

FL-BOND II ADHESIVE (SHOFU)

FINAL GRADE: 10,0



PRODUCT DESCRIPTION:

FL-BOND II is a two-step self-etching adhesive system that features the GIOMER BIOACTIVE technology with the release of fluorine and another five ions: sodium, aluminum, borate, strontium and silicate, which makes it very effective in decreasing postoperative sensitivity and preventing microleakage at the margins of restorations, so common, mainly in class V and II cavities.

PRODUCT CHARACTERISTICS:

- ◆ Its hydrophilic acidic primer does not contain acetone or Hema, and it has no odor, so that its use results in less postoperative sensitivity.
- ◆ The acid primer contains two special monomers:
 - phosphonic acid: 6-MHPA, which penetrates between collagen fibers and chemically

- adheres to calcium; and
- carboxylic acid: 4-META, which penetrates between the collagen fibers and chemically adheres to collagen;
- ◆ The solvent is ethanol.
- ◆ It does not contain MDP.
- ◆ The HEMA-free Primer prevents deterioration of the bond interface by hydrolysis and ensures longer-term durability of the bond.
- ◆ The Bond has excellent viscosity, enabling a uniform application, with a film thickness of approximately 20 µm, and adapts very well to the preparation walls.
- ◆ About 40% of the adhesive content consists of fluoride-releasing filler particles that rely on S-PRG particle technology,

- which offers a greater degree of protection against microbial invasion through microleakage. It forms an acid-resistant layer both inside and under the resin-reinforced dentin complex, the hybrid layer. This is due to the continuous release of fluoride, which has a cariostatic effect and stimulates remineralization of areas susceptible to the development of secondary caries.
- ◆ It forms a radiopaque halo that makes radiographic follow-up of the patient more effective.
- ◆ It has fluorescence – if the dentist uses a pen with UV light when removing the adhesive, he/she will have a better visualization and, therefore, will be better able to preserve the tooth structure.

INDICATIONS FOR USE:

- ◆ Indicated to promote bonding of any composite to enamel and dentin, in class I to V restorations, including non-carious lesions – such as abfraction and others with loss of tooth structure.
- ◆ Deep restorations.
- ◆ Restoration of exposed and hypersensitive root surfaces.
- ◆ Intraoral repair of fractured indirect restorations, when used together with the Metal Link Primer.

APPLICATION PROTOCOL:

- ◆ The self-etching primer prepares dentin and enamel surfaces by changing the residual dentin layer and simultaneously eliminates the need for a pre-acid etching step.
- ◆ Two simple steps and just 35 seconds are sufficient to enable the treated area to receive immediate application of the restorative materials.

Stage 1:

- ◆ Dispense the primer and carefully apply it on the enamel and dentin surfaces for 5 seconds.
- ◆ Let it rest for 10 seconds.
- ◆ Dry with a jet of air 5 seconds (do not rinse).

Stage 2:

- ◆ Dispense the adhesive agent and carefully apply a homogeneous layer over the entire surface (do not use a jet of air).
- ◆ Light cure for 10 seconds by halogen light and 5 seconds by LED.

PACKING:

The product is presented in 5 ml of primer and 5 ml of bond, with 25 red microbrushes, 25 yellow microbrushes and two cocoons.

MAIN COMPETITORS IN THE BRAZILIAN MARKET:

Clearfill SE Bond (Kuraray).

REVIEWERS' COMMENTS

“FL-BOND II adhesive is a unique material among our dental materials, as it is the only self-etching with filler particles, delaying early aging of hybridization, in addition to providing bioactivity with ionic exchanges, thereby ensuring long-term efficiency and tranquility in use by us, dentists.” (Grade: 10,0). Albano Luis Bueno.

“I have been using this ingenious material for a year and my experience has been fantastic for all types of (shallow, medium and deep) cavities. At first, three factors were crucial for convincing [me] to use of FL BOND II, and later, to adopt it definitively as work material:

(1) RADIOPACITY: unlike many adhesives, FL-BOND II is radiopaque, which provides a radiographic image of the restoration, with greater fidelity as regards adaptation; (2) It does not contain HEMA monomer (extremely allergenic); and (3) IT IS BIOACTIVE: it contains the GIOMER particle that is capable of regulating the pH of the oral environment; it is bacteriostatic and bactericidal; it interferes with biofilm adhesion and also changes the critical pH of hard dental tissues, creating a SUPER DENTINE and A SUPER ENAMEL. Furthermore, considering that the main failure of restorative procedures is secondary caries, BIOACTIVE materials can be strong allies in the conservation of direct restorations and dental structures.” (Grade: 10). Ginger Mello.

“FL-BOND II is an excellent material without the tendency to cause postoperative sensitivity. It produces an excellent bond to any adhesive restorative material and has bioactive filler particles (BIOACTIVE GIOMER, that release fluoride and another five ions: sodium, aluminum, borate, strontium and silicate). These make it very effective in decreasing postoperative sensitivity and preventing microleakage at the restoration margins. Since longevity of the material is something important to both the patient and professional, this is an adhesive that tends

to last a long time in the mouth. It is an adhesive that cares about the patient. It is also radiopaque, which makes it easier for the professional to visualize it on x-rays, in comparison with the majority of dental adhesives that are not radiopaque. It has an acid primer that contains two monomers, 6-MHPA and 4-META. It does not contain MDP, and its solvent is alcohol (ethanol). Its primer is HEMA-free, radiopaque, and it has good viscosity and fluorescence. It can be used in very deep cavities. In my opinion, I attribute 10 to the FL-BOND II adhesive system. (Grade: 10,0)."

Sérgio Badini.

"FL-BOND II adhesive: a unique adhesive, with excellent mechanical and biological properties, among which we can mention elimination in almost 100% of cases of postoperative sensitivity in (newly prepared) deep cavities, does not form puddles when it is applied, has fluorescence, thus favoring radiographic evaluation. Moreover and it is an adhesive that is extremely resistant to hydrolysis. The best of all [its features] is its bioactivity that interacts with the teeth, acting on several fronts of protection." (Grade: 10,0). **Flávio Henriques.**

"FL-BOND II Adhesive is an excellent option for use in daily clinical practice, as it is a two-step self-etching system. This provides greater safety during

its application on dentin and enamel. I have been using the system for two years in our courses and in my private practice. Clinically, the great advantage I see in this system is that there is no to postoperative sensitivity. Scientifically, I see this system as a differential in comparison with others because it has load particles that improve its mechanical properties. The innovation of Giomer technology has been added to this, giving it bioactivity, ability to release ions that will act to decrease sensitivity (aluminum), neutralize bacterial acids (boron), remineralize dental tissues (fluoride), among others. This adhesive is the present and the future in terms of adhesiveness and bioactivity of dental materials. I highly recommend it for both direct and indirect restorations." (Grade: 10,0). **Artur Napoleão.**

"FL-BOND II by Shofu is a two-step self-etching adhesive system that uses the Giomer technology in the composition of Bond; In other words, it contains S-PRG particles that release and recharge fluoride and five additional ions. This technology is spectacular, as the consequence of release of these ions is seen with the naked eye, in our daily clinical routine. It is, without a shadow of a doubt, the best adhesive system I have ever worked with in my clinical life. Furthermore, its high performance has been confirmed in all surveys: there are no problems with

postoperative sensitivity; the sealing of the tooth/restoration interface is fantastic; it is radiopaque, which helps a great deal in the radiographic diagnosis of caries recurrence; and it also strengthens the tooth structure. The Giomer technology reduces the production of acids by cariogenic bacteria; it has a good working time, and the Bond viscosity is excellent, as it is possible to see the uniformity of the layer applied in the cavity." (Grade: 10,0). **Taylane Soffener Berlanga de Araújo.**

"FL-BOND II fits into self-etching adhesive systems, making it part of the world's list of high-performance adhesives with unquestionable clinical reliability. With clinical characteristics in common with those of other self-etching systems, by discarding the use of acid application on the dentin structure, it differs significantly in quality, due to the bioactive technology Giomer®, developed by Shofu. It offers extremely low rates of postoperative sensitivity in direct and indirect restorative procedures, and effective prevention of microleakage in restoring and cementing margins. Other qualities to consider when making the decision to incorporate the product into daily practice, and generating conversion into clinical benefits, is the highlight of its quantity of filler (40%) present in the adhesive content, added to the S-PRG particle technology. This imposes

a preventive shield against microbial infiltration on the restorative margins, in addition to the thinness (20 µm) of the polymerized layer that does not interfere with the adaptation of indirect restorative parts. I use and indicate the product with absolute tranquility, certain of

obtaining longer-lasting results, adhesive security and ease of use.” (Grade: 10,0).

Rafael Decurcio.

“I have been using the FL-BOND II in my clinical routine with great confidence and trust. What surprises me is the

radiopacity, bioactive Giomer technology and its good quantity of filler particles, thus forming an incredible set of features of this self-etching adhesive system, which is the adhesive strategy I use and trust the most.” (Grade 10.0).

Thiago Ottoboni.

ESTERILIX® AIR STERILIZER

FINAL GRADE: 9,8



PRODUCT DESCRIPTION:

The Sterilix® Air Sterilizer is designed and constructed to create an airflow that entrains airborne particles into the equipment, where they are retained by a very fine filter, as used in surgical and laboratory environments.

In the event of any particle passing through the filter, it will be inside a chamber in which it will receive ultraviolet light (UVC) irradiation in a

“sun bath” that is fatal to all known microorganisms.

PRODUCT CHARACTERISTICS:

- ◆ Capture of particles with the technology used in operating rooms, with the use of HEPA (High efficiency particulate arrestance) filters.
- ◆ Multispeed, light, beautiful and resistant, with presence sensor and continuous mode of operation.

- ◆ Simple installation: just plug in and it's ready to use. It has a supporting base (optional).
- ◆ Bombardment with ultraviolet rays (UVC) and internal ozone generation after the air passes through double HEPA filtration.
- ◆ Autonomous operation: activity by moment sensors and automatic shutdown after exit from the environment.

INDICATIONS FOR USE:

In elevators, medical clinics, dental clinics, esthetic clinics, shops, offices, bars and restaurants, gyms, homes, industries, commerce and transport.

TECHNICAL DATA ESTERILIX®

CUBE:

HEPA h-14 filtration; manual operation; two speeds; 598 m³/h air flow (maximum speed); UVC and ozone (low emission, odorless); eliminates odors and smoke smells; 110 / 220 / 12v, low power (<400 w); ideal for areas of up to 25 m²; features sturdy engineered steel body.

It sterilizes the air of an elevator for six people in just 30 seconds or an area of 25 m² in up to 12 minutes.

TECHNICAL DATA ESTERILIX®

LOUNGE:

Double HEPA h-14 filtration; manual operation; three speeds; 598 m³/h air flow (maximum speed); UVC and ozone (low emission, odorless); eliminates odors and smoke smells; 110v / 220v / 12v, low power (<400 w); ideal for areas of up to 50 m²; features sturdy body.

It sterilizes the air of an elevator for 10 people in just 30 seconds or an area of 50 m² in up to 12 minutes.

ESTERILIX® X STERILIZERS

On the Brazilian market there are several

products that call themselves sterilizers –most of them are very effective against molds and mites that are macroscopic contaminants susceptible to heat. Most use heated grid technology, through which contaminants pass and are incinerated, however, without the aid of a forced ventilation unit, they are quite slow and eventually ineffective against massive and dynamic contamination.

MAIN COMPETITORS:

- ◆ Philips (Sinergy);
- ◆ Steriair;
- ◆ Thermomatic Purifik Air;
- ◆ LG Pure Care 360;
- ◆ Honeywell 50 250 True HEPA;
- ◆ Green Air SS 500 Pro;

REVIEWERS' COMMENTS:

"In these complicated times, the feeling of being unprotected afflicts, torments and agonizes [people], especially in the clinical environment of the dental office, full of volatile products and aerosols. eSterilix®, an air sterilizer approved by UNICAMP and SENAI-PR, promotes air decontamination, but, in particular, makes the environment much safer, calmer and friendlier, an essential condition for the dentists, their teams and patients. Really, a great ally to biosecurity." (Grade: 10,0).

Sidney Kina.

"We dentists work in an environment in which there is a great deal of aerosol

and that exposes us to different microorganisms. Nowadays, with eSterilix®, I feel much more protected and so do my patients, due to the speed and efficiency with which the air is completely sterilized." (Grade: 10,0). **Mauro Gebran.**

"The eSterilix® equipment gives me the security when I am in both the office and educational environments. It streamlines my attendance process, reduces the time taken to sterilize my environment between caring for one patient and another, and ensures the safety of the air in the environment in which we work." (Grade: 10,0). **Marcos Boaventura de Moura.**

"In contemporary times, all the additional concern with biosafety is fundamental and, in this context, some devices, such as the eSterilix® air sterilizer (Mondo Bello), become essential to provide peace of mind and security in closed environments, such as the waiting room and clinical room. This equipment that has been tested and approved by UNICAMP, is capable of combating the proliferation of viruses, bacteria and fungi, including viral particles of the Coronavirus group. A suggestion for improvement is the inclusion of a timer to activate the device at predetermined times." (Grade: 9,5).

Cristian Higashi.

VISCALOR BULK (VOCO)

FINAL GRADE: 9,8



PRODUCT DESCRIPTION:

VOCO's new restorative composite, VisCalor bulk, is the first material in the world to use thermo-viscous technology. VisCalor bulk follows a completely new pattern: on the one hand, the material has the high fluidity of fluid composites during application, and, on the other hand, it can be sculpted as a compactable composite. VisCalor bulk is, therefore, a suitable material for both narrow and wide "cavities, without compromising adaptation or strength in any way and in any of the cases.

When heated in a pre-heating device for composites, VisCalor bulk acquires a very low viscosity and can be applied as a fluid composite. The material flows perfectly onto the cavity walls and retentive areas. The material reaches body temperature very quickly and can be sculpted immediately as a compressible composite.

PRODUCT CHARACTERISTICS:

- ◆ Unique and innovative – when heated, the material becomes fluid for application and, soon after, it can be sculpted (thermo-viscous technology).
- ◆ Excellent working properties – ideal flow onto edges and retentive areas.
- ◆ Time savings – no covering layer required.
- ◆ Easy handling – 4 mm bulk-fill and application with a thin cannula, no inclusion of air [bubbles].

INDICATIONS FOR USE:

- ◆ Posterior Class I and II restorations.
- ◆ Base for Class I and II restorations.
- ◆ Class V restorations.
- ◆ Fixation and splinting of teeth with mobility.
- ◆ Repair of veneers, enamel

defects and special materials for temporary crowns and bridge work.

- ◆ Sealing of enlarged cracks.
- ◆ Restoration of primary teeth.
- ◆ Reconstruction of trunnions.

MAIN COMPETITORS:

No competitors in the same technology.

REVIEWERS' COMMENTS:

"The possibility of heating the system and leaving it fluid makes it much easier to apply in any type of cavity; and after the resin loses heat it becomes moldable, combining the advantages of fluid Bulk resins with the conventional types. Furthermore, the heating and application system is very simple and effective, especially in areas of difficult access. With different color options, we can solve any clinical situation in an esthetic way. Excellent product." (Grade 10). **Rafael Monte Alto.**

“I, Marcelo Balsamo, as VOCCO’s scientific technical consultant, qualify VisCalor resin as the best material of bulk-fill generation at the moment. Irrespective of the fact that I am connected with the company as a partner, I also work as a general practitioner in a private practice and I have frequently used the material, including its use for highly demanding clinical cases, such as the bite lift I usually perform with composites. Its high level of strength, and its practical application, has improved my clinical work and brought many satisfactory results. So much so that I recently sent a documented clinical case to Germany for publication in a scientific journal, as I obtained an incredible result in the correction of an occlusion in one of my patients, in addition to obtaining excellent photos of the result achieved with the material in the mouth. For this reason, I qualify VisCalor as a grade 10 material. Fluidity for application and quick flow into cavities, good consistency for condensation and sculpture, seconds after insertion into the cavity, and surprising polishing, due to the presence of its effective nanotechnology.” (Grade: 10,0). **Marcelo Balsamo.**

“VisCalor Bulk resin has a range of possibilities to be explored by dentists. The possibility of heating to make it more fluid allows a better insertion into the cavity, similar to a fluid resin, thereby reducing

the number of bubbles, yet maintaining the superior physical characteristics of conventional resins. In addition to its indication as a direct restorative material and taking advantage of this feature of heating and increasing fluidity, I have used VisCalor Bulk for making semi-direct restorations by injection into the “Registrado Clear” transparent silicone mold, which is a copy of the wax-up, and for cementation of onlays and overlays, with excellent results. Therefore, VisCalor Bulk is an extremely versatile material, and it has excellent quality for all uses.” (Grade: 10,0). **Leandro Martins.**

“VisCalor Bulk is a resin [suitable] for direct restorations in posterior teeth, [fabricated] with thermo-heated technology, it has a fluid consistency after heating to 68° C and a sculptable consistency at a temperature of 32° C. Its presentation in ultra-slim single-dose tips facilitates positioning it in areas of difficult access and leads to gains in working time, especially in simple or composite Class II restorations. This technology provides a perfect adaptation of the restorative material, with a homogeneous and precise primary filling. After application in fluid consistency, with a drop in temperature, the material becomes sculptable, facilitating anatomical reconstruction. I use and recommend VisCalor Bulk, for its technical practicality combined with its esthetic features.” (Grade: 10,0). **Paulo Quagliatto.**

“VisCalor Bulk really is a highly differentiated resin, in every way. With its preheating system, it allows a greater degree of conversion, ensuring better physical and mechanical properties. With its blister card [presentation] and special syringe, it provides enhanced ergonomics and comfortable application. Its initial flow rate allows for very fast, effective filling and excellent adaptation to the cavity. Its consistency after being inserted into the cavity and slightly cooling, makes it excellent for making a proper sculpture. Thus, we have an excellent resin in terms of mechanical properties, with excellent insertion and great sculptural consistency.” (Grade: 10,0). **Fábio Sene.**

“The bulk-fill resin VisCalor joins two products into one: after being heated, it becomes flowable, making filling and adaptation easier. After 30 seconds in the cavity, it returns to paste consistency and can be sculpted. Excellent for quick reconstructions with excellent marginal sealing quality.” (Grade: 10,0). **Carlos Pena.**

“Today, thermoactivated resins are a reality within dental procedures. In filling cores, restorations or even cementations, it has shown very satisfactory results. VisCalor Bulk-fill resin is an example of an excellent material, showing the enhanced properties of a Bulk

resin, but with brighter colors and less translucency than ordinary Bulk resins. VisCalor has shown to be a beautiful material for posterior restorations, it can be used in increments of up to 4 mm and has low degree of polymerization shrinkage. I have been using this material and really like the results, especially in the area of strength and esthetics for posterior teeth. The ease of working with this material at 68° C is fantastic, allowing enough time for dental sculpture, due to its real viscosity obtained through heat, and also being able to finish the restoration without the need for increments of other resins. I use and indicate it.” (Grade: 10,0).

Hamilton Renato.

“I use and recommend Bulk VisCalor resin because, in addition to the convenience of performing a restoration in a short time, with low tension and polymerization shrinkage, this resin combines different viscosities in a single product, which makes it possible for us to adapt the flow and the sculptability of traditional resin together, thanks to thermo-injection.” (Grade: 9,6). **Rodrigo Reis.**

VisCalor resin has a great clinical versatility. Whether for a direct restoration or for use in cementation of indirect cases, its action and clinical performance are formidable. After

heating, handling is facilitated, allowing for optimal material extravasation and viscosity, ideal for accommodating it inside the cavity. Easy to sculpt and excellent adaptation, I had the opportunity to use it and I believe it was made to facilitate and optimize the routine of dentists. I use and recommend it.” (Grade: 9,0). **Victor Hugo Nastri.**

“I had the opportunity to get to know this product on a visit to the VOCCO factory in Germany. Since then, I have been impressed with the expertise of this large company that has managed to unite the properties of a bulk system (when heated) with the practicality of a conventional resin, with regard to sculpting and filling in lost structures, making it easy to resolve different types of cavities and clinical situations, such as cementation of ceramic laminated facets.” (Grade: 10,0). **José Rodolfo E. Verbicário.**

The ability to modify the viscosity is really extraordinary. With the high fluidity while heated, we achieve an excellent adaptation in the most difficult areas of the cavity, eliminating bubbles and empty spaces. When it cools, it has optimal characteristics for sculpting the final restoration. Basically, we have two products contained in one.” (Grade: 10,0). **Carlos Torres.**

“A versatile resin; I think it speeds up my procedures, by respecting work times, it becomes sculptable very quickly and provides good results in daily practice.” (Grade: 10,0). **Fernando Feitosa.**

“VisCalor is an extremely versatile thermo-heated bulk-fill resin that I recommend for use in direct single-fill restorations and cementation of indirect restorations. In both clinical situations, the flow and fluidity at 68° C provide an excellent adaptation to the internal walls of a cavity or preparation, it can be sculpted or when removing excesses, one should wait for around 20 to 25s for finalization of the procedure.” (Grade: 10,0). **Breno Mont’Alverne.**

“The thermo-heated resin VisCalor with low shrinkage (bulk) is very practical due to its flow, it does not lead to [the appearance of] air bubbles, and its adaptation is excellent. The application mode through an applicator (gun) prevents contamination and material waste. I perform the restorative procedure much faster, without losing quality. As regards sculpture, I had a bit of difficulty getting the ideal temperature right.” (Grade: 9,0). **Antonio S. Sakamoto Jr.**