



Lineup

KZR-CAD Zr	Color shade	Diameter(Φ) 98.5mm									
		Thickness (t)									
SHT	White	—	—	●	—	●	●	—	—	—	—
HT		—	—	●	—	—	●	—	●	—	—
T		—	—	●	●	●	●	●	●	—	—
HT-A1, HT-A2, HT-A3, HT-A3.5	Colored	—	—	●	—	—	●	—	●	—	—
SHT-A1		—	—	●	—	—	●	—	—	—	—
SHT-A2, SHT-A3, SHT-A3.5		—	—	●	—	●	●	—	—	—	—
NANOZR	White	Diameter(Φ) 98.3mm									
		●	●	●	●	●	●	●	●	●	●

Sintering Schedule

<KZR-CAD Zr Sintering Program>

	Heat Rate	Heat Rate	Hold	Cooling
Temperature (°C)	1,000	1,450	1,450	400 (in the furnace)
Time (hour)	2	1.5 (4.5)*	2	1.5

* In the case of a single crown to an 8-unit bridge made of T or HT or a single crown to a 3 unit-bridge made of SHT

* Heat rate to 1,450°C may differ depending on the furnace.

<KZR-CAD NANOZR Sintering Program>

A Sintering Program In the case of 1 ~ 7 unit bridge, sintered by inFire HTC(Sirona)

	Heat Rate	Heat Rate	Hold	Cooling
Temperature (°C)	850	1,450	1,450	1,000
Condition	3 (°C/min)	10 (°C/min)	120 min	8 (°C/min)

B Sintering Program In the case of 8 unit bridge or more or a whole disc, sintered by inFire HTC(Sirona)

	Heat Rate	Heat Rate	Hold	Cooling
Temperature (°C)	850	1,450	1,450	300 (in the furnace)
Condition	3 (°C/min)	3 (°C/min)	120 min	3 (°C/min)

[Precaution]

* Sinter with one tray.

* Do not use Sintering Pin in any cases.

* In the case of 1-7 unit bridge, remove from support pins and follow A sintering program on beads.

* However, in the case of sintering a whole disc without removing from support pins, follow B sintering program.

* Or 1-7 unit bridge removed from support pins with a disc can be sintered by B sintering program.

* In the case of 8 unit bridge or longer span or denture floor should be sintered with a whole disc without removing.

* Do not touch a tray until the display temperature shows under 100 °C.

Technical Zirconia

☑ KZR-CAD NANOZR

KZR-CAD NANOZR

Superior in fracture toughness



Esthetic Zirconia

☑ KZR-CAD Zr SHT
☑ KZR-CAD Zr HT
☑ KZR-CAD Zr T

Super High Translucent Zirconia Disc

New Color Shades Available!



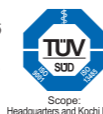
Purely Made-in-Japan Zirconia Disc with Isostatic Pressure Technique and YAMAKIN's Unique Technology*¹

*¹: Pre-Sintering Technology

Zirconia Disc for CAD/CAM

KZR-CAD Zr

ISO 9001/13485
ISO 14001
CERTIFIED



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ANNIVERSARY

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Technical Zirconia

✓ KZR-CAD NANOZR

Superior in Fracture Toughness

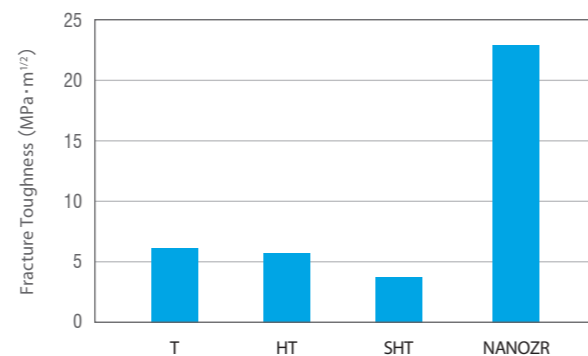


Unique material properties for maximum safety

The NANOZR is a zirconium oxide / aluminium oxide alloy reinforced with nano crystals, the physical properties of which are unique. It is much more resilient than comparable dental ceramics. The very high fracture toughness offers the utmost degree of safety. Furthermore, NANOZR is bio-compatible, resistant to aging. It is ideally suitable for crown and bridge application as well as for telescope structures and superstructures .

The break test

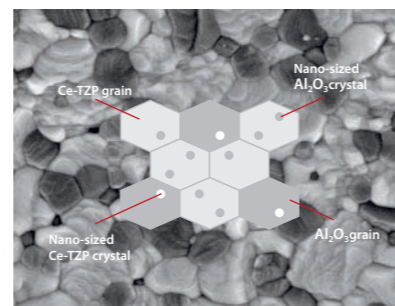
Steel balls, weighing 6, 14, 25 and 32 grams, were dropped from a height of 60 centimeters onto 1 mm thick discs made of aluminium oxide, yttriumstabilized (Y-TZP) zirconium oxide and NANOZR which were centered on a steel ring. Aluminium oxide cracked when struck by the 6 gram ball, Y-TZP cracked when struck by the 25 gram ball. NANOZR easily withstood the 32 gram ball.



The Microstructure

By integrating Ce-TZP and Al₂O₃ particles on a scale of a few nanometers (one billionth of a meter) in grains of the other component, the fracture toughness is increased by a factor of 2 in comparison with conventional zirconium dioxide ceramics.

The homogeneous structure of the ceramic matrix has a very high resistance to aging after a hydrothermal load (LTAD).



Esthetic Zirconia

✓ KZR-CAD Zr SHT
✓ KZR-CAD Zr HT
✓ KZR-CAD Zr T

Exquisite Esthetic Qualities with High Translucent

Made in Japan

Y₂O₃ enables high levels of strength and fracture toughness in zirconia, as it stabilizes zirconia crystallization. The raw materials for KZR-CAD Zr are produced by Tosoh Corporation, a Japanese company with a proven record worldwide. This means that KZR-CAD Zr is a purely made-in-Japan product.

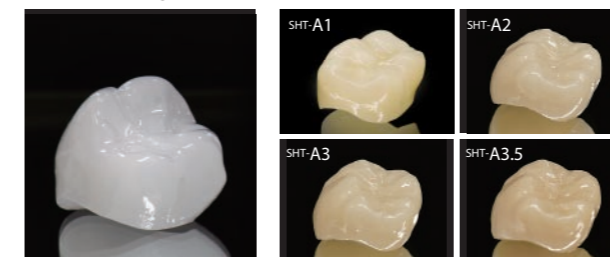


SHT (Super High Translucent)

- The highest light transmission in the series.
- Makes it possible to perform restoration utilizing the color of the abutment tooth.
- Suitable for cases requiring high aesthetic quality on anteriors so as to harmonize with natural teeth.

* Due to the physical properties of SHT, please do not use for cases which require high strength.

SHTColor lineup

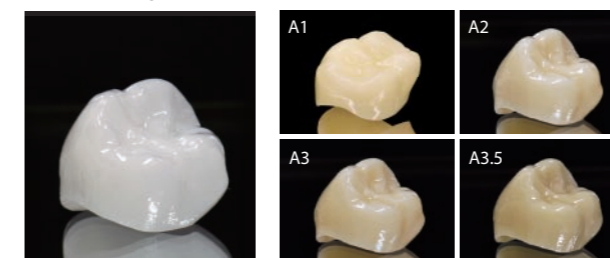


HT and SHT Offer Pre-Colored Shades!

HT (High Translucent)

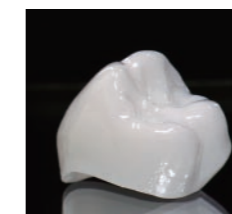
- Higher translucency than T(Translucent) with well-balanced of strength and translucency.
- Minimizes the working time required for layering and staining.
- Pre-colored shades are available.

HTColor lineup



T (Translucent)

- Original Shade was released in April, 2014.
- Suitable for making frameworks on an abutment tooth.
- High strength enables long bridges.



Characteristics (reference values)

	SHT	HT	T
Comparison of light transmission using a pellet of 0.5mm thickness			
Light Transmission (%)	51	43	33
Flexural Strength (MPa)	770	1,080	1,280

SHT has excellent light transmission, T has high flexural strength, and HT is designed to have a good balance of flexural strength and light transmission. For these reasons, KZR-CAD Zr is suitable for use with a broad range of cases.

High Machining Precision by CIP and Optimal Sintering Technology

KZR-CAD Zr has excellent compatibility thanks to non-directional CIP (Cold Isostatic Pressing) compression molding.

Carefully controlled CIP pressure and optimal sintering prevent fractures, cracks and detachment; also, they are designed so as to make machining precision higher.



Left Image: Optimal sintering under good conditions

Right Image: Over-sintering

Enlarged Image of Margin Area after Machining

