

REALITY

The information source for esthetic dentistry

2019

The Ratings | COMPOSITES – UNIVERSAL

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(4.6)



RAVES & RANTS

- + Terrific esthetics
- + Cures in proximal box in 20s
- Enamel shades still have non-Vita names
- Enamel shades have poor fluorescence

MANUFACTURER

Ultradent www.ultradent.com

PRICES

KITS	REFILLS
Syringe	Syringe (4g)
\$519.99/20g	\$103.99/4g
(\$26.00/g)	(\$26.00/g)
Singles (50)	Singles (10)
\$259.99/10g	\$51.99/2g
(\$26.00/g or	(\$26.00/g or
\$5.20/single)	\$5.20/single)

SHELF LIFE

2 years

Mosaic

INTRODUCTION/MANUFACTURER'S CLAIMS

Mosaic is Ultradent's third attempt to make a dent in the composite market. Its other two entries (Vit-I-essence and Amelogen Plus) are perfectly acceptable products, albeit somewhat quirky when you consider the overwhelming selection of Vit-I-essence enamel shades whose nomenclature (Pearl Smoke?) can confuse even the most experienced bondadontist. Mosaic, on the other hand, uses the tried and true Vita Classical shade system for the dentin shades that is the de facto worldwide standard.

Among its claims are smooth, pliable consistency, cuts easily and doesn't stick to instruments, won't flow or slump out of place after shaping, and has ample working time under ambient light. It is also stated to have excellent gloss retention.

TYPE

Nanohybrid.

AVERAGE PARTICLE SIZE (µ)

Zirconia proprietary
Silica 0.02

FILLER CONTENT (%)

Dentin

Weight	N/A
Volume	68

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Enamel

Weight	N/A
Volume	56

CONSISTENCY AND HANDLING

More on the sculptable end of the continuum and it is non-sticky for the most part.

Dentin shades Most (67%) evaluators found the handling to be really nice, while the other 33% thought it was about the same as other similar products. Some comments:

- Very good handling
- The handling is perfect.
- They seemed stiffer than the enamel shades.
- Nice and firm, yet adaptable and easily sculptable.
- Slight stickiness, no slumping, keeps shape.
- A little sticky.
- When syringing the material to the bottom of the cavity, this material does not flow enough to enter all of the corners of the cavity. So it needs pushing the material to the corners and needs shallow layers max 2mm.

Enamel shades Most (72%) evaluators found the handling to be really nice, while the other 28% thought it was about the same as other similar products. Some comments:

- Very good handling.
- Nice for brushes, not too sticky and kept its shape when shaping.
- Nice and firm, yet adaptable and easily sculptable. It can even be feathered to a thin edge easily.
- Handles nicely, easily sculptable.

Translucent shade Most (72%) evaluators found the handling to be really nice, while the other 28% thought it was about the same as other similar products. Some comments:

- Very good handling.
- Consistency and handling of the translucent shade is nice.
- None of the resins were sticky. Easily manipulated and condensable.
- Handles well.
- Not too much different from the other shades.

VOLUMETRIC SHRINKAGE

Dentin shades: 2.6% (per manufacturer), which is moderate for universal composites.

Enamel shades: 3.7% (per manufacturer), which is moderate-high for universal composites.

HARDNESS (KNOOP)

54.2 (average for a universal composite).

POROSITY

From a clinical perspective, all evaluators except one found no voids, while the lone holdout found only a few surface voids after finishing and polishing. One evaluator noted it was one of the better products he used in terms of absence of voids.

DEPTH OF CURE (mm)

2 (manufacturer states 2mm).

CURING TIME FOR GINGIVAL WALL INCREMENT

Cure Time (seconds)	Cure % (gingival compared to occlusal)
20	87
40	DNT*

* Since it exceeds the 80% goal at 20 seconds, there was no reason to test it at 40 seconds.

WORKING TIME UNDER DENTAL UNIT LIGHT

30 seconds.

SHADES

20 Dentin A0.5, A1, A2, A3, A3.5, A4, A5, B0.5, B1, B2, C2, C3, and D2. **Enamel** Blush, Neutral, Yellow, Gray, and White. Most of these are self-explanatory, but the zany Ultradent moniker minions could not resist the urge to get ambiguous again with Blush. (It looks like Neutral with a subtle injection of pink.) Then there is Enamel Trans, which is really designed to be an incisal shade, and finally, Opaque White.

We found A2 is a close match to its Vita analog, ET and EN have slight yellowish tints, and OW is defi-

nately white, but also with a slight yellow cast. B0.5 and EW are a very close match and lighter than B1.

Dentin shades All evaluators thought the selection was adequate. Some comments:

- The shade variety is perfect.
- All what I can imagine.

Enamel shades All evaluators thought the selection was adequate. Some comments:

- The shade variety is perfect.
- Some have only a minor differences from the others. Maybe three could be enough. After practice, only 2-3 will be in use commonly.

Translucent shade All evaluators except one thought the selection was adequate, with the lone holdout needing more.

Bleach shades Most (89%) evaluators thought the selection was adequate for bleached teeth, with the other 11% needing more.

Most (83%) evaluators considered the anterior esthetic results really good with good blending effects, while the other 17% thought it was just OK.

Most (81%) evaluators also considered the posterior esthetic results really good with good blending effects, while the other 19% thought it was just OK. One evaluator noted it had a nice chameleon effect, while another found it more difficult to match teeth in older patients.

TRANSLUCENCY/OPACITY (T/O)

Shade	T/O rating (%)	Comment
A2	77	Good for dentin shade
B0.5	72	Good for dentin shade
EN	62	Good for body shade
EW	68	Good for body shade
ET	28	Good for incisal shade
OW	78	Good for dentin shade

Dentin shades Most (83%) evaluators thought it was just right, while 11% found them to be too translucent and 6% too opaque. As far as being opaque

enough to block out darkness from the back of the mouth when doing a through-and-through Class III and for Class IV, most (87%) evaluators found it to be acceptable, while the other 13% were not able to accomplish this task consistently. Some comments:

- Very nice. I am impressed.
- They blocked out darker deep amalgam stains and blocked transmission of light on a Class IV I did.

Enamel shades All evaluators thought it was just right. Some comments:

- Maybe leaning toward too opaque.
- Worked really nice.

Translucent shades Most (89%) evaluators thought it was just right, while 11% found them to be too translucent.

As far as being able to simulate incisal translucency in Class IV, all evaluators except one found it to be acceptable, while the lone holdout was not able to accomplish this task consistently.

SHADE GUIDE

Very unique. The 20 composite shade tabs (fabricated out of Mosaic) are secured in a clear, flexible, rubberized holder. One end of each tab is in a typical incisal shape with the dentin shades covered with a thin veneer of EN. The opposite end is more like an oval and has varying thicknesses. Each tab is identified with an easily read black inscription.

Half of the evaluators liked this shade guide, 28% thought it was acceptable but nothing special, and 22% were not impressed. Some comments:

- I like the flexible holder.
- Easy to use and match shades well.
- Don't get this at all. Bad design and no fun to wipe down - rubber holder looks bad after a while.
- Creative and good fit.
- It is nice to see all the colors in a guide. However, the enamel layer seems too thick and therefore it is hard to find the exact color we need. We usually used the other side (dentin side without enamel) to be able to select the appropriate color.
- I really like shade guides made of the resin composite, not ambiguity about shade selection. What you see is what you get!.

- There is no indication that I could find on how to sterilize/disinfect the shade guide. (Ultradent via email recommends wiping with alcohol, but also recommends not putting the tabs in contact with the patient, which of course is not always possible.)
- I like this shade guide. being flexible and having no metal handles is nice. So many of my shade guides have broken because of the hard plastic holder.
- Does not accurately represent the material shades.
- Yep, logical and I really like it. It explains well the variety of the enamel shades.

Concerning whether the Mosaic shades match the Mosaic shade tabs, most (83%) evaluators found that they are very close, while 11% thought some match and others don't and 6% did not think they matched at all. One evaluator stated that dentin shades match, but the enamel shades do not. However, only 40% of the evaluators found that the dentin shades matched the Vita shade tabs, with 53% stating some matched and some didn't and 7% noting that most don't match. One evaluator thought the Mosaic shades seemed lighter than the Vita tabs.

FLUORESCENCE

Mixed bag, with B1 coming close (slightly purple) to natural teeth, but EN was much darker under black light.

FINISHING AND POLISHING

Polisher	Matches Enamel Gloss
Astropol	Yes
PoGo	Yes

Most (78%) evaluators considered it easy to polish to an enamel-like gloss, while the other 22% were able to come close. At least four different polishers were used by the evaluators and all produced a high gloss.

PACKAGING

The Intro kits comes in white cardboard boxes with flip-open lids, which are sealed with clear labels.

Inside the tips kit is a white cardboard insert with cut-outs securing the contents. Inside the syringe kit is a pull-out cardboard drawer with cut-outs securing the syringes.

The preloaded tips, called Singles, come in the familiar plastic pill-like jars that Ultradent uses for many of its products. The plastic-sealed jars have the product identification and shade on the umbilical-attached lids and the expiration date on a label on the bottom. The tips themselves are imprinted with the product name, shade, and expiration date. The noses are fairly long to help reach to the bottom of preps and have color-coded caps.

Most (67%) evaluators thought the tips were on par with other products, while the other 33% really liked the design. Some comments:

- Normal good Ultradent quality.
- A little bit wide.
- Easy to read the shade on the tips.
- Nice, except I wish the shade was written in bigger print so it is easier for my assistant to just grab one quickly.
- Absolutely nice, very precise, fits well to the gun, nose is long enough and slim to get to the deepest parts of the cavity.

The syringes, on the other hand, are unique. The screw-like plunger is covered with a double-winged, translucent plastic. This cover not only helps mechanically when extruding the composite, but it is also easier to disinfect. In addition, the back of the plastic cover has a shade sticker to allow the use of a syringe caddy.

The barrel of the syringe has the product identification, expiration date, shade, and two mini-wings to help stabilize it during dispensing. But the most useful item is the cap, which is flexible and attached to the syringe via a umbilical. This means no more lost caps and having the composite prematurely polymerize in the barrel, rendering it virtually useless. Those creative minds at Ultradent always seem to come up with really helpful and practical packaging ideas. The plungers are white for enamel and taupe for dentin.

Half of the evaluators thought the syringes were on par with other products and the other half really liked the design. Some comments:

- Very innovative.
- Actually found them to be a bit odd.
- Normal Ultradent quality.
- Ultradent as always very creative.
- I like that the cap stays tethered to the syringe. Impossible to lose the cap.
- I didn't like this twist syringe much.
- Different than the others, no big deal in use.

Most evaluators thought the kits were well-organized and convenient to use and store, in addition to providing good access to the contents.

REALITY

STRENGTHS

Nice consistency and good handling properties — no slumping, stays put, not sticky. Ample shades for every situation. Logical enamel shades after learning the system. Vital appearance, nice chameleon effect, great color matching. Really good esthetic effects for anterior and posterior uses. Minimal voids. Can be polished to a high gloss. Exceeds 80% cure goal in proximal box when cured for only 20 seconds. Fluorescence is very close to tooth structure for dentin shades. Unique shade guide.

DIRECTIONS

Multi-lingual, plain paper, annoying foldout format, no photos or illustrations. At least four evaluators noted the nano-font that required loupes to read. Information is typical but the advice to use a composite sealer after polishing to enhance the sheen is strange since these sealers rarely resist degradation for more than 2-3 weeks. Otherwise, virtually all evaluators considered them to be adequate.

WEAKNESSES

Filler load on the low end. Only half of the evaluators really liked the shade guide. Shade designation on the Singles containers could be easier to read. Non-Vita enamel shades may be confusing to use and are more opaque than we prefer. Fluorescence of enamel shades is poor, appearing much darker compared to tooth structure.

BOTTOM LINE

Ultradent finally hit the bullseye with Mosaic when it comes to handling and esthetics, but those funky enamel shade monikers still leave us with a learning curve steeper than we prefer.

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mosaic[®]

Universal Composite



Handling

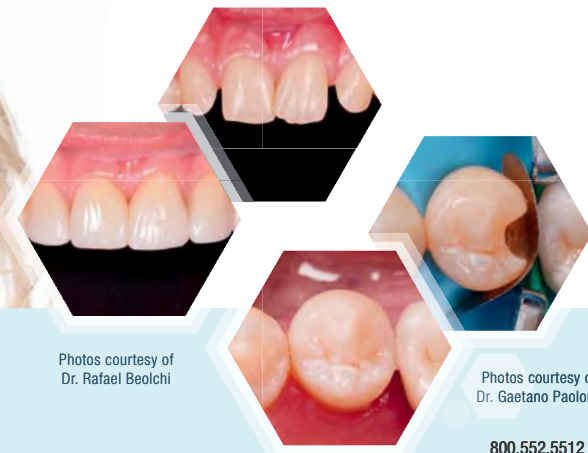
Esthetics



Performance

Giving you total control

Highly sculptable handling properties provide total control during manipulation



Photos courtesy of Dr. Rafael Beolchi

Photos courtesy of Dr. Gaetano Paolone

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