

EVOLVE MATRIX



 BIOCLEAR

TECHNIQUE GUIDE

THE NEXT EVOLUTION IN SECTIONAL MATRICES

As its name suggests, the Bioclear Evolve Matrix is an evolution in posterior matrices—an improvement on what was already the most advanced and user-friendly mylar matrix in modern posterior restorations, the Bioclear Biofit HD.

Evolve matrices come in three shapes and multiple heights. Matrices are color-coded to show the amount of curvature in the gingival emergence profile that each matrix has. The height is also printed on the matrix to ease identification. All colors of Evolve matrices offer superior buccal, lingual, and occlusal wrap around the tooth. This allows the matrix to do the work for you to create superior outcomes without all of the fussy finishing.

All matrices are 75 microns thick and anatomically preshaped. This makes them stiffer than other mylar matrices, easier to place, and easier to adapt.

Their extension can be seated deeper into the sulcus—even down to the bone level—helping to create infinity margins with minimal overhangs and broad contacts. The Evolve extension also seats nicely even when a rubber dam clamp is used, whereas the rubber dam clamp sometimes prevents full seating when using other matrices.

The matrices' translucence allows for three point curing of the heated composite on the buccal, lingual, and occlusal of the tooth, essential to thoroughly light cure bulk-fill composites.



WIDTH & PROFILE

Evolve matrices come in three widths and profiles—Blue, Orange, and Pink—to fit a variety of posterior tooth shapes.

BLUE EVOLVE

Designed with an aggressively rounded emergence profile and an average width. Blue Evolve is suitable for the majority of posterior cases.

Tip: Rotate the matrix into place. For further explanation see page 4.



Normal width

Rounded profile



ORANGE EVOLVE

Features a flatter emergence profile than the Blue Evolve. Orange Evolve is perfect for patients with average-sized molars where the tooth is too flat for the Blue Evolve.

Tip: Use the Orange Evolve if the Blue Evolve inverts.



Medium width

Flatter profile



PINK EVOLVE

With a minimal emergence profile curvature and broad width, Pink Evolve allows you to work on wider first and second maxillary molars.

Tip: Use the Pink Evolve where the Blue and Orange Evolve matrices would typically invert.

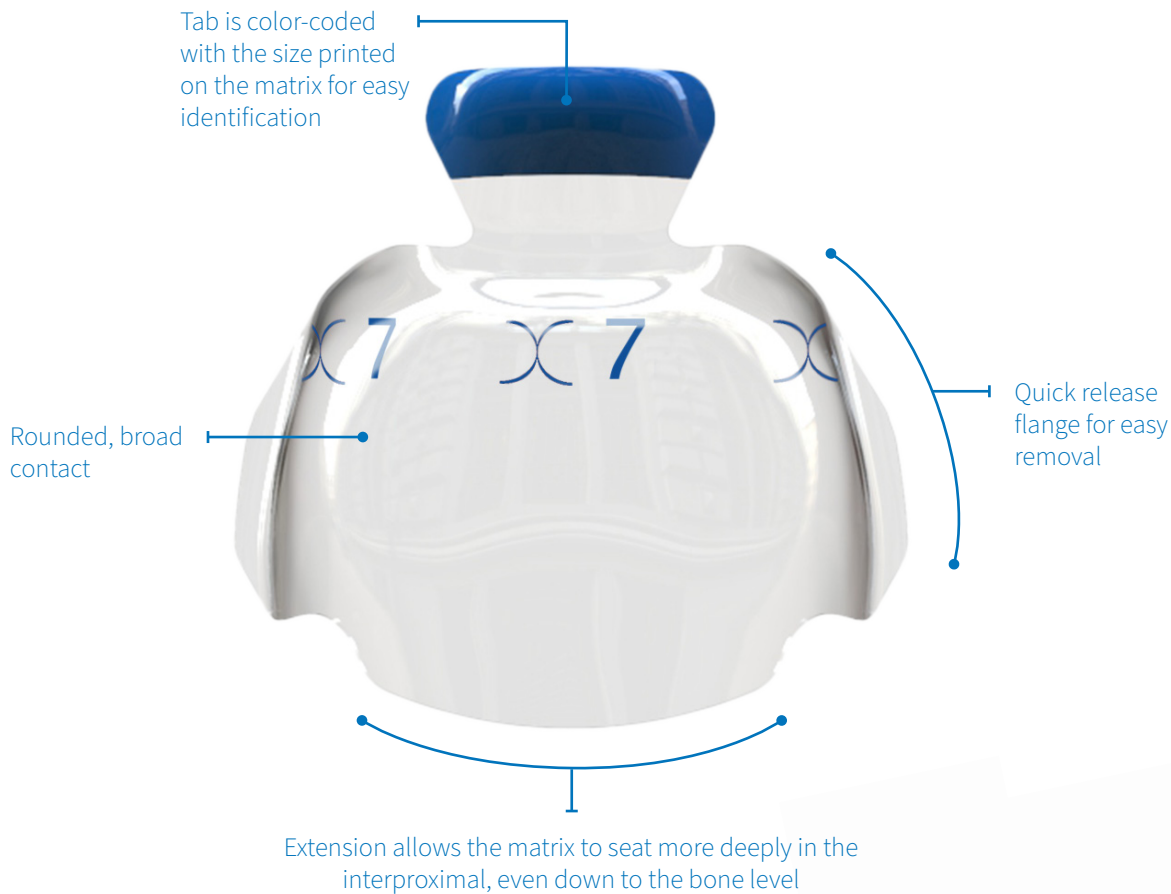


Broad width

Flattest profile



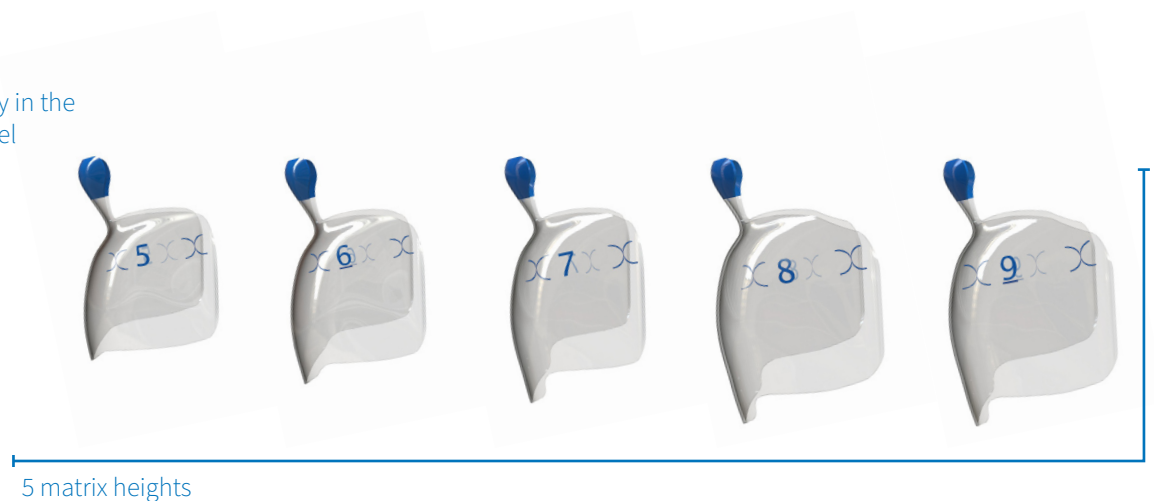
BLUE EVOLVE



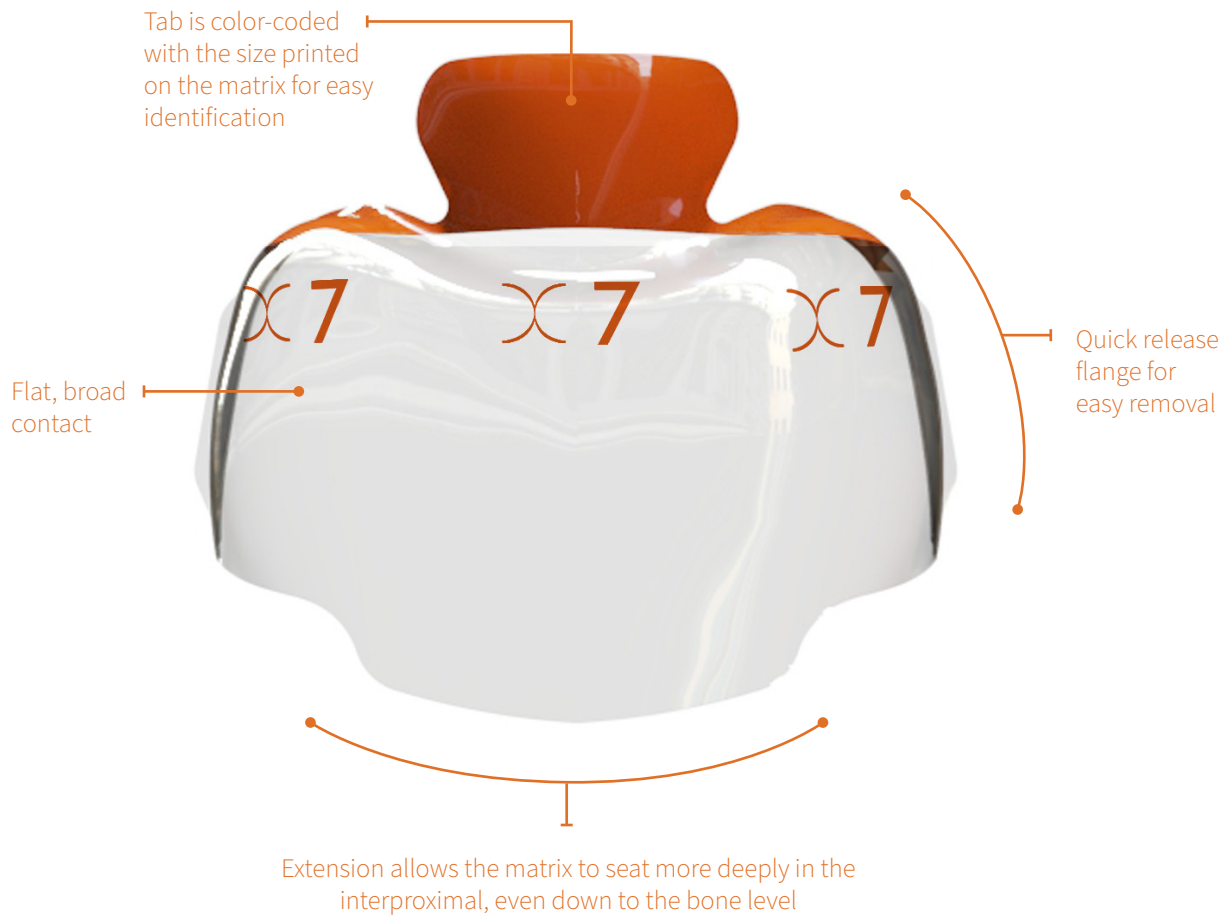
The Blue Evolve Matrix is color-coded to be easily seen, features an aggressively rounded emergence profile, and comes in five heights to provide an ideal fit.

The occlusal curvature of the matrix creates a rounded marginal ridge with ease. The size and shape is appropriate for most posterior molar cases.

The Blue Evolve's shape is the most curvaceous of all of our posterior matrices and requires a unique insertion method. To place the matrix, rotate it into place from top to bottom. Doing this expands the base of the matrix so it snaps over the tooth and into place.



ORANGE EVOLVE



The Orange Evolve Matrix is color-coded to be easily seen, features a flatter emergence profile curvature, and comes in three heights to provide an ideal fit.

Orange Evolve was created for instances where the Blue Evolve Matrix or Biofit HD Matrix would invert. This commonly occurs between maxillary 1st and 2nd molars.

Use For:

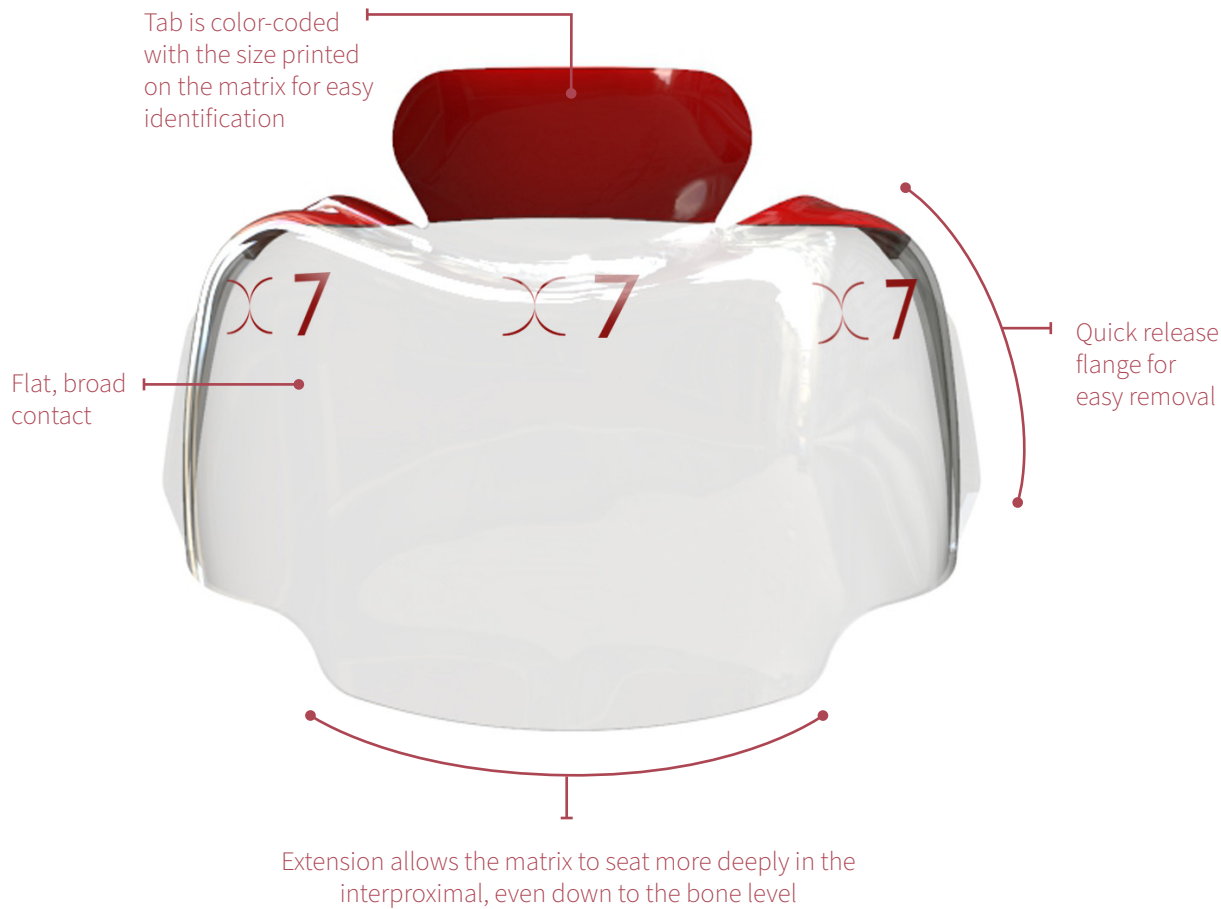
- Teeth with root proximity
- Flat teeth

The root proximity often causes a normal sectional matrix to invert occluso-lingually and buccal-lingually.

Orange Evolve's shape is a middle ground between the blue, which is very curvaceous, and pink, which is our flattest posterior matrix.



PINK EVOLVE



The Pink Evolve Matrix is color-coded to be easily seen, features a broad emergence profile curvature, and comes in three heights to provide an ideal fit.

Pink Evolve was created for instances where the Blue Evolve Matrix, Biofit HD Matrix, or Orange Evolve Matrix would invert. This commonly occurs between maxillary 1st and 2nd molars.

Use For:

- Very Broad teeth
- Teeth with extreme root proximity
- Very flat teeth

The interproximal of the 1st and 2nd maxillary molars is often much wider buccal-lingually than any other embrasure areas. This can cause a traditional sectional matrix to invert buccal-lingually. The root proximity often causes a normal sectional matrix to invert occluso-gingivally and buccal-lingually.

Pink Evolve's shape is our flattest posterior matrix.

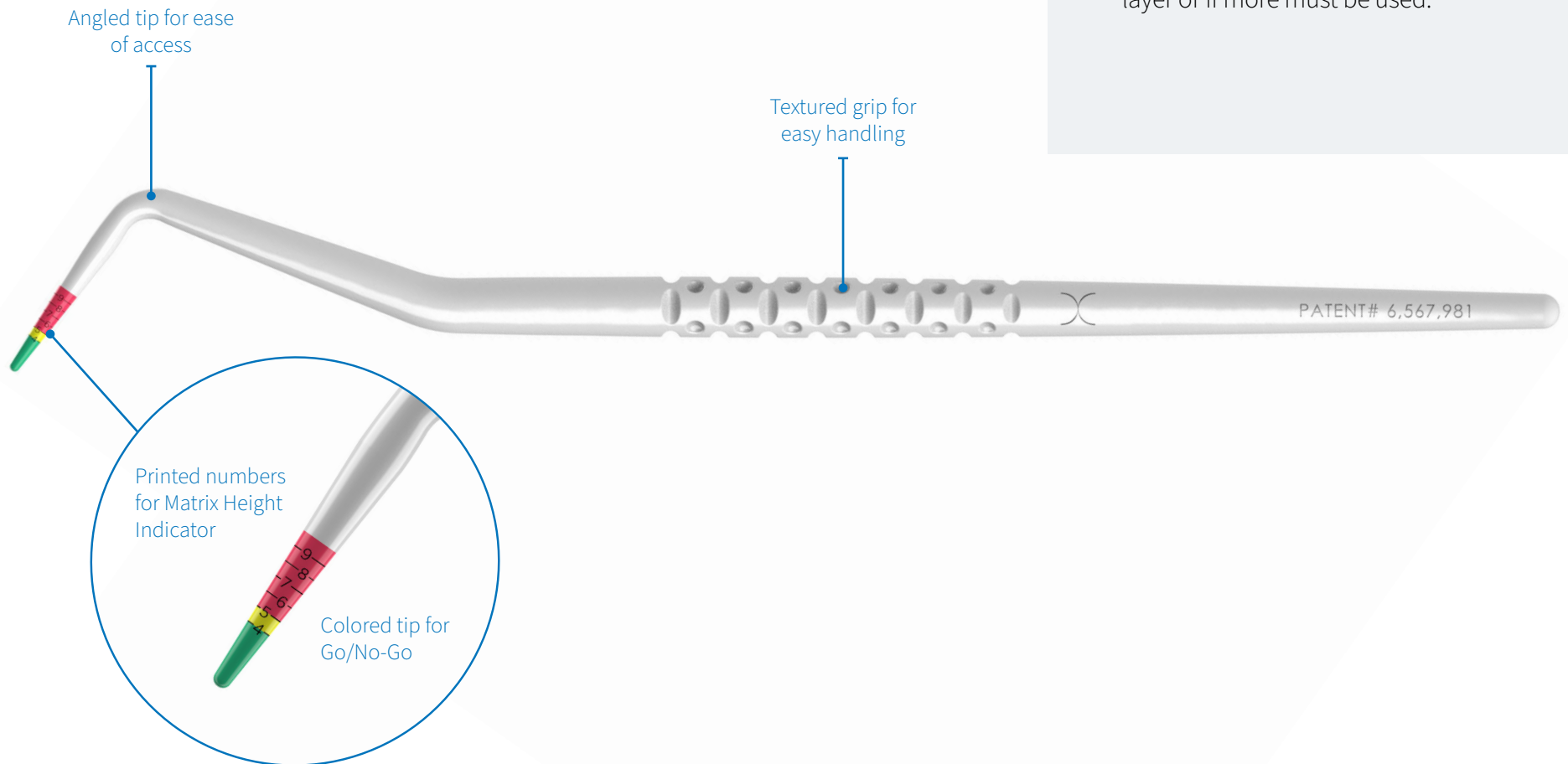


EVOLVE MATRIX HEIGHT INDICATOR

The Bioclear Evolve Matrix Height Indicator is used for posterior restorations and has two uses:

Matrix Height Indicator: Numbers are printed on the indicator so the correct Evolve matrix for a restoration is chosen the first time. This helps reduce waste when incorrect matrices are chosen.

Go/No-Go Indicator: The colored tip indicates if a cavity prep can be cured in one layer or if more must be used.



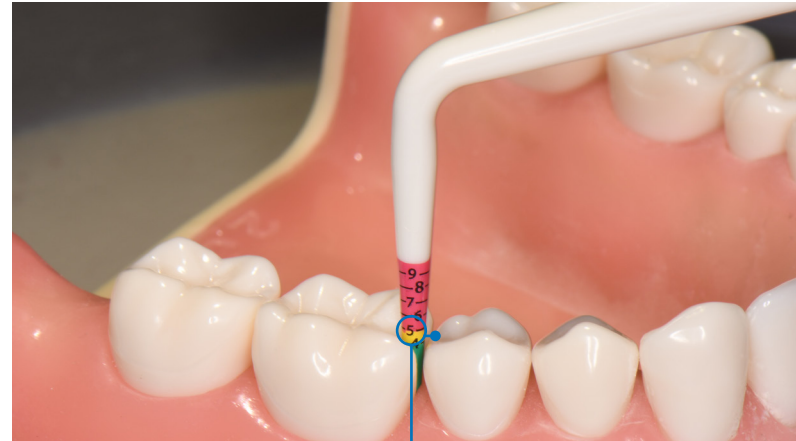
MATRIX HEIGHT INDICATOR

INSERTION

Insert the indicator straight into the oral cavity (incisor area) as seen here. Keep the lines in the height indicator parallel to the tooth.

When measuring the cavity prep, the best reference point for height is the marginal ridge of the neighboring tooth.

Tip for back-to-back restorations: When doing back-to-back restorations, neither marginal ridge will be available. Instead use multiple landmarks like occlusal margins, the central groove, and cusp tips to estimate where the marginal ridge will be when done.



MEASUREMENT = 5

Depth of the cavity in relation to the marginal ridge of the neighboring tooth.

IS THERE BONE LOSS?

NO

Add 1mm to the reading.

YES

Add 2mm to the reading.



5 + 1 = 6

Use the 6mm Matrix.



5 + 2 = 7

Use the 7mm Matrix.

MEASUREMENT CALCULATION

Once you have measured the depth of the cavity in relation to the marginal ridge of the neighboring tooth, you will generally need to add 1-2mm from that reading.

- Teeth with no bone loss: add 1 mm
- Teeth with bone loss: add 2 mm

Make sure the matrix you choose is tall enough to seat all the way down to the periodontal ligament in order to seal the matrix to the tooth and create a good margin without overhangs.

Tip: For advanced perio, very deep caries, or cuspal overlay cases, you may need to add 3mm or 4mm.

GO/NO-GO INDICATOR

After the cavity preparation is complete, insert the Evolve Matrix Height Indicator into the preparation. Find on which color the marginal ridge will fall after composite has been injected. The color will indicate if the restoration is a “Go” or “No-Go.”

USE THIS KEY TO DECIDE HOW TO PROCEED:



GREEN = GO

The composite will be less than 4mm and, if necessary, can be cured from the occlusal only (bulk fills generally have a 4mm max depth of cure on the occlusal).



YELLOW = GO WITH CONDITIONS

The composite will be between 4mm and 5mm and can be fully cured ONLY if you have access at the interproximal and can 3-point cure (curing from the buccal, lingual, AND occlusal) with a clear matrix.



RED = NO-GO

The composite will be deeper than 5mm. To solve this problem, put down 1mm or 2mm of flowable composite at the bottom of the prep, cure it, and then injection mold with bulk fill—effectively making the restoration less deep by putting one layer down.

Tip: The best reference point is the marginal ridge of the neighboring tooth. If you are doing a back-to-back restoration and no marginal ridge is available, then use the gauge to estimate the height the composite should be when you are finished injection molding but before curing.

GETTING STARTED

Keys to Success: Use a rubber dam. Choose the correct matrix. Use Bioclear Evolve Matrices for three point curing—their translucence is key to curing bulk-fills. Use Bioclear Forceps—designed specifically for the Twin Ring. Ensure proper matrix orientation—the tab should be opposite of the gingival. Seat the matrix deep into the sulcus. **Always pre-wedge to facilitate a great outcome.**

MATRIX SELECTION

There are three lines of Bioclear Evolve Matrices: Blue, Orange and Pink. Matrix selection is primarily based on doctor preference but, in general, Blue Evolve is suitable for most all posterior cases. Orange Evolve features a flatter, less rounded, emergence profile and is slightly wider than Blue. Pink Evolve is the broadest of the three and has a flat emergence profile that is easier to use on broad, very flat teeth, or teeth with tight root proximity.



THE BIOCLEAR PUSH-PULL INSTRUMENT

The Bioclear Push-Pull Instrument was created to ensure tight contacts, particularly when there is not interproximal tooth structure to hold the matrix tightly to the adjacent tooth. To learn about this instrument and the Spot-Weld / Push-Pull Technique, we recommend you view this video: <https://www.bioclearmatrix.com/videos/class-2-restorations/>



TWIN RING TIPS

The Bioclear Forceps are specifically designed for safely and securely opening and placing the Twin Ring. Ensure that the tines of the forceps are completely engaged with the plastic handles of the Twin Ring (see illustration). If they are not fully engaged or if the tines are seated on the metal, they can cause the Twin Ring to break. There are two types of Twin Rings: purple, for molars, and yellow, for pre-molars. **DO NOT use alcohol wipes or other cold sterilization methods—this will void the warranty.**



DEEP MARGIN ACQUISITION (DMA)

Pre-wedging creates good margin access, but some cases require deeper access. DMA is a combination of technique and cutting-edge product that allows the creation of a much deeper, high-quality margin than has previously been possible.

Technique: Pack a #3 cord moistened with astringent in the interproximal aggressively to temporarily release the periodontal ligament. Remove the cord, and then blast.

In summary, the cord is packed aggressively, and then removed immediately. No cord is present when the matrix is "placed".

Product: The taller, extended Bioclear Evolve Matrices (7, 8, & 9) facilitate the DMA.

The DMA protocol allows the extension of the matrix to seat deeply enough to use the periodontal ligament as a seal, eliminating problems such as overhangs. Anytime you desire that the matrix seat deeper, the DMA protocol can be utilized regardless of matrix height; however the best results will be obtained by using a taller matrix with an extension.



EVOLVE MATRIX SERIES: THE NEXT EVOLUTION IN CONTACTS

1) PRE-WEDGE AND PREPARE THE TOOTH

Evaluate the pre-operative bite-wing x-ray and select the appropriate Diamond Wedge. Insert the Bioclear Diamond Wedge before cavity preparations. This will stretch the periodontal ligaments, providing more working space and separation for a tight contact once the restoration is complete. Prepare the tooth. Make sure to break the contact using a fine bur or the TruContact Sander.

2) SELECT YOUR MATRIX

After the tooth has been prepped, use the Evolve Matrix Height Indicator to measure the cavity and determine the Go/No-Go of a single-layer composite cure as well as the appropriate height matrix. Remember, both of these determinations should be based on the marginal ridge of the neighboring tooth. Next, select the colored matrix that is the ideal shape and width for your procedure.

Tip for the Go/No-Go: Remember: Green is go, Yellow is go with conditions, Red is no-go.

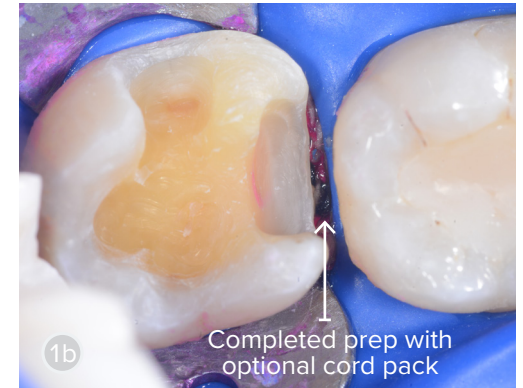
Tip for the Matrix Height Selection: Remember you typically need to add 1-2mm to the reading you get from the height indicator to select the appropriate matrix. Review the page 8 for more information.

3) REMOVE WEDGE AND PLACE BIOCLEAR EVOLVE MATRIX INTO THE EMBRASURE

Remove the pre-wedge. Then, using cotton pliers, grip the small tab on the selected Evolve Matrix. Slide the matrix into the embrasure space, making sure the matrix is centered on the tooth and the tab is towards the occlusal. Make sure to seat the matrix fully by pressing on the occlusal tab firmly with your thumb.

4) WEDGE THE MATRIX

You can either re-use the pre-wedge or use a larger wedge against the matrix. While holding the matrix in place with your finger, insert the selected wedge against the matrix. Check that the wedge has not inverted the curve of the Bioclear Matrix. In deep caries cases, the wedge selection is advanced. Contact your Bioclear rep to learn more.



5) PLACE THE TWIN RING

Open the Twin Ring using the Bioclear Twin Ring Forceps just enough to get past the matrix, down to the gingival margin. Release the forceps to clamp the ring over the top of the wedge and down against the matrix and teeth. Ensure that the matrix is between the ring tines and the tooth, is not folded inside the hands of the ring, and is properly positioned. Use your fingers to lightly press on the ring to seat it more fully. Gently adapt the matrix against the neighboring tooth.

6) SPOT-WELD PUSH-PULL TECHNIQUE

After you have placed your matrix, wedge, and ring, then it is time to etch, rinse, and dry. Then massage the adhesive into the dentin tubules for a full 20 seconds. Dab the adhesive up near the occlusal corners of the matrix. Air thin the adhesive until it stops moving. Before you light-cure the adhesive, use the Spot-Weld Push-Pull Technique. Create spot welds by dispensing flowable composite at the occlusal corners of the matrix on the buccal and lingual. Use enough flowable to make sure it covers outside, over the top, and inside the matrix corner. Insert the Push-Pull instrument into the prep and pull (if mesial) or push (if distal) the matrix against the neighboring tooth. While holding the matrix in place with the Push-Pull instrument, cure the spot-welds of flowable from the occlusal for only 5 seconds each. Remove the Push-Pull then cure the adhesive in the prep for 10 seconds.

7) INJECTION MOLD THE COMPOSITE USING THE BIOCLEAR METHOD, THEN LIGHT CURE

After etching the tooth and curing adhesive on the dentin, the patented injection molding process steps are as follows: apply a second round of adhesive as a surfactant; air thin—do NOT cure; inject heated bulk fill flowable—do NOT cure; inject heated bulk fill paste and then light cure all three together using the three-point curing method.

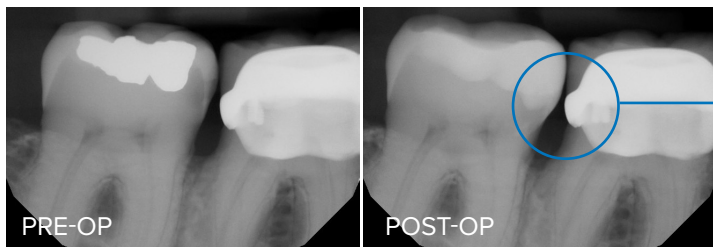
Using Bioclear's translucent matrices allows for three-point curing, which is imperative for fully curing bulk-fills. Begin curing at the occlusal for 10 seconds. Then remove the Twin Ring Separator and cure from the buccal and lingual to complete three-point curing before removing the Diamond Wedge and the Evolve Matrix.

To learn more about injection molding with heated composite and the Heat Sync Composite Warmer, visit www.bioclearmatrix.com/products/equipment-heatsync-kit/

8) THE FINAL STEPS

Sculpt and use the two-step Rockstar Polish Kit to finish.

RADIOGRAPH



Radiograph shows the smooth margin with no overhangs resulting from using the Bioclear Method and Deep Margin Acquisition.

CLEANING AND STERILIZATION

The Twin Rings, Twin Ring Forceps, Push-Pull, and Evolve Matrix Height Indicator are reusable and autoclavable. See the Instructions for Use for care, cleaning, and sterilization instructions. Please note that the matrices and wedges are single use only and can not be reused.

