



Creative
Management



Ethical
Management



Communication
Management

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ZIRCOS-E[®]

Innovation Ceramic Chemical

BIODEN Co., Ltd.

 BIODEN Co., Ltd

We are always striving
to help you achieve the highest
standard of clinical excellence.

Outstanding R&D Capabilities

- World-class surface treatment technology
- Overcoming the limitations of procedures
- Enhancing aesthetic quality
- Increasing the convenience and accuracy of procedures



Zircos-E HYCERA
Zircos-E FORZA 300



Zircos-E Etching Liquid
Aqua Coloring liquid



Zirconia special
Shading solution



JIG-GEL



Zircos-Com Hard
Zircos-Com Flow

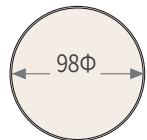
Zircos-E HYCERA



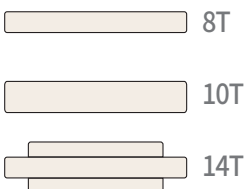
Zircos E Hycera is a new material nano hybrid ceramic product with excellent aesthetics, strength, abrasion resistance and discoloration resistance, made of high density curing matrix and nanometer particle zirconia and silicate.

Shade A1, A2, A3, A4, Bleach

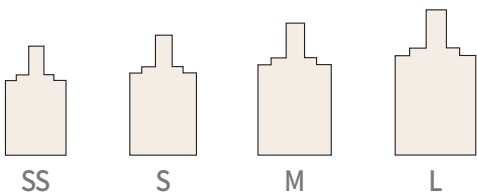
Disc Type



8T / 10T / 14T



Pin Type

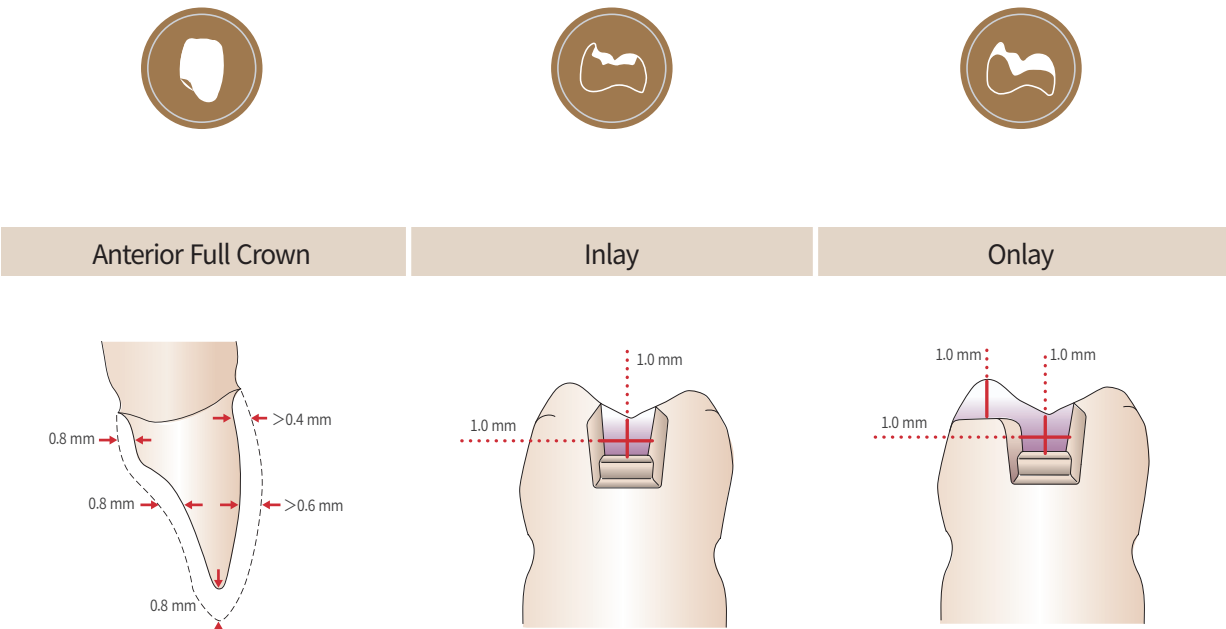


SS: 8 x 10 x 15 S: 10 x 12.5 x 15
M: 12 x 14 x 18.5 L: 14.5 x 14.5 x 18.5

Unique Selling Points

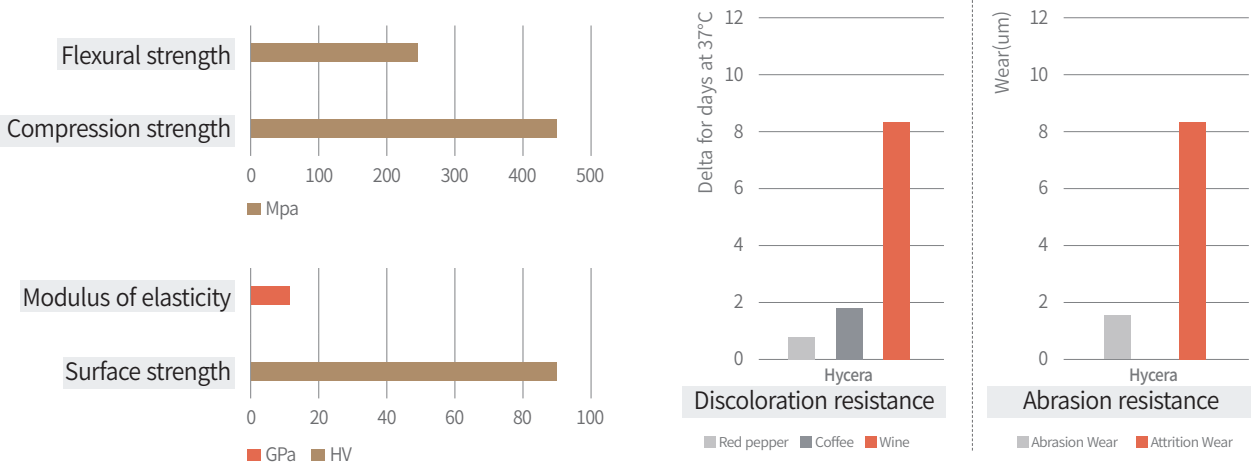
Feature	Description
Next-Gen Nano Hybrid	Combines zirconia strength with ceramic beauty
Precision & Durability	Ultra-fine particles ensure long-lasting results
Natural Light Reflection	Mimics real teeth for superior translucency
Simplified Workflow	Easy shaping, reduced processing time

Indication



※ These are products suitable for use on molars as well. (Teeth 4 to 5)

Physical Properties



New material nano hybrid ceramic product

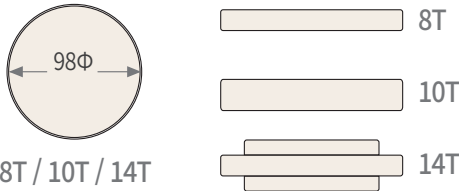
Zircos-E FORZA 300



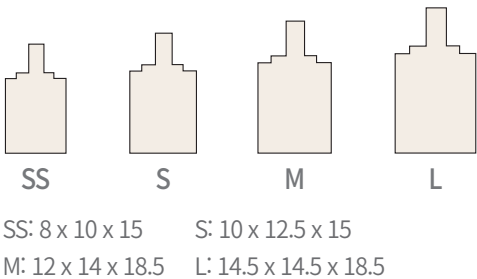
FORZA 300 is a cutting edge resin block for dental restorations, stands out in both performance and safety. Crafted with high quality raw materials, including inorganic glass and biocompatible polymers, it's ideal for creating crowns, inlays, and veneers through CAD/CAM technology.

Shade A1, A2, A3, A4, Bleach

Disc Type



Pin Type



Advantages

High Flexural Strength

Designed with a flexural strength exceeding 300 Mpa, minimizing the risk of cracking or breaking during dental procedures.

High Biocompatibility and Safety

Complies with ISO and various biocompatibility standards, making it a product that can be used with confidence.



Excellent Radiopacity

Exceeds 1.0mm aluminum in radiopacity, providing high visibility in dental X rays.

Low Water Absorption Degree

Low water absorption ensures minimal shape change and stability over long term use.

Indication

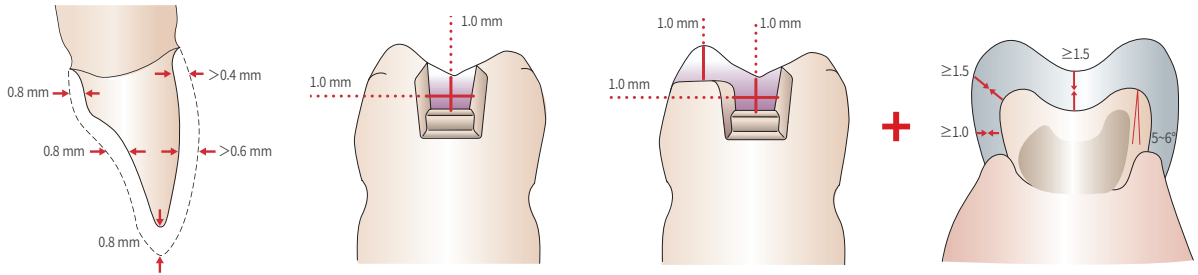


Anterior Full Crown

Inlay

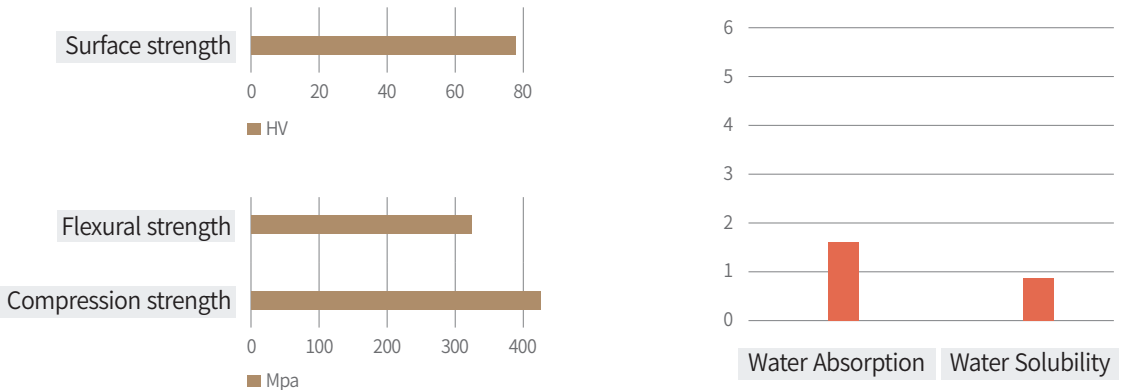
Onlay

Crown



※ These are products suitable for use on molars as well. (Teeth 6 and 7)

Physical Properties



zirconia crown etching system

Zircos-E Etching Liquid

Zircos-E is a complete zirconia crown etching system developed with the collaboration between KICET (Korea Institute of Ceramic Engineering and Technology) and Bio Den Co., Ltd. by combining zirconia etching technologies.



Purpose of use



How to use Zircos-E



1. Please wear safety goggles, gloves, and clothing before using the Working Box.
2. Slowly open the etching liquid container inside the work box. Using a plastic forcep drop the sintered zirconia crown into the container.
3. Remove the container from the working box and place it in the Ultrasonic Cleaner. Run the cleaner for 30mins.
4. After the 30 minutes, remove the container from the ultrasonic cleaner and place the crown in a container. Rinse the crown in cold running water for 2 minutes then steam clean the crown.
5. Anneal after removing the water from the crown. (Increase temperature to 1150C/2102F and hold for 30mins. Slowly cool then remove the crown when below 200C/392F)
6. Complete by layering porcelain in the usual way or glazing if restoration is full zirconia crown.

Zircos-E Theoretical Background

Zircos-E is a liquid surface treatment solution that strengthens the bond to porcelain by activating the ions on the zirconia surface.

Using this technique, the zirconia-specific color is removed from the surface and through glazing, excellent shades are produced.

- The bonding strength of cement is greatly increased through etching of the crown's inner surface.

- The sand-blasting method generates physical shock to the zirconia and alumina leading to micro-cracks and low-temperature degradation which causes fractures.

Zircos-E Surface Treatment

Before etching

After etching

Porcelain

Zirconia

Using this technique, the zirconia-specific color is removed from the Zircos-E Etching Solution activates the zirconia surface ions to greatly strengthen the adhesion to porcelain by increasing the use of the porous zirconia surface.

Sand-blasting

Zircos-E etching

Low temperature degradation test

- It is challenging to get an uniform roughness on the surface of crown due to zirconia being harder and not smaller than the alumina powder used in sand-blasting.
- Depending on the experience and ability of the dental technician, it is difficult to treat the surface uniformly by sand-blasting.

Time-lapsed process of etching treatment

Before Etching

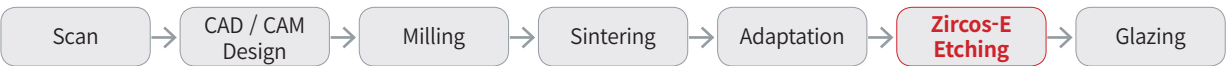
After 15 min Etching

After 30 min Etching

After 45 min Etching

Regardless of skill level and experience, the process can be complete in 30mins.

Etching treatment schedule



Zircos-E® Coloring Liquid System



Aqua Coloring liquid

The shade liquid’s tone and hue express beautifully on the surface of the zirconia and all brands of zirconia blocks are compatible.

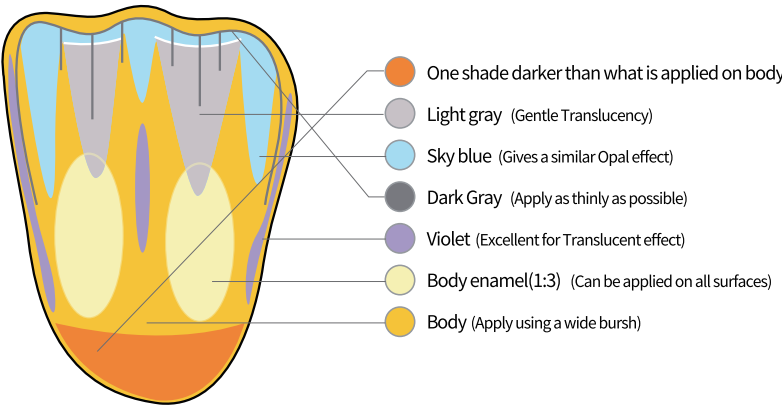
Aqua Coloring Liquid component

Dentine	A1, A2, A3, A3.5, A4
	B1, B2, B3, B4
	C1, C2, C3, C4
	D2, D3, D4
Color	Gray, Pink, Violet, Brown, White, Orange, Blue, Dark gray



Index

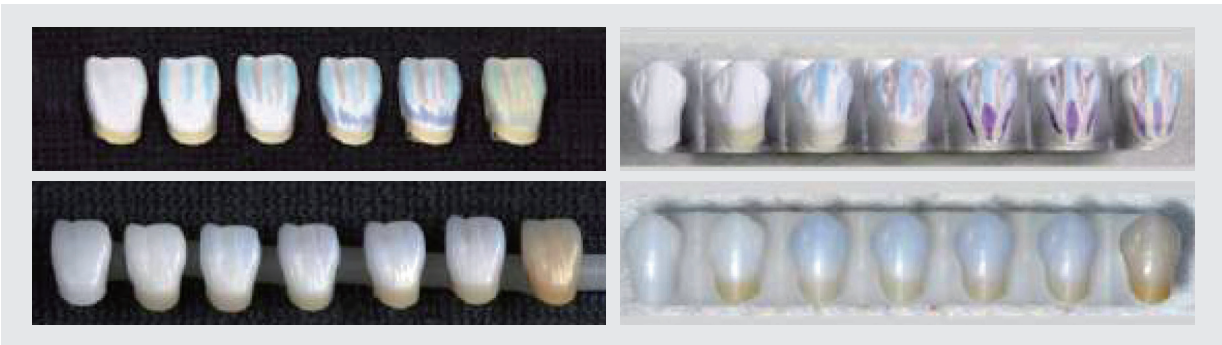
All colors schemes are displayed above the diagram.
Use the color to distinguish which shade liquid for use.



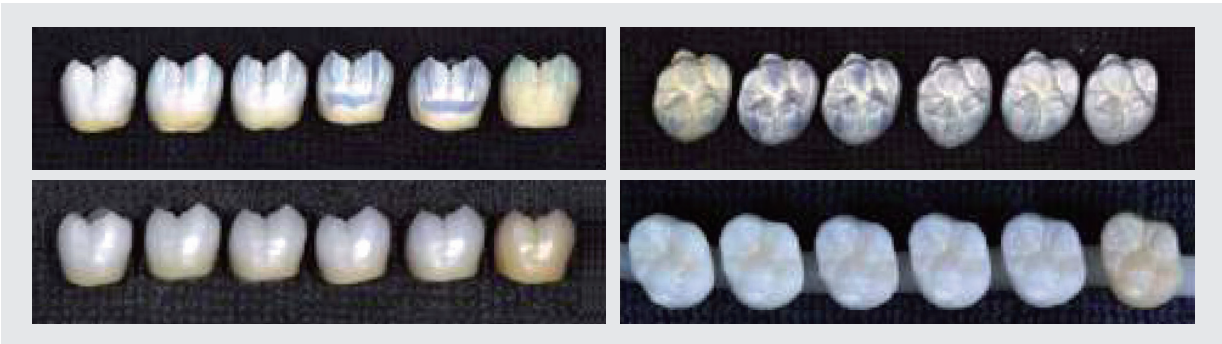
Area of application for Special Liquids

Category	Color	Area of Application
BROWN		Deep area of occlusal fossa, Cusp, Abrasion effect of incisors, Cervical root.
BLUE		Opal effect, clear emerald layer and translucency effect.
L-GRAY		Delicate translucency, Lowering brightness, Effect of typical enamel wear. of typical enamel wear.
D-GRAY		Deep translucency, Translucence for deep marginal ridges, Deep translucency effect for cusp, Translucent effect for adjacent occlusal sides.
ORANGE		Used with Shade B series as cool yellow, Used be-tween occlusal cusps, Natural wear effect of cusp.
PINK		Gingival effect, Warm tooth effect, Gingival reflex effect.
VIOLET		Bright translucent effect, Ridge expression, Cusp expression, Pale white band expression (Shade A3 or above).

DETAIL COLORING (anterior teeth) - Sample Photo



DETAIL COLORING (posterior teeth) - Sample Photo



Advantages of ZIRCOS-E Coloring Liquid

Acid Free characteristic makes the shade liquid harmless to the crown and reduces contamination to the sintering machine

Coloring liquid does not need to be dry before the sintering process.

The shade liquid’s tone and hue express beautifully on the surface of the zirconia

All brands of zirconia blocks are compatible.

Two colors can be mixed and the color intensity can be manipulated by adding water.

Consideration

- Use moderately when dipping and seal closed to prevent evaporation.
- Crown must be dry before applying another shade and special effects. Dryness is essential to express each color sharply.
- After coloring, dry for at least 3 minutes using hot air from hairdryer. If using a conventional oven/dryer, set temperature between 248~302°F (120~150°C) for at least 30 minutes
- Do not mix brushes with different colors.
- Keep refrigerated for longer shelf life.
- Keep away from clothing.

Zirconia special Shading solution

Snow Light is an ultra thin, highly permeable solution for zirconia crown. With just a single brush application, it effectively conceals the underlying color of abutment teeth, delivering superior aesthetic results.



It is ideal for implant upper restorations, tetracycline-stained teeth, necrotic teeth, whitened teeth, and abutments with poor or discolored backgrounds. This solution ensures both high translucency and seamless integration for natural-looking prosthetics.



Key Features

- Single application for effective shading
- High permeability and translucency
- Consistent and natural aesthetic results



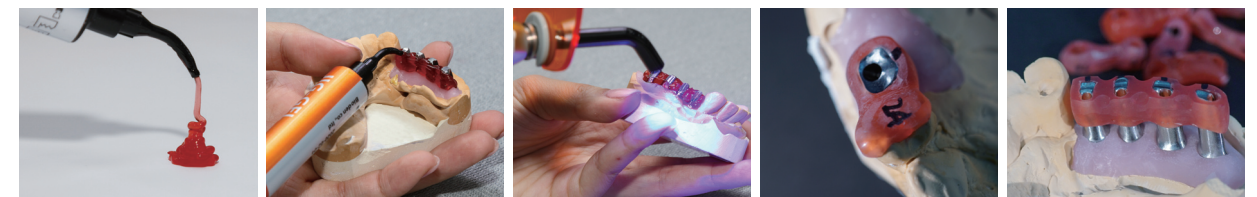
JIG-GEL

JIG-GEL is a gel type substance containing resin material to make implant jig and implant verification bar. JIG GEL is a injection method, instead of mixing resin powder and liquid.

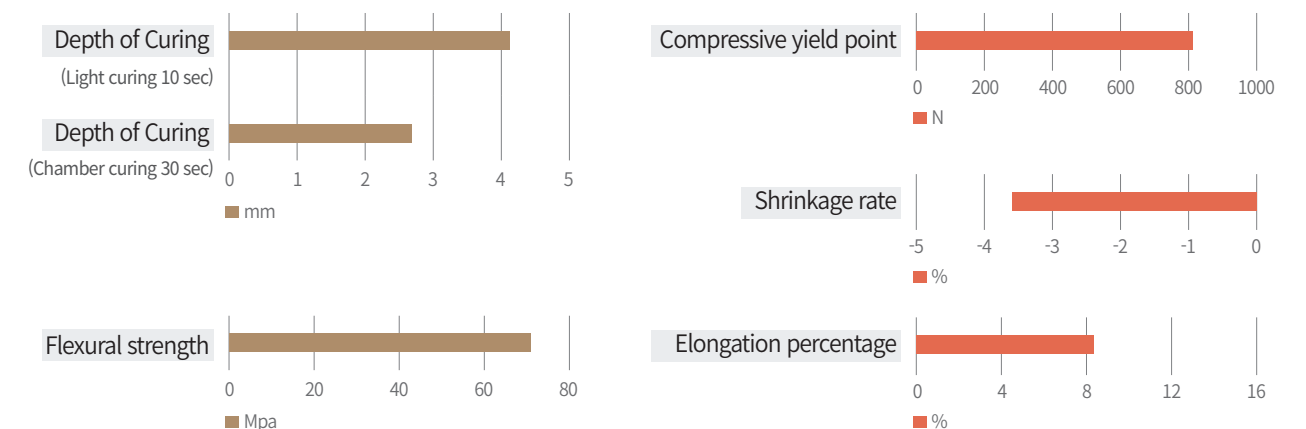


Advantages JIG-GEL

- Easy to build up & Simple to use
- Reduce working time
- It does not need separation and polishing
- It does not have resin odor
- Affordable price
- Guaranteed quality
(Optimum Flow and Little shrinkage)



Optimum Flow



Zircos-Com Hard

Light cured, radiopaque nano-hybrid zirconia composite for the restorative treatment of anterior and posterior teeth.

Application Ranges

- Class I ~ V fillings
- Reconstruction of traumatically affected anterior
- Correction of shape and shade for better aesthetic appearance
- locking, splinting of loose anterior
- Repairing veneer
- Filling deciduous teeth
- Core build-up under crowns
- Composite Inlays
- Depth of cure : 2.5mm (10 seconds)



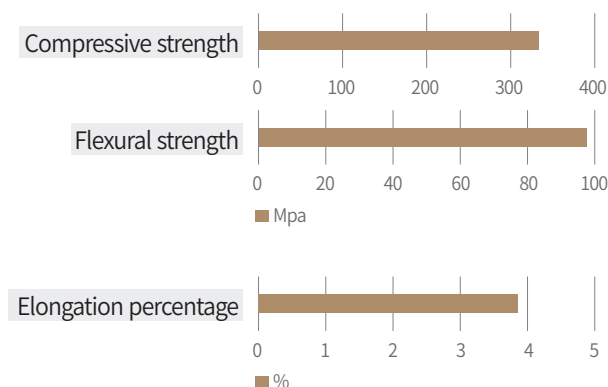
Contents

- Kit : ZIRCOS-Com 4g Syr.*5ea
[A1, A2, A3, A3.5, B2 : Shade selectable]
ZIRCOS-Etch 3ml Syr.*1ea
ZIRCOS-Bond 5ml*1ea
- Refill : ZIRCOS-Com 4g Syr.*1ea

Shade

A1, A2, A3, A3.5, A4, A2E, A3E
B1, B2, B3, C2, C3
D2, D3, OA2, OA3, TL, WT, OP

Physical properties

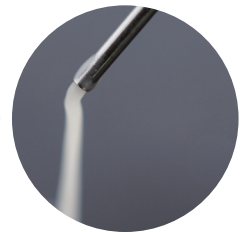


Zircos-Com Flow

Light cured, radiopaque nano-hybrid flowable zirconia composite for the restorative treatment

Application Ranges

- Restoration for III ~ V case
- Reconstruction of traumatically affected anterior
- Base/liner in the Class I, Class II restorations
- Repair of resin, porcelain and acrylic temporary materials
- Pit and fissure sealant



Contents

- Kit : ZIRCOS-Com Flow 2g Syr. *4ea
[A1, A2, A3, A3.5 : Shade selectable]
ZIRCOS-Etch 1.2ml Syr.*1ea
- Refill : ZIRCOS-Com Flow 2g Syr.*2ea

Shade

A1, A2, A3, A3.5, A4, A2E, A3E
B1, B2, B3, C2, C3
D2, D3, OA2, OA3, TL, WT, OP

Physical properties

