Dental PRODUCT SHOPPER

BISCO'S BEST:
CASES TO INSPIRE YOU

In honor of the company's 40th anniversary, this look-book highlights 6 different cases—each from a different dentist who proudly uses BISCO materials for increased efficiency and optimal outcomes.

BISCO 40 CELEBRATING YEARS

PRODUCT focus

Trusted Products that Deliver Superior Results

Why BISCO? *Six different doctors were proud to answer that question through a range of successful clinical cases*

When dentists invest in BISCO products, they know exactly what they're getting. The company has built its reputation around providing high-quality dental materials that improve efficiencies and give dentists the results they're after. BISCO is especially known for its advancements in adhesion, developing products that save time while providing optimal bonding to dental restorations.

Over the years, BISCO materials have become mainstays in dental practices across the country and all over the world. These products are backed by scientific research and have proven to be reliable, making them a no-brainer for dentists when it's time to purchase materials.

And the results speak for themselves. Clinicians are proud to use BISCO materials, with many documenting their work to share with colleagues in print and online—and through this ebook.

As part of a year-long celebration to mark the company's 40th anniversary, BISCO asked dentists to submit their best cases featuring BISCO products—and they certainly delivered. We're highlighting six of those cases here, showcasing products like All-Bond Universal, a one-bottle universal adhesive that allows dentists to use their etching technique of choice; TheraCal LC, a resin-modified calcium silicate that's ideal for direct and indirect pulp capping; Duo-Link Universal, an adhesive cement; and the eCEMENT system for simplifying lithium disilicate placement.

For example, Dr. Jorge Luna presented a case demonstrating a conservative, minimally invasive approach to preserving tooth structure. The case features BISCO adhesive favorites All-Bond Universal and eCEMENT. "Bonding to enamel has been shown to provide reliable results, and conservative tooth preparations are key to the success of ceramic bonded restorations," he said. "Furthermore, total isolation with a rubber dam prior to bonding the final restoration is crucial for the success of adhesive protocols."

In these case studies, you'll see the benefits that BISCO materials can bring to a practice—and why you might want to add them to your armamentarium as well. The cases from Drs. Juan Ángel Castro, Roxana Gómez Zabaleta, Andrés E. López, Noé Orellana, Mario Hernández, and Jorge Luna showcase BISCO products as part of various procedures and techniques, including a smile design, endodontic treatment and an overlay bonding protocol.

CASE NO. 1

Addressing Leakage

A new indirect restoration was placed with the help of BISCO materials.

BISCO products used: TheraCal LC, All-Bond Universal, Duo-Link Universal, Select HV Etch

Juan Ángel Castro, DDS

Case description: *An 18-year-old male presented with sensitivity to thermal changes in a lower molar. On clinical and radiographic examination, areas of micro-filtration were observed on the resin restoration.*

After the restoration and recurrent caries were removed, the cavity was decontaminated with 2% chlorhexidine, leaving a visibly wet dentin. I then placed TheraCal LC, selective etched with 35% phosphoric acid on the enamel, dried, and applied All-Bond Universal. Fluid resin was used to seal the exposed dentin and create the resin coating.
An impression was taken with a triple tray to create an indirect resin restoration. I then cemented the indirect restoration, decontaminated the preparation with 50-micron aluminum oxide, etched the enamel with 35% Select HV phosphoric acid, dried, and applied All-Bond Universal. To finish, I light-cured and completed cementation with Duo-Link Universal adhesive cement.

Figure 1: The patient presented with a composite restoration with deficient borders.

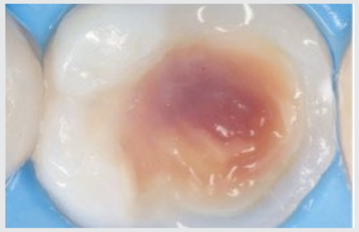


Figure 2: The old composite restoration was removed.

Figure 3: Disinfection was completed using 2% chlorhexidine.

Figure 4: TheraCal LC was applied on visibly dentin. Selective etching with 35% Select HV Etch was then completed for 15 seconds.

Figure 5: The restoration was rinsed with plenty of water.

Figure 6: Two coats of All-Bond Universal were applied and scrubbed.

Figure 7: The resin coating was placed.

Figure 8: The final indirect restoration.

CASE NO. 2

Resolving a Fistula

The fistula was present for two months before the patient sought help at this doctor's endodontic practice.

BISCO products used: All-Bond Universal, Core-Flo DC Lite, TheraCal LC, Duo-Link Universal

Andrés E. López, DDS

***Case description:** A 28-year-old female presented to my endodontic practice with a fistula on the lower left molars that hadn't resolved after 2 months.*

I completed a clinical, radiographic and photographic analysis. The tooth had a provisional restoration (IRM) and cotton in the pulp chamber. The pre-operative x-ray revealed the presence of a fractured file in the mesiolingual canal.
I isolated the tooth, removed the caries, placed the matrix, selective etched, applied CHX 2%, and completed distal deep margin elevation (DME). I then placed All-Bond Universal on the distal composite. Single session endodontics was performed on the fractured file. Obturation was made with bioceramics cement and gutta-percha.
Next, I carefully cleaned the pulp chamber, applied All-Bond Universal and Core-Flo DC Lite to build the core structure. The patient was prescribed antibiotics.
When the patient returned 10 days later for her second visit, the fistula had disappeared. I completed absolute isolation, removed occlusal and mesial caries on the upper-right third molar, applied TheraCal LC in deep areas, selective etched, applied CHX 2% and All-Bond Universal, then layered the composite.
The preparation for an overlay on the lower left molar was also performed. The rubber dam was removed, the retractor cord placed, preparation completed, and digital impression taken.
When the patient returned for the third visit, we again completed absolute isolation, prophylaxis, selective acid etching, placed All-Bond Universal, and cemented the lithium disilicate overlay with Duo-Link Universal adhesive resin cement.

Figure 1: Upper left, pre-operative image; upper right, after endo and build-up; lower left, the CAD design; lower right, lithium disilicate overlay in place.

Figure 2: Pre-endo deep margin elevation; matrix is placed; endodontics completed.

Figure 3: Removal of caries; TheraCal LC used in deep dentin; selective etch used; All-Bond Universal applied; the layered composite restoration; preparation of the lower left molars; cord retraction completed to take digital impressions.

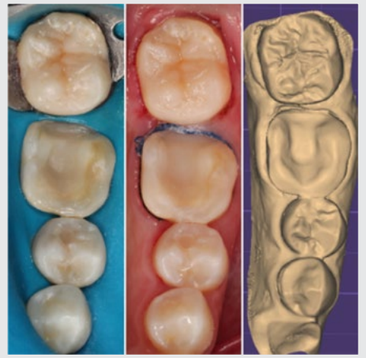


Figure 4: Occlusal view with isolation; occlusal view with retraction cord; occlusal view of digital model.

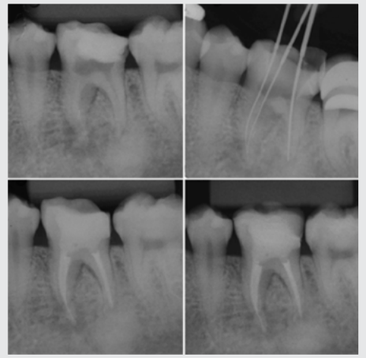


Figure 5: X-ray images of endodontics—upper left, pre-operative image; upper right, working length; lower left, obturation and build-up with Core-Flo DC Lite; lower right, lithium disilicate in place, Case finished.

Figure 6: Selective etch.

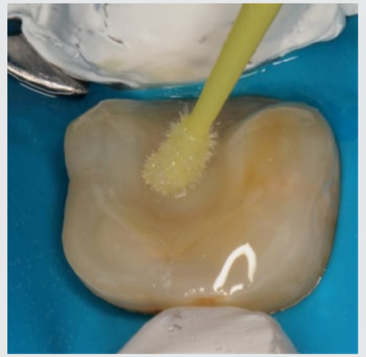


Figure 7: All-Bond Universal was applied.

Figure 8: The lithium disilicate overlay.

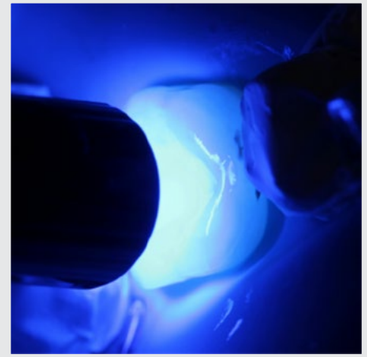


Figure 9: All-Bond Universal was light-cured.

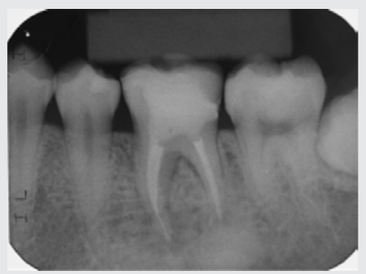


Figure 10: The final x-ray post-op.

Figure 11: The final restoration.

CASE NO. 3

Placing Veneers without Dental Preparation

The dentist chose to use the indirect technique for this smile design for its superior mechanical behavior.

BISCO products used: All-Bond Universal, Choice 2 veneer cement, Select HV Etch

Roxana Gómez Zabaleta, DDS

***Case description:** A 36-year-old male patient came to my office for a dental evaluation because he wasn't satisfied with his smile. He was interested in a smile design but didn't want any preparations on his existing teeth.*

When performing the clinical examination, I observed diastemas in the anterior sector with irregular incisal edges. Clinical photographs and study models were taken for diagnostic waxing.
A silicone key was made with the diagnostic wax-up to determine the space available for veneers without dental preparation. A vestibular space of 0.5 mm in the middle and incisal third and of 0.2 to 0.1 mm in the cervical third was observed. I chose a resin composite as the restorative material for this case because it allows layers of this thickness in the cervical without affecting its mechanical properties. The resin composite also allows you to avoid over contouring the material, which can cause periodontal issues. I chose to use the indirect technique because it presents better mechanical behavior. Once the patient approved the diagnostic wax-up, a final impression was taken, a die model was made, and the color was selected. I then manufactured the restorations on the model.

Figure 1: The palatal wall was copied from the wax-up using silicone. Build-up was completed with an achromatic enamel composite and then light-cured.

Figure 2: Try-in of composite veneers.

Figure 3: Restorations were sandblasted with aluminum oxide.

Figure 4: Select HV Etch was used to etch the enamel.

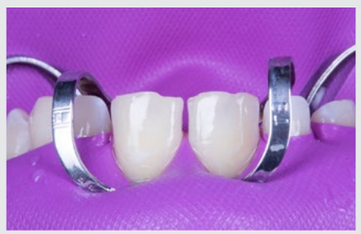


Figure 5: All-Bond Universal was applied.

Figure 6: The composite veneers were sandblasted, silanized with porcelain primer and cemented with Choice 2 veneer cement.

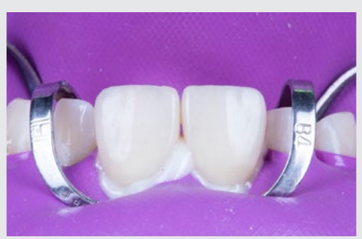


Figure 7: The restorations were delivered.

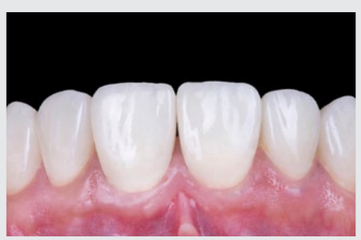


Figure 8: The final restorations.

Figure 9: Pre-op and post-op comparison.

CASE NO. 4

Correcting Tooth Proportions

The veneers placed in this case gave the patient a more youthful smile.

BISCO products used: BISCO Hydrofluoric Acid Etchant, Select HV Etch, All-Bond Universal

Noé Orellana, DDS, PhD

***Case description:** A 27-year-old female presented with gingival inflammation, old restorations, and size disharmony of the maxillary anterior dentition. After a thorough clinical examination, a crown lengthening procedure and proper reestablishment of supracrestal tissue components became the main goal.*

A digital smile design was performed to decide the correct anterior tooth proportions, which included tooth Nos. 12 to. 22. Once the wax-up was complete, a silicone matrix was fabricated for the mock-up technique. The mock-up was done with bisacrylic material. Once the patient approved the mock-up, the preparations were performed, followed by double silicone impression and cementations. This was done according to BISCO instructions, which call for using rubber dam isolation to avoid contamination, allow for a clean restorative environment, correct visualization of the gingival margin during adjustment of the veneer restorations, and to facilitate the removal of excess cement.
After the veneers were cemented, the final result was a beautiful and more youthful smile. The patient confirmed her satisfaction with the smile enhancement after the procedure and during the six-month follow-up consultation.

Figure 1: Gingival inflammation caused by the prosthetic restoration violating the space of the supracrestal gingival tissue.

Figure 2: Healthy gingival tissue after the crown lengthening procedure and proper reestablishment of supracrestal tissue components.

Figure 3: Minimally invasive lithium disilicate (Mt A1) restorations with surface stain technique.

Figure 4: The restoration was etched using BISCO Hydrofluoric Acid Etchant.

Figure 5: The dentin and enamel were etched using Select HV Etch.

Figure 6: Two separate coats of All-Bond Universal were applied to the preparation.

Figure 7: Excess cement was removed after each light-cure to lock them in place.

Figure 8: Final restoration. Six-month control image after the veneers were cemented.

CASE NO. 5

A Case Treated by Direct-Indirect Form

The goal was to give the patient function and harmony as well as to match the centrals.

BISCO products used: Universal Primer dual-cure adhesive, Core-Flo DC Lite

Mario Hernández, DDS

Case description: *This is a case treated by direct-indirect form, evaluating the possibility to rehabilitate the central incisal, giving back function and harmony, and matching the centrals. The amount of dental tissue and the leakage presented when removing the restoration was considered. The restorative work would include crown and post removal, fiberglass and core buildup reconstruction, and crown placement. Treatment was carried out using the best materials on the dental market, including those from BISCO.*

Figure 1: Initial picture shows inequality of the color between centrals.

Figure 2: X-ray taken prior to treatment.

Figure 3: Crown removal.

Figure 4: Removal of the half-crown with the post.

Figure 5: The tooth without a restoration.

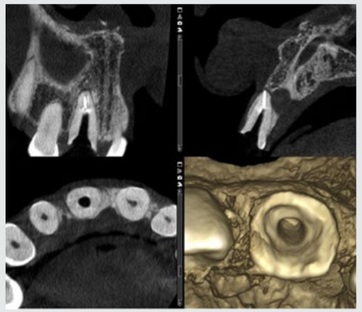


Figure 6: CBCT scan without the restoration.

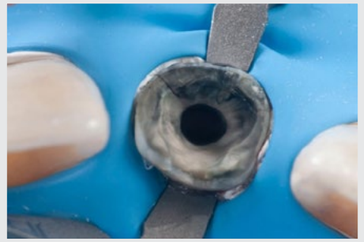


Figure 7: Absolute isolation.

Figure 8: Reconstruction made with fiberglass.

Figure 9: Guided reconstruction.

Figure 10: Reconstruction with Core-Flo DC Lite.

Figure 11: Shade matching.

Figure 12: Try-in.

Figure 13: Shade matching with the restoration and evaluation with the ceramist.

Figure 14: eCEMENT Milky Bright was used to bond the final restoration.

Figure 15: The final result.

CASE NO. 6

The Overlay (Occlusal Veneer) Case Bonding Protocol

A conservative minimally invasive approach to preserve tooth structure.

BISCO products used: All-Bond Universal, Duo-Link Universal, Select HV Etch, ZirClean cleaning gel

***Case description:** With this case, I took a conservative approach to preserving tooth structure using an overlay bonding restoration. A 42-year-old female patient came to my office after receiving root canal treatment. Once the tooth was treated, cuspids were preserved to avoid possible fracture of the remaining structure. Cusps were prepped by reduction of 1 mm at the occlusal surface, a VPS impression was taken, and the dental laboratory milled a lithium disilicate overlay (occlusal veneer).*

Jorge Luna, DDS

Once we tried in the restoration, ZirClean cleaning gel was applied and then rinsed with water/air. AQUACUT QUATTRO was used on the ceramic surface. Etching was completed with Porcelain Etchant 4% Buffered Hydrofluoric Acid Gel and rinsed with air/water. The double etch technique was used with Select HV Etch 35% phosphoric acid etchant with benzalkonium chloride, then rinsed with air/water. Steam cleaner was applied around the surface to eliminate acid excess and then dried with clean air. Silanization was completed with Porcelain Primer pre-hydrolized silane primer. A heat dryer was used to keep it safe and avoid light and dust.

A rubber dam was placed, and the enamel surface was etched with phosphoric acid, rinsed with air/water, and the surface was gently dried. Two consecutive coats of All-Bond Universal were applied and rubbed. The solvent was then evaporated with air and light curing was performed.

For the bonding stage, eCEMENT dual cured resin cement was applied on the intaglio of the restoration. The restoration was delivered over the tooth surface, with gentle pressure applied, tack cured, then cleaned and flossed. Each tooth was light-cured. Glycerine gel was applied and light-cured. The rubber dam was removed and the restoration polished.

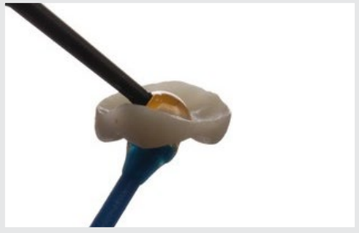


Figure 1: After try-in, the restoration is etched with HF acid.

Figures 2A-B: Porcelain Primer is applied to the intaglio of the restoration.

Figures 3A-B: Select HV Etch and All-Bond Universal are used in the selective etch technique to bond to the restoration.

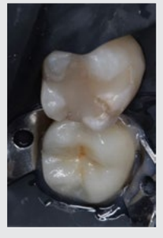


Figure 4: Restoration is delivered and cemented with Duo-Link Universal.

Figure 5: The cemented restoration post-op.

Additional Resources

Learn more about BISCO's All-Bond Universal

Get to know this groundbreaking product:

Hear from Another Dentist

Dr. Adamo Notarantonio has been using BISCO products for nearly 20 years. Find out why:

Watch a Webinar

BISCO has a variety of webinars covering a wide range of topics, including zirconia restorations, bonding and cementation, porcelain veneers, pulp capping, and avoiding post-op sensitivity.

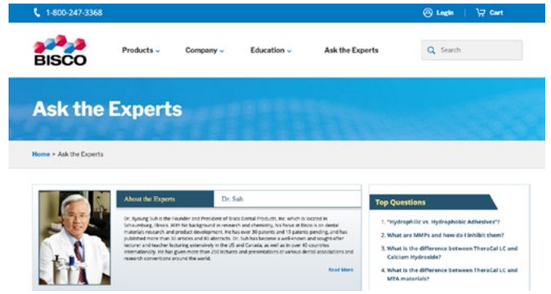
Pick a Podcast

Thinking of switching to a universal adhesive? Listen to this podcast to find out why you should:

Interested in other topics? There are plenty to choose from on BISCO's podcast page.

Ask a Question

You have questions, and BISCO experts have answers. Peruse the topics or ask a question:



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