

THE DENTAL ADVISOR™

"Improving Patient Care Through Research & Education"

CLEARFIL SA CEMENT and CLEARFIL CERAMIC PRIMER 1-year Clinical Performance + + + + +

Kuraray America
800.879.1676
www.kuraraydental.com

Description

CLEARFIL SA CEMENT is a self-etching, self-adhesive, dual-cured resin cement with fluoride release. It is based on the *Panavia* and *CLEARFIL SE BOND* adhesive technology and has a reported film thickness of approximately 20 microns. It is indicated for cementation of crowns and bridges made of metal or ceramic as well as inlays/onlays and metal and fiber posts. It is packaged in 4.6-ml syringes in Universal (A2) and White shades and is dispensed directly from an automix syringe or using a specially designed dispenser.

CLEARFIL CERAMIC PRIMER is a single-bottle silane/acidic adhesive monomer (MDP)-based coupling agent for use with indirect porcelain, ceramic, hybrid ceramic and composite restorations. It may also be used for intraoral porcelain or composite repairs. **CLEARFIL CERAMIC PRIMER** is reported to bond to any kind of dental ceramic, including feldspathic porcelain, zirconia, alumina, lithium disilicate and leucite-reinforced ceramics. No hydrofluoric acid etching is necessary for ceramics before using this product. A phosphoric acid etchant may be used to treat the intaglio surface of any restoration other than zirconia or alumina. Instructions recommend a single coat followed by air-drying. **CLEARFIL CERAMIC PRIMER** contains an ethanol-based solvent and requires refrigeration but should be brought to room temperature before use. This product combination received a 98% clinical rating.



Consultants' Comments

- ◆ "There was little sensitivity experienced by my patients."
- ◆ "This cement was easy to dispense and required no anesthetic at placement. It is a perfect system to have in my office."
- ◆ "I have seen no marginal staining at one year on any of the restorations I cemented. That gives me confidence in the bond strength."
- ◆ "Applying the ceramic primer was easy and it may ensure a better bond over the lifetime of the crown."

Patients' Comments

- ◆ "No problems with my crown. It feels great."
- ◆ "I had a little sensitivity for a few weeks when it was initially cemented. My teeth are just more sensitive. It feels great now."
- ◆ "The outside of my crown chipped but the inside was cemented so strongly that the doctor had to cut the whole thing off."

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Ratings

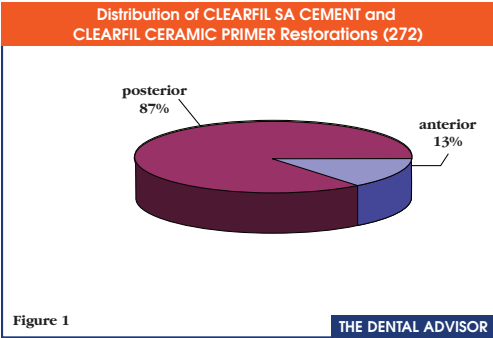
Excellent	+++++
Very Good	++++
Good	+++

CLEARFIL SA CEMENT and CLEARFIL CERAMIC PRIMER 1-year Clinical Performance + + + + +

The purpose of this study was to determine the long-term clinical performance of a self-adhesive resin cement when used with a ceramic primer for cementation of all-ceramic restorations. THE DENTAL ADVISOR evaluated performance at placement, six-months and one-year.

Clinical Evaluation Protocol

- A total of 272 restorations (approximately 50% zirconia and 50% lithium disilicate) were cemented with **CLEARFIL SA CEMENT**. Restorations included: 136 zirconia-based restorations, 128 lithium disilicate restorations, 6 leucite-reinforced restorations, and 2 ceramic-metal restorations.
- Restorations were placed on 237 posterior and 35 anterior teeth (Figure 1).
- One hundred ninety-six all-ceramic restorations, cemented with **CLEARFIL SA CEMENT**, were recalled at 6-months and one-year.
- CLEARFIL CERAMIC PRIMER** was applied to the internal surface of the lithium disilicate and leucite-reinforced restorations.
- Zirconia restorations were not primed.
- Metal primers were applied to the internal surface of ceramic-metal restorations.



Clinical Observations

Results at Placement

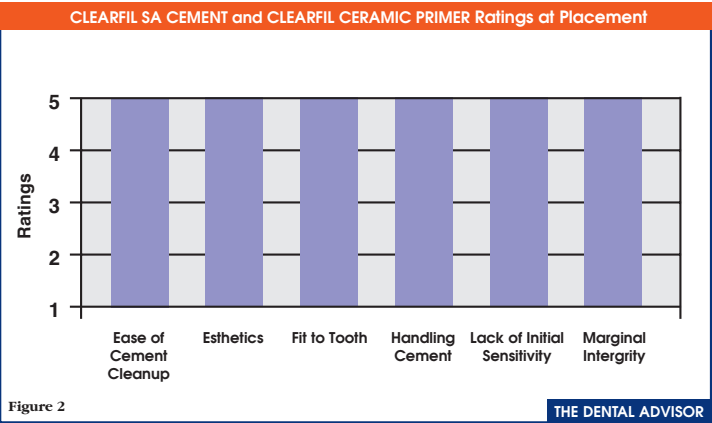
Handling of cement and ease of clean up of excess
CLEARFIL SA CEMENT received an excellent rating for ease of removal of excess after placement (Figure 2).

Fit of restoration
All restorations cemented with **CLEARFIL SA CEMENT** and **CLEARFIL CERAMIC PRIMER** had excellent marginal fit. The contacts and occlusion were ideal before cementation.

Shade match/esthetics
The optimal esthetics of the restorations was maintained after cementing the restorations with **CLEARFIL SA CEMENT**.

Marginal integrity
The viscosity of the cement allowed passive cementation of the restorations resulting in preservation of the ideal marginal fit of the restorations.

Initial sensitivity
The majority of the teeth exhibited no sensitivity after cementation of the restorations.



Results at Six Months

Bonding
One of the restorations debonded at six months.

Lack of sensitivity
Few patients reported any sensitivity.

Resistance to marginal staining
No marginal staining was reported at six months.

Resistance to fracture/chipping
No fracture or chipping was noted.

Esthetics
The shade of **CLEARFIL SA CEMENT** blended well with the restoration at placement. No shade shift was noted at six months (Figure 3).

Results at One Year

Bonding
Four restorations debonded at one year and required recementation.

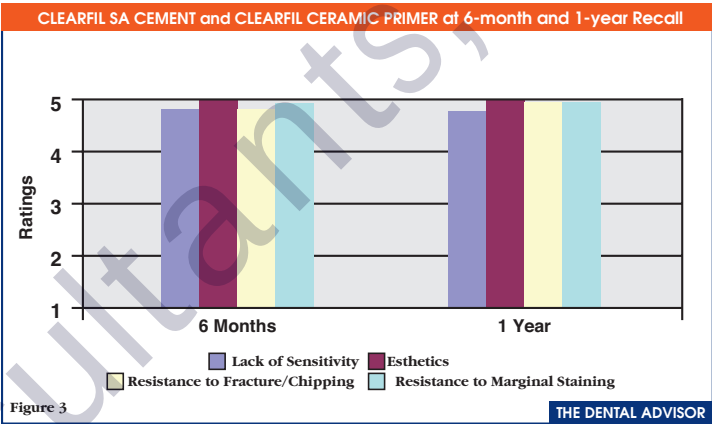
Lack of sensitivity
Very few patients reported sensitivity. A small number of patients experienced mild sensitivity lasting 2-4 weeks. Two crowns had to be removed as a result of prolonged significant sensitivity.

CLEARFIL SA CEMENT and CLEARFIL CERAMIC PRIMER 1-year Clinical Performance + + + + +

Resistance to marginal staining
No marginal staining was observed at 1 year. One restoration had to be remade due to poor marginal fit.

Resistance to fracture/chipping
One restoration fractured at one year and had to be removed and remade.

Esthetics
The shade of **CLEARFIL SA CEMENT** blended well with the restoration at placement. No shade shift was noted at one year (Figure 3).



Summary

One hundred ninety-six all-ceramic restorations, cemented with **CLEARFIL SA CEMENT** and **CLEARFIL CERAMIC PRIMER**, were recalled at six-months and one-year. All received excellent ratings for esthetics, resistance to marginal staining, lack of sensitivity, and resistance to fracture/chipping at both six months and one year. ■



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Product Features

The automix syringes can be used to express **CLEARFIL SA CEMENT** efficiently through the mixing tips directly into the restoration to minimize waste. Alternatively, the plunger can be removed from the syringe and the barrels can be placed in the *CLEARFIL dispenser* for better control and extrusion of the cement. All of the features that were evaluated, such as packaging, ease of dispensing, consistency and mixing tip size and shape were rated as excellent. The working time is adequate for cementation of multiple units and the setting time can be accelerated by light-curing.

Most consultants found that the snap-set took



Consultants' Comments

- ♦ "One of the easiest resin cements I have ever used."
- ♦ "Endo tip is great - easiest post cementation clean-up I've ever had."
- ♦ "Excess clean-up after the initial cure was great."
- ♦ "The regular push plunger is fine, but the dispenser is phenomenal!"
- ♦ "The cement is too opaque."

longer light-curing (8-10 seconds) than the time recommended by the manufacturer (2-3 seconds). After the initial cure, the excess cement easily peels off, mostly in one piece. The cement has excellent viscosity and film thickness to allow complete seating of the restoration. There were no reports of post-operative sensitivity or restoration debonding during the evaluation period. Ninety-three percent of the consultants rated **CLEARFIL SA CEMENT** as equivalent or better than the self-adhesive cement they were currently using, while 73% would both switch and recommend it.

Clinical Tips

- Refrigerate the product when not in use.
- No etching, bonding or other surface preparation of the tooth is necessary. ■

Ratings: Excellent + + + + + Very Good + + + + Good + + +

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