



Filtek™

Matrix

Technical Product Profile

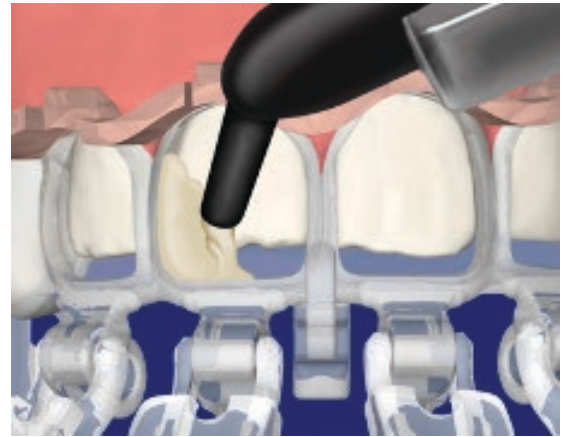


Product Description

The 3M™ Filtek™ Matrix is a customized, patient specific matrix system for use in cases involving composite veneers and composite diastema closures.

Indications

The Filtek Matrix is indicated for use to assist with molding dental composites for direct restorations. After the restorative material is cured, the matrix is removed and discarded.



Introduction

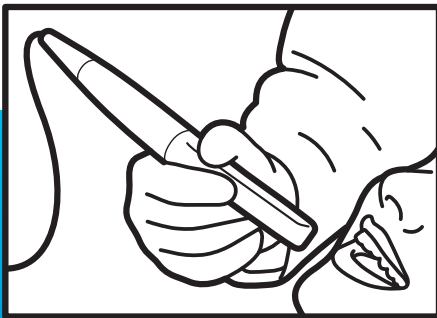
The Filtek Matrix was developed to assist dentists with their restorative procedures. The development team took the approach to combine digital tools and production techniques to tackle challenges shaping composite and placing matrices to achieve desired results. The outcome is a custom device and digital workflow for the restorative dentist to perform predictable composite restorations that are efficient, esthetic, and conservative.

The initial target application of the Filtek Matrix was anterior restorations, where the focus was to apply digital technology that enabled the use of high quality universal composites such as 3M™ Filtek™ Supreme Ultra Universal Restorative. With a wide range of shades and opacities, Filtek Supreme Ultra Universal Restorative offers excellent polish retention for unsurpassed esthetics. Filtek Supreme Ultra Universal Restorative has excellent strength and better wear resistance than all leading composites tested (in vitro 3-body wear test). Bringing together clever engineering and leading restorative materials delivers the predictable results that both patients and providers desire.

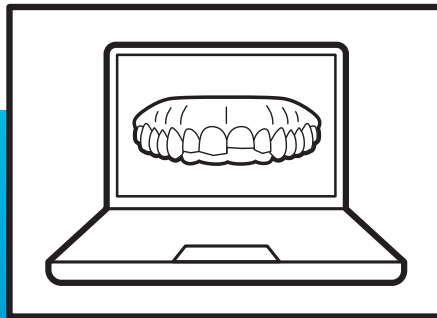
Filtek Matrix Workflow

After initial scan, complete placement in just one appointment.

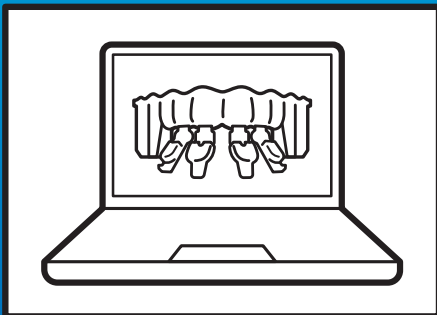
The Filtek Matrix workflow is designed to allow placement of final composite in one visit, with esthetics aligned to the digital design. Patients will be able to walk away with a beautiful smile.



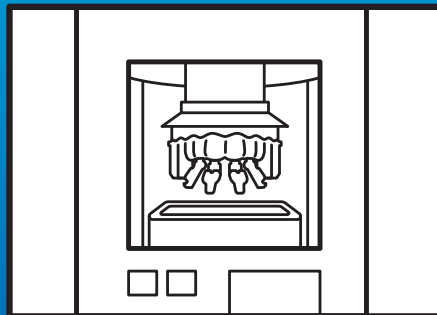
**Diagnose and Scan
(or Impress)**



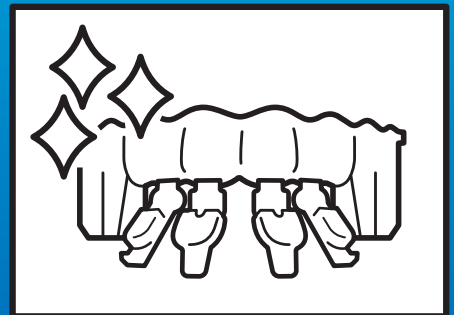
Restoration Design



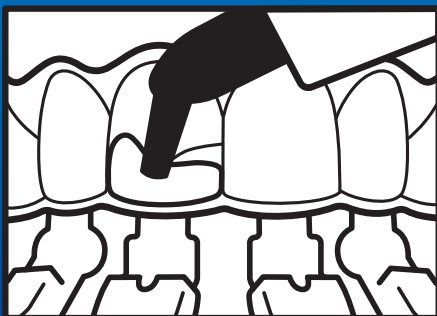
Matrix Design



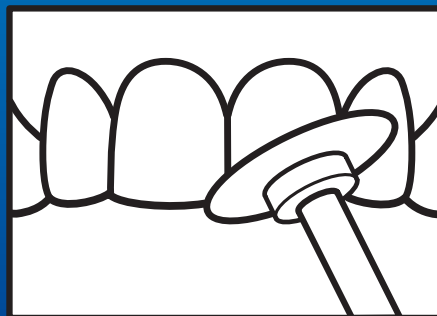
3D Printing



Post-Processing



Use Appliance

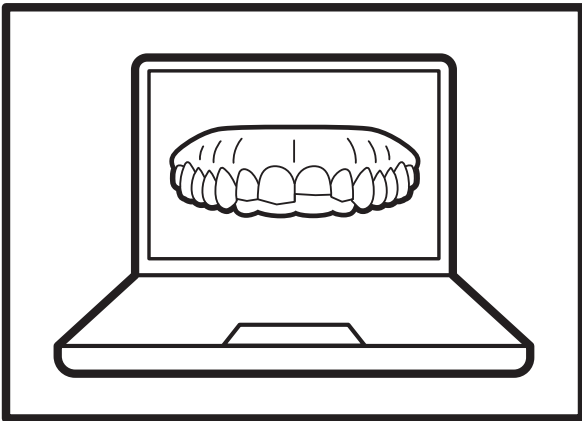


Finish/Polish



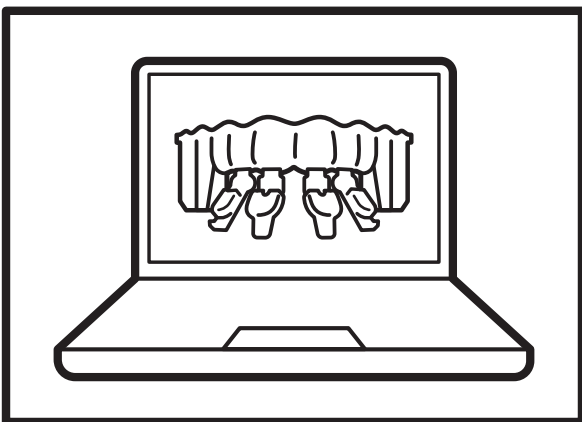
Diagnose and Scan (or Impress)

The first step in the Filtek Matrix workflow is to scan the patient. 3M will accept any high quality .stl file from an intraoral scanner indicated for full arch scans and multi-unit restorations. These .stl files can be uploaded directly into the 3M™ Oral Care Portal. In addition, 3M will also accept traditional impressions and digitize them—however, this will lead to an extended lead time due to the additional steps.



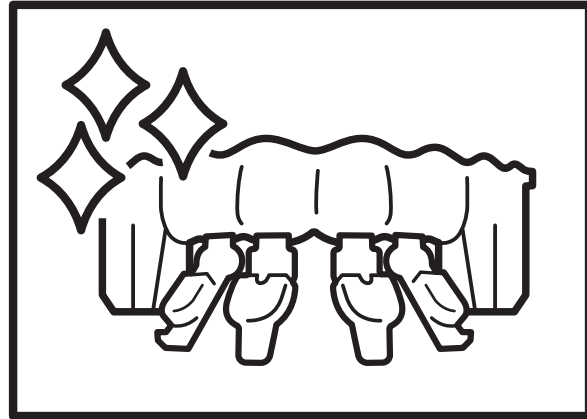
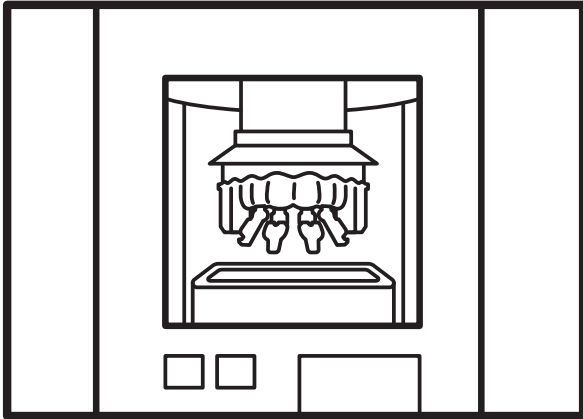
Restoration Design

Once a digital scan or traditional impression has been accepted by 3M, the next step is to design the restoration. The initial digital design will typically take 1-2 business days, with adjustments to the design from the clinician adding additional design time. A final design must be accepted by the clinician for the workflow to move forward.



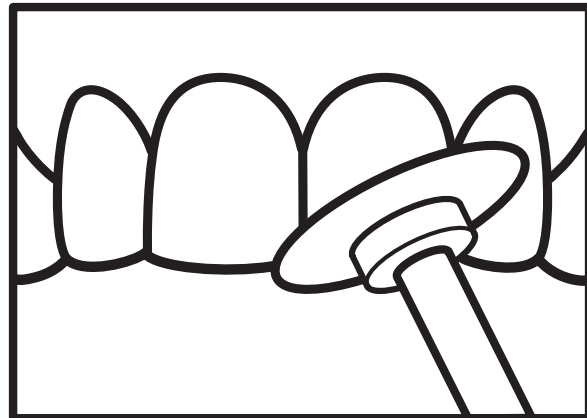
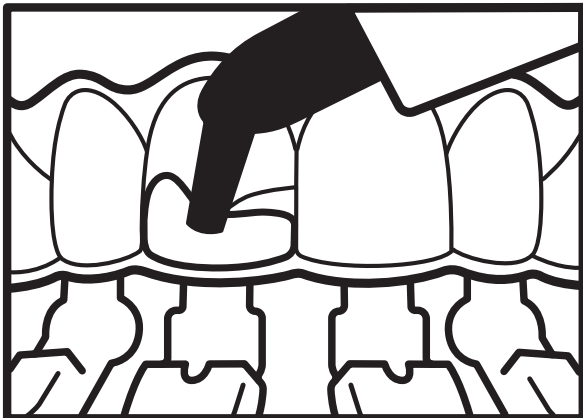
Matrix Design

Once the restoration design is approved, the next step is designing the matrix. 3M creates the matrix design specifically for the patient, while considering the approved restoration design. 3M will also create a set of case notes to assist in the procedure.



3D Printing and Post-Processing

Once the matrix has been designed, 3M will use industrial-grade 3D-printers and post-processing to manufacture the matrix. The matrix then goes through quality checks before being packaged and shipped to the clinician.



Use Appliance and Finish/Polish

Once the Filtek Matrix is received, it is ready for use. Always consult the Instructions for Use (IFU) and case notes for technique guidance. Once the matrix has been used, discard it appropriately and finish and polish the final restoration as desired—only one appointment needed after scan.

Clinical Cases

There are many clinical situations in which the Filtek Matrix can deliver predictable outcomes that are efficient, esthetic and conservative. Here are a few examples of the Filtek Matrix delivering a beautiful smile.

Undersized Teeth



Before



After

Photos Courtesy of Dr. Stephen Shaw

Closing Spaces



Before



After

Photos Courtesy of Dr. Adam Hodges

Veneers



Before



After

Photos Courtesy of Dr. Adam Hodges

Post Orthodontic



Before



After

Photos Courtesy of Dr. John Sinclair

Digital Restoration Design

With the Filtek Matrix, clinicians get an efficient, streamlined digital workflow without additional equipment required. This includes improved and simplified symmetry, shape, length and contour. All with no silicone matrix necessary. While filling out the prescription form, clinicians will be able to choose from different smile designs and communicate their needs to the technician to customize the shape of their patient's new smile. Once the prescription form and scans are submitted, clinicians can expect restoration designs as soon as next day. When the design has been approved, 3M will produce and ship the Filtek Matrix to the clinician.

Clinicians will also be able to use the 3M Oral Care Portal to monitor and manage cases and communicate with the 3M support team. The Oral Care Portal includes a 3D viewer that overlays the final and initial dentition, and allows rotation of the designs at any angle. Once ready to use the matrix, clinicians will have access to the case notes on the Oral Care Portal. The case notes will assist with patient-specific instructions such as minimum composite usage and heat maps for composite depths in the restoration design. If any questions arise, clinicians have full access to our support team and technical experts.

The procedure is a partnership between the clinician and 3M. The clinician spends their valuable time caring for patients. 3M provides lab technicians to ensure appropriate restoration design, clinician support, and state-of-the-art manufacturing, process control and supply chain.

The procedure is a digitally improved process for esthetically superior outcomes. The clinician is able to transfer a digital waxup directly into a patient's mouth aligned to the approved design. They can expect predictable and esthetic results regardless of whether a digital scan is provided or 3M's impression scanning technology is relied upon.

With this procedure the clinician's time is freed up to focus on what they want to do. They will spend less time focusing on creating shape and symmetry, and will have more time to finish and polish.



Matrix Technology

The Filtek Matrix is created using an industrial, high-precision 3D printer. After being printed, the matrix goes through postprocessing to ensure high quality and easy removal of the matrix after use.

The material used to create the matrix is a medical-grade clear resin, which can be light-cured through allowing the light to reach the composite. It is a rigid material, so it doesn't deform or distort, and it maintains its desired shape throughout the entire procedure. This allows the digital restoration design that was approved to be transferred directly into the patient's mouth.

The Filtek Matrix has many beneficial geometric features integrated into the design. Registration features allow for correct alignment of the lingual

and facial matrix. The matrix is self-clamping to allow a secure fit on the teeth and a tight seal along the gingival margin. The doors snap shut and allow for the use of universal composites in addition to flowable composites. The doors also allow visibility when being filled with composite to facilitate adequate fill level. Vents in the doors allow for excess material to express out of the matrix and be removed prior to light-curing.

The fit of the matrix is designed to be comfortable, yet secure. The precise gingival trim allows for easy flash cleanup along the gingival margin prior to curing.

Universal composite easily placed through large windows

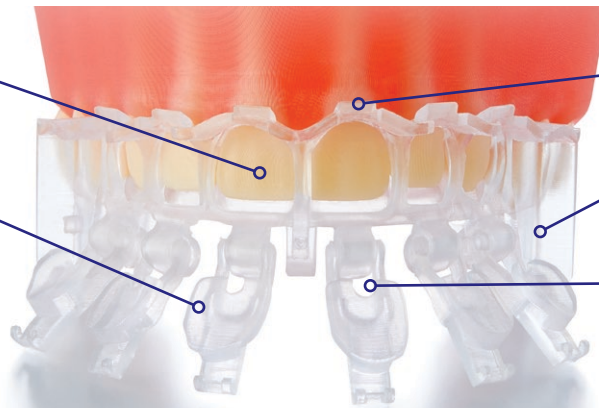
Doors compress composite and precisely contour facial surface

Precise gingival trim allows flash cleanup prior to cure

Integrated self-clamping for secure fit

Engineered vents assure proper fill and minimize flash

- Clear material enables light cure
- Rigid material maintains desired shape
- Post processing ensures composite release



Composite Technology

A major advantage of the Filtek Matrix, compared to some other composite veneer techniques, is that it is designed to be used with esthetic, long-lasting universal composites such as 3M™ Filtek™ Supreme Ultra Universal Restorative or 3M™ Filtek™ Universal Restorative.

With 3M™ Filtek™ Dental Restoratives, clinicians are able to use a restorative solution trusted for over 50 years and in over one billion smiles worldwide. The Dental Advisor* published their 15-year clinical evaluation of the Filtek Supreme line—with exceptional results. The evaluation saw 95% of restorations exhibited no chipping, and the product earned a clinical performance rating of 96%. This exceptional clinical performance is due to the nanotechnology in Filtek restoratives. This leads to unsurpassed esthetics with excellent polish and polish retention, strength and toughness, and wear resistance with a wear rate similar to enamel.

If desired, a flowable composite can also be used in the Filtek Matrix procedure. 3M™ Filtek™ Supreme Flowable Restorative is a great option, as it comes in a new ergonomic syringe that leads to virtually no bubbles or material run-on and is also designed to

specifically match the shades of Filtek Supreme Ultra Universal Restorative and Filtek Universal Restorative. It also uses the same nanotechnology that leads to excellent esthetics and wear resistance.

Composite warming can also be a useful technique in the procedure, as it reduces the force of extrusion and may improve your adaptation to the tooth structure**. 3M offers the first dental composite cleared by the FDA for warming in Filtek Universal Restorative. Filtek Supreme Ultra Universal Restorative and Filtek Supreme Flowable Restorative have also been proven to be safe and effective when warmed through extensive physical property, biocompatibility, and pulp temperature testing.



Clinical performance rating of **96%**

*<https://www.dentaladvisor.com/evaluations/3m-filtek-supreme-plus-and-3m-filtek-supreme-ultra-15-yr/>.

**Based on in-vitro studies.

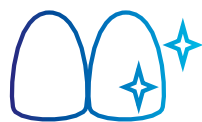
Product Benefits

The benefits of using the Filtek Matrix procedure include, but are not limited to, predictability, efficiency, esthetic results and a conservative procedure.



Predictability

Clinicians have found that using the Filtek Matrix allows for more predictable results than the freehand technique due to the matrix delivering desired symmetry, shape, length, and contour, as well as simplifying desired facial anatomy and incisal edge length.



Esthetic Results

Clinicians have found that the Filtek Matrix allows them to deliver esthetic results while performing composite procedures. This makes it a viable alternative to more costly ceramic procedures.



Efficiency

Clinicians have found that using the Filtek Matrix allows for faster, simplified and more efficient procedure. This allows clinicians to have more confidence and to save chair time when performing composite veneers, tooth recontours and diastema closures—enabling additional procedures throughout the day.



Conservative

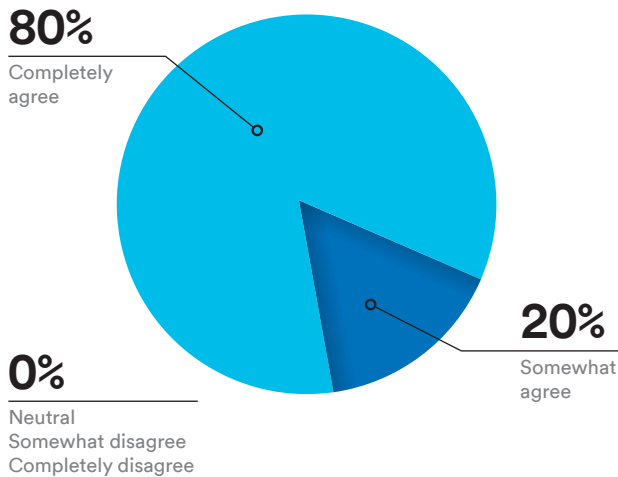
Due to the inherent nature of composite procedures, the Filtek Matrix procedure is additive and maintains healthy tooth structure. This leads to a more conservative design than other more invasive ceramic procedures which require tooth preparation and reduction to otherwise healthy enamel.

Predictability

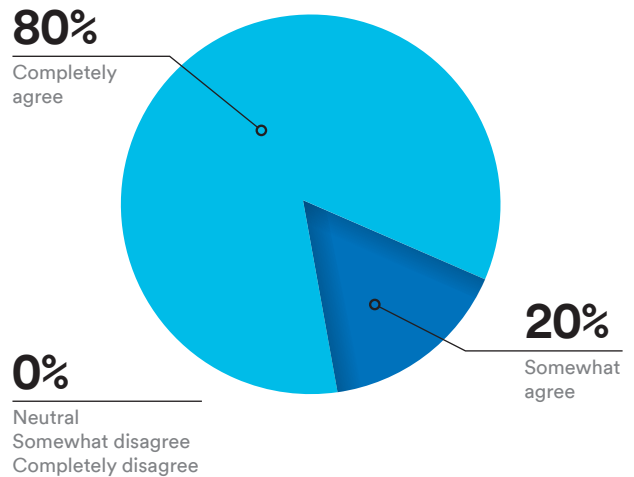
Clinicians have found that using the Filtek Matrix allows for more predictable results, due to the matrix delivering desired symmetry, shape, length, and contour, as well as simplifying desired facial anatomy and incisal edge length.

In the charts below, it can be seen how clinicians rated different aspects of the Filtek Matrix in a clinical application test.

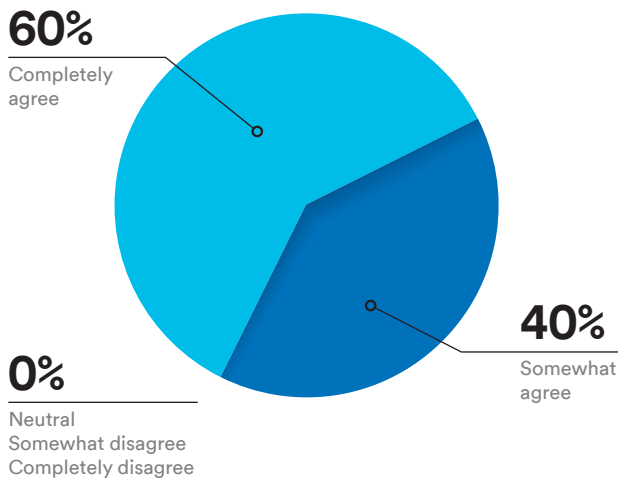
The Filtek Matrix delivers more predictable results



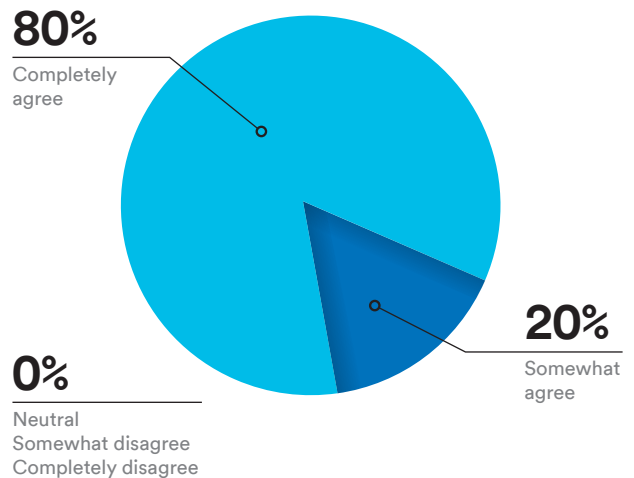
The Filtek Matrix increases confidence in the success of the restorative Procedure



The Filtek Matrix delivers predictable outcomes with esthetics aligned to the digital design



The digital design establishes desired symmetry, shape, length and contour

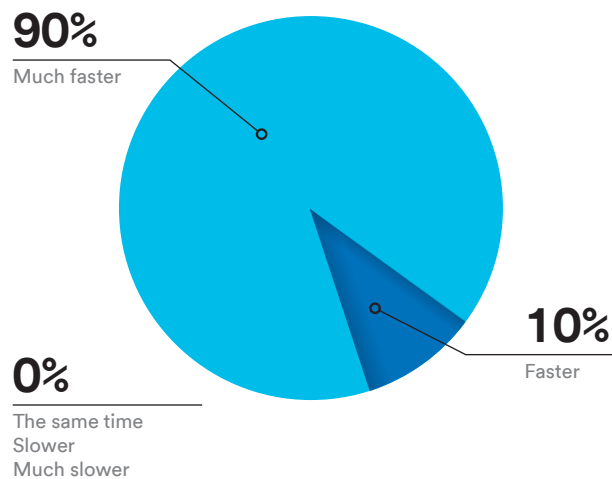


Efficiency

Clinicians have found that utilizing the Filtek Matrix allows for faster, simplified and more efficient procedure. This allows clinicians to have more confidence and to save chair time when performing composite veneers, tooth recontours, and diastema closures, enabling additional procedures throughout the day.

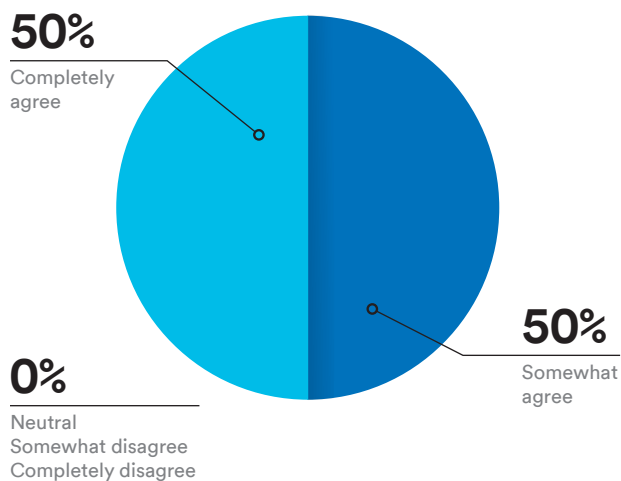
In the charts below, it can be seen how clinicians rated different aspects of the Filtek Matrix in a clinical application test.

Compared to the traditional freehand method, the Filtek Matrix procedure was:

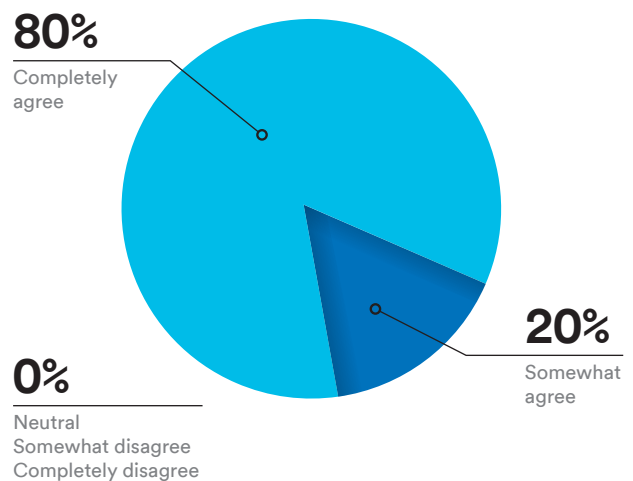


Compared to the free-hand technique...

The Filtek Matrix enables a simplified procedure



The Filtek Matrix makes the procedure more efficient



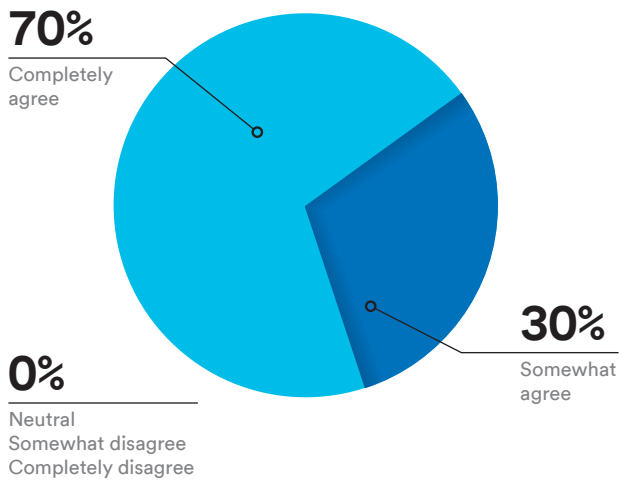
Esthetic Results



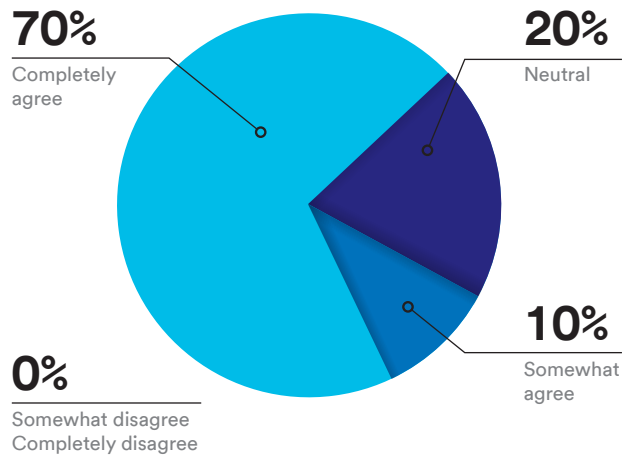
Clinicians have found that the Filtek Matrix allows them to deliver esthetic results while performing composite procedures. The cosmetic results of the Filtek Matrix allows it be an alternative to more costly ceramic procedures.

In the charts below, it can be seen how clinicians rated different aspects of the Filtek Matrix in a clinical application test.

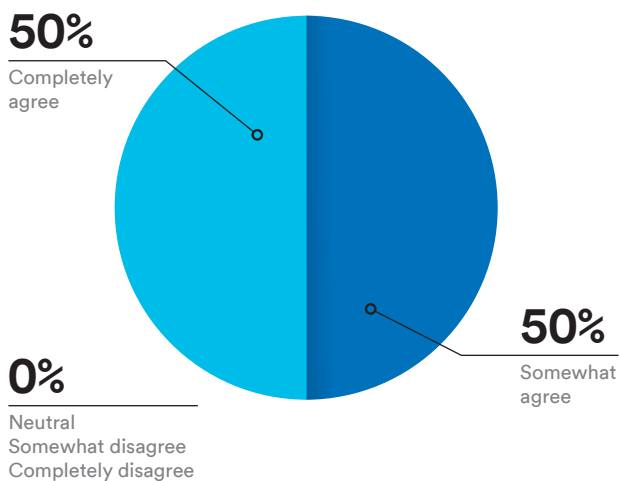
Using the Filtek Matrix delivers esthetic results



The Filtek Matrix offers superior results



The Filtek Matrix is an alternative to more costly ceramic procedures



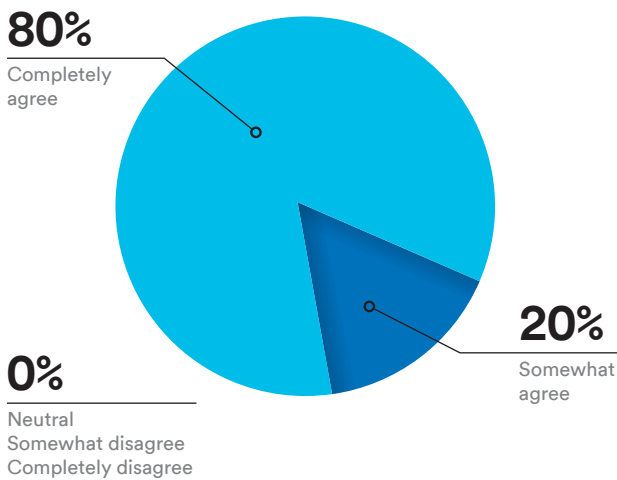
Conservative



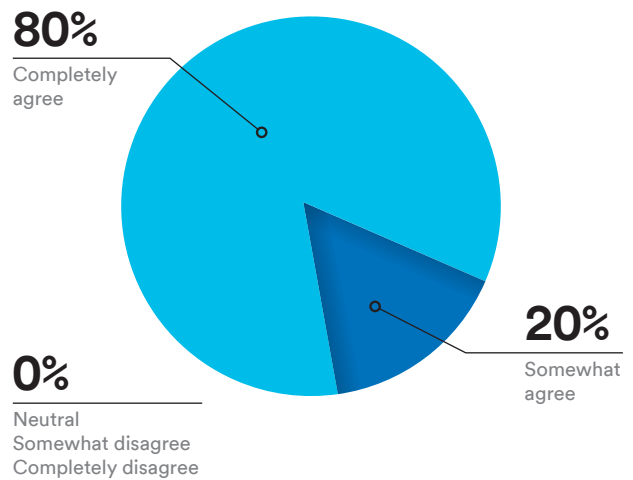
Due to the inherent nature of composite procedures, the Filtek Matrix procedure is additive and maintains healthy tooth structure. This leads to a more conservative design than other more invasive ceramic procedures which require tooth preparation and reduction to otherwise healthy enamel.

In the charts below, it can be seen how clinicians rated different aspects of the Filtek Matrix in a clinical application test.

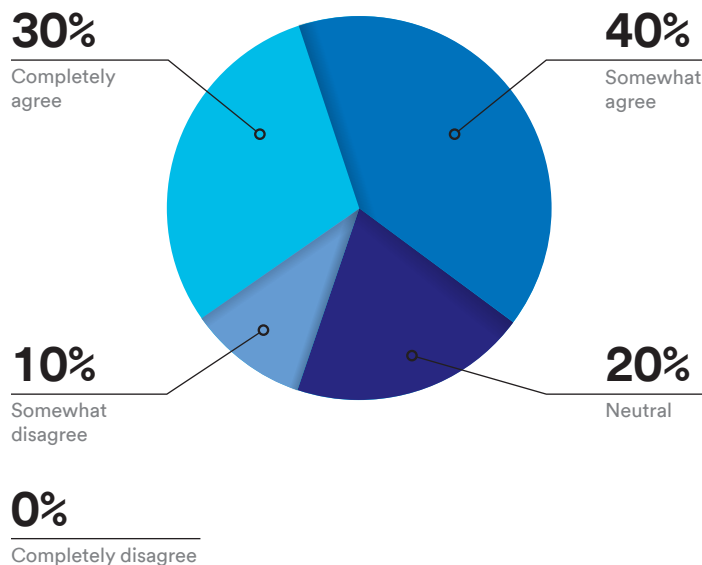
The Filtek Matrix procedure is minimally invasive/conservative



The Filtek Matrix’s additive restoration technique maintains healthy tooth structure



The Filtek Matrix procedure doesn’t require anesthetic in many cases



Commonly Asked Questions

▶ **Is the Filtek Matrix compatible with all composites?**

The Filtek Matrix was designed to take advantage of Filtek composites. However, the Filtek Matrix has been tested with a wide range of commercially available light-cure composites.

▶ **What are the advantages of composite veneers over porcelain veneers?**

Composite veneers are minimally invasive, repairable procedures. They also tend to be less costly to the patient than porcelain veneers. In addition, with the Filtek Matrix the final result will be aligned to the approved digital design.

▶ **What is the expected turnaround time to receive a matrix?**

10-20 days. This can vary depending on clinician approval of digital design and whether scans or impressions are used. For any questions on a specific case, contact 3M.

▶ **Do you accept final digital designs from an outside lab?**

No, all matrices will go through the 3M Filtek Matrix process. However, outside lab submissions of restoration designs in the prescription form can assist with the process.

▶ **What type of tooth preparation is required?**

Many cases require no tooth preparation. However, if during the design process it is determined that a better result could be achieved with selective preparation you will be notified.

▶ **Is an intraoral scanner required for the Filtek Matrix workflow?**

No, physical impressions are accepted. However, this will add time to the digital design process. See the Oral Care Portal for further resources.

▶ **What are the indications of the Filtek Matrix?**

3M Filtek Matrix is indicated for use to assist with molding dental composites for direct restorations. After the restorative material is cured, the matrix is removed and discarded.

▶ **Can I use a layering technique with my composite?**

The matrix is designed for single-shade restorations. However, additional customizations can be performed after using the matrix.

▶ **Are there specific cleaning steps required when using the Filtek Matrix?**

The Filtek Matrix requires no additional cleaning steps beyond the usual composite procedure. For best results, when bonding to uncut enamel, it is important to remove plaque and biofilm beforehand.

▶ **Does 3M offer the option to print the matrix in my office?**

No, matrices are produced using high-precision, industrial 3D printers and post-processing to ensure high quality and easy removal.

▶ **What material is the matrix produced from?**

The matrix is 3D printed using a clear, medical-grade resin which enables light curing.

▶ **Which teeth can I treat with the Filtek Matrix?**

The Filtek Matrix can treat teeth numbers 5-12 and 22-27 using the universal numbering system.

▶ **Do I have to design my own restoration?**

No, the restoration will be designed based off your input from the prescription form. Once you approve the restoration design, all you need to do is wait for the matrix to arrive. No more is needed on your end.

▶ **Can I use warmed composite?**

Yes, if using Filtek Supreme Ultra Universal Restorative or Filtek Universal Restorative, which have been proven to be safe and effective when warmed up to 70C for 1 hour in a capsule*. It is not recommended to use warmed flowable composite with the Filtek Matrix procedure. Composite warming can be beneficial, see the Tips and Tricks resources around composite warming for more information.

▶ **Is it important for the flowable and universal composite shades to match?**

Yes, for the best esthetics you should use a flowable and universal composite with color-matching shades (such as Filtek Supreme Flowable Restorative and Filtek Supreme Ultra Universal Restorative).

*See IFU for complete information.

Commonly Asked Questions

▶ **What information should I share with my patients and staff?**

See the information on the 3M Oral Care Portal.

▶ **How should I light cure through the matrix?**

Close the doors until completely flush with the matrix and place the curing light as close to the composite as possible. Never place a larger increment than the depth of cure of the composite being used. You may need to cure from multiple sides of the matrix, and additional curing after matrix removal can be performed as well.

▶ **What information is required when submitting a Filtek Matrix case?**

Necessary items to submit include scans or impressions, prescription form, clinical photos, and anything else you believe will assist with the restoration design.

▶ **Can the matrix be used sub-gingival?**

Retracting before scanning would be required if it's desired for the matrix to go subgingivally. Retracting during the procedure will be required as well in this case.

▶ **Does the Filtek Matrix procedure require anesthetic?**

In most cases, no anesthetic is required.

▶ **Do I need to disinfect the matrix before use?**

No. However, if the matrix is contaminated prior to procedure, clean per the Instructions for Use.

▶ **Can the matrix be saved and reused on a later date?**

No, the matrix is single use and should be discarded per the Instructions for Use.

▶ **If the matrix is damaged prior to procedure, can it be reprinted?**

Yes. Please contact 3M if the matrix is damaged and a new one is required.

▶ **Can I submit scans with aligner attachments?**

Yes.

▶ **What is the shelf life of the matrix?**

3 months. If a matrix reaches the shelf life prior to use, please contact 3M.

▶ **How do I keep my post-orthodontic patient in alignment after treatment?**

Teeth should be kept in post-orthodontic retention. Retainers can be ordered via the 3M Oral Care Portal.

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