



## Clinical Case Study



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Cosmetic and General Dentistry



# CLEARFIL™ SE BOND 2

**Kuraray CLEARFIL™ SE BOND 2: The Bond for Universal Reliability in conjunction with the Triodent V4 Class II Solution; a Pairing for Predictable Restorative Results.**



Bonding technology is ever-changing. Bonding technology is scary. Bonding is terrifying because its reliability is directly relative to the survivability and prognosis of our restorations. We were all taught total etch in dental school, and in the hairiest of clinical situations or sometimes the most straight-forward, I still choose total etch, especially in all-enamel bonding. Dentin bonding is less straightforward.

We know about the technique sensitivity required in both 4th and 5th generation bonding systems requiring a moist but not wet dentin layer to allow for hydrophilic carrier infiltration into dentin tubules to establish as thick or substantial a hybrid layer as possible. Certainly this layer does exist, and is responsible for micro mechanical retention in initial dentin bonding, but most often this area is the zone most deficient due to insufficient bond application technique. It is the first area to fail, either because of matrix metalloproteinase activity or cysteine cathepsins, or during polymerization contraction or insufficient bonding leading to microleakage (or leakage - there is no such thing as microleakage). Recent research with self-etch dentin bonding indicates the creation and presence of an acid-resistant area in the "hybrid zone" known as the Nano-Interaction Zone, or NIZ. The

NIZ essentially is a reaction between active functional acidic monomers and calcium salts in the hydroxyapatite surrounding collagen fibrils in dentin. It has been found to be more resilient to the onset of decay than in its total etch counterparts and may be responsible in part for the now proven longevity of certain benchmark self-etching bonding systems relative to its total etch counterparts.

I am a skeptic, and generally use total etch for all applications. I am pretty good at establishing a moist dentin layer for the technique sensitive bonding procedure, but sometimes I still do get reports of post-op sensitivity. I know that self-etchers generally have a lower incidence of post-op sensitivity because of less technique sensitivity in the protocol. I recently had the opportunity to trial Kuraray CLEARFIL™ SE BOND 2. I

decided to try it because I had been umming and ahing about switching to selective/self-etch for quite a few years now. I knew if I were to change, the only tried and true option would have to be Clearfil SE Bond. I am convinced this is the system to go with for reliable bonding because myriad companies have been trying for years now to mimic Kuraray's MDP monomer. Clearfil SE Bond 2 is the most recent evolution of the self-etching and bonding benchmark, and features a dual-cure activator to thin out its film thickness to 3 to 5 microns for indirect and intracanal bonding procedures. As always, MDP is the most reliable monomer to bond to both metals and zirconia and is featured in CLEARFIL™ SE BOND 2. Significantly, CLEARFIL™ SE BOND 2 features a more sensitive photoinitiator than SE Bond Original, which results in the production of more free radicals, translating to increased monomer conversion and thus a stronger bond. With a host of international studies supporting sustained initial and thermocycled shear bond strengths at an unparalleled level of consistency, it is no wonder that more people will definitely make the jump to Clearfil

SE Bond 2. As an aside, I have used it indirectly, directly and for all procedures including root surface desensitization. I have to say, it works significantly better in my hands relative

to total etch for this latter application hands down.

I had the chance to trial CLEARFIL™ SE BOND 2 in the case below. Here

we have a 14DO old amalgam with marginal leakage, recurrent caries and a mesial marginal ridge hairline fracture with temperature sensitivity.



Pre-operative situation showing extent of hairline fracture, old amalgam restoration and affected enamel/dentin.



Intraoperative situation showing removal of coronal aspect of crack to a conservative level, removal of old restorative material and affected hard tissue.



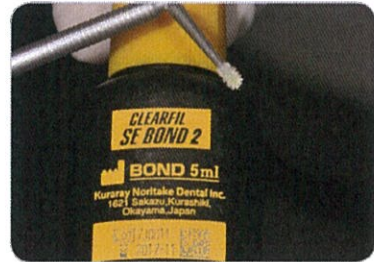
Triodont V4 Class II Solution: 4.5mm SuperCurve non-stick matrices with pink Wave-Wedges and V4 anatomic separating rings showing excellent proximoaxial and gingival box floor adaptation



CLEARFIL™ SE BOND 2 Self-Etching Primer was scrubbed into the tooth structure for 20 seconds in selective-etch mode. The enamel was flash etched for 10 seconds immediately prior. This leaves a slightly glossy look to the dentin after 5 seconds of gentle carrier evaporation.



Application of CLEARFIL™ SE BOND 2 Bond directly after evaporation of the primer carrier. This does not need to be scrubbed in at all.



CLEARFIL™ SE BOND 2 Bond



Immediate pre-occlusal adjustment result using a layered approach with a single shade of A2 Kuraray CLEARFIL™ Majesty Esthetic. Both flowable and packable versions were used for their outstanding filler content, physical properties and chameleon effect.



Post-occlusal adjustments and finishing/polishing. What we have is a biomimetic, sexy, strong result with the safety of knowledge that there is strong, time-proven reliability of dentin bonding with CLEARFIL™ SE BOND 2.

"CLEARFIL™ SE BOND 2 is a product that is the perfect jump-over bonding option for total etchers who want proven, greater predictability of dentin bonding whilst maintaining their obsessive need to etch enamel selectively. It is a product that together with the V4 system from Triodont for me in 2015 is building peace of mind, less problems, productivity and passion for excellent dentistry." - Dr. Clarence Tam, HBSc, DDS

### CLEARFIL™ SE BOND 2 Kit

KY-282270  
\$220.00



Kit contains: 1 Primer (6ml), 1 Bond (5ml), 1 Dispensing Dish, 1 Light-blocking plate, 1 Outer case, 50x Applicator brush

### CLEARFIL™ SE BOND 2 Value Pack

KY-282272  
\$550.00



Value Kit contain: 3x Primer (6ml) & 3x Bond (5ml)

### CLEARFIL™ DC Activator

KY-282250  
\$100.00



4ml Bottle