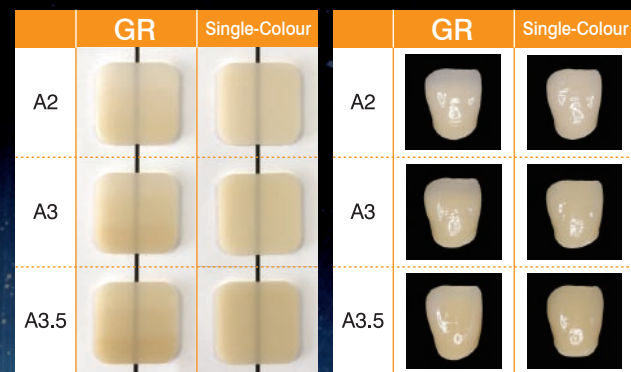
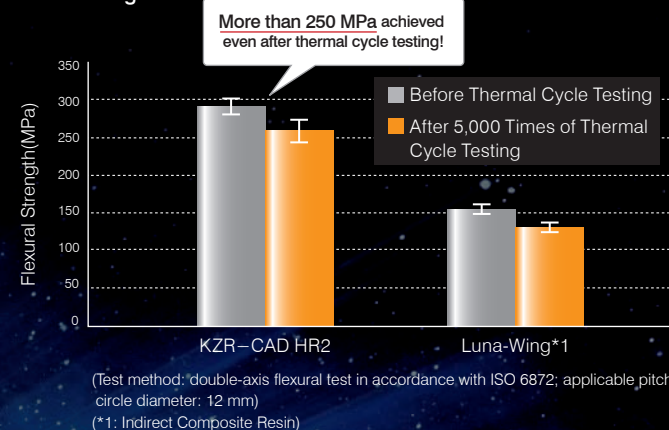


Comparison of Colour Tones with Single-Colour Products



Flexural Strength

■ Flexural Strength



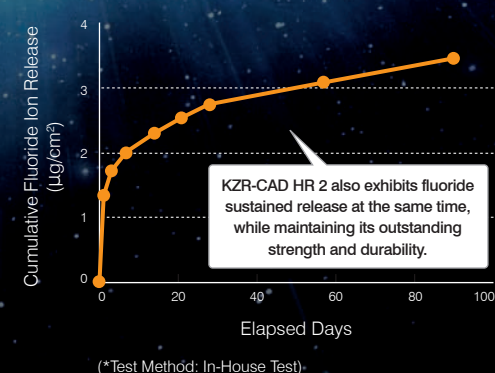
Flexural Strength of KZR-CAD HR2 is 290 MPa by double axis flexural test in accordance with ISO 6872; support disc diameter: 12mm, and 235 MPa by three-point flexural test in accordance with ISO10477. It has maintained high flexural strength of over 250 MPa by double axis flexural test even after thermal cycle testing (5,000 times at 4-60 C°, equivalent to about 1 year and a half*2)

Realising High Strength and Outstanding Aesthetic Qualities

KZR-CAD HR2 employs an evolved version of our in-house-developed ceramics cluster filler material, exhibiting fluoride sustained release along with a high level of strength. Our hybrid ceramics block GR Block achieves the same high levels of performance as KZR-CAD HR2 – and, thanks to its multi-layered gradation, goes even further in the pursuit of outstanding aesthetic qualities. These aesthetic qualities can be enhanced even further in combination with our hybrid composite resins TWiNY and Luna-Wing.

Long-term Sustained Release of Fluoride

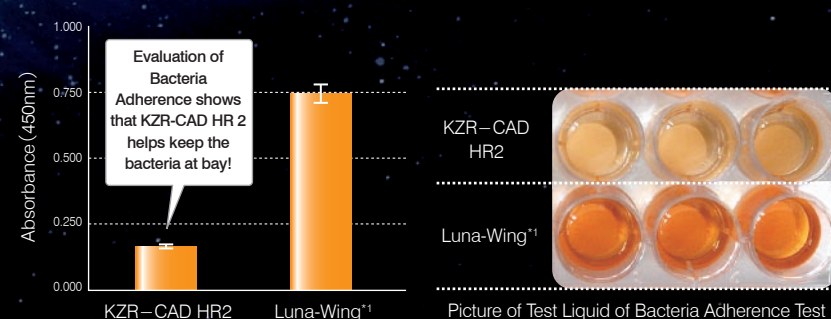
■ Fluoride Sustained Release



KZR-CAD HR 2 continuously releases fluoride ion securely, and stably maintains its strength by optimization of the surface-treatment conditions of fluoride ion release filler.

Combatting Bacteria Adherence

■ Evaluation of Bacteria Adherence



(*1: Indirect Composite Resin) has been demonstrated that bacteria adherence is less where absorbance values are lower and where the color is fainter, as in the picture.

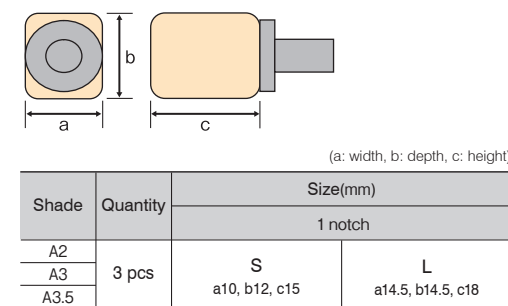
Under evaluation of bacteria adherence, it is recognized that the streptococcus mutans bacteria, which forms plaque in the mouth, tends to adhere less to KZR-CAD HR 2. Moreover, Yamakin has carried out a wide range of safety evaluations on cells under simulated oral conditions, in collaboration with the Department of Oral and Maxillofacial Surgery, Kochi Medical School, Kochi University.

Reference: Hybrid Indirect Composite Resin Safety Evaluation Report Biological Evaluation of "TWiNY" (Safety Reports No.8)

Lineup

Simply Beautiful and Superb

GR
GRADATION
KZR-CAD HR 2
Hybrid Ceramics Block for CAD/CAM



Yamakin Products

Hybrid Composite Resin for Crowns and Bridges

TWiNY



Light-cured Indirect Composite Resin

Luna-Wing



Bonding Materials for Dental Resin, Ceramics & Alloys

MultiPrimer Multi Primer Series



Resin-based Dental Restorative Material <Chairside Product>

iGOS



Optimal Light-Curing of Indirect Composite Resin

LED CURE Master



C&B DIAMOND POLISHER

NET: 8g



C&B NANO DIAMOND POLISHER

NET: 5g



Hybrid Ceramics Block for CAD/CAM Use

KZR-CAD HR 2

Shades: A2, A3, A3.5



Dental Adhesive <Chairside Product>

iGOS-BOND



Multi-Layered Hybrid Ceramics Block with Natural Gradation



KZR-CAD HR 2 GR
GRADATION
Hybrid Ceramics Block for CAD/CAM

Color Type : A2, A3, A3.5

Left: GR Block (Characterized by Luna-Wing Stain & TWiNY Flow)
Right: GR Block (Without Characterized)



Manufactured by
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CE 0123
INTERNATIONAL20170710

Controlled Medical Device - KZR-CAD HR BLOCK2
Certification Number: 226AABZX00171000

What is Yamakin's SIL Technique?



GR Block is a Hybrid Ceramics Block for CAD/CAM use, created using a distinctive moulding technique (SIL) which is layered by injecting pastes with different colour tones simultaneously and polymerised in a block shape.

*SIL: Simultaneous Injection Layering Method

Point 1 Improved Aesthetic Qualities

Because of SIL that makes layers before curing, the interfaces between each layer mixed very slightly so the natural colour gradation is realized

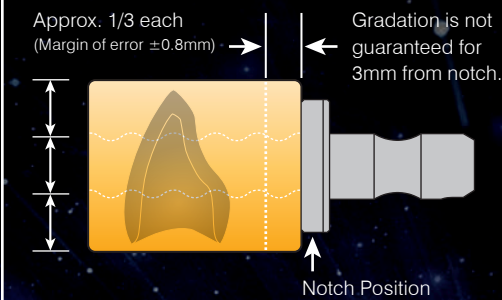


Point 2 Maintain High Strength

No fracturing happens at the colour-tone interface, and the same strength as a single-colour block is achieved.



Drawing of GR BLOCK

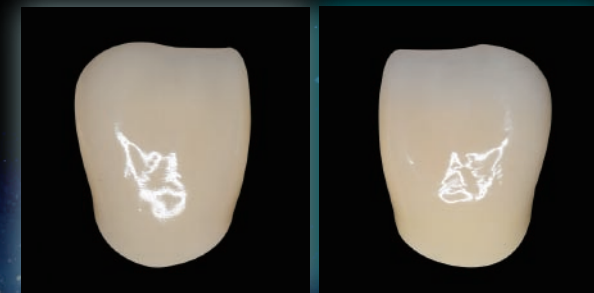


Note: The colour tone of GR Block varies from higher to lower, as seen in the drawing. So, please be careful about the mounting direction of the block on the machining apparatus.

Note: The colour tone of GR Block might not perform adequately in cases where the crown length is overly short.

Aesthetic qualities of GR BLOCK

Aesthetic Treatment easily achieved by CAD/CAM.



*Front tooth single crown using HR Block 2 *Front tooth single crown using GR Block

Clinical Case of GR Block



Clinical Image : 6 Crown Crown Onlay Crown
(Photos provided by: Yamakita Dental Office (Konan City, Kochi Prefecture, Japan); Dr Kojiro Sasa)

Thanks to the multi-layer gradation, natural colour tone can be expressed simply by milling process

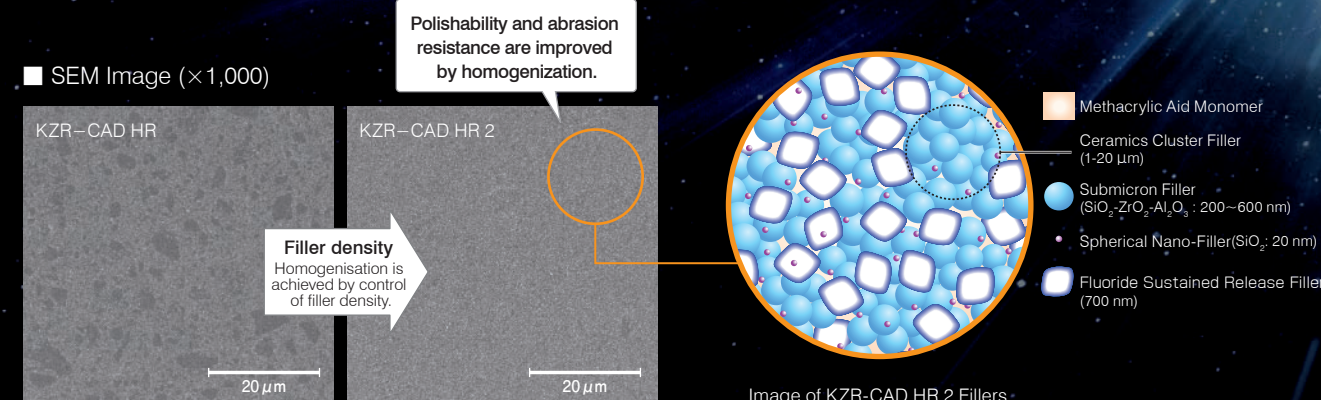
KZR-CAD HR 2
Hybrid Ceramics Block for CAD/CAM

GR
GRADATION

Why Not 'All-Hybrid-Ceramic' Restorations?
~Collaboration with TWiNY and Luna-Wing~

KZR-CAD HR 2 GR × TWiNY/Luna-Wing

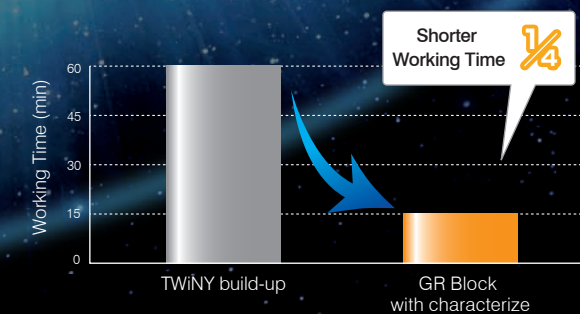
The Evolution of Ceramics Cluster Filler



The particle density of the ceramics cluster filler used for KZR-CAD HR 2 is controlled to be 1 to 20 μm and have almost the same density as the matrix area shown in the picture on the right. As a result, the surface is so homogenized that the filler cannot be recognized even under 1,000 magnification. While it maintains outstanding strength and durability, it also succeeds in dramatically improving polishability and abrasion resistance.

The composition of the multi-layered GR Block is the same as KZR-CAD HR Block 2, giving it the same high level of performance.

Shorter Working Time



Note: Data on working time is for front-tooth single crowns produced by Yamamoto Precious Metal; times may vary depending on the circumstances. Data of GR Block refers to working time for characterising after machine processing of the anterior tooth single crown; time required for machine processing is not included.

Simply reduce the milled single crown by a layer, and characterise it to produce the same finish as doing a multi-layered build-up crown manually. This shortens working time dramatically.

A fusion of CAD/CAM technology and technical skills of dental technicians



GR Block crown characterized using TWiNY and Luna-Wing.

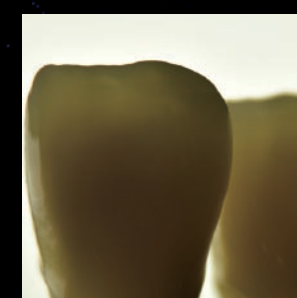
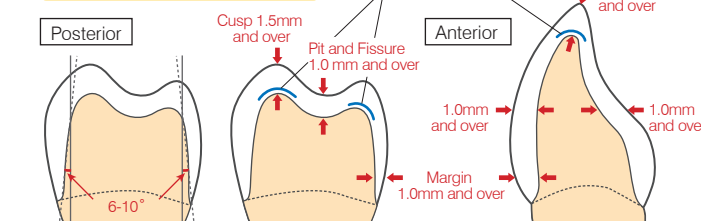


Photo of milled GR Block under light. High transparency of the incisal part is observed.

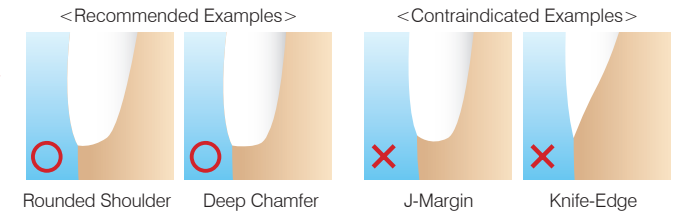
Key Points of Forming Abutment Tooth

Important Note of Forming

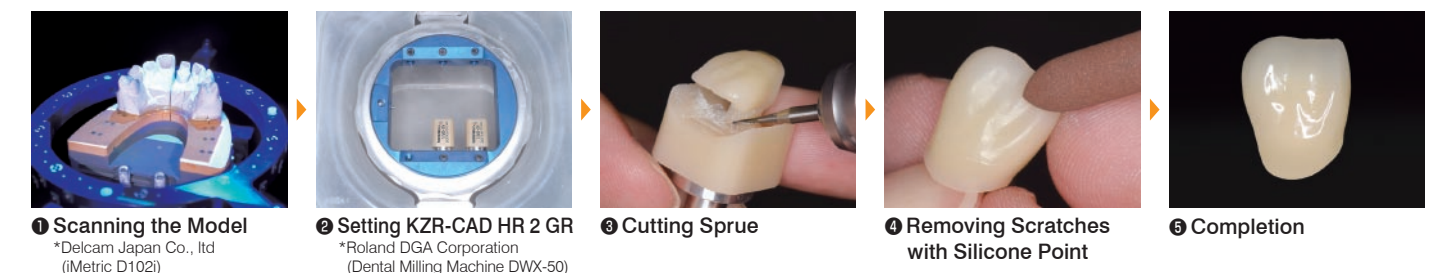


Assuming for molar and anterior tooth. Please prepare a sufficient thickness depending on the case.

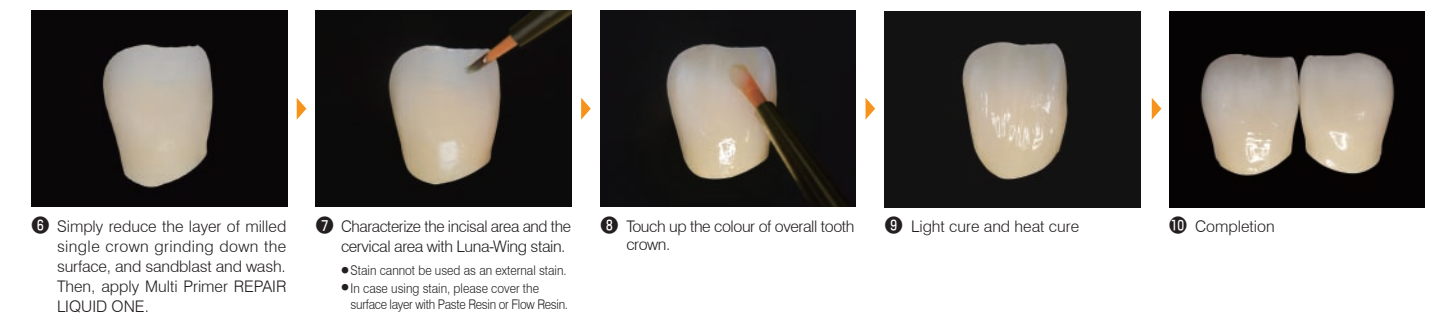
Forming Margin Area



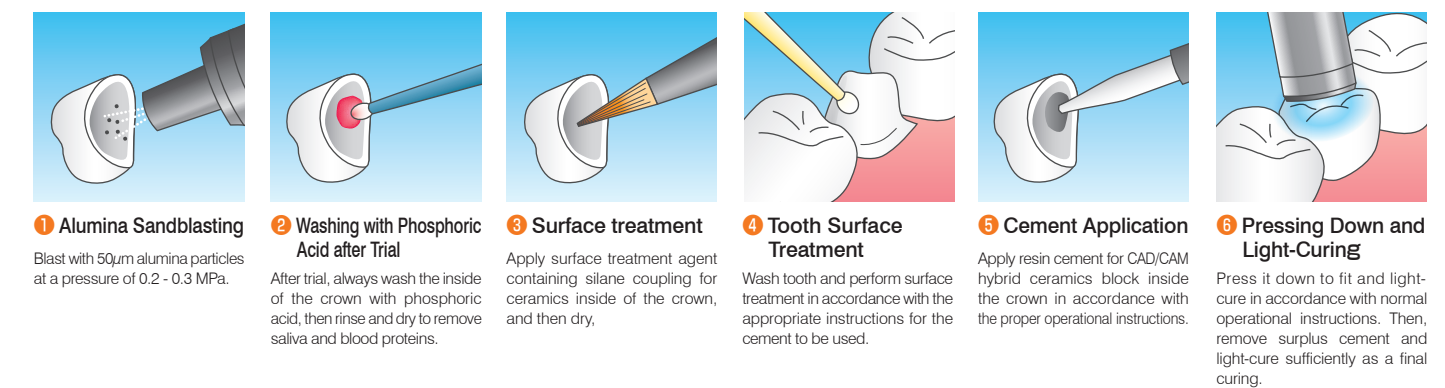
Flow of Making CAD/CAM Crowns



How to Characterize GR Block



Key Points of Setting



Check List for Application

Check sheet of application points with CAD/CAM HR Crown			
Item	Check	Item	Check
① Appropriate abutment tooth forming		⑤ Abutment tooth cleaning	
② Alumina sandblasting of inner surface of crown		⑥ Surface treatment of abutment tooth (Primer)	
③ Washing of inner surface of crown after trial fitting		⑦ Resin cement compatible for use with crown.	
④ Silane coupling treatment of inner surface of crown		⑧ Thorough polymerisation	