1600°C (2912°F), for the 90-minute program 1560°C (2840°F) and for the 7-hour program 1550°C (2822°F). Please refer to the sintering schedule when sintering restorations.

What type of sintering furnace can be used? Is it possible to use a sintering furnace that is not able to reach the maximum sintering temperature or heating rate?

Any sintering furnace, regardless of the manufacturer, is capable of setting the "KATANA™ Zirconia" sintering program, on condition that its technical specifications can be used. If the "KATANA™ Zirconia" sintering program is not programmable in your sintering furnace, it is unfortunately not possible to set the furnace according to this schedule.

Is it possible to adjust the vertical position of “KATANA™ Zirconia” multi-layer gradation in order to suit each clinical case more effectively?

Yes, this is possible using several options in your CAD/CAM software. These options allow the designer to change the restoration position within the disc profile to achieve the best gradation map for the restoration.

When placing the disc in the milling unit, how is it possible to identify the right side from the wrong side of “KATANA™ Zirconia” disc?

The side on which the “occlusal surface” sketch has been imprinted represents the upper layer (the enamel layer).

Is the shade pre-set for staining, just for polishing?

The shade of “KATANA™ Zirconia” multi-layered series should be pre-set for glazing.

Why is it possible to sinter “KATANA™ Zirconia” at such a high speed without compromising optical and mechanical properties?

“KATANA™ Zirconia” is characterized by the unique in-house production of zirconia raw materials: By using materials that Kuraray Noritake Dental Inc. has developed by themselves specifically for “KATANA™ Zirconia”, completely different from those of other competitors, it is possible to realize high-speed sintering without compromising the aesthetic and mechanical properties.



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- Before using this product, be sure to read the Instructions for Use supplied with the product.
- The specifications and appearance of the product are subject to change without notice.
- Printed color can be slightly different from actual color.
- Read the IFU (Instructions For Use) before the procedure.

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