

■ **Related Products of Super-Bond**
(sold separately)

- **Porcelain Liner M**
Adhesive primer for porcelain
- **V-PRIMER**
Adhesive primer for precious metal alloys
- **Super-Bond SEP**
Water Soluble release agent

■ **Accessories for Super-Bond**
(sold separately)

- Dispensing Dish (Ceramic)
- Dispensing Stand
- Dispensing Cups 40 pieces
- Sponge (L・S)
- Measuring Spoon (Standard) for the standard mix ratio
- Measuring Spoon (Small) for 75% of the standard mix ratio
- Measuring Spoon (Large) for 120% of the standard mix ratio
- Brush Handle (Straight)
- Brush Handle (Bent)
- Brush Tips (Blue・Bulk-mix)
- Brush Tips (Green・S・Brush-dip)
- Brush Tips (Pink・L・Brush-dip)
- Brush Tips (Purple・LL・Brush-dip)
- Needle Tips (23G) 50 pieces and Needle Caps (Red) 2 pieces
- Needle Tips (23G) 50 pieces and Needle Caps (Green) 2 pieces

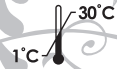
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**INSTRUCTIONS
DATA AND REFERENCES
QUESTIONS AND ANSWERS**

IMPORTANT:
READ ALL INSTRUCTIONS THOROUGHLY BEFORE USE.
KEEP THIS LEAFLET AND REFER TO IT PERIODICALLY.

Dental Adhesive Resin Cement
Super-Bond

FOR DENTIST USE ONLY



Super-Bond

Dental Adhesive Resin Cement



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CAUTION

① Avoid contact

Avoid contact with soft tissue, skin or eyes. A rubber dam is recommended for intraoral use. Dentist should use rubber or PVC dental gloves. Contaminated skin or mucosa should be wiped off immediately with alcohol and then thoroughly rinsed with running water, otherwise symptoms such as swelling may show. If Super-Bond enters the eye, immediately rinse thoroughly with running water. The patient should be examined by an ophthalmologist. When the cured adhesive contacts soft tissue, polish the adhesive surface.

② Be careful of acidity

As the Enamel Etchant Gel and Dentin Etchant Gel are acid, avoid contact with soft tissue, skin or eyes, and do not allow patients to swallow them while applying and washing them with water.

③ Be careful of flammability

Catalyst V and Monomer are flammable. Do not store where they may be exposed to open flame.

④ Clean spilled Catalyst V immediately with wet towels

The Catalyst V reacts with oxygen. If absorbed by a flammable material, it may raise the temperature enough to cause smoldering. If the Catalyst V is spilled, wipe it up immediately with a **WET(not dry)** disposable towel. Then rinse the towel to kill the catalyst thoroughly in running water.

1.What is Super-Bond?

Super-Bond is a self-cure dental adhesive resin cement based on MMA. It contains a high performance bonding monomer, "4-META"^{*1}, and a catalyst, "TBB"^{*2}. It shows excellent bond strength to tooth (enamel and dentin), metal^{*3}, porcelain^{*4} and dental resins.

For three decades it has been used extensively in a wide range of dental applications. During this long period it has earned an excellent reputation for pulpal safety.

Super-Bond is widely known for its formation of a sound hybrid layer (resin impregnated layer) in both enamel and dentin. This layer reinforces the tooth surface against recurrent caries and prevents the post-operative hypersensitivity.

*1 See Table 2 and Question 1.

*2 See Table 2 and Question 4.

*3 Use V-PRIMER concurrently for precious metal alloys.

*4 Use Porcelain Liner M concurrently for porcelain.

2.Contents of Super-Bond kits



C&B kit

① Quick Monomer	10mL	⑨ Measuring Spoon (Standard)	1
② Catalyst V	0.7mL	⑩ Brush Handle (Bent)	1
③ Polymer (Brush-dip Clear)	3g	⑪ Brush Tips (Blue • Bulk-mix)	10
④ Polymer (Bulk-mix Radiopaque)	5g	⑫ Brush Tips (Pink • L • Brush-dip)	10
⑤ Enamel Etchant Gel	3mL	⑬ Brush Tips (Purple • LL • Brush-dip)	10
⑥ Dentin Etchant Gel	3mL	⑭ Needle Tips (23G)	5x2
⑦ Dispensing Stand	1	⑮ Needle Cap (Red)	1
⑧ Dispensing Cups	20	⑯ Needle Cap (Green)	1

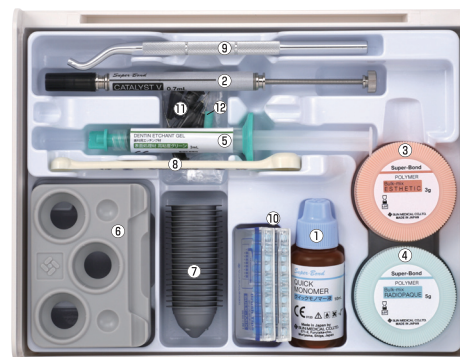
■ Attached documents:
Instructions / Pictorial Instruction Cards



Brush-dip kit

① Quick Monomer	10mL	⑦ Brush Handle (Bent)	1
② Catalyst V	0.7mL	⑧ Brush Tips (Pink • L • Brush-dip)	10
③ Polymer (Brush-dip Clear)	3g	⑨ Brush Tips (Purple • LL • Brush-dip)	10
④ Enamel Etchant Gel	3mL	⑩ Needle Tips (23G)	5
⑤ Dispensing Stand	1	⑪ Needle Cap (Red)	1
⑥ Dispensing Cups	20		

■ Attached documents:
Instructions / Pictorial Instruction Card



Bulk-mix kit

① Quick Monomer	10mL	⑦ Dispensing Cups	20
② Catalyst V	0.7mL	⑧ Measuring Spoon (Standard)	1
③ Polymer (Bulk-mix Esthetic)	3g	⑨ Brush Handle (Bent)	1
④ Polymer (Bulk-mix Radiopaque)	5g	⑩ Brush Tips (Blue • Bulk-mix)	10x2
⑤ Dentin Etchant Gel	3mL	⑪ Needle Tips (23G)	5
⑥ Dispensing Stand	1	⑫ Needle Cap (Green)	1

■ Attached documents:
Instructions / Pictorial Instruction Card

3.Precautions

Read all instructions thoroughly before use.

3-1 Safety

Please keep the following precautions for safe use.

(Regarding Catalyst V, read 3-2 additionally.)

- ①**Applications**
Use Super-Bond only for the applications recommended in this publication.
- ②**Past history of sensitivity**
Super-Bond should not be used by clinicians or on patients who are methacrylic monomer-sensitive.
- ③**Symptomatic irritation**
Cease using Super-Bond immediately, if signs of irritation such as rashes appear, and see a physician.
- ④**Avoid contact**
Avoid contact with soft tissue, skin or eyes. A rubber dam is recommended for intraoral use. Dentist should use rubber or PVC dental gloves. Contaminated skin or mucosa should be wiped off immediately with alcohol and then thoroughly rinsed with running water, otherwise symptoms such as swelling may appear. If Super-Bond enters the eye, immediately rinse thoroughly with running water. The patient should be examined by an ophthalmologist. When the cured adhesive contacts soft tissue, polish the adhesive surface.
- ⑤**Be careful of acidity**
As the Enamel Etchant Gel and Dentin Etchant Gel are acid, avoid contact with soft tissue, skin or eyes, and do not allow patients swallow them during application or rinsing.
- ⑥**Pulp protection**
If the preparation approaches the pulp, apply a protective base.
- ⑦**Give care to flammability**
Catalyst V and Monomer are flammable. Do not store where they may be exposed to open flame.

3-2 Precautions on Catalyst V

Catalyst V reacts with air and water to generate heat and lose activity. Please abide by the following.

- ①**Storage conditions**
Avoid high temperature, high humidity and direct sunlight. The Catalyst should **NOT** be refrigerated. (The repeated temperature changes may shorten the Catalyst's shelf-life by causing the syringe to aspirate air.)
*After a long storage, the first drop of the Catalyst may be inactive, though the rest of the material remains active.
*The syringe is made of glass, therefore it must be handled with care to prevent shock, dropping, and other physical damage.
- ②**Cap closure**
The cap simply slides on and off. Recap the syringe immediately after each use. Air (oxygen and humidity) deactivates the Catalyst. Do not leave the cap off during the bonding procedure.
- ③**Screwing**
If the Catalyst does not come out of the syringe because of the tight screw, do not try too hard to turn it. The content may splash as the syringe breaks.
- ④**After use**
Unscrew the male-screw two turns counter-clockwise after each use to relieve pressure on the Catalyst. (Pressure buildup can cause leakage of the Catalyst or a crack of the syringe.)
- ⑤**Clean spilled Catalyst immediately with wet towels**
The Catalyst reacts with oxygen. If absorbed by a flammable material, it may raise the temperature enough to cause smoldering. If the Catalyst is spilled, wipe it up immediately with a **WET(not dry)** disposable towel. Then rinse the towel to kill the Catalyst thoroughly in running water.
- ⑥**Cleaning of the tip of the syringe**
Wipe the tip of the syringe with a dry gauze after each use to prevent residue buildup. Then rinse the gauze with water to kill any remaining activity. Buildup of the residue may prevent the cap from seating properly.

3-3 Storage

Please take the following precautions to maintain the quality.

- ①**Storage conditions**
As in the case of the Catalyst V, store the Monomer, Polymer, Enamel Etchant Gel and Dentin Etchant Gel in a cool, dark location. High temperature, high humidity and direct sunlight will shorten their shelf-life.
- ②**Volatility**
Monomer is highly volatile. Recap the bottle immediately.
- ③**Contamination**
Do not mix the bottle caps.
- ④**Dispensing Cups and Brush Tips disposal**
Both Dispensing Cups and Brush Tips are for one-time use. Dispose of them after use.

3-4 To Get the Best Results with Super-Bond

- ①**Create and maintain a clean surface**
Oil, blood, saliva and biofilm will lower the bond strength. Clean the tooth and prosthesis thoroughly before cementing. After cleaning, take care to avoid re-contamination.
- ②**Dry the surfaces and prevent moisture contamination**
After cleaning, dry the surface adequately. A rubber dam is highly recommended, as it will reduce the chance of contamination by saliva, humid breath or blood.
- ③**Avoid eugenol-containing bases and cements**
Eugenol is a polymerization inhibitor. Therefore, eugenol-contained bases and cements should not be used with resin cements. To avoid cross-contamination, reserve a mixing dish exclusively for Super-Bond. Do not use the same mixing dish for other adhesives.
- ④**Time constraints**
Super-Bond's working and setting times are very different from those of traditional cements. Follow the instructions carefully to get the best results.
- ⑤**Do not re-use Polymer**
After using Super-Bond in the Brush-dip technique, dispose of any excess Polymer left in the mixing dish. Do not return it into the container, as it has become contaminated with the Monomer.
- ⑥**Prosthesis Design**
To avoid stress concentration which encourages debonding regardless of the actual bond strength, design a prosthesis, such as wings of a bonded bridge, without thin unsupported area, which may flex during mastication.

As in any dental treatment, the patient's individual constitution and the unique requirements of clinical case at hand must be considered before selecting materials and conditions for use.

4 How to use Super-Bond

Super-Bond can be used either with the Bulk-mix technique or the Brush-dip technique. Choose the appropriate technique by referring to the table below.

Comparison of Techniques

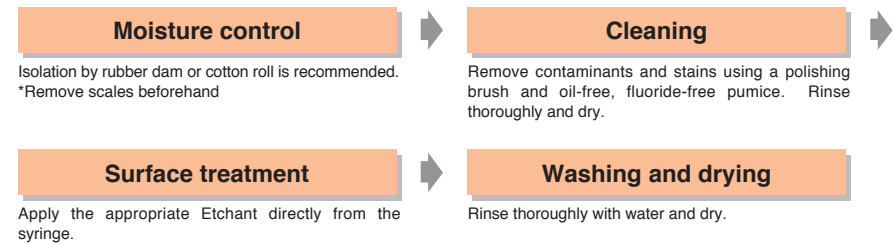
	Bulk-mix technique	Brush-dip technique
Outline of technique	Polymer powder is mixed directly to the activated liquid*.	The powder/liquid ball is formed at the tip of a brush by dipping the tip first into the activated liquid* and then touching the Polymer powder.
Comparison of the two techniques	Use the powder/liquid mixture immediately.	The activated liquid must be used up within 5 minutes.
	Applicable to comparatively wide area.	Applicable to comparatively narrow area only.
	As the powder/liquid ratio is lower than that of Brush-dip technique, the working time is comparatively long but the curing is slow.	As the powder/liquid ratio is higher than that of Bulk-mix technique, the working time of mixed ball is comparatively short and the curing is fast.

*Mixture of 4 drops of Monomer and 1 drop of Catalyst V

Surface Preparation

It is essential that all surfaces to be bonded with Super-Bond should be properly prepared. Preparation varies depending on the nature of the materials.

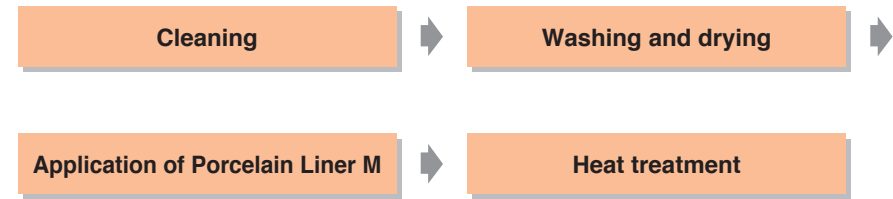
Tooth Surface



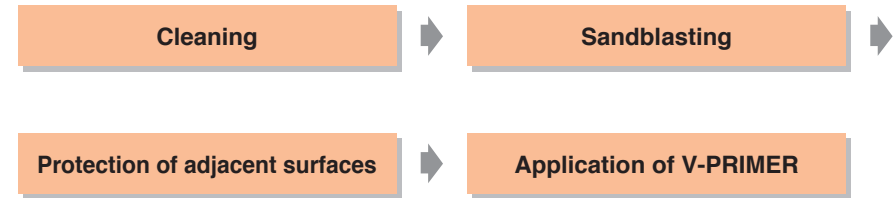
Treatment time

Etchant	Dentin Etchant Gel	Enamel Etchant Gel	Do not use Enamel Etchant Gel on dentin. Alternately, enamel may be prepared with Dentin Etchant Gel for 30-60 seconds. (See Questions 5-7.)
Dentin	5-10 sec	—	
Enamel	30-60 sec	30 sec	

Porcelain Surface



Metal Surface

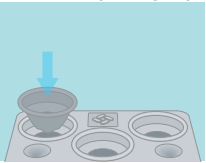


4 How to use Super-Bond

Operation Steps (Contd.)

BULK-MIX TECHNIQUE

Preparation of Dispensing Stand
Place the Dispensing Cups



Preparation of the Activated Liquid
Dispensing the Monomer



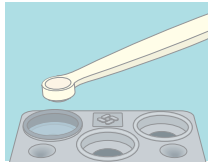
Hold the Monomer bottle vertical, and dispense the proper number of drops into a Dispensing Cup.

Dispensing the Catalyst V



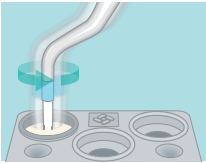
Hold the Catalyst V syringe vertical, and turn the screw to dispense the proper number of drops to the Monomer. Stir lightly with a brush. This mixture is called "activated liquid" (See Question 13.)

Mixing the Polymer



Using the supplied measuring spoon, add the Polymer powder to the activated liquid. Stir lightly with a brush. (See Question 15.)

Application of the Adhesive



Immediately after mixing, use a brush to apply the cement to the surface being bonded. (See Question 14.)

Seating the Restoration

Insert the restoration immediately. After confirming that it is completely seated, hold in position until the cement sets. *The curing time varies with temperature and the type of Polymer. (See Table 8.)

Post Treatment

Remove the excess cement. To facilitate this, protect beforehand unbonded surface properly and remove the excess resin timely. (See Question 16.)

Mixing ratio

Monomer	Catalyst V	Polymer
4 drops	1 drop	1 small cup of Measuring Spoon
8 drops	2 drops	1 large cup of Measuring Spoon

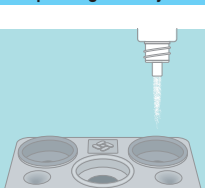
Key points to achieve good seating

Work quickly, and seat the restoration before the mixture begins to gel.

- ① The recommended temperature while using Super-Bond is below 25°C.
- ② Mix Super-Bond at the last moment before bonding.
- ③ If the temperature exceeds 25°C, use the pre-cooled ceramic Dispensing Dish.

BRUSH-DIP TECHNIQUE

Dispensing the Polymer

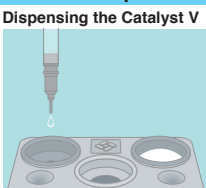


Dispense the appropriate amount of Polymer powder into a Dispensing Cup.

Preparation of the Activated Liquid



Hold the Monomer bottle vertical and dispense the appropriate number of drops into another Dispensing Cup.

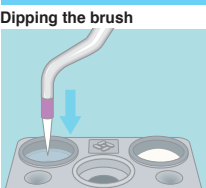


Hold the Catalyst V syringe vertical, and turn the screw to dispense the proper number of drops into the Monomer. Stir lightly with a brush. This mixture is called "activated liquid" (See Question 13.)

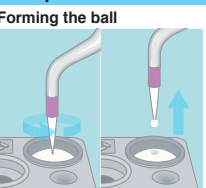
Application of the Activated Liquid

Brush the liquid onto the surface to be bonded. (See Question 14.) *The activated liquid decomposes gradually and loses activity. Use it within 5 min. after preparation.

Brush-dip Procedure



Dip the Brush Tip (for Brush-dip) into the activated liquid. *When you repeat the procedure, clean up the brush with gauze before you dip it.



Touch the brush to the Polymer powder in the Dispensing Cup. A small ball of powder will be picked up on the wet tip of the brush.

Applying the ball Brush the powder ball onto the pre-wet surface being bonded. As soon as it touches the surface, the powder will spread out to create a creamy, homogeneous layer. If necessary, repeat the procedure until the entire surface is covered with the cement.

Seating the Restoration

Insert the restoration immediately. After confirming that it is completely seated, hold in position until the cement sets.

Post Treatment

Remove the excess cement. To facilitate this, protect any adjacent surfaces you will not be bonding, and remove the excess resin before it sets. (See Question 16.)

Mixing ratio

Monomer	Catalyst V
4 drops	1 drop
8 drops	2 drops

Data and References

Table 1 : Super-Bond Series

Product name	Super-Bond
Main use	Dental adhesive resin cement
Method of use	Bulk-mix technique and Brush-dip technique
Characteristics	(1)Self-curing dental adhesive cement based on MMA,"4-META" (bonding monomer) and "TBB" (polymerization catalyst). (2)Excellent bond strength to dentin, enamel, metal, porcelain and resins for dental use. (3)Super-Bond forms "Hybrid layer" with dentin. This layer produces ① protection against recurrent caries and ② isolation of the pulp from outer stimuli.

Product name	V-PRIMER	Porcelain Liner M
Main use	Adhesive primer for precious metal alloys	Adhesive primer for porcelain
Method of use	Single liquid application	Application of the mixture of two liquids
Characteristics	(1)One component adhesive primer for precious metal alloys. (2)Based on "VTD", a derivative of triazine di-thiol. (3)A single coat of V-PRIMER improves remarkably the durability of Super-Bond to precious metal alloys. This primer eliminates the need for other bond-enhancing steps, such as heat treatment or tin plating.	(1)Two-component adhesive primer for porcelain. (2)Application of Porcelain Liner M improves remarkably the bond strength of Super-Bond to porcelain and its durability.

Table 2 : List of Major Components

Components	Major Constituents	In the Kit
Catalyst V	0.7mL TBB, Hydrocarbon	In all kits
Monomer	10mL MMA, 4-META	Optional
Quick Monomer*	10mL MMA, 4-META	In all kits
Polymer		
Clear	3g PMMA	Optional
Esthetic	3g PMMA, pigments	Optional
Opaque Ivory	3g PMMA, pigments	Optional
Opaque Pink	3g PMMA, pigments	Optional
Bulk-mix Clear	3g PMMA	Optional
Bulk-mix Esthetic	3g PMMA, pigments	Optional
Bulk-mix Radiopaque	3g PMMA, radiopaque pigments	C&B, Bulk-mix
Brush-dip Clear	5g PMMA	C&B, Brush-dip
Enamel Etchant Gel	3mL Phosphoric acid	C&B, Brush-dip
Red Activator	5mL	Optional
Dentin Etchant Gel	3mL Citric acid, FeCl ₃	C&B, Bulk-mix
Green Activator	5mL	Optional

*Super-Bond Quick Monomer is a monomer with curing time faster than Super-Bond Monomer. Other features, such as working time and bond strength, are essentially the same as Super-Bond Monomer.

Table 3 : Physical Properties of Polymerized Super-Bond

Items	Values	Measured based on
Compression Strength [Elastic deformation limit]	84MPa	JIS T6602
Flexural Strength [Elastic deformation limit]	67MPa	ISO4049
Modulus of Flexural Elasticity	18X10 ³ MPa	ISO4049
Brinell Hardness	11	JIS Z2243
Water Absorption	31μg/mm ³	JIS T6514
Solubility	12μg/mm ³	ISO10477
Film Thickness		
Standard Polymer/Monomer ratio Polymer reduced to 2/3 of the above	20-30μm 15-20μm	JIS T6602 JIS T6602

Fig. 1 : Impact Fracture Energy of Adhesives

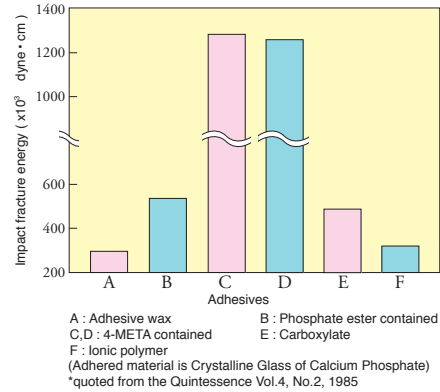


Fig. 2 : Durability of Bond to Precious Metals using V-PRIMER

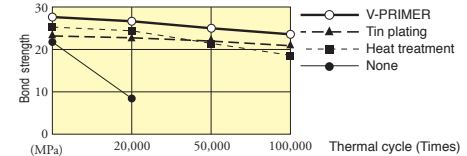


Table 4 : Water Sorption and Solubility in Water of Various Luting Cements

Cement	Water Sorption (μg/mm ³)	Solubility in Water (μg/mm ³)
EC (Zinc phosphate cement)	419.3	41.3
HC (Carboxylate cement)	309.3	33.8
FB (Glass ionomer cement)	211.6	34.4
BR (Resin cement)	24.2	14.2
ID (Resin cement)	31.5	9.5
PT (Resin cement)	32.2	17.8
Super-Bond	31.2	12.1

Table 5 : Bond Strength to Tooth Substance

Tooth Substance	Surface Treatment	Bond Strength (MPa)
Enamel	Enamel Etchant Gel Dentin Etchant Gel	15 13
Dentin	Dentin Etchant Gel	17

Table 6 : Bond Strength to Metals

Metal	Surface Treatment after Sandblasting	Bond Strength (MPa)
Gold alloy Type IV	V-PRIMER 400°C, 5min. Tin-plating	28 25 23
Gold/Silver/Palladium alloy	V-PRIMER 400°C, 5min. Tin-plating	28 24 22
Nickel-Chromium	-	30
Cobalt-Chromium	-	31
Hardened amalgam	-	10

Table 7 : Bond Strength to Porcelain using Porcelain Liner M

1. Bond Strength between VITA Porcelain (ground with #600 Emery paper) and Stainless Steel *1

Thermal Cycle (Times) (4°C-60°C)	Bond Strength *3 (MPa)		
	1,000	5,000	10,000
Porcelain Liner M, Super-Bond	20	19	13
A bonding agent for porcelain (Imported)	20	12	4
Super-Bond without Porcelain Liner M	8	-	-

2. Bond Strength between VITA Porcelain(glazed surface) and Stainless Steel *2

Thermal Cycle (Times) (4°C-60°C)	Bond Strength *3 (MPa)		
	1,000	5,000	10,000
Porcelain Liner M, Super-Bond	20	19	9
A bonding agent for porcelain(Imported)	20	5	3

3. Bond Strength between Ceramic Bracket and Acrylic Block

Thermal Cycle (Times) (4°C-60°C)	Bond Strength *3 (MPa)		
	1,000	5,000	10,000
Porcelain Liner M, Super-Bond	20	11	10

Notes: *1 Bonding of VITA(559)#600 to SUS304(Sandblasted)

*2 Bonding of the glazed surface of VITA(559) to SUS304(Sandblasted)

*3 Tensile bond strength after completion of thermal cycle

Table 8 : Effect of Polymer/Monomer on Working Time and Curing Time in Bulk-mix Technique

Polymer		Working Time (23°C)*1 (sec.)		Working Time (16°C)*1 (sec.)		Curing Time (37°C)*2 (min.)	
		Monomer	Quick Monomer	Monomer	Quick Monomer	Monomer	Quick Monomer
Bulk-mix Type	Clear	120		—	—	13	8
	Esthetic						
	Radiopaque	150		—	—	14	9
Normal Type	Clear	—	—	70		12.5	6
	Esthetic	—	—				
	Opaque Ivory	—	—	110		13.5	8
	Opaque Pink	—	—				

*1 Available time before threading starts (namely, in slurry or sol state) at 23°C/16°C

*2 Time to wait before occlusion

Table 9 : Polymer Types and their Curing Times in Brush-dip Technique

Polymer		Curing Time (37°C) (min.)	
		Monomer	Quick Monomer
Brush-dip Type	Clear	10	5
Normal Type	Clear	11	5
	Esthetic		5
	Opaque Ivory		7
	Opaque Pink		7

Fig. 3 : Effect of Temperature on Working Time

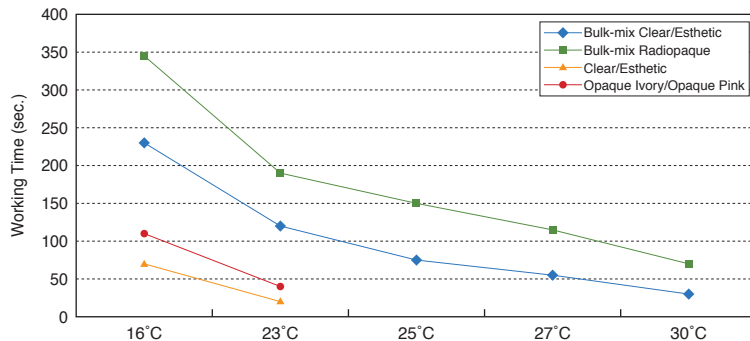


Table 10 : Radiopacity using Polymer (Bulk-mix Radiopaque)

Material	Ratio to Standard Polymer/Monomer Ratio	Radiopacity*1 (%)
Super-Bond using Polymer Bulk-mix Radiopaque	1	210
Enamel	—	180
Dentin	—	120

*1 Radiopacity of Aluminium is regarded as 100%
(Test Method is based on ISO 4049)

Table 11 : Interaction of Porcelain Liner M and V-PRIMER

Base Material	Primary Coating	Secondary Coating	Bond Strength (MPa)*
Gold/Silver/Palladium alloy	V-PRIMER	—	25
	Porcelain Liner M	V-PRIMER	24
	V-PRIMER	Porcelain Liner M	25
Porcelain	Porcelain Liner M	—	22
	Porcelain Liner M	V-PRIMER	12
	V-PRIMER	Porcelain Liner M	16

*Composite resin is bonded with Super-Bond after coating of the Primer(s) and bond strength is measured after 1,000 times of thermal cycles

Table 12 : Effect of Heat Treatment Condition of Porcelain Liner M Coated Surface on Bond Strength

Heating Condition	Treatment Time (min.)	Bond Strength (MPa)
Not heat treated	—	13
Heat treated with a dental blower (120-130°C)	1	19
	2	20
Heat treated with a blow dryer (70-80°C)	1	17
	3	21

Table 13 : Effect of Dentin Treatment with Sodium Hypochlorite (10% solution)

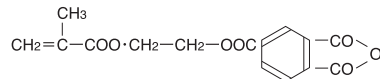
Treatment Time with Sodium Hypochlorite (sec.)	Bond Strength (MPa)*1
0	17
15	16
30	13
60	6

*1: The dentin surface is treated with sodium hypochlorite and then with the Dentin Etchant Gel, and bonded with Super-Bond

QUESTIONS and ANSWERS

Question 1 : What is the adhesive monomer, "4-META" ?

Answer : "4-META" is an abbreviation of "4-methacryloxyethyl trimellitate anhydride." It has the structure shown below. 4-META is a derivative of MMA and is polymerized with MMA into a co-polymer. It contributes to the excellent bonding property of Super-Bond.



Question 2 : Is the mechanical strength of Super-Bond lower than other adhesive resins?

Answer : Since the composition of Super-Bond is different from that of composite resin type adhesive with high load of inorganic fillers, it shows lower compressive strength and hardness, but less brittleness. It permits a tougher, more flexible bonding layer that can disperse stress and help the prosthesis endure impact and torsion without loosening or fracturing. In fact, Super-Bond's unique flexibility due to its nature is an important factor contributing to its superb clinical reputation.

Question 3 : Does water absorption reduce Super-Bond's mechanical strength?

Answer : Some reports emphasize the water absorbency of Super-Bond and suggest that this may affect its durability. Because it consists almost exclusively of PMMA, which contains a hydrophilic group but is basically a watertight resin. Water sorption and water solubility values of Super-Bond are as low as those of other resin cements. These values are almost negligible, if compared with inorganic cements such as zinc phosphate cements, carboxylate cements or glass ionomer cements. (See Table 4.) According to a clinical report, Super-Bond exposed at the crown margin has been maintained for more than 10 years without color change. After a full decade in the mouth, the cement exhibited excellent margin seal with only minor surface abrasion. When applied under normal seating conditions, Super-Bond prevents recurrent caries and post-operative sensitivity often observed with conventional cements and generally ascribed to cement washout. Crowns cemented with Super-Bond enjoy an excellent clinical prognosis.

Question 4 : What is the "TBB" Catalyst?

Answer : Super-Bond's "TBB" catalyst is crucial to the adhesive's remarkable performance. Pure TBB (tri-n-butylborane), an organic boron component, is so reactive that it can be hazardous to use in a clinical situation. So to allow safe handling, the excessive reactivity has been reduced in the Catalyst V through partial oxidation and addition of diluents. This modification does not reduce its effectiveness as a catalyst. The Catalyst reacts with oxygen in the air and water, and oxidizes into a peroxide. The peroxide further decomposes, forming radicals which initiate the polymerization of the MMA. The key to the clinical success with TBB is that the reaction proceeds in the presence of oxygen and water (both of which are present in the tooth surface.) However, care should be taken when dispensing the catalyst, as unnecessary contact with air will cause gradual decomposition and degradation.

Question 5 : How do I apply "Enamel Etchant Gel" and "Dentin Etchant Gel" to the enamel surface?

Answer : When enamel is treated with acid, it becomes decalcified. An irregular scale-like surface composed of demineralized enamel rods is formed. Super-Bond's excellent wetting properties and superb penetration into the interprismatic surface combine to form a tenacious enamel bond. The phosphoric acid in the "Enamel Etchant Gel" is a stronger decalcifier than the citric acid in the "Dentin Etchant Gel". So we recommend the following selection criteria.

"Enamel Etchant Gel" : For enamel surfaces without tooth reduction. The "Enamel Etchant Gel" is particularly appropriate if the enamel has been treated with fluoride.

For enamel surfaces with shallow tooth reduction which has not exposed the dentin.

"Dentin Etchant Gel" : For tooth surfaces in which both enamel and dentin are exposed.

Question 6 : Why is the "Dentin Etchant Gel" used for treating dentin?

Answer : Super-Bond bonds to dentin through the formation of a resin-impregnated layer. For the best resin penetration, the surface smear layer should be removed without excessive modification of the underlying dentin. The "Dentin Etchant Gel" is ideal for treating dentin because it dissolves less hydroxyapatite, and minimizes damage to dentinal collagen. Treatment for 5-10 seconds with the "Dentin Etchant Gel" is adequate. "Enamel Etchant Gel", on the other hand, tends to excessively decalcify the dentinal hydroxyapatite and denature the remaining collagen. This is not conducive to formation of a stable resin-impregnated layer, so bond strength deteriorates.

Question 7 : How do I treat a tooth surface that consists of both dentin and enamel?

Answer : If the areas involved are small, it may be virtually impossible to properly apply the two different etchants for two different periods to their respective surfaces. In these cases we recommend applying "Dentin Etchant Gel" for 10 to 30 seconds, depending on the relative size of the enamel and dentin surfaces (the more enamel involved, the longer the application.) When enamel surrounds a cavity where the preparation breaks the DEJ, first apply "Dentin Etchant Gel" to the enamel. After 30 seconds, apply "Dentin Etchant Gel" to the dentin and allow it to remain for just 5 seconds. Then rinse the tooth with water.

Question 8 : What is the purpose of treating dentin with sodium hypochlorite (NaOCl)? How should it be used?

Answer : a. To increase bond strength?
For some resin cements sodium hypochlorite is recommended to improve the bond strength to dentin. This is NOT true with Super-Bond. In fact, if sodium hypochlorite is used after treating the dentin with the "Dentin Etchant Gel", the bond strength will be significantly reduced. Sodium hypochlorite should NOT be used after the dentin has been prepared with the Dentin Etchant Gel.
b. For endodontics
A diluted aq. solution of sodium hypochlorite (below 10%) is often used during endodontic therapy to dissolve organic materials, to decontaminate surfaces, or to stanch bleeding. When using Super-Bond on surfaces treated with sodium hypochlorite, (or acidic electrolyzed water), the following care should be taken to avoid compromising Super-Bond's exceptional bond strength.
1. Do NOT apply sodium hypochlorite after acid etching. Do NOT use sodium hypochlorite higher than 10% concentration. Sodium hypochlorite will dissolve the collagen exposed by acid treatment. Therefore, the Dentin Etchant Gel should be applied AFTER treatment with sodium hypochlorite.
2. Limit the treatment time with sodium hypochlorite to less than 30 seconds. Short-term treatment does not significantly affect the bond. Prolonged treatment with sodium hypochlorite, however, will significantly decrease the bond strength:

<Super-Bond bonded to dentin after treatment with 10% solution of sodium hypochlorite for various time periods>

Treatment time with sodium hypochlorite	Seconds	0	15	30	60
Tensile Bond Strength	MPa	17	16	13	6

3. If NaOCl treatment time exceeds 30 seconds, neutralize the surface with a reducing agent before etching.

Method 1:

Apply Safordine RC™, containing 38mg/mL diamine silver fluoride (Ag(NH₂)-F), for a length of time 1/2" as long as the surface was treated with sodium hypochlorite. Rinse with water and dry. Treat with the Dentin Etchant Gel for 10 seconds. Rinse and dry. Then apply Super-Bond according to the ordinary procedures.

<The surface was treated for 60 seconds with a 10% solution of sodium hypochlorite, neutralized with Safordine RC™, and then bonded with Super-Bond.>

Treatment time with Safordine RC™	Seconds	30	60
Tensile Bond Strength	MPa	8	13

Caution: Safordine RC may darken tooth surfaces.

*Safordine RC™ is a product of Bee-brand Medico-dental.

QUESTIONS and ANSWERS

Method 2:

Prepare a 10% aq. solution of ascorbic acid (or its Na or K salt). Apply the solution for a length of time 1/3" as long as the surface was treated with sodium hypochlorite. Dry the surface. Treat with the Dentin Etchant Gel for 10 seconds, rinse and dry. Then apply Super-Bond according to the ordinary procedures.

Treatment time with NaOCl	Seconds	180		300	
Treatment time with ascorbic acid	Seconds	30	60	50	100
Tensile Bond Strength	MPa	7	16	6	17

4. Hydrogen peroxide (H₂O₂)

In alternate irrigation, a hydrogen peroxide solution is sometimes used in connection with a sodium hypochlorite solution. Hydrogen peroxide damages the dentin structure, thus compromises the bond strength, if treated for an extended period beyond 30 seconds. Consequently, the use of a hydrogen peroxide solution should be limited to 30 seconds.

5. Acidic electrolyzed water

When used on dentin, acidic electrolyzed water reduces the bond strength of Super-Bond much like sodium hypochlorite (though the strength reduction is less severe.) To achieve normal bonds after the tooth surface has been treated with acidic electrolyzed water, apply the Dentin Etchant Gel for 30 seconds (instead of the normal 10 seconds). Rinse and dry. Then apply Super-Bond according to the ordinary procedures.

Question 9 : How do I protect the surface of the prosthesis where I don't want the adhesive to bond?

Answer : Before cementing an inlay, onlay, crown or bridge with Super-Bond, all exterior surfaces should be polished and the interior surfaces sandblasted. Unfortunately, once it's allowed to cure, Super-Bond will adhere tenaciously even to the highly polished exterior surfaces. Once it has completely polymerized, removing the excess with a hand scaler is extremely difficult. To facilitate cleanup, the exterior surfaces may be coated with a separator including Super-Bond SEP by Sun Medical.

Question 10 : How much working time does Super-Bond allow?

Answer : If you use Super-Bond in the Bulk-mix technique, the slurry-like cement gradually increases its viscosity and begins threading. Super-Bond must be used before threading begins. Otherwise, the operation becomes quite difficult. The increase in film thickness may prevent seating of the prosthesis. (See Table 8, Fig. 3 and Question 11.)

*Unlike conventional cement, it is not necessary to spatulate Super-Bond. When using it for the first time, you may feel the mixture is too thin. Be assured that Super-Bond should be used in this state.

*Super-Bond undergoes the following stages from mixing to curing. For proper seating of the prosthesis, try to finish the bonding operation before the mixture has reached stage 3 (mild threading).

1. Slurry stage: The mixture is very thin, as when gypsum powder is mixed with a copious amount of water and the powder particles are still visible.
2. Sol stage: The powder particles are no longer visible, but the mixture still retains high fluidity and has not started threading.
3. Mild threading: The mixture becomes sticky and forms thin threads.

Question 11 : What is the difference between the Bulk-mix Polymer powders and the normal Polymer powders?

Answer : Because of its particle size, Bulk-mix Polymer powders do not require chilling of Dispensing Stand and Dispensing Cups as long as the temperature is below 25°C. On the other hand, the normal Polymer powders require a cooled ceramic Dispensing Dish. The curing reaction of Super-Bond is influenced by temperature: The higher the temperature, the more quickly Super-Bond cures. In a cooled Dispensing Dish, the curing reaction proceeds slowly, the working time is extended, and the bonding operation becomes easier. (See Fig. 3.)

Question 12 : Can I use Dispensing Cups and Dispensing Stand at the temperature above 25°C?

Answer : Dispensing Cups and Dispensing Stand are made of plastic and can not be chilled in a refrigerator. Instead, use the ceramic Dispensing Dish, which is sold separately, for cooling.

Question 13 : How long does the activated liquid remain active?

Answer : In contact with air, the "Catalyst" gradually decomposes and degrades.

Therefore, it is important to use the activated liquid (the mixture of Monomer and Catalyst V) as soon as possible after mixing. For the Bulk-mix technique, you should complete all the preparations for bonding before you begin preparing the activated liquid, then use it immediately.

For the Brush-dip technique, use the activated liquid within 5 minutes at the latest.

Question 14 : Do I have to pre-wet the surfaces being cemented with the activated liquid?

Answer : Brushing the activated liquid onto the surfaces to be bonded before cementing will assure intimate resin contact.

In the Brush-dip technique, the ball has a comparatively high Polymer/Monomer ratio, so pre-wetting the surface with the activated liquid is essential to assure maximum cement adaptation and to create the highest possible bond strength.

In the Bulk-mix technique, application of the activated liquid is not necessary, so long as you seat the prosthesis while the cement is in the slurry state. In this case, the mixture is fluid enough to assure maximum adaptation.

On the other hand, advanced-application of the activated liquid on the dentin surface is recommended to restrain the outflow of exudate from the surface of the prepared dentin and to prevent bacterial entry into the dentin tubules.

Question 15 : What are the different types of Polymer powders for? And how do I use them?

Answer : Eight different Polymers are available for Super-Bond, including those sold separately. They can be divided into 3 basic classes, the normal type, Bulk-mix Polymer and Brush-dip Polymer. Refer to the following list to select the best Polymer for your application. (See Tables 2, 8 and 9 and Fig.3.)

1. Clear, Brush-dip Clear and Bulk-mix Clear

Fine PMMA powder without pigment. When cured, its medium translucency and inconspicuous shade is ideal for temporary splinting of loose teeth, creation of temporary prostheses using a resin tooth or extracted tooth, or direct bonding of orthodontic brackets with the **Brush-dip Clear**. When the normal **Clear** polymer is used in the Bulk-mix technique, the working time before threading is rather short. Here, the **Bulk-mix Clear** is preferable, because it allows more working time.

2. Esthetic and Bulk-mix Esthetic

Tooth-colored **Clear** powder. When cured, its color is ivory with some translucency and little opacity. It is used for prostheses that require an esthetic appearance. Curing time and workability are the same as **Clear** powder and **Bulk-mix Clear** powder respectively.

3. Opaque Ivory

Opacity is produced by specially prepared pigments. The powder creates an extremely opaque cement film that is highly effective in masking metal surfaces. It is recommended for use when metal show-through might affect aesthetics (as when cementing inlay or adhesion bridges), or when repairing fractured prostheses with exposed metal. Its working time is slightly longer than **Clear** powder. The **Opaque Ivory** powder is widely used for routine cementation. Due to its opacity, any excess cement is extremely visible, which facilitates removing it.

4. Opaque Pink

Pale pink color is added to **Opaque Ivory**. This powder was originally intended for repairing denture bases, but it can be used for the same purposes as the **Opaque Ivory**. Some dentists prefer it to the **Opaque Ivory** as its pink color reflected on the surrounding teeth produces a more natural shade. Its handling and setting properties are similar to those of the **Opaque Ivory**.

5. Bulk-mix Radiopaque

This powder contains highly radiopaque filler. When it is used under the standard Polymer/Monomer ratio, the cured adhesive shows radiopacity equivalent to enamel. It creates a natural tooth-color and allows a longer working time for easier handling. However, it cures slightly more slowly than the **Clear** powder. For faster curing, increase the Polymer ratio to Monomer.

Question 16 : How can I remove excess resin?

Answer : When the object is seated, excess resin is expressed around the margins. If the excess resin is allowed to cure, it will bond to the surface of the prosthesis, and clean-up and polishing will be extremely difficult. The following describes how to remove the excess resin:

- ① Before cementing apply as much protection as possible to surfaces that should not be bonded. (See Question 9.)
*Apply a separating agent on metal surfaces, wrap with "Parafilm," place retraction cord under the gingival margin, etc.
- ② Use the Opaque Polymer, as the excess resin will be more visible.
- ③ Use a cotton pledget or a brush soaked with alcohol to remove as much excess resin as possible immediately after the prosthesis is seated (before threading begins). Resin extruded onto the interdental papilla should be removed immediately using floss, etc.
Resin spilled onto the gingiva should also be removed before it hardens.
- ④ Using hand scalers, scrap off the residue after the threading stage is completed but before the cement is completely cured.
*Wait a while till the threading stage is completed.
*If you attempt to scrape off the excess during the threading stage, you may feel that you are removing all the cement, but a thin layer will remain bonded to the surface.
- ⑤ If the surface was coated with a separating agent, even cured resin can be easily peeled off using hand instruments.
- ⑥ Any remaining resin will be easily discovered by re-examination on the following day.

Question 17 : What are the different types of Brush Tips for? And how do I use them?

Answer : The Brush Tip Blue is a blunt-cut type and suitable for transportation of a large amount of the slurry in Bulk-mix technique. The Brush Tips Green (S), Pink (L) and Purple (LL) have pinpointed tips and are suitable for Brush-dip technique. The Brush Tips Pink (L) and Purple (LL) are longer than Brush Tip Green (S) while the bristles of Brush Tip Purple (LL) are thicker than the others. Refills of the respective types are available. Dispose of them after use.

5 Examples of Clinical Applications

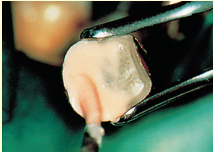
CLINICAL APPLICATIONS using the BULK-MIX TECHNIQUE

Cementing of inlays, onlays and crowns

Occlusion reconstruction using bonded onlay



Bonded partial onlay crown

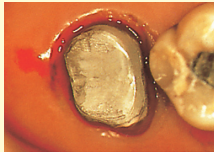


Cementing of posts and cores

Bonded cast post-and-core



Bonded prefabricated posts with adhesive amalgam core



Cementing of bridges

Anterior bonded bridge with crowns and retentive wings

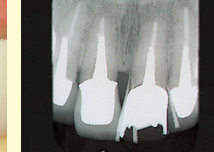
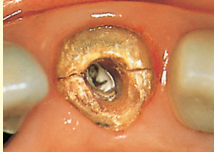


Bonded segmented bridge

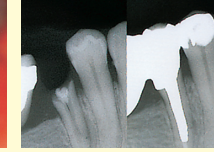
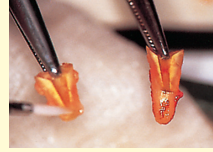
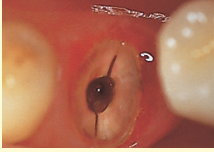


Salvaging fractured teeth

Bonding fragments directly to the post



Extraction, cementation, and replantation



Cementing of periodontal splints

Cast metal lingual splint



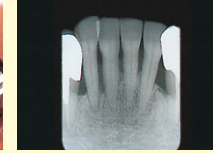
Adhesive splint made of mesh plate



CLINICAL APPLICATIONS using the BRUSH-DIP TECHNIQUE

Temporary periodontal splinting of mobile teeth

By proximal bonding



Temporary prosthesis using a resin tooth or an extracted tooth

Resin tooth



Resin tooth



Extracted tooth

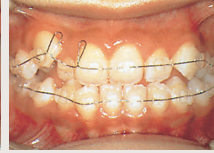


Orthodontic treatment

Adhesion of metal bracket



Adhesion of porcelain and plastic bracket



Adhesion of retainer



Repair of fractured crown



齿科树脂粘接剂 使用说明书

【禁忌、禁止】

对本材料或甲基丙烯酸酯类单体有发疹、皮肤炎等过敏症既往史的患者请勿使用本品。

【形状、构造等】

本品构成品的组成成分见下表：

构成品	性状	组成
常规型单体液	液体	MMA、4-META、其他
快速型单体液	液体	MMA、4-META、其他
V型催化剂	液体	三正丁基硼部分氧化物、其他
聚合粉	粉末	PMMA、其他
红色表面处理剂	液体	磷酸、水、其他
绿色表面处理剂	液体	柠檬酸、三氯化铁、水、其他
高粘度红色表面处理剂	液体	磷酸、增粘剂、水、其他

附属品：调盘（陶瓷）、调盘台（3孔）、梅花杯、海绵（L、S）、量勺（Standard、Small、Large）、毛刷柄（直柄）、毛刷柄（曲柄）、毛刷头（绿色・S）（用于笔积法）、毛刷头（粉色・L）（用于笔积法）、毛刷头（紫色・LL）（用于笔积法）、毛刷头（蓝色）（用于混合法）、针头（23g）、针帽（红色、绿色）

【原理】

本品由单体液、聚合粉、聚合催化剂混合，在常温下聚合固化。

【适用范围】

本品适用于口腔治疗中牙本质、牙釉质、齿科用金属合金、陶瓷的粘接。（Super-Bond Brush-dip套装不适用于牙本质的粘接。）

【性能】

项目	规格	试验方法
薄膜厚度	50 μm以下	ISO 4049:2000
固化时间	10分以内	ISO 4049:2000
粘接强度	牛牙牙釉质※1	5MPa以上
	牛牙牙本质※2	5MPa以上
	金银钯合金※3	15MPa以上
	陶瓷※4	10MPa以上
	氧化锆※5	10MPa以上
挠曲强度	50MPa以上	ISO 4049:2000
X射线阻射性※6	同等或以上厚度的铝板	ISO 4049:2000

※1 使用红色表面处理剂 ※2 使用绿色表面处理剂

※3 使用齿科贵金属粘接前处理剂【V-PRIMER】

※4,5 使用齿科陶瓷粘接前处理剂【Porcelain Liner M】

※6 仅对L型遮色聚合粉适用。

【操作方法或使用方法】

1. 处理粘接面

（1）牙面

- ①按照常规方法，对粘接牙面进行充分地清洁、水洗及干燥处理。
- ②若粘接牙面为牙釉质，可使用红色表面处理剂或高粘度红色表面处理剂进行表面处理。也可使用绿色表面处理剂进行表面处理。
若粘接牙面为牙本质，可使用绿色表面处理剂进行处理。处理时间请参考下表。
- ③处理后，请充分水洗并干燥粘接牙面。

	红色表面处理剂 或高粘度红色表面处理剂	绿色表面处理剂
牙釉质	30秒	30 ~ 60秒
牙本质	—	5 ~ 10秒

使用表面处理剂时，请遵照各型号的使用说明书进行操作。

（2）金属面

若粘接面为非贵金属，对粘接面进行氧化铝喷砂后，使用超声波进行清洗并干燥。若粘接面为贵金属，先对粘接面进行喷砂处理，然后用超声波进行清洗并干燥，最后用齿科贵金属粘接前处理剂（例如本公司的V-PRIMER）进行表面处理或镀锡、加热氧化处理。

使用齿科贵金属粘接前处理剂时，请遵照其使用说明书进行操作。

（3）陶瓷（瓷材、氧化锆）面及树脂面

若粘接面为陶瓷，对粘接面进行必要的氧化铝喷砂处理，并清洗、干燥后，然后用齿科陶瓷粘接前处理剂（例如本公司的Porcelain Liner M）进行表面处理并用气枪轻轻吹干。若粘接面为氧化锆，对粘接面进行氧化铝喷砂处理，并清洗、干燥后，然后用齿科陶瓷粘接前处理剂（例如本公司的Porcelain Liner M）进行表面处理并用气枪轻轻吹干。若为瓷修补，对粘接面进行必要的研磨，去除表面一层材料，并进行氧化铝喷砂处理，然后用超声波充分清洗并干燥后，干燥后用齿科陶瓷粘接前处理剂（例如本公司的Porcelain Liner M）进行表面处理并用气枪轻轻吹干。

使用齿科陶瓷粘接前处理剂时，请遵照其使用说明书进行操作。

2. 活性液的制备

在调盘（陶瓷）或调杯（配合调盘台（3孔）使用）中滴入4滴常规型单体液或快速型单体液，再滴入一滴V型催化剂，使用毛刷头将混合液搅拌2-3次后制备成活性液。5分钟内使用效果最好。

3. 混合物（粘接剂）的调制、涂抹

在粘接操作中有以下两种方法（笔积法与混合法），若进行衬里，需在修复面上涂上薄薄的一层。

（1）笔积法

将毛刷头装配到毛刷柄上，用毛刷头沾取的活性液，在粘接面上涂上一层。在调盘（陶瓷）或调杯（配合调盘台（3孔）使用）中放入需要的聚合粉，用毛刷头沾取活性液，其带有活性液的毛刷头尖与聚合粉末接触后制作水门汀小珠，然后涂抹于粘接面。

（2）混合法

笔堆积法套装不适合用混合法操作。本处混合法指的是C&B套装。将蓝色毛刷头装配到毛刷柄上，在活性液中加入黄色标准量勺1.0勺聚合粉混合，用毛刷头沾取混合泥涂抹于粘接面。如需调整固化时间，可调节聚合粉的使用量。
调盘（陶瓷）需放在冰箱中冷却后使用。
因聚合粉末的型号不同，操作时间（混合物状态）有所差异。请参考下列表格，分开使用。

• 使用了在冰箱中经过冷却的调盘（陶瓷）的操作时间

◇各聚合粉末 操作时间（混合法）

聚合粉	操作时间（10℃）
	常规型单体液
L型透明色	约150秒
L型遮色	约200秒

（参考）使用了未冷却调盘（陶瓷）的操作时间

聚合粉	操作时间（23℃）
	常规型单体液
L型透明色、L型遮色	约40秒

4. 修复体的安装、压接、牙齿之间的固定

修复体的安装、压接或牙齿之间的固定，必要时去除剩余的粘接剂。粘接剂为半固化未拉丝的状态为去除剩余粘接剂的最佳时机。但是，若为聚合粉L型遮色时，安装、压接或固定后应立即使用干燥的棉球擦掉修复体周围的剩余粘接剂。

5. 树脂水门汀的固化

在修复体被压接固定的状态下，使粘接剂固化。

固化基准：笔积法套装：笔堆积法固化时间5-6分钟。

C&B套装：L型透明粉笔堆积法固化时间7分钟，混合法固化时间8分30秒。L型遮色粉笔堆积法固化时间7分钟，混合法固化时间9分30秒。

固化时间有一定的基准,但实际上固化反应需要时间慢慢进行。因此,请患者在安装修复体之日不要咬过硬的物质。

6. 抛光

待粘接剂完全固化后,按照常规方法进行抛光。

[使用方法上的使用注意事项]

- 1)前处理完毕后充分干燥粘接面,不要让唾液、呼气、血液等污染。
- 2)使用次氯酸钠溶液处理牙本质粘接面后,会使产品的粘接强度明显下降,请勿使用。有机成分的溶解、消毒、止血,使用时,在绿色表面处理剂处理前使用NeoCleaner^{※1},其处理时间为15秒以内。
在绿色表面处理剂处理后请勿使用NeoCleaner^{※1} ※1NEO制药工业(株)
- 3)丁香酚物质(洞衬材料与水门汀)以及氟与油性研磨材会降低粘接性能,请勿使用。
- 4)与HY^{※2}暂封材料并用时会产生着色现象。※2(株)松风
- 5)氟强化的牙釉质,必须使用红色表面处理剂或高粘度红色表面处理剂进行表面处理。
- 6)使用后应立即盖好盖子。
- 7)笔积法使用后的聚合粉不应装回原瓶中,应直接丢弃。
- 8)使用后的调盘(陶瓷)里的残留物可使用纸巾等去除,并用专用的洗液清洗。若已固化,请用水浸泡后,再清洗、干燥。

【使用上的注意】

1) 使用注意

- ①请勿用于【使用目的、功能或效果】以外的用途。
- ②无牙科医疗资格的人员请勿使用。
- ③操作者应戴好牙科手套。
- ④请勿与其他产品混合使用。
- ⑤若窝洞较深,请对牙髓进行适当的保护。
- ⑥常规型单体液、快速型单体液、V型催化剂具有可燃性,请勿置于火源处,或靠近火源处使用。
- ⑦吸入大量高浓度的MMA气体有可能会致头痛等症状,请在通风良好的地方使用。若吸入大量高浓度的气体,应转移到新鲜空气处。
- ⑧使用、清洗的过程请勿误饮液体。若不小心误饮液体,请用水充分漱口,必要时前往专科医生处就诊。
- ⑨V型催化剂与干燥的纸、纸巾、纱布、脱脂棉、海绵等易燃物接触后,有可能会着火。
 - 滴液时的注意
滴V型催化剂时,调盘(陶瓷)或调杯中不可放入海绵等易燃物,否则可能会着火。
 - 溢出的V型催化剂的处理
不小心外溢或漏液时,必须使用用水湿润后的纸巾、纱布、脱脂棉等擦除。使用干燥的纸巾等擦除后,搁置在那边可能会着火。若附着在衣物上,请立即用水清洗。
- ⑩V型催化剂的容器均为玻璃制品。有破损的可能性,应遵守以下注意事项:
 - 跌落时撞击的注意
跌落时产生的冲击力可能会导致容器损坏,取用本品时应注意。
 - 挤压液体时的注意
拧螺丝滴下V型催化剂时,因容器尖端的液体凝固而无法挤出时,不应用力拧动螺丝,否则有可能导致容器损坏,液体飞散。
 - 使用后的注意
使用后,将螺丝回旋两圈,让其无内压增加。内压上升后有可能导致漏液、容器损坏。
- ⑪V型催化剂与空气或水接触会发热分解,活性会大大降低。为保持其性能请遵守以下注意事项:
 - 盖帽的开闭
为避免由针尖接触到空气,使用前打开盖帽,使用后应立即盖上。
 - 盖帽与针部的清洁
盖帽与针部可能会附着上白色粉末。附着物会降低盖帽的密封性,所以请使用干燥的纱布等擦掉。使用后的纱布,请用水清洗。
- ⑫针头(23G)使用后请舍弃。
- ⑬使用后的容器应按[废弃物的相关法律]进行妥善处理。

2) 重要的基本注意事项

- ①因使用本品而出现发疹、湿疹、发红、肿胀、瘙痒、皮疹、麻木等过敏症状的患者,应立即停止使用,并接受专业医生的诊断。

- ②对本品或甲基丙烯酸酯类单体有过敏既往史的操作者,在操作时应佩戴牙科用手套,不应直接接触本品。特别是避免接触未固化的混合物。同时,因使用本品而引起过敏症状的情况,应立即停止使用,并接受专业医生的诊断。
- ③避免本品附着于口腔粘膜和皮肤,以及避免进入眼睛(建议使用橡皮障)。出现附着的情况,应立即使用酒精棉等材料擦拭,并用大量的流水洗净。若进入眼睛,应立即用大量的流水洗净,必要时接受眼科医生的诊断。
- ④使用部位的牙龈或黏膜若有伤或炎症时,请控制使用。
- ⑤使用本品时,应充分考虑患者的个体差异,以及判断是否属于本品的适应症后再使用。

3) 不良、有害反应

使用本品的过程中,可能会出现发疹、皮炎等过敏症状。

【贮藏、保管方法】

[贮藏、保管方法]

- 常规型单体液、快速型单体液、V型催化剂严禁火源。
- 本品应避免多湿、阳光直射,存放于温度变化较小的室温场所(1℃-30℃)。V型催化剂不应置于冷库中保管。
- 本品应保管并管理在口腔行业者以外人员接触不到的场所。

【使用期限】

- 本品各构成品有效期为3年。
- 具体使用期限请参见包装标示,请在使用期限内使用本品。

【生产日期】

产品的生产日期请参见包装标示。

【说明书的修订日期】

2019年3月5日

【包装】

[套装]

①Super-Bond C&B 套装		②Super-Bond Brush-dip套装	
• 常规型单体液	1瓶(10mL)	• 快速型单体液	1瓶(10mL)
• V型催化剂	1支(0.7mL)	• V型催化剂	1支(0.7mL)
• 聚合粉		• 聚合粉	
L型透明色	1盒(3g)	笔积用透明色	1瓶(3g)
• 聚合粉		• 高粘度红色表面处理剂	
L型遮色	1盒(5g)		1支(3mL 注射器)
• 红色表面处理剂	1瓶(5mL)	• 调盘台(3孔)	1个
• 绿色表面处理剂	1瓶(5mL)	• 调杯	20个
• 调盘(瓷器)	1个	• 毛刷柄(弯柄)	1把
• 海绵球(大、小)	1盒	• 毛刷头(笔积L・红色)	1盒
• 量勺(标准)	1把	• 毛刷头(笔积LL・紫色)	1盒
• 量勺(小)	1把	• 针头(23G)	5个
• 毛刷柄(直柄)	1把	• 针帽(红色)	1个
• 毛刷柄(弯柄)	1把		
• 毛刷头(笔积S・白色)	1盒		
• 毛刷头(笔积L・白色)	1盒		
• 毛刷头(混合・青色)	2盒		

注:以上内容物均有零售。

【产 地】

日本

【医疗器械注册证编号】国械注进20153170388

【产品技术要求编号】国械注进20153170388

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