

V3 Ring

Q. Do V3 Rings produce tight contacts?

A. Yes. Experts agree that Triodent sectional matrix systems – using the V3 Ring or the V-Ring - are the surest way to achieve tight contacts since the lateral spring pressure acts like a McKean orthodontic tooth separator.¹ A V3 Ring IS a sectional matrix. The only functional differences between the V-Ring system and other sectional matrices are:

1. The V3 Ring is particularly good at holding the matrix in a full anatomical curve.
2. The V3 Ring traps the matrix on the shoulders of the tooth and prevents it slipping and moving away from the neighboring contact point
3. The V3 Ring spring is made from nickel-titanium (NiTi) and is very resilient.
4. The V3 Ring spans wide cavities.
5. The retention is better.
6. The tooth separation is better as the lateral force of the spring is greater.

When you think about, it can't help but produce excellent contacts.

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Q. Can V3 Rings be used on wide cavities?

A. Yes. The anatomically-shaped tines grip on both adjacent teeth and this prevents the spring from falling into wide cavity preps (like other sectional matrices).

Q. Can V3 Rings be used when a cusp is missing?

A. Yes. Since the tines grip on both teeth on each side of the contact and also low down near the gingival margin, a V3 Ring can often be used when a cusp is missing. Depending on the anatomy, it is sometimes best to build up the bulk of cusp before placing the V3 Ring.

Q. Can V3 Rings be used on primary teeth?

A. Yes. The V3 Ring comes in two sizes – Universal (green) for molars and Narrow (yellow) for premolars.

Q. Can V3 Rings be sterilized and re-used?

A. Yes. They are designed for re-use and have been tested successfully through 800 autoclave cycles. The rings should be steam-autoclaved. Other methods of sterilization run the risk of damaging or staining the rings. Chemical sterilization will void our warranty. (See next question)

Q. How do I get bonding agent off the V3 Ring?

A. If your V3 Ring has been contaminated with bonding agent, soak it in alcohol for a few minutes to soften the bonding agent before steam autoclaving. You will then be able to scrape it off. A light smear of Vaseline before use will help prevent contamination.

Q. Can V3 Rings be used on MODs?

A. V3 Rings work really well on single Class II restorations and MODs. You can stack the V3 Rings or have one facing mesially and the other distally. The ring tilts up, away from the marginal ridge of the tooth, allowing more room for another ring to be placed underneath, on the next tooth. In most cases it is advisable to place the rings in opposite directions. (See next two questions)

Q. What's the best way to restore a back-to-back MO or DO?

A. The easiest method for back-to-back Class II restorations is to complete one and then do the other. Doing both simultaneously can be faster but requires more operator skill. A Narrow (yellow) V3 Ring is recommended as more separation is necessary to overcome two thicknesses of matrix.

Q. What is the best way to restore an MOD with the V3 Ring?

A. The recommended method is as follows:

1. Pre-wedge both M and D and complete cavity preparation.
2. Slide M and D matrix into position and etch and bond.
3. Place V3 Ring on M and build and cure M contact point.
4. Move V3 Ring to D and build and cure D contact point.
5. Complete occlusal surface and cure with C-Factor issues in mind.

Q. How can the extra cost of V3 Rings be justified?

A. V3 Rings are not much more expensive than other competing systems and they produce better results with less frustration and time spent. They are also made of NiTi and glass-fiber reinforced plastic, which lasts longer. The cost of the consumable V3 Matrix is similar to other sectional matrix bands. In addition, think how much it costs you every time you have to re-do a proximal restoration because it has a poor contact. If you try to re-do it right away you run late and get stressed out. If you do it later the patient "bad-mouths" you because they think you are incompetent. You lose credibility and waste more time with more costs and no income when you do have to re-do it! Arrrgh!

Q. Can you use V3 Rings to restore TWO adjacent Class II cavities?

A. Yes. The separation that V3 Rings generate is 60-80 microns, which is greater than two thicknesses of matrix.

Q. Do V3 Rings work equally well on all teeth?

A. The V3 Ring is a very versatile system and no other matrix system comes close in this respect.

Q. Do I have to hold the contact point with a burnisher while light curing? Could I use a regular matrix and hold the contact and then why would I need a V3 Ring?

- A. Dr McDonald always does this because it is so easy to do and avoids the bad contact caused by the matrix not being in contact with the neighboring tooth. Quite often it is impossible to see if the matrix is actually touching, so holding is just a precaution. Dr McDonald believes this issue is the single main cause of REALLY bad contacts. The V3 Ring's function is to separate the teeth (orthodontically) and wrap the matrix. Just as an aside, Dr McDonald prefers to add a tad more curvature with his fingers before placing the matrix as it makes more room to place the V3 Ring.

A regular matrix (Tofflemire) when used on a Class II has the effect of moving the tooth in the wrong direction by the thickness of the matrix (because you have to get the matrix through the intact side). This means that you have to overcome TWO thicknesses of matrix to get a tight contact. Tofflemires also tend to produce cylindrical, "tin can", restorations with a poor contour and a contact just at the marginal ridge. This method has been tried over and over and found to be unpredictable by most who have tried it.

Q. Which style of clamp should I use to hold the rubber dam in place?

- A. The clamped tooth should be further distal than the one being restored. If that is not possible, then a small clamp can provide more room for the V3 Ring. Often there is room for both the clamp and the V3 Ring.

Q. Does the V3 Ring work if you are doing three teeth in a row i.e. #12DO, #13MOD, and #14MOL?

- A. Dr McDonald prefers to prep all at once, place the matrix on all teeth then place composite initial layers on all three teeth. Then he finishes layering 12 and 14 and pulls off the matrix on 12 and 14. Next he pushes the wedge in farther between 12-13 and 13-14, burnishes the contact on M and D of 13 and places the final layer on 13. Then he finishes all three at the same time.

Q. With the V3 Ring is it best to do them all separately start to finish or would you do 12 and 14 together and then 13 by itself?

- A. Yes you can do all four in a row if you want. You just need to make sure that the V3 Ring is separating the contact you are working on. You can move the V3 Ring along as you work, or stack rings. Dr McDonald prefers to use just one V3 Ring as it allows that embrasure to open rather than the retainer rings working against each other. Although he builds one contact at a time, he etches, bonds and places bands and/or matrices all at once.

Q. The V3 Ring is a small piece of equipment to put in the patient's mouth. What if it springs out or is dropped?

- A. The V3 Ring is very stable on wet or dry teeth because of its strength and anatomically shaped faces. However, for added security tie a small amount of floss to the ring in the unlikely event that it gets dropped in the patient's mouth.

Q. How do I retension the V3 Ring if the tines start to separate?

A. We use NiTi in our rings. It has remarkable strength and memory, so the ring will return to its original shape again and again. The V3 Ring may separate slightly over time with over-stretching, but can be easily retensioned by placing it in the notches in the handles of the Triodent Forceps. Squeeze it like a nutcracker until the tines touch and the ring is as good as new. To prevent over-stretching, only open the ring as far as is needed to place it over the tooth. Also, try not to leave the ring open in the forceps for a long period of time.

Q. Can I place the Wave-Wedge with the V3 Ring in place?

A. Yes. The V-shaped tines of the V3 Ring allow you to place a wedge without removing the ring. And because the Wave-Wedge has a hollow underside, you can slide a second wedge from the opposite side to the first.

Q. When doing an MOD, the matrix band side extrusions are too long and get in the way of the opposing matrix band.

A. The easy way around this is to place the yellow V3 Ring on the tooth, trapping the matrix band in place, then bend the protruding ends of the matrix backwards to make room for the opposite matrix band.

Q. What are the differences between the V3 Ring and the V-Ring?

A. The main differences are:

1. The V-Ring spring is made from nickel-titanium and stainless steel while the V3 Ring spring is made entirely from nickel-titanium. The spring is substantially stronger and, with the Narrow (yellow) ring, the range of action is wider with the V3. Because the V3 Ring does not have stainless steel, it will not expand over time to the extent of rings containing stainless steel.
2. The V3 Ring tines are made from glass-fiber reinforced plastic and are shaped to suit the buccal and lingual surfaces of the teeth, slightly more so than with the V-Ring.
3. The spring angle on the V3 Ring is steeper relative to the occlusal plane, making stacking easier for simultaneous multiple restorations.
4. The tines in the V3 Ring have special grooves that make them more stable in Triodent Forceps. They also fit rubber dam forceps, so there is no need to buy new instruments.