mosaic®

Universal Composite

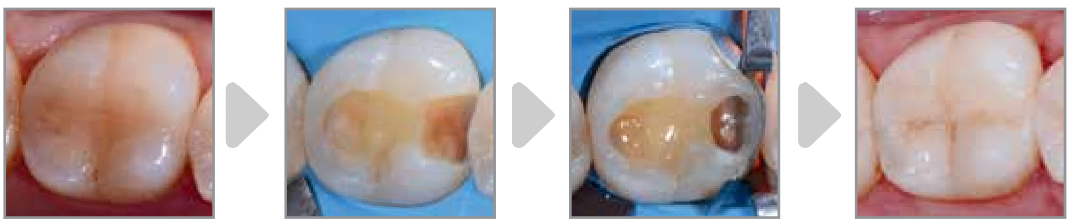
A precise balance of handling, esthetics, and performance

INTRODUCTION

The key to producing a superior composite is not to place emphasis on a single unique feature or raw material, but to achieve a precise balance between a multitude of components. An optimized restorative material addresses all the parameters required for an esthetic, durable restoration.

Mosaic® composite has been extensively evaluated by top opinion leaders in dentistry and has consistently received high praise for its handling characteristics, adaptability, and esthetics. This balance has been struck without compromising the integrity of the other critical material properties such as wear, flexural strength, compressive strength, and gloss retention.

Esthetic restoration using Mosaic composite shades: A4, A3, A2, and A1 from cervical to incisal. Enamel White and Opaque White on the incisal edge. —Photos courtesy of Dr. Rafael Beolchi

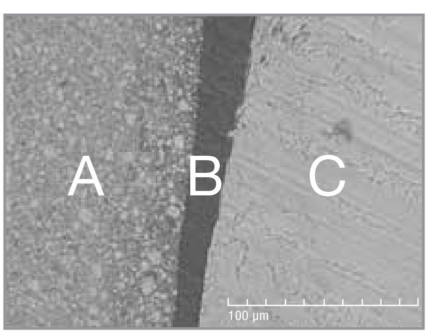


Class II restoration using Mosaic composite shades A2 and Enamel Neutral; a tinted resin was added for a stained effect. —Photos courtesy of Prof. Lorenzo Breschi

CLASSIFICATION AND FILLER DISTRIBUTION

Mosaic composite is a light-cured, bis-GMA-based universal restorative composite used for both anterior and posterior restorations. Its nanohybrid formula contains filler particles composed of zirconia-silica glass ceramic and 20 nanometer silica. The filler load is 68% by volume for dentin and 56% by volume for the enamel shades.

Nanohybrid composites typically have improved esthetic and wear characteristics as well as improved polishability and handling. The optimized balance of the nanofillers in Mosaic composite allows for a high polish and long-term gloss retention as well as mechanical properties that perform superbly in all restorative situations, including high stress-bearing restorations.



SEM image depicting ideal particle distribution of nano and micro particles leading to exceptional handling and adaptability

A) Mosaic Composite
B) Peak Universal Bond
C) Dentin

WORKING TIME AND HANDLING

When reconstructing tooth anatomy accurately and efficiently, it is important that a restorative material does not pull, tug, or slump during manipulation. If a restorative material begins to polymerize during manipulation, the composite becomes clumpy and more difficult to adapt, which can compromise the final result. Ample working time is especially necessary for complex cases that require more time to sculpt adequately.

Mosaic composite was designed with ease and artistry in mind, with the goal of providing clinicians with enough time to produce restorations that mirror natural dentition. The working time for Mosaic composite is between 3:30 and 7:30, depending on the power of the light at 24 inches away. With the extended working time of Mosaic composite, even the most complex restorations should be achievable.

Mosaic universal composite's consistency is ideally suited for efficiently adapting both anterior and posterior restorations. Once the anatomy of the tooth is formed, the material retains its shape and does not slump.

The image below shows Mosaic composite's ability to "feather" to a thin edge without crumbling or tearing. This is highly valuable in adapting the margins of the restoration and building marginal ridges. The second image shows how the consistency of Mosaic composite allows for fantastic control and detail maintenance. This facilitates sculpting natural anatomy without worrying about the material slumping or fading as you touch and manipulate other areas of the restoration.


Mosaic Composite


Competitor

Mosaic composite (left) feathers to a thin edge without crumbling or tearing, as is seen with the composite on the right.


Mosaic Composite


Competitor

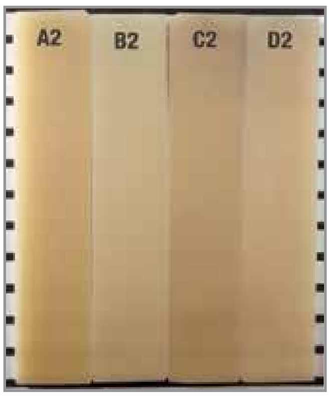

Competitor

The consistency of Mosaic composite (left) facilitates complete control and maintenance of detail. Other composites (middle and right) can be difficult to cut through and adapt.

SHADE SYSTEM

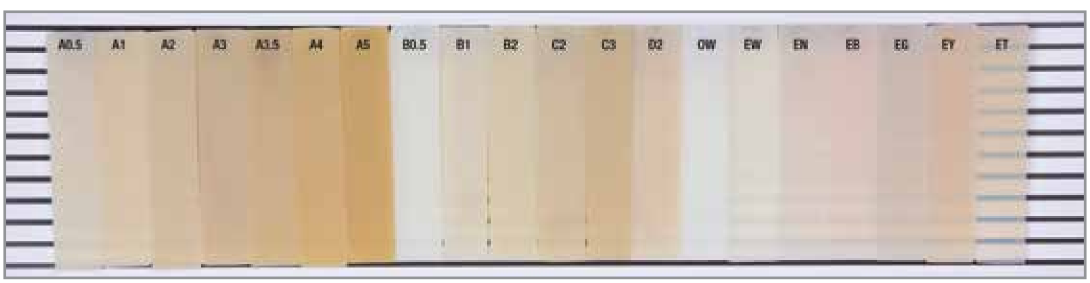
Although most clinicians are familiar with the VITA Classic shade system, it is important to understand that it was created for use with porcelain and ceramic restorations. Each shade tab created for the VITA Classic system is layered with 3 to 4 distinctly different shades: an opaque backer shade, a cervical shade, a body shade, and an incisal/enamel shade. This makes it impossible to precisely correlate any composite with the traditional A, B, C, and D shade family of the VITA system.

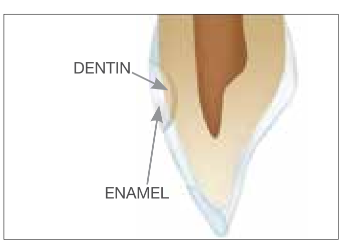
Because the VITA porcelain shade tabs exhibit different colors depending on where the measurement is taken on the tab, Mosaic composite was created with its own interpretation. A (Yellow, Brown), B (Yellow), C (Gray, Brown), and D (Red, Brown) match the most common shades and translucency of natural teeth and are not intended to match any given shade system from another manufacturer, including VITA Classic VMK 68.



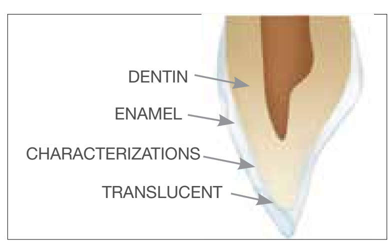
A0.5, A1, A2, A3, A3.5, A4, A5 B0.5, B1, B2, C2, C3, D2		DENTIN
Enamel Neutral Enamel White Enamel Yellow	Enamel Gray Enamel Blush	ENAMEL
Enamel Trans		TRANS
Opaque White		OPAQUE

The Mosaic composite shade system offers predictable shade progression within these families for an unsurpassed level of control when choosing hue and chroma for your restorative needs.

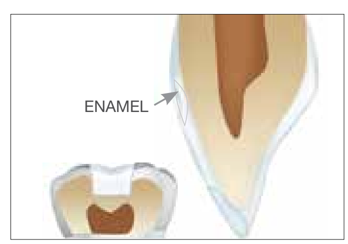




For the most common cases of both dentin and enamel restorations in intermediate-size. Use both a dentin and an enamel shade.



For major enamel and dentin replacements or esthetically challenging restorations, use multiple dentin shades (darkest at the lowest point) and characterize with translucent shades if needed.

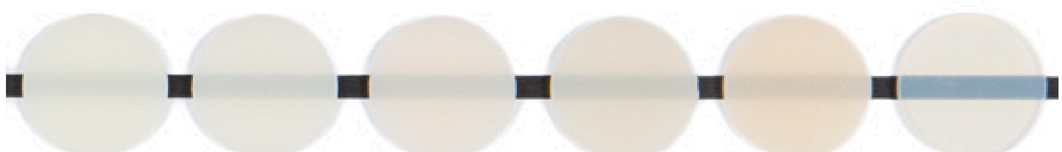


For enamel-only restorations or small posterior restorations (Class I and V), use a single enamel shade.

ENAMEL SHADES

At 1 mm thickness, Mosaic composite dentin shades feature opacity levels similar to that of natural dentin, while enamel shades mimic the translucency observed in natural enamel.

Since most color in dentition arises from the dentin, it is natural that enamel shades serve a different purpose in the restorative process. The enamel shade should create the natural appearance of depth and only slightly shift the value and hue of the original dentin shade below it. Since the enamel shades have a semi-translucent property, a slight milky appearance can be used to increase the overall value of the restoration. The Enamel Neutral shade is the most common and does not change hue but will lighten the restoration, especially the highest chroma dentin shades: A3, A4, A5. Enamel Blush is the next most commonly used enamel shade and imparts a faint pink/red hue to the underlying dentin. It is helpful especially in some bleaching shades in which the light pinkish appearance is hard to achieve. Enamel Gray and Enamel Yellow are used when matching older patients' aged dentition. Enamel White will raise the value to a slightly higher level, while Enamel Trans will allow more of the underlying dentin or characterizations to a show through.



Enamel White | Enamel Neutral | Enamel Blush | Enamel Gray | Enamel Yellow | Enamel Trans

Natural opalescence can be created by applying the Enamel Trans shade at the incisal edge. These shades allow unparalleled ability to create the most natural-looking restoration possible.

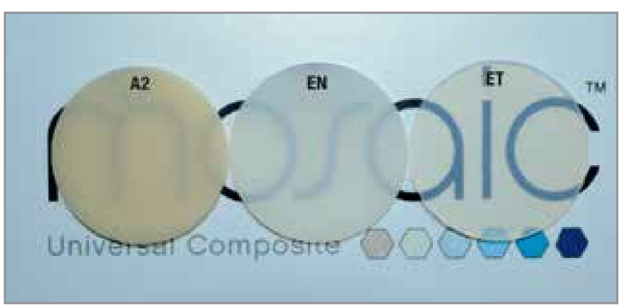
OPACITY AND TRANSLUCENCY

Composite materials that have a wide range of shades and opacities allow for duplication of adjacent tooth structure, which contributes to success for even the most diverse esthetic needs. Creating a restoration that blends seamlessly into surrounding tooth structure requires a composite with natural-looking shades and appropriate levels of translucency and opacity. With Mosaic composite, these characteristics can be achieved and optimized by harmonizing the optical properties of the restoration with those of the adjacent natural dentition. In more esthetically demanding applications, a natural result is achieved by using two or more shades: dentin shades to establish hue, chroma, and initial value, and enamel shades to convey depth while also modifying value and hue for fine tuning of the restoration.

Mosaic composite dentin shades have a higher opacity and can also be used to mask the underlying structure of discolored dentition before applying the more translucent enamel shades. Without an appropriate level of dentinal opacity, even the most ideal shade of composite may appear too gray due to the relatively translucent composite being unable to mask the dark background. Gray appearance usually stems from either placing an enamel layer too thick or choosing an enamel shade that is too translucent.

Opalescence mostly occurs with more translucent composites in which part of the light is transmitted and part is reflected. Due to the translucency of the incisal region, the enamel can reflect bluish light while allowing the longer wavelength red light to pass through. This is why some incisal edges appear to have slight blue cast to them.

MOSAIC SHADES	% LIGHT TRANSMITTANCE
A0.5	39.80%
A1	37.20%
A2	32.40%
A3	28.20%
A3.5	26.90%
A4	24.50%
A5	21.90%
B0.5	43.70%
B1	41.70%
B2	34.50%
C2	30.90%
C3	26.90%
D2	36.50%
EB	47.90%
EG	45.70%
EN	51.30%
ET	77.60%
EW	45.70%
EY	45.70%
OW	37.20%

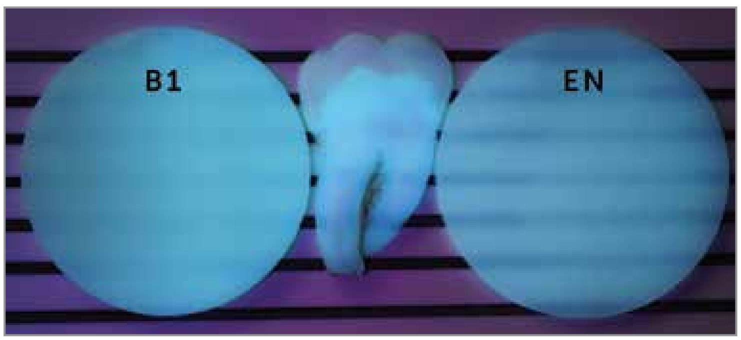


The Enamel Neutral shade does not change the hue, but will lighten the restoration. The high translucency of Enamel Trans allows more of the underlying characterization to show through.

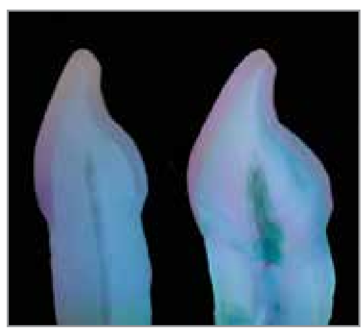
FLUORESCENCE

Many materials fluoresce in nature. In dentistry, this occurs most frequently when light in the violet and ultraviolet spectrum is absorbed and then re-emerges in the more visible blue, green, yellow, and red spectrums. It is this phenomenon that makes natural dentition appear to glow under black lights.

In order to mimic nature, we must create composite that has some ability to fluoresce. Otherwise, this glowing effect will throw off the color enough to be unsightly in many circumstances. Recognizing that enamel produces less fluorescence than dentin, we have applied the same concept to the dentin and enamel shades of Mosaic composite.



By incorporating small amounts of inorganic oxides of rare earth compounds that have fluorescent properties, Mosaic composite has reached an optimized level of fluorescence to re-create natural teeth.



Mosaic composite specimen (A2 and EN) next to a natural human tooth under photographic light (left) and black light (right).

SHADE GUIDE

The Mosaic composite shade tabs are made of 100% composite for the truest clinical representation. The tapered handle of the layered shade tabs is composed entirely of the dentin shade in order to represent the single shade. The coronal structure has been created with the underlying shade of specified dentin and layered with Enamel Neutral to represent what to expect when using the layering technique. The enamel shade tabs are entirely composed of a single shade of enamel to showcase the tinting effect for easy evaluation of translucency and hue. All of the shade tabs are displayed in a flexible silicone holder that makes it easy to examine the shade options.

POLYMERIZATION

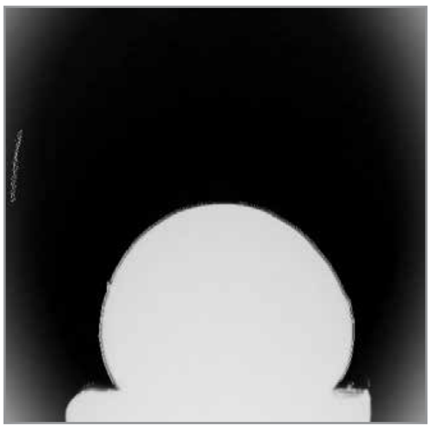
When composite resins are light-cured, light passes through the composite and attenuates, which means that deeper layers of composite resins do not receive as much light as the surface layers. For some of the darker dentin shades, the light can be blocked as much as 90% per mm. The light may be blocked only 10% per mm in the more translucent enamel shades. Any factor that decreases the light intensity passing through the composite will lower the conversion rates of the composite resin. If inadequate levels of conversion occur during polymerization, mechanical properties, wear resistance, and color stability are compromised. Incremental placement techniques with a maximum of 2 mm thickness are recommended.

Adequate polymerization transforms the monomers into a complex polymer structure. This is facilitated by using a curing light with high energy output, broad spectral emission, and concentrated irradiance. When placing Mosaic composite, it is recommended to place an adaptive initial layer with flowable composite and cure. Follow with up to 2 mm incremental layers of Mosaic composite and cure between layers. If curing with the VALO® curing light or another high-quality curing light (> 600 mW/cm²), cure each layer 10 seconds. For lights with an output < 600 mW/cm², cure for 20 seconds. A final cure of 20 seconds is suggested with all high-quality curing lights.

The polymerization of Mosaic composite is facilitated through a camphorquinone/amine initiation system.

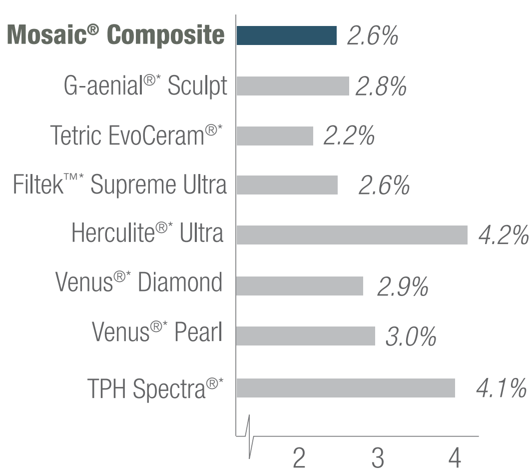
VOLUME SHRINKAGE

Composite resins have four primary components: an organic matrix, inorganic fillers, a coupling agent that binds the filler to the matrix, and the initiator/accelerator system. The matrix contains reactive carbon-carbon double bonds, which can crosslink to form a polymer network. As the polymer is formed, the resin matrix changes from a paste to a solid, and the composite resin contracts. Typical volume shrinkage during polymerization for highly filled composite resins is between 2–3%.



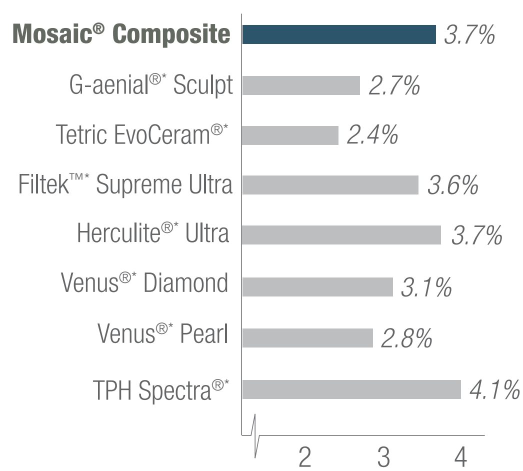
A small mass of composite (approx. 2 mm in diameter) was placed on a light curing pedestal in the front of a camera connected to a computer. The computer software counted the number of pixels in the image of the unpolymerized mass. The composite was then polymerized for 50 seconds using a VALO® curing light. The material continued to shrink, and after 5 minutes, the pixels were counted again. The shrinkage of the material was calculated. The test was performed 3 times, and the percent change was averaged for the three tests.

DENTIN VOLUME SHRINKAGE (%)



Dentin shades tested. Data on file.

ENAMEL VOLUME SHRINKAGE (%)



Enamel shades tested. Data on file.

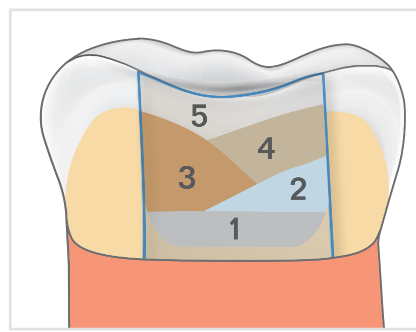
**Trademark of a company other than Ultradent Products, Inc.*

SHRINKAGE STRESS

Shrinkage stress is not only a function of how much the composite changes in volume during polymerization, but also how strong the contraction force is on the tooth and bond. The contraction force is most commonly related to the elastic modulus of the composite, so composites that exhibit high strength and high modulus also commonly produce higher final stress in restorations. The stress is also dictated by a complex interplay between resin viscosity, volume shrinkage, polymerization rate, degree of conversion, modulus development, and network structural evolution. Each of these properties cannot be individually manipulated and studied without having a significant impact on other properties.

High shrinkage stress can compromise the bonding interface between the composite and the tooth, leading to small gaps that can allow marginal leakage. The use of a quality bonding adhesive like Peak® Universal Bond adhesive is recommended to ensure a strong bonding interface to maintain marginal integrity.

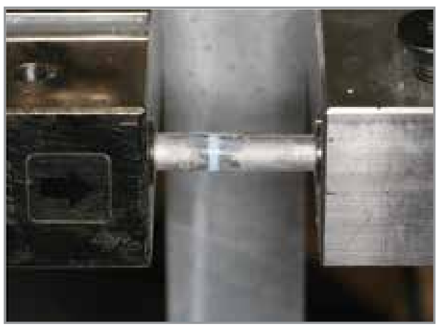
Current technology produces composite that is strong and able to mimic dentition; however, the composite continues to produce excess final stress upon polymerization. Therefore, we recommend continued use of the "layered" technique. This allows each layer of the composite to load some of its shrinkage stress onto the previous layer, thus avoiding loading it all onto the bonded interface and tooth structure.



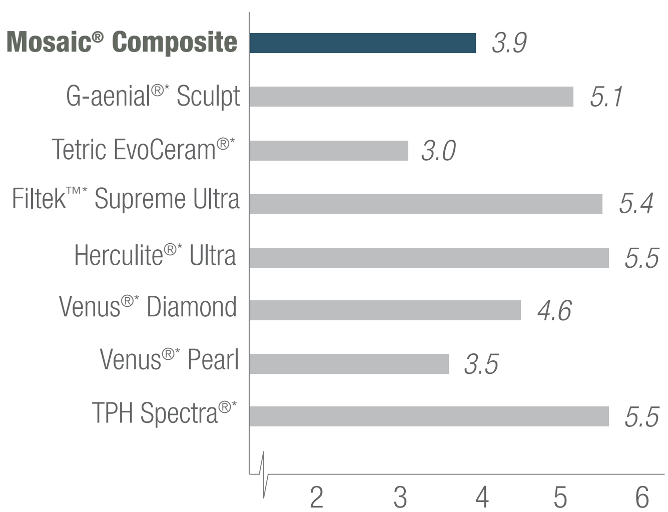
Mosaic composite's low shrinkage rate during polymerization reduces stress on the restoration and maintains marginal integrity.

SHRINKAGE STRESS

Shrinkage stress was measured by a machine that holds two 6 mm diameter stainless steel rods end to end with a 2 mm gap between them. The ends of the rods were ground flat and parallel, followed by sandblasting with 50 µm silicate at 100 psi. Peak® Universal Bond adhesive was applied to the sandblasted surface, thinned for 2 seconds, and then light cured for 10 seconds. A clear plastic sleeve was placed over the ends of the rods to allow a space for the composite to be placed in the 2 mm gap between the ends of the rods. The composite was light cured as per the manufacturer's instructions using a VALO curing light in Standard Power mode. As the composite shrank, a load cell attached to one of the rods captured and recorded the peak contraction force obtained. The peak value was recorded after 20 minutes. Three samples of each composite were recorded and averaged.



SHRINKAGE STRESS (MPA)



Dentin shades tested. Data on file.

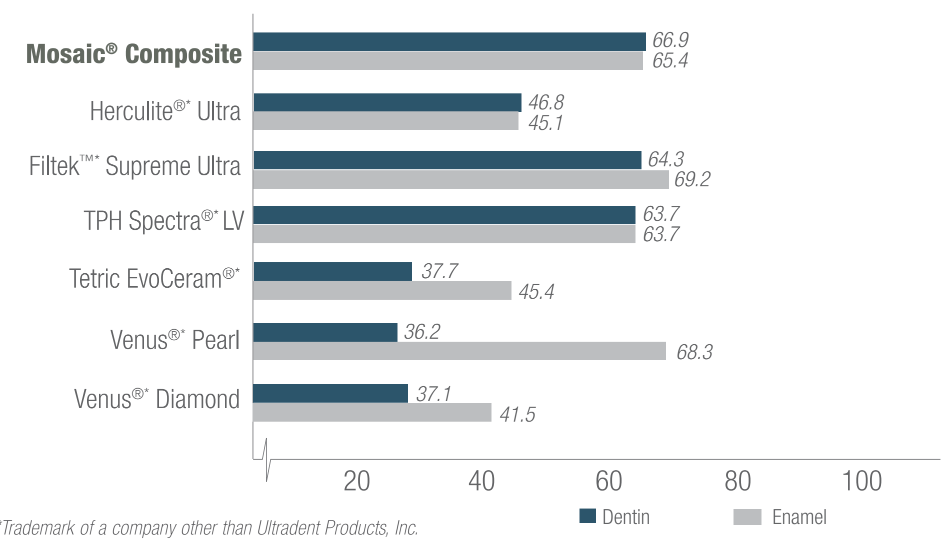
**Trademark of a company other than Ultradent Products, Inc.*

HARDNESS

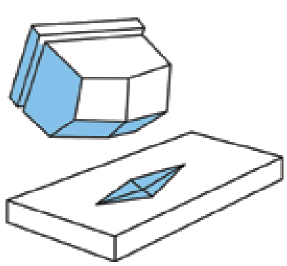
Dental composites are expected to provide a long life of service and to have mechanical properties comparable to those of tooth enamel and dentin. At the same time, they should not be so hard or abrasive as to wear the opposing dentition. The type of fillers, resins, and coupling agents all affect the hardness values of a given composite, so each composite has its own ultimate hardness value. Various attributes are balanced when a composite is created, from wear and abrasiveness to esthetic considerations. It is essential to create a product that mimics dentition in a myriad of ways, and measuring the hardness helps position the product in a suitable range. The average hardness of dentin is about 30–50 Knoop Hardness value (KH), whereas the average hardness for enamel is about 60–80 KH. The degree of conversion and depth of cure have a strong impact on the hardness of the composite resin. Insufficient depth of cure affects the longevity and efficacy of a restoration, which is why proper curing techniques must be followed. Contrary to what it seems, there is not a direct correlation of hardness value to wear and durability, especially between different composites. What does correlate within a given material is hardness and how well a given material is polymerized. A higher degree of conversion, i.e. polymerization, will make a better overall performance of any given composite.

Specimens were made by placing composite between two glass slides and forming the composite to a thickness of 2 mm. The specimen was then light cured as per the manufacturers instructions using a VALO curing light in Standard Power mode, and then placed in water at 37°C for 24 hours. The specimen was then indented with a Mitutoyo HM-112 Hardness Testing Machine using a 0.3 kg test load. Three readings were made, recorded, then averaged.

KNOOP HARDNESS (KH)



Trademark of a company other than Ultradent Products, Inc.



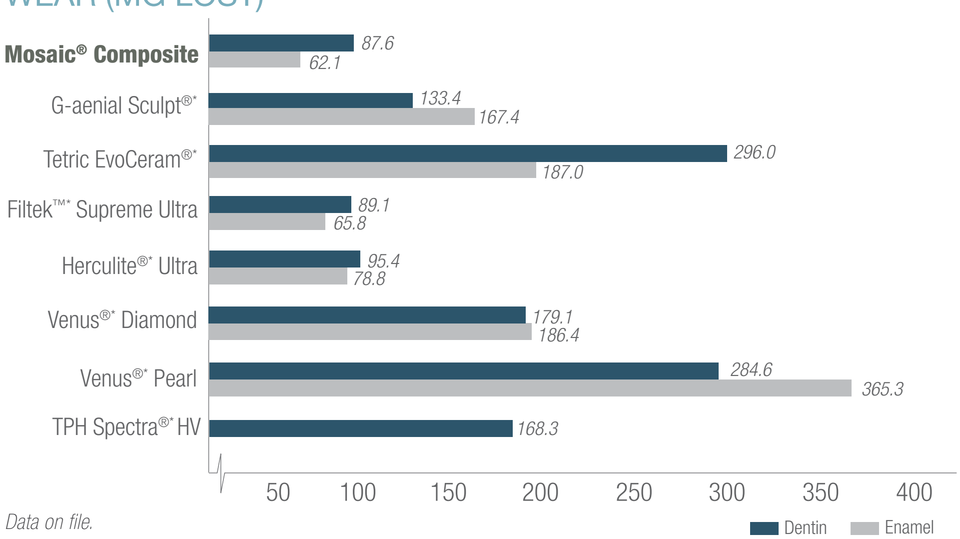
WEAR RESISTANCE

A high degree of wear resistance is desirable as long as it doesn't compromise opposing dentition. A composite's wear resistance is directly affected by several aspects of its composition and structure. These aspects include mechanical properties and the size, shape, and concentration of filler particles. Wear resistance is also affected by adhesion between the matrix and filler particles, the characteristics of the polymer matrix, and the curing process. Even with the latest advancements in composite formulation, wear can be a significant mode of failure for patients with parafunctional habits such as bruxing and clenching. Wear resistance is also a concern in larger restorations, especially those involving the replacement of functional cusps. Even regular wear from mastication and brushing can affect the anatomy of the restoration. Mosaic composite provides impressive wear resistance whithout being overly abrasive to opposing dentition. The wear resistance is on par with the natural wear of enamel.

Four specimens of each material were made by placing a mass of composite in a mold between two glass slides, forming a disc with a diameter of 12.4 mm and thickness of 1.85 mm. The specimens were then light cured as per manufacturer's instructions using a VALO curing light in Standard Power mode. The specimens were marked to indicate the top and then placed into water at 37°C for 24 hours. Each specimen was weighed and placed in the wear testing machine. The specimens were then weighed again to determine how much mass was lost in the test. The values (mg) of each set were averaged.

A custom wear/abrasive machine was used for this test. The machine consists of a pedestal for holding a specimen mounted in a rotating cup of water. Above the pedestal is a calibrated rubber abrasive wheel with a diameter of 50 mm and a thickness of 13 mm. The 13 mm edge of the abrasive wheel is lowered onto the specimen with a load of 1 Kg and rotated forward and backward in 10 meter increments for a total of 200 meters while the specimen is simultaneously rotated at 20 rpm for a completely randomized wear process of the specimen.

WEAR (MG LOST)



Data on file.

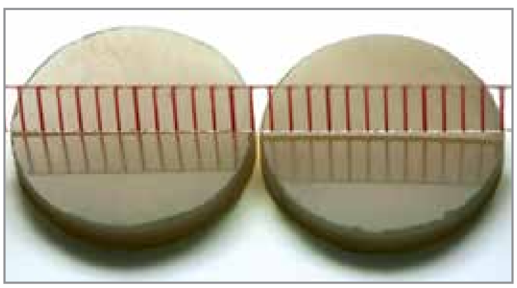
**Trademark of a company other than Ultradent Products, Inc.*

GLOSS RETENTION

From an esthetic viewpoint, the restoration should mimic the sheen of natural dentition with reduced chances of dulling or staining. The proprietary dispersion of the nanofillers in Mosaic composite allows for a high polish and long-term gloss retention without sacrificing mechanical properties suited for high-stress-bearing restorations. With the appropriate balance of nanofillers, worn surfaces produce smaller defects and provide better gloss retention after being subjected to abrasion. It is of little surprise that smoother surfaces accumulate less plaque and bio-buildup than rougher surfaces. This benefit will be noticed by both the patient and the clinician at follow-up visits.

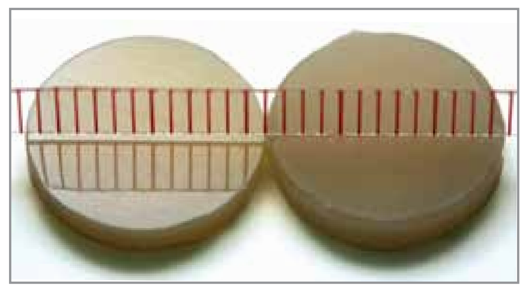
Nanotechnology offers high translucency and high polishability similar to those of microfills, while at the same time maintaining physical properties and wear resistance equivalent to hybrid composites.

Notice the gloss and reflection in the before and after images. The high gloss before brushing is about 90 GU, whereas the low gloss of the competitor after brushing is about 25 GU.



Mosaic® composite polish before brushing

Mosaic® composite after 10,000 brushing cycles



TPH Spectra®* composite polish before brushing

TPH Spectra®* composite after 10,000 brushing cycles

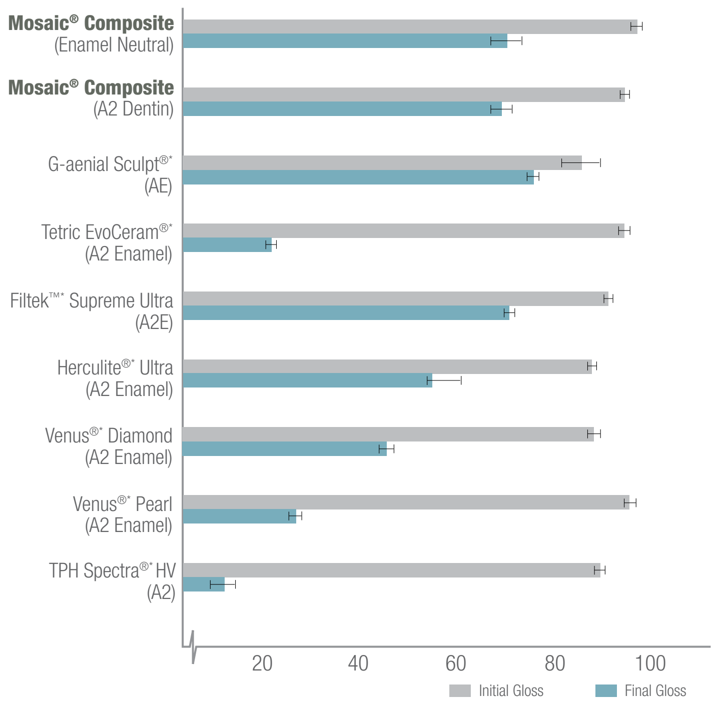
**Trademark of a company other than Ultradent Products, Inc.*

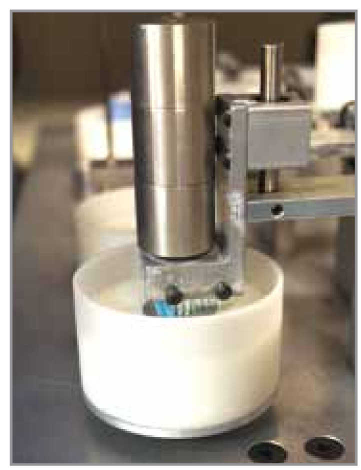
GLOSS RETENTION

Four specimens of each material were made by placing a mass of composite in a mold between two glass slides, forming a disc with a diameter of 12.4 mm and a thickness of 1.85 mm. The speciments were light cured as per manufacturer's instructions using a VALO curing light in Standard Power mode. The samples were then sanded on 800-grit sandpaper, followed by 1200-grit sandpaper. They were then polished with a Jiffy® polishing disc until a high sheen was achieved. The specimens were placed in water at 37°C overnight. Gloss was measured using a calibrated Novo-Curve Gloss meter. Three readings were made on each disc. All values were recorded, averaged, and reported as initial gloss value.

A slurry of toothpaste and water was mixed with a 5:8 ratio. The samples were then mounted in a cup along with 50 ml of the prepared slurry and loaded into a custom brushing machine under a load of 200 g. The specimens were rotated at 10 rpm while 10,000 brushing cycles commenced. After brushing, the samples were cleaned with water and the gloss value was measured again with three readings for each disc. The average was reported as the final gloss value.

GLOSS RETENTION (GU)





Data on File. Final gloss measured after 10,000 brush cycles in gloss units (GU).

**Trademark of a company other than Ultradent Products, Inc.*

STRENGTH PROPERTIES

When engineering a composite, several different aspects of strength must be assessed and understood in order to create a product that behaves in the desired way. Composites with high performance in compressive strength, flexural strength, and flex modulus help to ensure a long-lasting restoration under mastication forces.

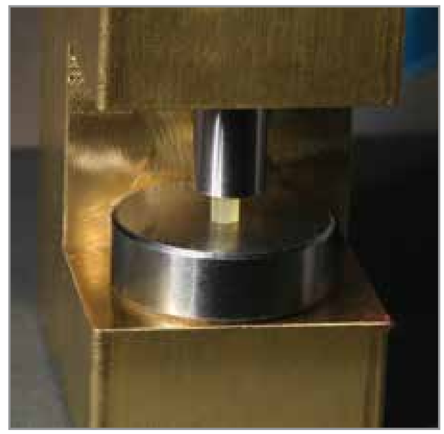
The most common strength measurements addressed in dental materials are compressive and flexural. The compressive test involves preparing a small cylinder of composite (2.38 mm diameter x 2.38 mm height) and crushing it until failure. A material must possess some strength to achieve a high value in a compressive test; however, a material that can handle a high compressive load may not achieve a similarly high value when tested for a tensile load. It is of considerable importance that a material must be able to survive high tensile forces as well. The flexural test provides a very useful tool for analyzing this, since it puts one surface under compression while the opposing surface is elongated and put under tension. For a material to perform well in the flexural test, there must be a good balance of strong resins which are well coupled to a strong filler. Too little filler and the product becomes too soft and pliable, even though it might not break easily. Too much filler and the product becomes brittle. Mosaic composite has achieved a good blend of these materials so that the product performs optimally.

Elastic modulus is the term used to describe how flexible a material is. The combination of strength and flexibility is *toughness*. Toughness is one of the most desirable features, as long as the starting stiffness is in the normal range of dentition. Mosaic composite was designed with the right balance of fillers and resins to create optimized strength, flexibility, and toughness.

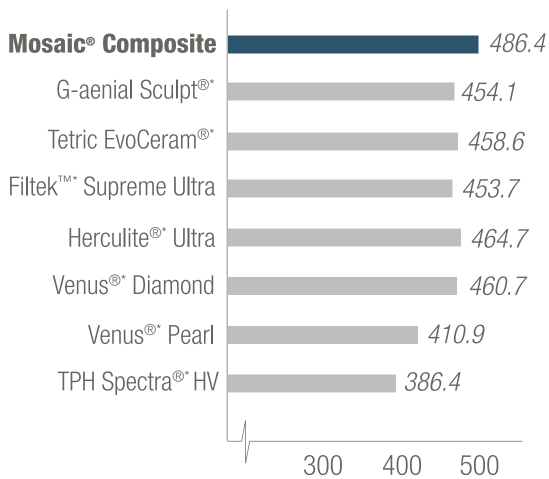
	DENTIN SHADES	ENAMEL SHADES
Compressive Strength	486.4 MPa	447.6 MPa
Flexural Strength	166.1 MPa	176.7 MPa
Flexural Modulus	17.3 GPa	11.7 GPa

COMPRESSIVE STRENGTH

Samples were prepared by flowing material into molds with a dimenter of 2.38 mm and height of 2.45 mm. A glass slide was placed on top and the material was light cured as per manufacturer's instructions using a VALO curing light in Standard Power mode. The specimens were sanded with 320-grit sandpaper to remove flash and then removed from the mold. The specimens were then stored in 37°C water for 24 hours. Samples were tested and the seven highest strengths were selected and averaged. Note: The top seven specimens are chosen to rule out chips, cracks, or other human artifacts that do not represent the actual performance of the material.



COMPRESSIVE STRENGTH (MPA)

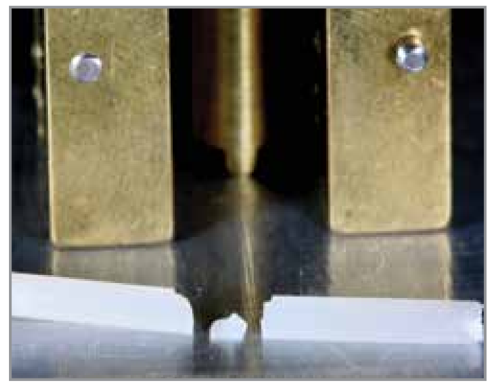


Dentin shades tested. Data on file.

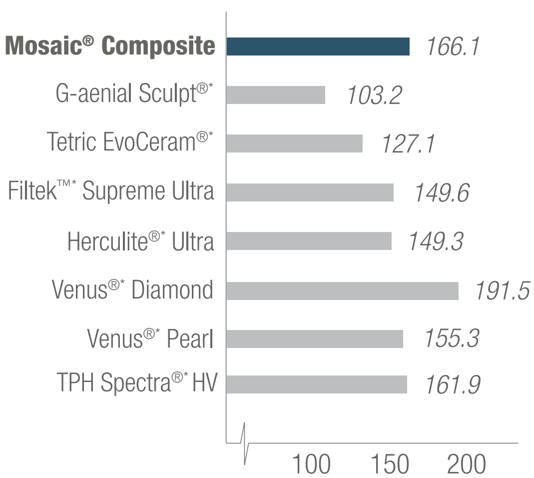
**Trademark of a company other than Ultradent Products, Inc.*

FLEXURAL STRENGTH AND FLEX MODULUS

Ten 2x2x25 mm specimens were prepared with each product by first polymerizing a disc of composite that was 2 mm thick. The disk was then sectioned into 2 mm x 25 mm sticks using a water-cooled diamond saw. The specimens were then stored in 37°C water for 24 hours. After storage, the specimens were tested for flexural strength using a 3 point bend test fixture with a 20 mm span. An Instron 4467 running at a rate of 1 mm per minute was used to apply a load and capture the peak value, which was then used to calculate strength and modulus using the following formula:
MPa = 3 x Load x Span / 2 x Width x Depth.

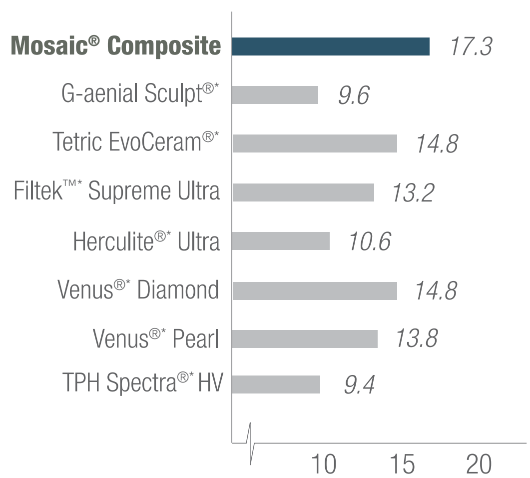


FLEXURAL STRENGTH (MPA)



Dentin shades tested. Data on file.

FLEX MODULUS (GPA)



Dentin shades tested. Data on file.

**Trademark of a company other than Ultradent Products, Inc.*

RADIOPACITY

X-rays are an essential part of dental diagnosis, and it is very important that restorative materials be radiographically distinguishable from natural tooth or decay. The addition of zirconium dioxide, barium oxide, or ytterbium oxide to any radiolucent material will impart the property of radiopacity. These three oxides are chosen for their compatibility with the chemistry of composites. The radiopacity of Mosaic composite is the equivalent of 2 mm of aluminum or higher in both dentin and enamel shades and can be easily detected on a radiograph.

An aluminum step wedge demonstrates the levels of opacity observed between each 1 mm increase in thickness. A composite's radiopacity is measured by placing a 1 mm specimen next to the step wedge and taking an x-ray to view the comparison.

TECHNICAL OVERVIEW

	DENTIN SHADES	ENAMEL SHADES
Shrinkage Volume	2.6%	3.7%
Shrinkage Stress	3.9 MPa	6.1 MPa
Compressive Strength	486.4 MPa	447.6 MPa
Hardness	66.9 HK	65.4 HK
Flexural Strength	166.1 MPa	176.7 MPa
Flexural Modulus	17.3 GPa	11.7 GPa
Water Sorption	$\leq$40 μg/mm^3	$\leq$40 μg/mm^3
Water Solubility	$\leq$7.5 μg/mm^3	$\leq$7.5 μg/mm^3
Radiopacity	$\geq$2 mm Al (200%)	$\geq$2 mm Al (200%)
Working Time (Ambient Light)	4:00 min	4:00 min
Depth of Cure	2 mm	2 mm
% Fill by Volume	68%	56%

Data on file.

DELIVERY

Mosaic universal composite has two dispensing options: a 4 g syringe or a 0.2 g unit dose compule. The syringe features a unique, innovative design with a smooth contoured handle and barrel to allow for easy cleaning while still being easy to grip and identify.

A unique and novel KleenSleeve™ protects composite from picking up contamination from the black outer syringe barrel.

A tethered cap means no more dropping and losing the cap in a busy operatory and provides efficient delivery and convenient disinfection between uses.

mosaic®

Universal Composite

800.552.5512 ULTRADENT.COM

1006813.1 122017

ULTRADENT PRODUCTS, INC.

Improving Oral Health Globally