BISCO

SCIENCE
AND DENTISTRY.
BONDED.

Product Profile

Quantium®

Universal Composite

Power Up Your Dentistry

Rx Only

MC-9085QC

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The Clinical Challenge

Universal composites are expected to do more than ever before in modern restorative dentistry. Clinicians rely on them across a wide range of procedures and indications, often expecting one material to deliver excellent esthetics, dependable strength, easy handling, long-term durability, and workflow efficiency – all at the same time.

However, balancing these expectations can present challenges in everyday practice. Some composites may offer excellent esthetics but lack durability, while others may provide strength at the expense of handling or adaptation. Shrinkage stress, marginal integrity, radiopacity, and consistency can all impact long-term restorative success and clinician confidence.

When selecting a universal composite, clinicians are often balancing multiple concerns:

- Achieving natural esthetics.
- Minimizing shrinkage stress and microleakage.
- Ensuring strength and wear resistance.
- Maintaining smooth, predictable handling.
- Simplifying workflow without compromising performance.

Quantium was developed to help clinicians address these challenges by combining low volumetric shrinkage, smooth non-sticky handling, radiopacity, strength, and excellent esthetics in a single universal composite system – helping dentists restore with confidence and efficiency.

Quantium, a balanced universal composite for predictable restorative outcomes.

Product Overview

Inspired by the concept of a “quantum leap” – a significant step forward - Quantium represents BISCO’s commitment to innovation and clinical excellence. Formulated with a unique nano-micro filler blend, Quantium was designed to help clinicians meet the increasing demands of modern restorative dentistry without compromising strength, esthetics, handling, or efficiency.

By combining the science of advanced composite chemistry with the artistry of dentistry, Quantium delivers a universal composite designed for predictable performance in both anterior and posterior restorations. Its balanced formulation supports smooth handling, low volumetric shrinkage, radiopacity, and long-term clinical success – giving clinicians the confidence to restore efficiently across a wide range of cases.

High strength, wear resistance, and low shrinkage create **durable restorations.**

Low volumetric shrinkage, which minimizes microleakage and ensures marginal adaptation.

Designed to be easily polished and stain resistant to **create and maintain esthetic results** that maintain their appearance over time.

Highly radiopaque for easy identification on radiographs aiding in post- treatment evaluation, allowing clinicians to confidently monitor the integrity of the restoration.

Delivers **smooth, non-sticky handling** and its unit dose capsules can be warmed for a softer handling, depending on the clinician’s needs and preference.

See Quantium in action.
This hands-on tutorial covers everything you need — precise layering in 1–2 mm increments, seamless finishing and polishing

Check out Dr. Rolando Nunez's interview with Dental Economic to learn more about Quantium!

Rolando Nunez, DDS

"With Quantium, we wanted to create a composite that has the least amount of stickiness, so when dentists are handling it, it's not going to stick to the instrument."

Great restorative dentistry starts with exceptional materials. Quantium® delivers smooth, effortless handling and precise layering for restorations that are beautifully natural and built to last.

With one truly versatile universal composite, you can streamline your workflow while achieving the strength, esthetics, and reliability you depend on — keeping procedures efficient and patients smiling for years to come

Click on the eBook to learn more about BISCO's Quantium!

Awards & Evaluations

Since its launch in July 2025, Quantium has already received recognition for its outstanding clinical performance.

Quantium DPS Evaluation

Dental Product Shopper awarded Quantium a score of 4.6 out of 5 making this a DPS Best Product!

Click on the video to learn more about the Dental Product Shopper evaluation!

Click on the logos below to see the full Quantium evaluations!

Quantium Evaluation

Quantium Evaluation

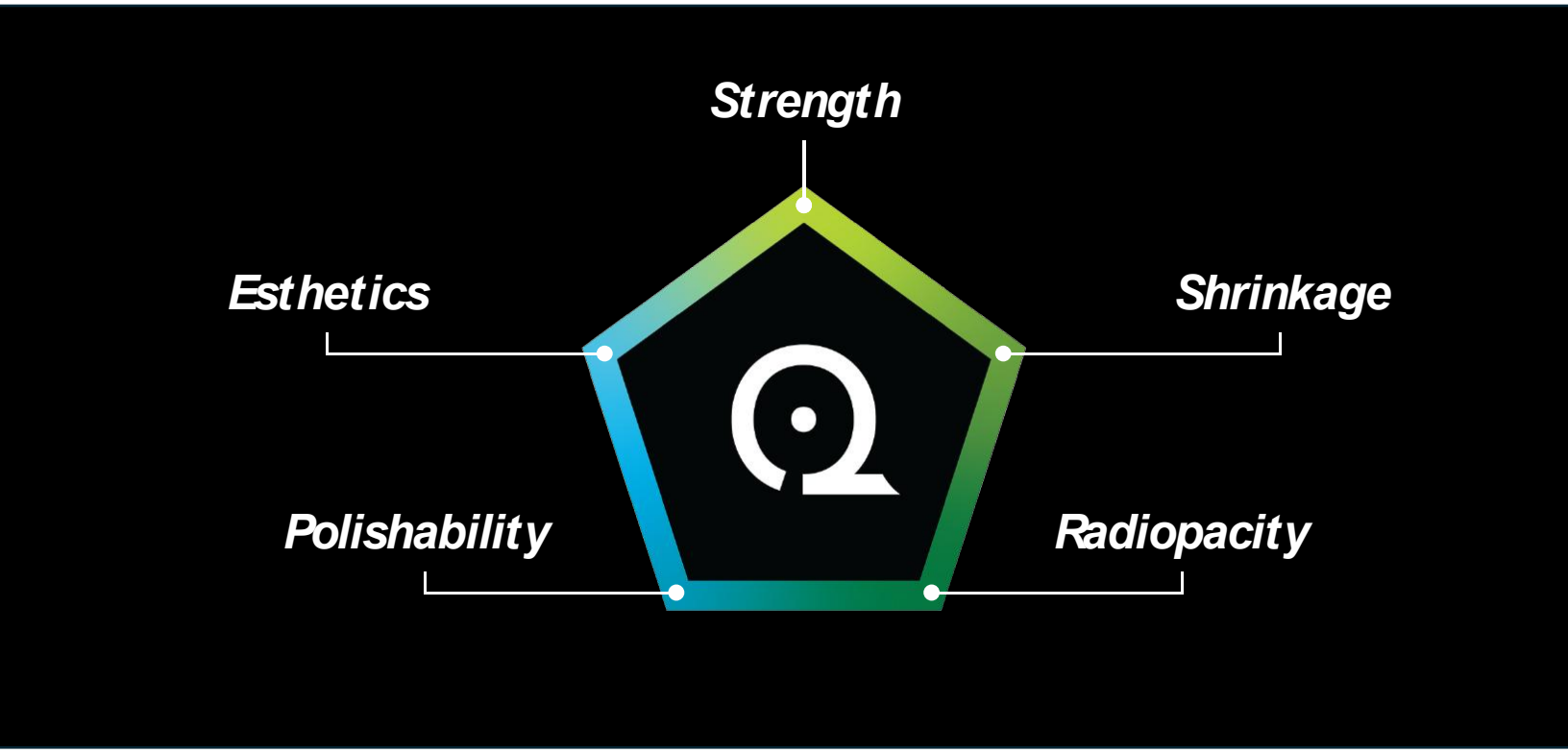
Who is Quantium Right For?

Dentists who prioritize both clinical performance and esthetic excellence understand that the composite they choose can directly impact efficiency, confidence, and long-term restorative outcomes. In today's restorative environment, clinicians need materials that perform consistently across a wide range of cases without sacrificing handling, strength, or esthetics.

Quantium was designed for clinicians who want a universal composite that adapts to the demands of everyday dentistry. Whether restoring highly esthetic anterior cases or strength-demanding posterior restorations, clinicians rely on materials that deliver predictable results while simplifying workflow and inventory management.

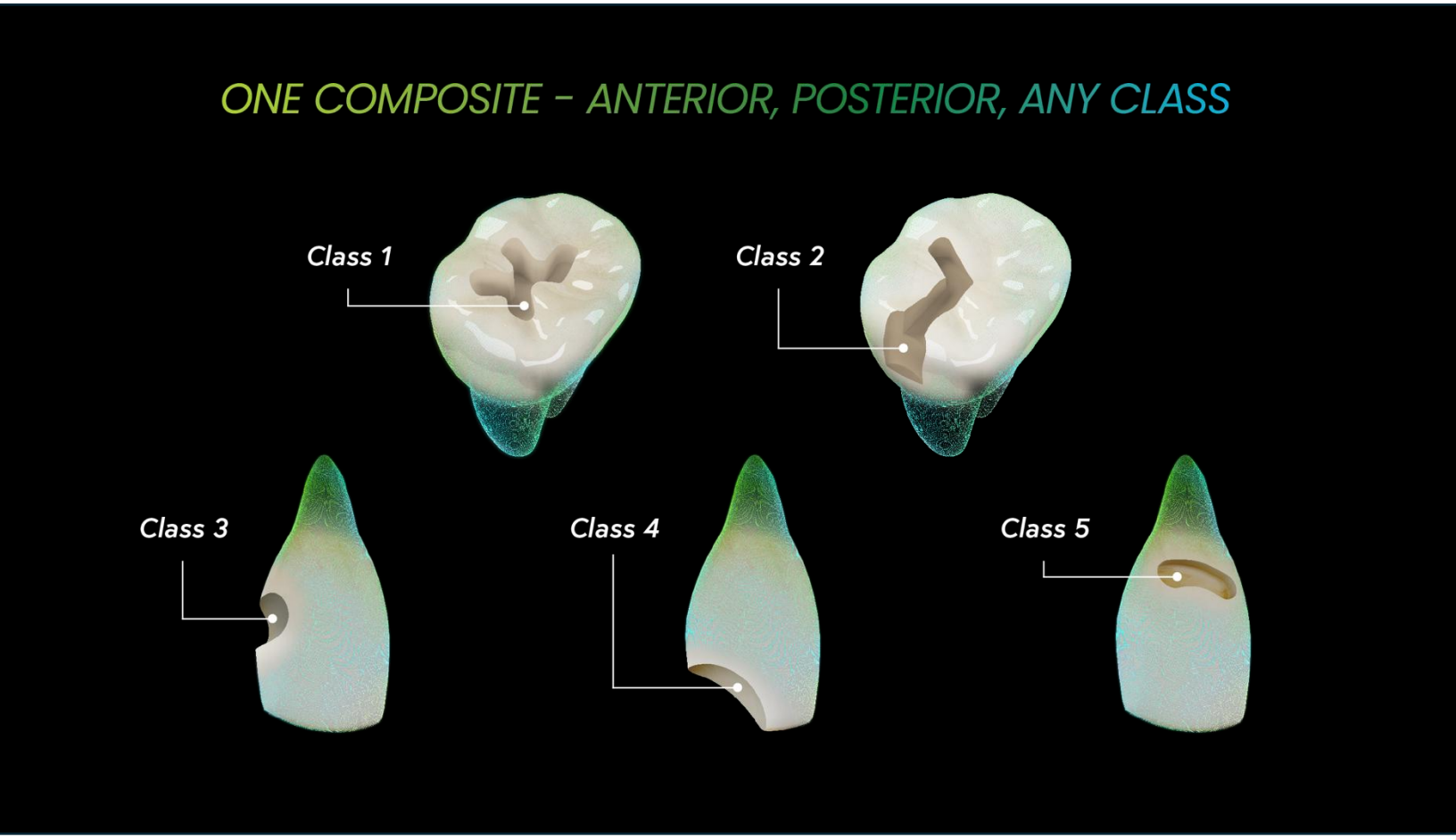
Rather than choosing between esthetics and durability, Quantium was engineered to provide a balanced combination of excellent physical properties and esthetics. Its versatile formulation integrates seamlessly into modern restorative workflows, helping clinicians restore efficiently and confidently across a variety of clinical situations.

For practices that value consistency, efficiency, and dependable restorative outcomes, Quantium serves as a trusted solution designed around real clinical demands.



Indications

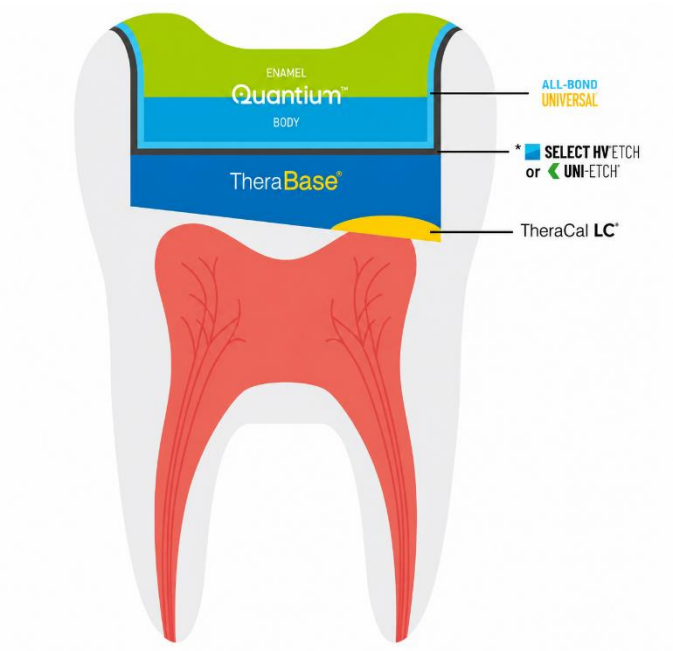
1. **Direct anterior and posterior restorations (Class I-V)**
2. **Core build-up material**
3. **Splinting**
4. **Indirect restorations including inlays, onlays, and veneers**



Quantium Workflow Integration

With the right materials working together as a complete system, clinicians stay in control – confidently completing deep restorations with efficiency, predictability, and exceptional patient outcomes.

Quantium serves as the final restorative layer in the sandwich technique, providing the esthetics, strength, and handling needed for long-term restorative success. The following materials support a complete and efficient workflow.



Step 1 – Pulpal Protection
In deep restorations & when pulp exposure occurs, TheraCal LC can be used for direct and indirect pulp capping & as a protective liner.

Step 2 – Base
If a base material is desired, TheraBase could be applied for optimal calcium release with TheraCal LC.*

Step 3 – Etchant**
The surface is conditioned according to the selected bonding protocol. BISCO recommends Select HV Etch for selective-etch and Uni-Etch for total-etch.

Step 4 – Adhesive
All-Bond Universal is applied to create strong, reliable adhesion for long-term restorative success.

Step 5 – Composite
Quantium is applied to restore tooth structure and complete the final restoration.

*Bisco has data on file.
**Optional if using self-etch.

All-Bond Universal®

Light-cured universal dental adhesive

Offers flexibility for total-, self- or selective-etch procedures.

Contains MDP monomers for enhanced durability.

Compatible with all light-, self- and dual-cured resin composite and cement materials for all direct and indirect procedures (no activator required).

TheraCal LC®

TheraCal LC is a light-cured, resin-modified calcium silicate ideal for direct and indirect pulp capping and as a protective liner.

Calcium release stimulates[1]* hydroxyapatite and secondary bridge formation. [2,3]

Alkaline pH promotes pulp vitality and apatite formation. [2,4]

Forms a protective barrier to protect the pulp from thermal changes. [5,6]

Moisture Tolerant[1] Unlike calcium hydroxide, TheraCal LC has low solubility and will not wash out over time.

** BISCO has data on file*

Click on the eBook to learn more about BISCO's Perfect Pairs!

Select HV® Etch

35% high viscosity phosphoric acid etchant

Developed for the selective-etch technique, but indicated for both selective- and total-etch.

Designed to offer maximum handling and pin-point placement, while eliminating run-on onto the occlusal dentin surface.

BAC

Available with the antimicrobial agent Benzalkonium Chloride (BAC)* in select markets.
-Not available in European Union

** NOTE: Inclusion of BAC has not been shown to correlate with a reduction in secondary decay in patients. In-vivo clinical studies to evaluate the effects of BAC on oral bacteria or caries have not been performed.*

Uni-Etch®

32% semi-gel phosphoric acid etchant

Developed for the total-etch technique, but indicated for both total- and selective-etch.

Low viscosity, flowable material allows for easy application to larger surface areas making it ideal for the total-etch technique.

BAC

Available with the antimicrobial agent Benzalkonium Chloride (BAC)* in select markets.
-Not available in European Union

** NOTE: Inclusion of BAC has not been shown to correlate with a reduction in secondary decay in patients. In-vivo clinical studies to evaluate the effects of BAC on oral bacteria or caries have not been performed.*

TheraBase®

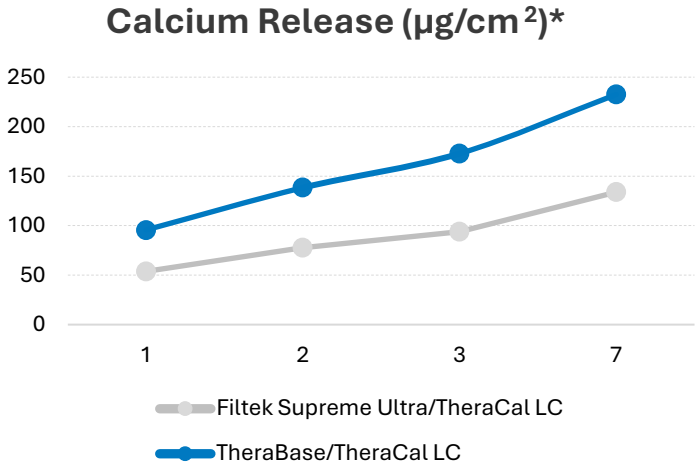
Dual-cure, self-adhesive base/liner.

Offers continuous calcium and fluoride release. *
-Fluoride release not available in European Union. See TheraBase Ca (calcium only).

Visible on radiograph to easily distinguish from caries.

Generates an alkaline pH (pH = 11*) in minutes, which promotes pulp vitality.[4]

**BISCO has data on file.*



Did You Know?

Internal testing shows that combining TheraBase with TheraCal LC results in 75% greater calcium release compared to using TheraCal LC with a composite alone providing optimal calcium release. *

Clinical Cases

See how clinicians use Quantium to create natural-looking, durable restorations with confidence.

Anterior Case

1.

Pre-op image.

2.

Rubber dam isolation.

3.

Bonding procedure with
All-Bond Universal.

4.

Application of Quantium A2
Enamel on palatal.

Refer to complete instructions for use for detailed technique and instructions.

Dentistry Courtesy of Dr. Simon Hurtado

5.

Application of Quantium A2 Body.

6.

Application of Quantium A2 Enamel.

7.

Finished restoration.

8.

Final restoration after re-hydration.

Refer to complete instructions for use for detailed technique and instructions.

Dentistry Courtesy of Dr. Simon Hurtado

Removing Old Amalgam

1.

Pre-op image of old amalgam restoration.

2.

The preparation was cleaned with a slurry of pumice and water, rinsed and dried.

3.

TheraBase was applied to the dentin surface of the prepared cavity and light-cured for 20 seconds.

4.

Select HV Etch w/BAC was used in the selective-etch bonding technique.

Refer to complete instructions for use for detailed technique and instructions.

Dentistry Courtesy of Dr. David Santana

5.

All-Bond Universal was applied, following manufacturer's instructions.

6.

Quantium A2 Body and Enamel were used in a layering technique.

7.

Final restoration.

Refer to complete instructions for use for detailed technique and instructions.

Dentistry Courtesy of Dr. David Santana

Chemistry

All composites are made up of three main ingredients: resins, fillers, and initiators. Resins are the liquid part of the formulation that provides a cohesive structure to the uncured material and determines the hydrophobicity of the final restoration. Fillers are the solid part of the formulation that provide strength and visual appeal. Initiators are responsible for turning the liquid resins into a solid polymer matrix when exposed to a dental curing light.

Resins

Currently, all commercial resin-based composites use methacrylate resins (Figure 1) because their properties are easily adjusted and because they polymerize quickly. Quantium uses a mixture of BisGMA, TEGDMA, and other methacrylate-based resins to optimize handling and hydrophobicity.

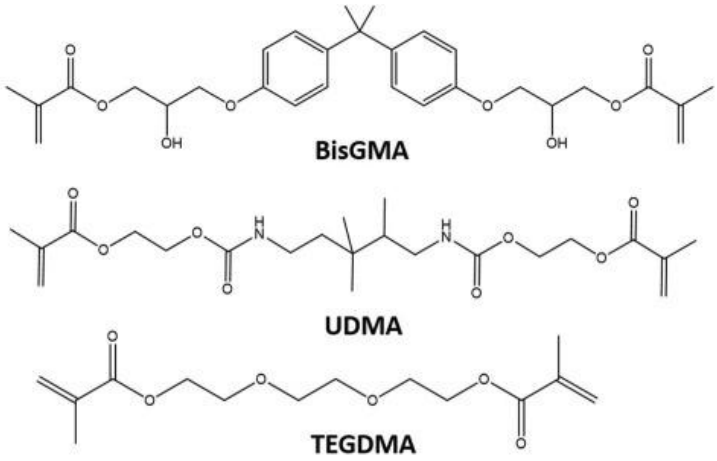


Figure 1. Common methacrylate resins in dental materials.

Initiators

Initiators are vital to the success of restorations, since they convert liquid resins into a solid polymer matrix when exposed to a dental curing light. Common initiators like camphorquinone (CQ) and phosphine oxides (PO) convert light energy into radicals, which propagate through the resin and link together methacrylate groups. Since different curing lights emit different wavelengths of light, selecting the correct initiator that efficiently absorbs energy and produces radicals at a range of wavelengths ensures that Quantium is adequately cured.

However, too much initiator, or the wrong kind, can cause a composite to cure prematurely. Stabilizers can be added to protect the composite from heat or accidental light exposure. Quantium's stabilizers ensure that it won't be cured in the syringe during shipping or during its shelf life.

Fillers

Quantium contains three types of fillers, for a total filler content of 83-87% by mass, depending on the shade. Filler size ranges from 70 nm to 20 µm.

What makes Quantium unique compared to other nanohybrid composites is its specially designed prepolymerized filler (PPF). This filler binds together nanofillers into larger particles so that they act like microfillers during handling, but act like nanofillers during wear (Figure 2). PPF is responsible for Quantium's easy polishability and low volumetric shrinkage.

Dense, high-atomic-number fillers such as ytterbium fluoride strongly attenuate X-rays, increasing Quantium's radiopacity. Although the ISO 4049:2019 standard only requires 1.0 mm Al eq., many dentists prefer a composite with a significantly higher radiopacity, to distinguish the composite from the surrounding tooth structure.

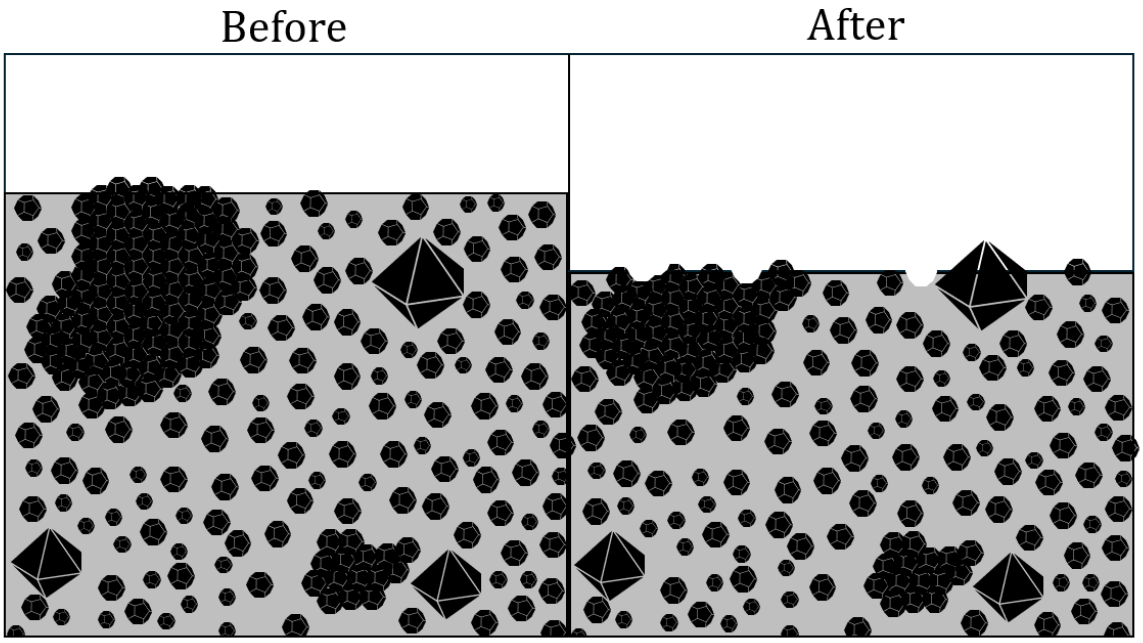


Figure 1. Comparison of surface roughness of composite containing aggregated filler before (left) and after (right) wear.

Click to learn more abourt Quantium's PPF Filler Technology here!

Biocompatibility

Quantium has been thoroughly evaluated for biocompatibility as part of device design. Applicable testing has been conducted as indicated by international standards including the following:

- ISO 10993: Biological evaluation of medical devices
- ISO 7405: Evaluation of biocompatibility of medical devices used in dentistry

Material characterization, risk assessment, biological testing, and available information on all raw materials have been assessed to determine that Quantium is safe for its intended use.

Physical Properties

Advanced Filler Technology

Quantium's proprietary filler technology combines microfillers, nanofillers, and a customized pre-polymerized filler (PPF) to create a balanced universal composite.

Rather than prioritizing a single characteristic, this unique filler blend was engineered to support strength, wear resistance, polishability, esthetics, and handling simultaneously – helping clinicians restore confidently across a wide range of anterior and posterior indications.

See the illustration below for a closer look at the proprietary filler blend that helps define Quantium's unique performance characteristics.

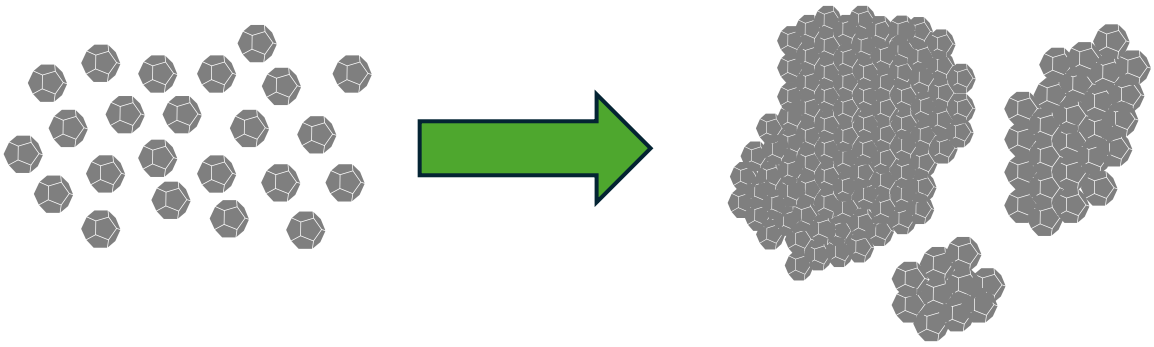


Figure 3. Demonstration of Quantium's aggregated filler blend of microfillers, nanofillers, and a customized pre-polymerized filler (PPF).

Low Shrinkage

Quantium was engineered with low volumetric shrinkage to help reduce shrinkage-related stress, support marginal adaptation, and reduce the potential for microleakage.

See the chart below, which provides a direct comparison between Quantium and leading universal composites, illustrating its low volumetric shrinkage.

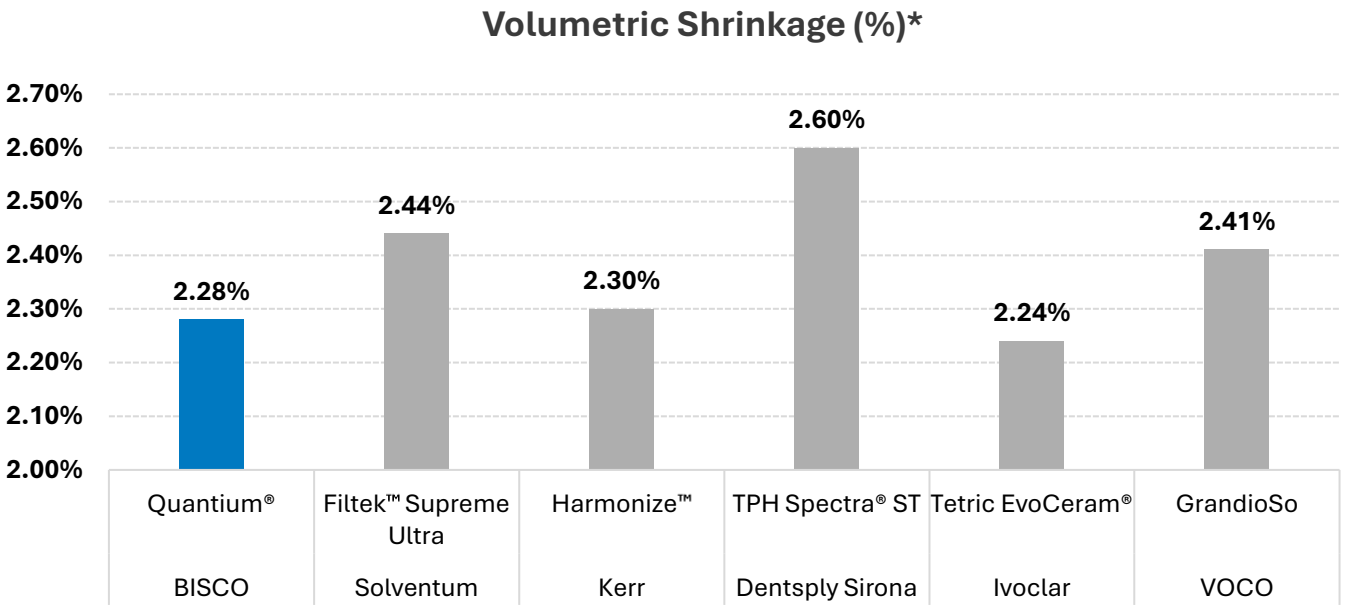


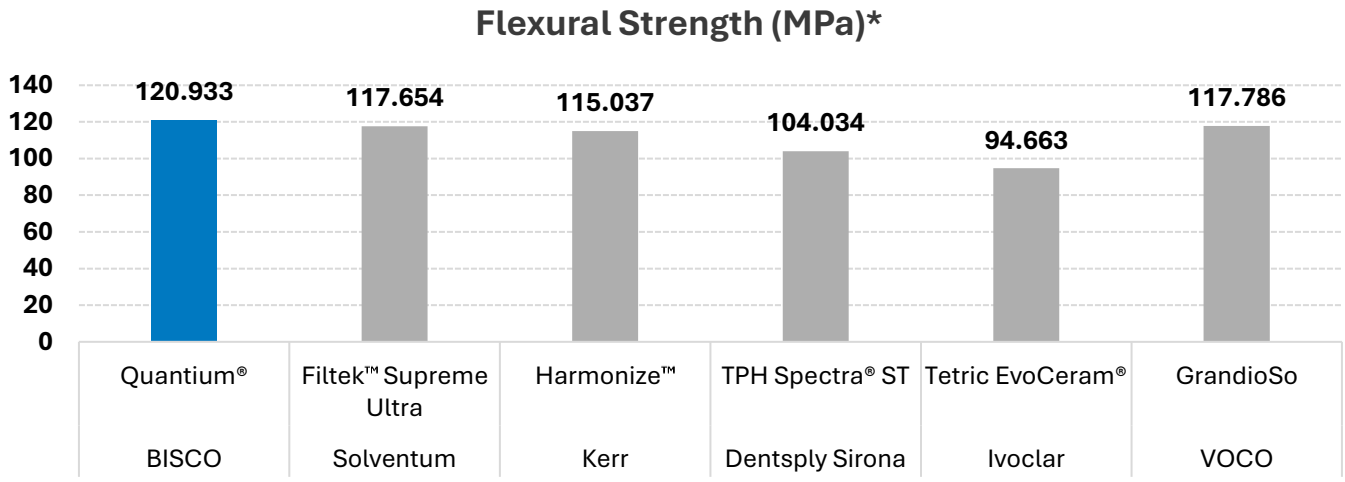
Figure 4. Volumetric shrinkage of universal composites.

**BISCO has data on file*

Durability

Quantium's formulation delivers the st'rength, wear resistance, and low shrinkage needed for durable restorations. Its high flexural strength and flexural modulus helps restorations resist fracture and deformation under functional loading, contributing to durable clinical outcomes.

See the chart below, which provides a direct comparison between Quantium and leading universal composites, illustrating its flexural strength and flexural modulus.



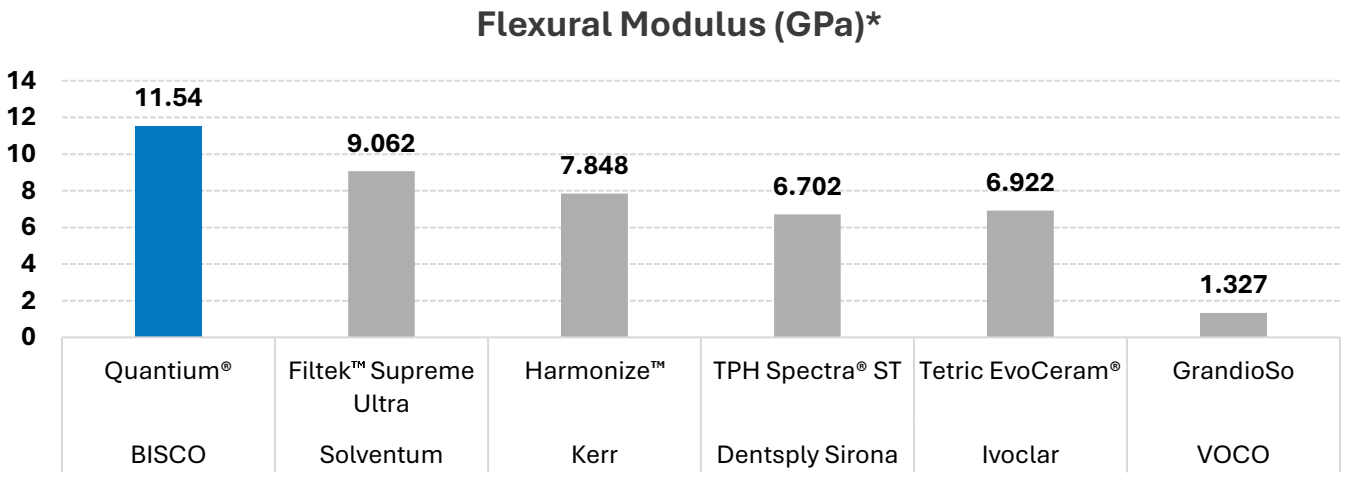


Figure 5 & Figure 6. Flexural strength and flexural modulus of universal composites.

*BISCO has data on file

Excellent Esthetics

Quantium was designed to deliver natural-looking restorations through a combination of polishability, stain resistance, and a broad range of shade options.

Its shade system is designed to match the VITA Classical Shade Guide, helping clinicians achieve esthetic results that maintain their appearance over time.

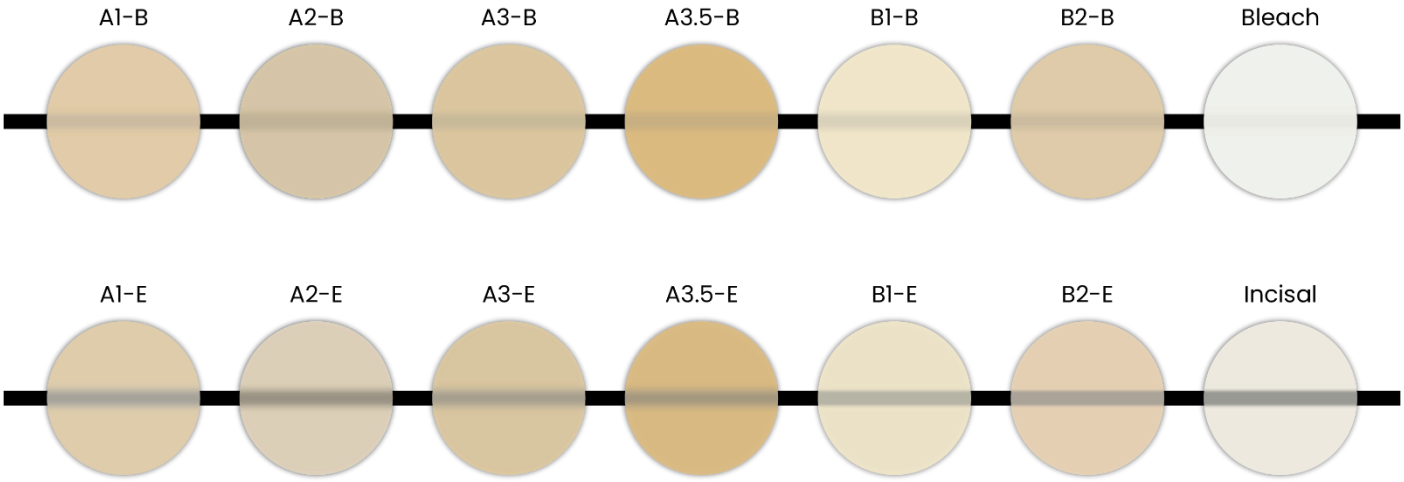
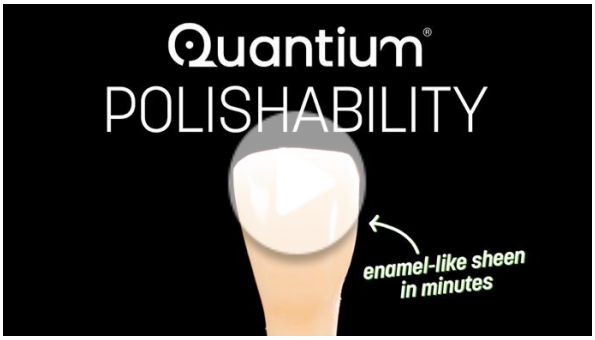


Figure 7. Quantium shades based on VITA Classical Shade Guide featuring Body and Enamel shades.



Polishing Performance You Can See

High Radiopacity

Quantium is highly radiopaque, for clear identification on radiographs. This helps clinicians distinguish restorations from surrounding tooth structure during diagnosis and follow-up evaluation. Its high radiopacity contributes to confident long-term monitoring.

See the chart below, which provides a direct comparison between Quantium and leading universal composites, highlighting its radiopacity.

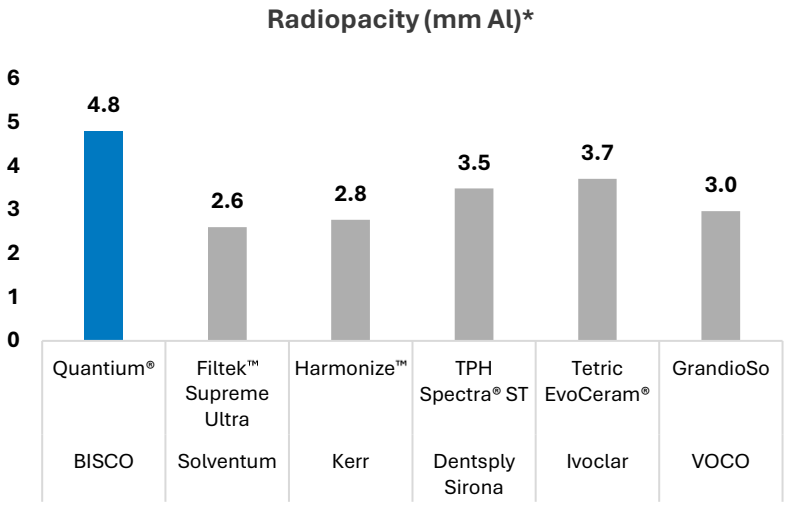


Figure 8. Radiopacity of universal composites.

Figure 9. Quantium A3 Enamel on a radiograph

Radiopacity You Can Rely On

*BISCO has data on file

Easy Handling

Quantium delivers smooth, non-sticky handling and its unit doses can be used for an even greater flowable experience.

Many clinicians prefer warming composite prior to placement to achieve a lower viscosity and enhanced flowability. Composite warming can improve adaptation while allowing clinicians to customize handling to their preferred technique.

Quantium unit dose capsules are fully compatible with composite warming devices and can be warmed for up to 1 hour at 68°C (154°F), without compromising the material's physical properties. This gives clinicians the flexibility to fine-tune viscosity while maintaining the strength and reliability required for long-term restorative success.

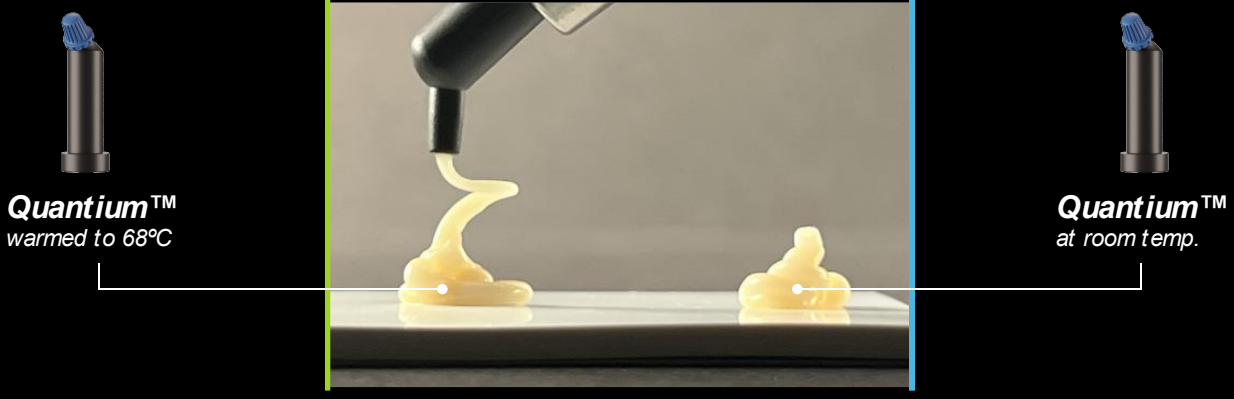


Figure 10. Visual showing the effects of warming Quantium versus Quantium at room temperature.

Consistent Handling You Can Control

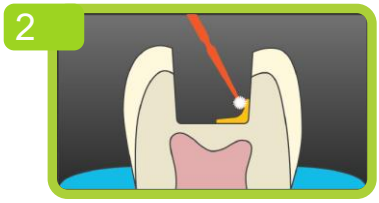
Technique Guide

Quantium features a simple technique designed for efficient restorative workflows!

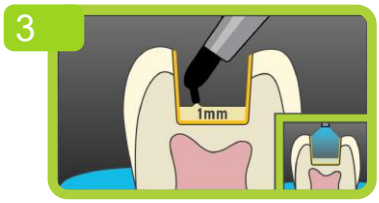
Direct and Indirect Tooth Preparation Treatment

Proper isolation is recommended for all direct restorations and other indications where contamination may be possible.

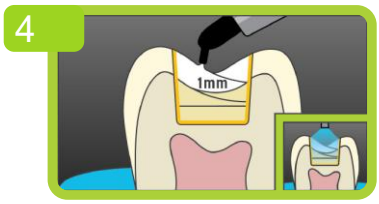
Select the desired Quantium shade prior to isolating and preparing the tooth. Clean, rinse and isolate.



If needed, place matrix, and apply an adhesive, such as All-Bond Universal, following manufacturer's instructions.



Dispense desired amount of Quantium body shade onto a mixing pad by turning the syringe handle clockwise. If using unit-dose tips, inject Quantium directly into preparation. Place Quantium in 1-2 mm increments into the cavity preparation up to the dentin enamel junction, leave space for a final enamel layer. Light-cure each increment with a curing light for 20 seconds.



Select the desired Quantium enamel shade (optional) for the last 1-2 mm increment of the restoration, apply, and light cure each increment for 20 seconds.

Check the occlusion, finish, and polish.

Check out Quantium's How-To Video!

Restore with Confidence

Quantium was developed to help clinicians meet the everyday demands of restorative dentistry with confidence. Whether restoring anterior or posterior teeth, Quantium delivers the strength, esthetics, handling, and reliability clinicians need to achieve predictable outcomes while simplifying workflow.

1. Durable Restorations

Quantium's high strength, wear resistance, and low shrinkage create durable restorations.

2. Low Shrinkage

Quanitum features low volumetric shrinkage, which minimizes microleakage and ensures marginal adaptation.

3. Excellent Esthetics

Quantium is designed to be easily polished and stain resistant to create and preserve esthetic results and maintain their appearance over time.

4. Easy to Handle

Quantium delivers smooth, non-sticky handling and its unit dose capsules can be wamed for an even greater flowable experience, depending on the clinician's needs and preference.

5. Highly Radiopaque

Quantium is highly radiopaque for easy identification on radiographs aiding in post-treatment evaluation, allowing clinicians to confidently monitor the integrity of the restoration.

Customer Testimonials

Luis Abrahante, DMD,
Mountain Brook, AL

"Excellent composite! It handles beautifully, blends seamlessly with natural teeth, and polishes to a brilliant finish. I've been using it consistently and can say only great thing about its performance."

Cristian Secareanu, DDS,
Woodside, NY

"It is great to have a single composite type that is perfect for every situation."

Patrick Calalang, DMD,
Gilbert, AZ

"I have been using Quantium composite from BISCO Dental in my practice and am extremely impressed with its performance. It offers excellent handling properties making it easy to sculpt and contour with precision. The Polishability is outstanding, allowing restorations to achieve a beautiful, natural shine that patients appreciate. Additionally, the material exhibits impressive strength, ensuring durable and long-lasting results. Overall, Quantium composite is a reliable choice for high quality restorations, and I would recommend it highly to any dental professional seeking superior composite material."

Kyle Lisenby, DMD,
Columbia, MO

"I was much more time efficient when placing it."

Frequently Asked Questions

1. What is Quantium indicated for?	Quantium is indicated for any direct restoration (Class I-V), core build-ups, splinting, and indirect restorations including inlays, onlays, and veneers.
2. In what increments should Quantium be applied?	Apply Quantium in 1-2mm increments.
3. How long can Quantium Unit Doses be warmed for?	Quantium unit doses can be warmed for up to 68°C for MAX 1 hour.
4. What is the recommended method of storage for Quantium?	Quantium should be stored at room temperature (20°C/68°F - 25°C/77°F). It should not be refrigerated.
5. How many times can Quantium unit doses be warmed?	Quantium unit doses are recommended to be warmed to 68°C (154°F) for up to one hour, one time only. They cannot be re-warmed.
6. Can I use the Quantium body shades past the DEJ?	Yes, Quantium body shades can be used past the DEJ.

Ordering Information

Kit

H-10000K

Quantium Syringe Intro Kit
1 Quantium Syringe A2 Body (4g),
1 Quantium Syringe A2 Enamel (4g),
1 Quantium Syringe A3 Body (4g),
1 Quantium Syringe A3 Enamel (4g),
1 Bottle All-Bond Universal (6ml),
1 Syringe Select HV Etch w/BAC (5g),
Accessories, Instructions

H-10100K

Quantium Unit Dose Intro Kit
1 Quantium Unit Dose A2 Body Tips (0.25g ea),
1 Quantium Unit Dose A2 Enamel Tips (0.25g ea),
1 Quantium Unit Dose A3 Body Tips (0.25g ea),
1 Quantium Unit Dose A3 Enamel Tips (0.25g ea),
1 Bottle All-Bond Universal (6ml),
1 Syringe Select HV Etch w/BAC (5g),
Accessories, Instructions

Ordering Information

Syringe

1 Syringe Quantium (4g), Instructions

Body			Enamel	
H-100A1P	A1 Body		H-110A1P	A1 Enamel
H-100A2P	A2 Body		H-110A2P	A2 Enamel
H-100A3P	A3 Body		H-110A3P	A3 Enamel
H-100A35P	A3.5 Body		H-110A35P	A3.5 Enamel
H-100B1P	B1 Body		H-110B1P	B1 Enamel
H-100B2P	B2 Body		H-110B2P	B2 Enamel
H-130BLCP	Bleach		H-120ICSP	Incisal

Unit Dose

20 Count Unit-Dose (0.25g ea.), Instructions

Body			Enamel	
H-1011A1P	A1 Body		H-1111A1P	A1 Enamel
H-1011A2P	A2 Body		H-1111A2P	A2 Enamel
H-1011A3P	A3 Body		H-1111A3P	A3 Enamel
H-1011A35P	A3.5 Body		H-1111A35P	A3.5 Enamel
H-1011B1P	B1 Body		H-1111B1P	B1 Enamel
H-1011B2P	B2 Body		H-1111B2P	B2 Enamel
H-1311BLCP	Bleach		H-1211ICSP	Incisal

Call us! We're here to help:

1-800-247-3368

www.bisco.com

BISCO

THE BISCO STORY

Find out how BISCO's beginnings form the foundation of our commitment to lasting results and confident smiles

Restoration, Simplified

BISCO founder Dr. Byoung Suh began his scientific career as a research chemist developing restorative bonding products. In 1981, he founded BISCO to provide simplified, effective restoration solutions.

Over 40 years later, this goal guides BISCO's work to revolutionize bonding and make better dentistry possible across key areas:

- **Treatment Outcomes**
- **Efficiency**
- **Cost Savings**
- **Patient Satisfaction**

The Values Behind the Science

BISCO's commitment to better restorative dentistry goes beyond a passion for science. Guided by our core values, we apply our passion to offer you solutions.

Sharing Knowledge
We're always available to help you get the right solutions and perform your best dentistry.

Innovative Thinking
We incorporate customer feedback and industry conversations to design simple, effective products.

A Growth Mindset
We continuously evaluate our solutions for new ways to overcome common challenges.

Integrity
Every BISCO product is thoroughly researched and tested - often for years - before launch.

Bonding Breakthroughs

You tell us what you need - and we find a way. Here are some BISCO products that have helped to streamline protocols and deliver better results.

2009 **Z-Prime™ Plus**
The first dedicated zirconia primer

2011 **TheraCal LC®**
The first combined pulpcapping agent and liner

2012 **All-Bond Universal®**
A powerful, reliable single-bottle bonding agent

2016 **TheraCem ®**
A self-adhesive cement with THERA technology/zirconia bonding

For over 40 years, BISCO innovations have helped clinicians deliver predictable outcomes and preseve natural dentition.

BISCO: Who We Are

At BISCO, we cherish our customers as if they were part of our own family. We are committed to delivering exceptional service and support every step of the way.

Corporate Video

Click here to learn more about who we are and our history!

Trusted by Dentists Who Demand Predictable Results

John Horn, DMD
Horn Family Dental

"BISCO puts out very good products that every general dentist can use, and these competitively priced products produce outstanding results. BISCO just provides the personal touch."

Lauren Yasuda Rainey, DDS

"BISCO is a solid organization, from chemical science to clinical delivery. Their top-notch customer service and knowledgeable team help me understand the research behind their materials, giving me confidence in patient care. Dentistry can be unpredictable, but with BISCO, I know I'll get consistent, reliable results."

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**Data on file.*