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kuraray

Noritake

THE ZIRCONIA HAS A GLASS-LIKE TRANSLUCENCY

KATANA™ Zirconia

ST series **ST** Super Translucent / **STML** Super Translucent Multi Layered

UT series **UT** Ultra Translucent / **UTML** Ultra Translucent Multi Layered

Super/Ultra translucent
Chromatic multi layer
Translucent multi layer

Image may appear different from actual product.

NEW POTENTIALS FOR ZIRCONIA IN DENTISTRY

A new generation of zirconia.

The tooth consists of dentin and enamel, and the surface is covered with translucent enamel. To replicate the natural tooth in a restoration, the material used must also be translucent. Particularly in the treatment of anterior teeth, it has been customary to use porcelain and glass to provide the required translucency to restorations.

Zirconia has such excellent mechanical characteristics that it has become increasingly used to treat posterior teeth and make frameworks. Zirconia is less translucent than glass, thereby making its use in the anterior region limited.

KATANA™ Zirconia ST series (ST/STML) and **UT series** (UT/UTML) ,developed by KURARAY NORITAKE DENTAL INC. has overturned the conventional image of zirconia with its translucency, thereby opening the door for a new potential use in dentistry.

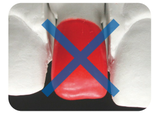
DEMAND FOR A MULTI-LAYERED DISC

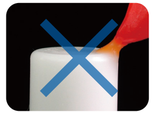
Simpler fabrication of aesthetic restorations.

The use of CAD/CAM systems to fabricate restorations has become widespread, due to the simplicity and cost-effectiveness of this technique, which does not require any complicated processes like a wax-up and investment.

We have developed and launched a multi-layered zirconia disc for use with CAD/CAM that reproduces the chromatic gradations of natural teeth. This innovation far surpasses what our competitors have to offer.

When single-color zirconia or glass materials are used, color adjustments including staining must be performed to provide the variation that gives the restoration a natural appearance. The development of our STML/UTML multi-layered zirconia discs with high translucency has reduced the complexity of this step, making it possible to create a highly aesthetic anterior restoration.





DEVELOPMENT FROM RAW MATERIALS

Properties to suit the requirements of the specific application.

Restorations fabricated for dental treatment must be variable to suit specific requirements. Among these variations, the level of translucency and the mechanical characteristics differ based on placement. For the fabrication of excellent restorations with a good balance between aesthetics and function, the clinician therefore needs materials that have been used for various target applications.

KURARAY NORITAKE DENTAL INC. includes a division that takes raw materials and develops and manufacturers dental-use zirconia from them. This division has been responsible for developing our proprietary zirconia products. The development of our **KATANA™ Zirconia ST/UT series** provides the translucency and mechanical properties needed for various applications, after carefully reconsidering the chemical composition of our previous products.

ST series has gradations of translucency, in addition to the chromatic gradations, making this series suitable for the restoration of anterior crowns. **UT series** has the most translucent dental zirconia available, making it suitable for the treatment of anterior crowns or for making veneer restorations. These two additions to the **KATANA™ Zirconia** line allows us to offer clinicians a wide range of zirconia products, thereby fulfilling the indications for most clinical applications.

Recommended And Indicated Applications

KATANA™ Zirconia		UT/UTML	ST/STML	HT/ML*
Anterior	Crown	√√√**	√√√***	√
	Veneer	√√√	√√	√
Posterior	Crown	√√	√√√	√√
	Inlay/Onlay	√√	√	√
Bridge	Anterior 3-unit	√	√√	√√
	Posterior 3-unit	-	√	√√√
	4-units or more	-	-	√√√
Framework		-	-	√√√
Properties	Translucency	high		
	Flexural strength			high

The number of check marks (√) indicates the degree to which the material is recommended for the listed application.
The bar (-) means that it is not recommended.
* KATANA™ Zirconia HT/ML is a high strength zirconia.
** Effective when the abutment color is utilized for use.
*** Effective when the effect of the abutment color needs to be overcome.

CONCEPT OF COLOR AND TRANSLUCENCY

STML: Super Translucent Multi-Layered Zirconia

Dual multi-layered zirconia with gradations of color and translucency.

The use of a restoration material with a single level of translucence to make anterior or posterior crown restorations can result in a grayish appearance on occasion, due to the effect of the abutment color.
In **STML**, both chroma and translucency are graduated from the incisal to the cervical region, with less translucency in the cervical region to minimize the effect of the abutment color. The chromatic gradations resemble those in the shade guide for reproducing the enamel and dentin.

UTML: Ultra Translucent Multi-Layered Zirconia

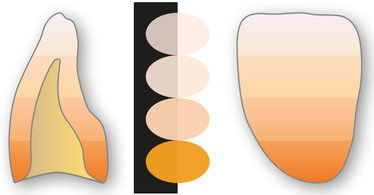
Translucent-as glass zirconia has the highest level of translucency.

For anterior crown or veneer restorations, a high level of translucency is required, to enhance the harmony of the restoration with the surrounding tooth structure and prevent it from a noticeably whitish appearance.
With **UTML**, all the layers are highly translucent, with the chroma in the incisal reduced to express the translucency of natural tooth enamel. This material is most suitable for treating cases where it is desirable to utilize the abutment color.

It is necessary to evaluate the abutment carefully, to determine if it is too discolored or stained to be compatible with the use of this product.

Choosing the correct color and level of translucence

STML



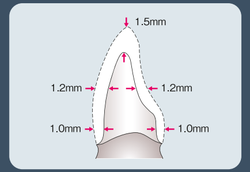
Translucency of the layers after sintering

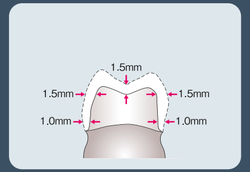
UTML

SCIENCE

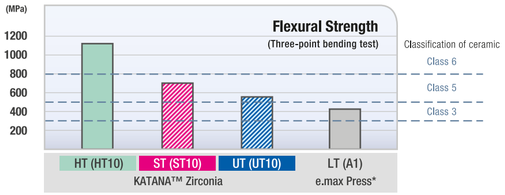
ST/UT series has better mechanical characteristics than glass-based materials. It is possible to fabricate a reliable restoration by keeping the wall thicknesses equivalent to those used with glass materials.

Restoration Wall Thickness

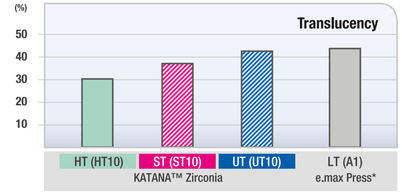




See the Instructions for Use for the appropriate wall thickness of restorations (ex. veneers, inlays and onlays).



According to ISO 6872: 2008
Sample size: 3 x 4 x 40mm



Wave length of light: 700nm
Thickness of sample: 0.5mm

* Not trademark of Kuraray Co., Ltd.

Data source: Kuraray Noritake Dental Inc.

TECHNICAL INFO

Composition		ZrO_2, Y_2O_3 etc.
Sintering Schedule		

* The sintering temperature for **ST/UT series** is different from that for **KATANA™ Zirconia HT/ML.**

Coefficient of Thermal Expansion (25-500°C / 77-932°F)	ST/STML	$9.8(\pm0.2)\times10^{-6}$/K
	UT/UTML	$9.7(\pm0.2)\times10^{-6}$/K
Combination products		
Glaze	CZR PRESS LF	External Stain (Glaze)
	Cerabien™ ZR	External Stain (FL Glaze, VC Glaze)
	CZR PRESS	Glaze
Stain	CZR PRESS LF	External Stain (A+, B+, C+, D+, Gray, Black, Blue, Green 1, Green 2, Yellow, Orange 1, Orange 2, Cervical 1, Cervical 2,Cervical 3, Earth Brown, Reddish Brown, Pure White, Pink, Salmon Pink, Red)
	Cerabien™ ZR	External Stain (A+, B+, C+, D+, Gray, Black, Blue, Green 1, Green 2, Yellow, Orange 1, Orange 2, Cervical 1, Cervical 2,Cervical 3, Earth Brown, Reddish Brown, Pure White, Pink, Salmon Pink, Red)
Add-on	Cerabien™ ZR	Add-on (AD-T, AD-B)

ORDER INFO

STML

ST

UTML

UT

Printed color can be slightly different from actual color.