



Filtek™

Matrix

Technical Product Profile

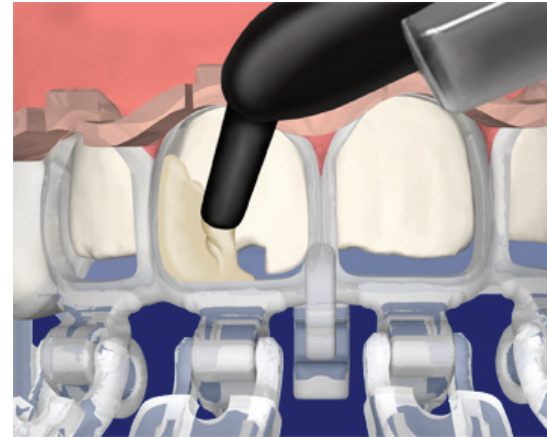


Product Description

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

Indications

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



Introduction

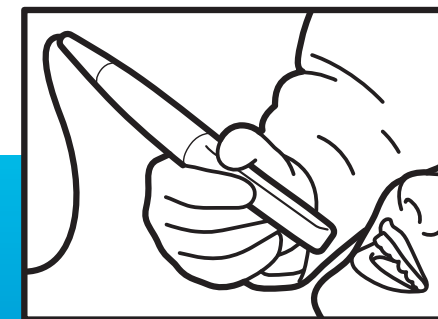
The 3M™ Filtek™ Matrix was developed to assist dentists with their restorative procedures. The development team took the approach to combine digital tools and production techniques to tackle challenges shaping composite and placing matrices to achieve desired results. The outcome is a custom device and digital workflow for the restorative dentist to perform predictable composite restorations that are efficient, esthetic and conservative.

The initial target application of the 3M™ 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, 3M™ Filtek™ Supreme Ultra Universal Restorative offers excellent polish retention for unsurpassed esthetics. 3M™ 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.

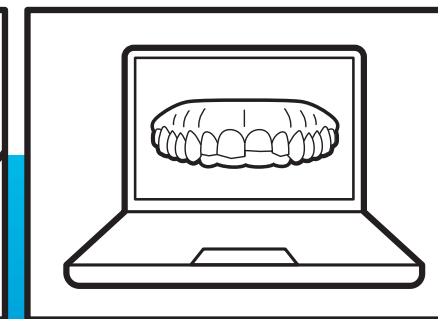
3M™ Filtek™ Matrix Workflow

After initial scan, complete placement in just one appointment.

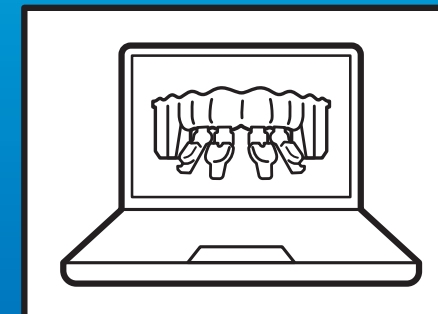
The 3M™ Filtek™ Matrix workflow is designed to allow placement of final composite in one visit, with esthetics aligned to the digital design. Patients will be able to walk away with a beautiful smile.



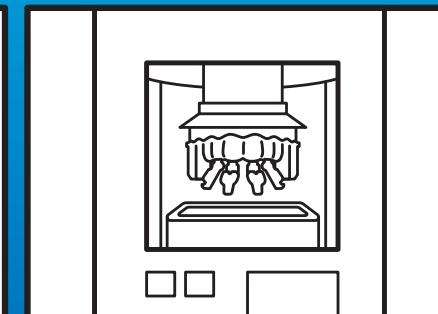
Diagnose and Scan



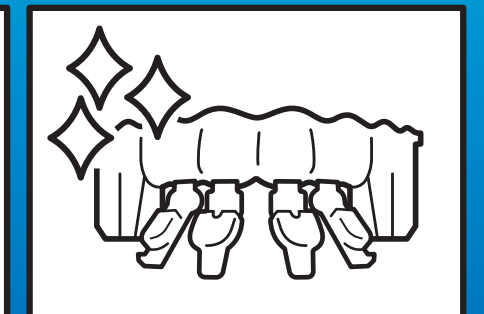
Restoration Design



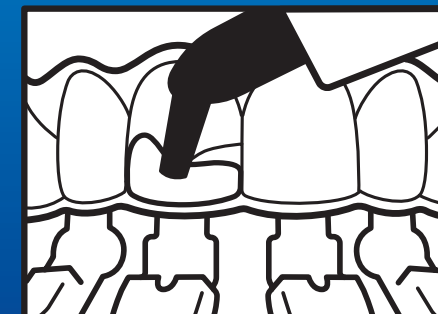
Matrix Design



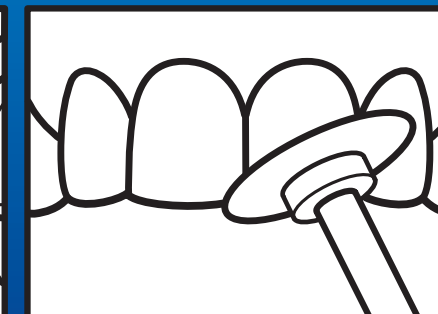
3D Printing



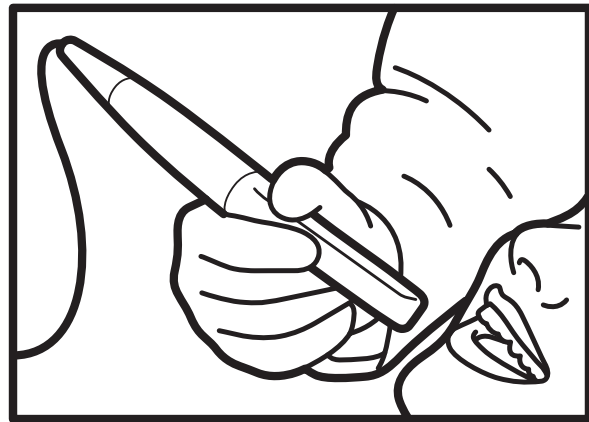
Post-Processing



Use Appliance

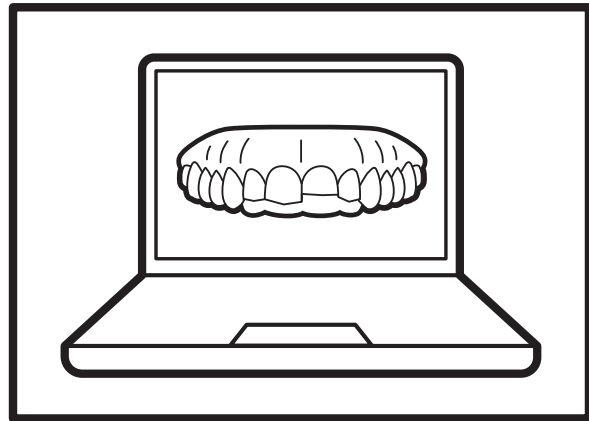


Finish/Polish



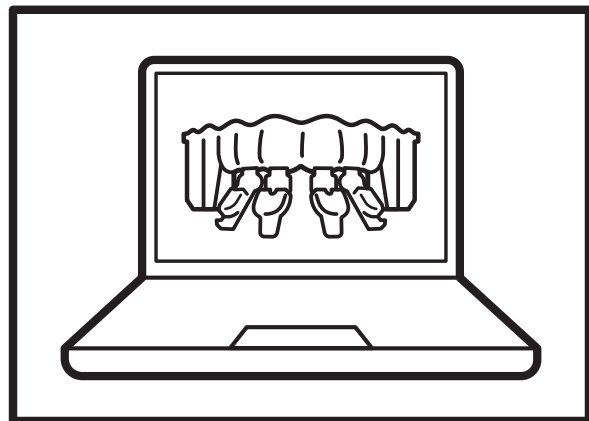
Diagnose and Scan

The first step in the 3M™ 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.



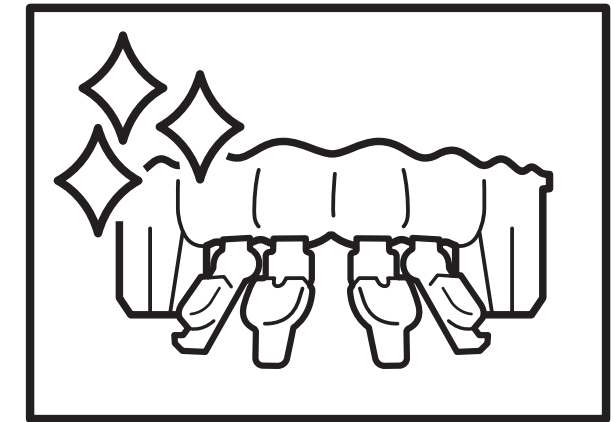
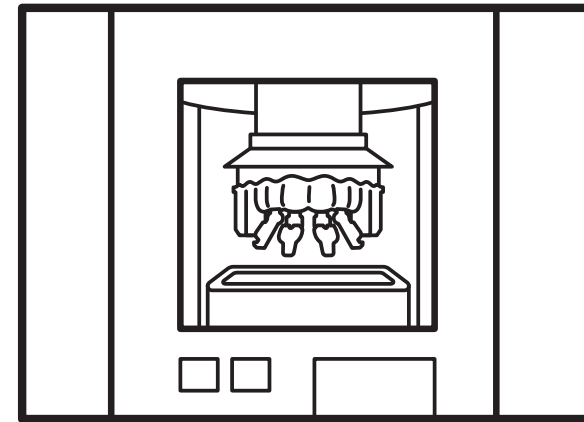
Restoration Design

Once the digital scan 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.



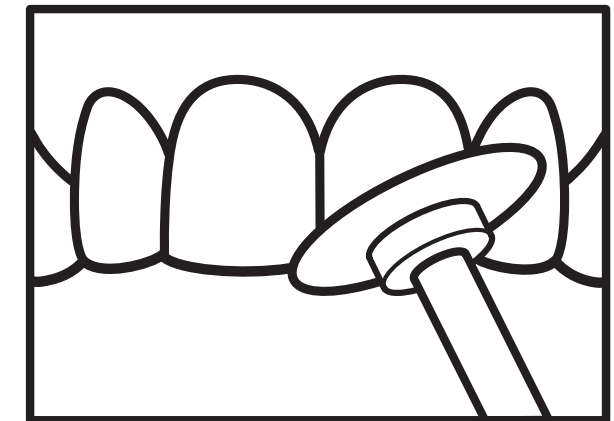
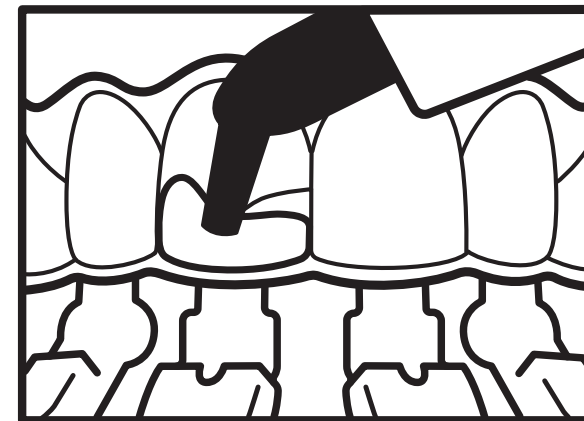
Matrix Design

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 3M™ 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 3M™ Filtek™ Matrix can deliver predictable outcomes that are efficient, esthetic and conservative. Here are a few examples of the 3M™ 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 3M™ 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 the next day. When the design has been approved, 3M will produce and ship the 3M™ 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 3M™ 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 3M™ 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.

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

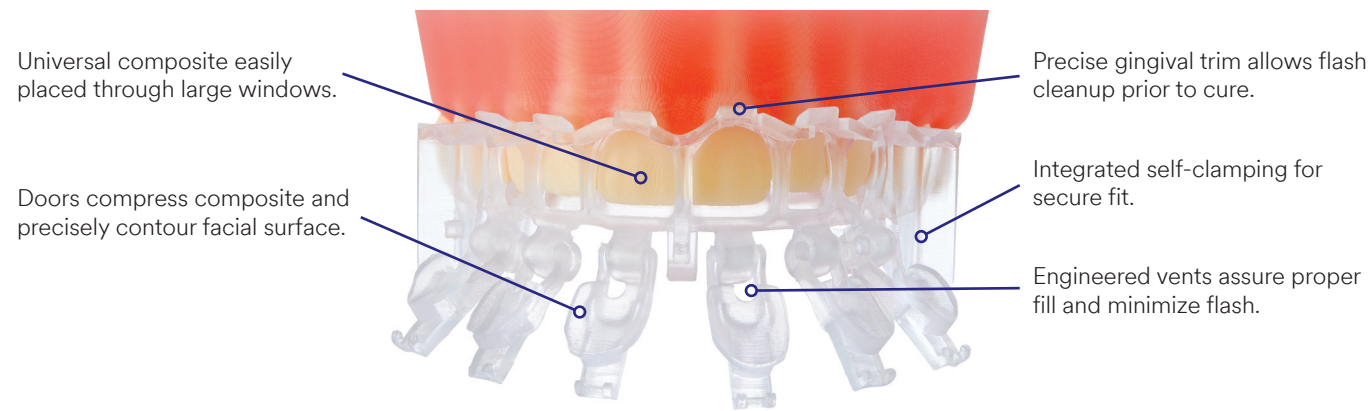
The 3M™ Filtek™ Matrix is created using an industrial, high-precision 3D printer. After being printed, the matrix goes through post-processing to ensure high quality and easy removal of the matrix after use.

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 3M™ 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.



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

Composite Technology

A major advantage of the 3M™ Filtek™ Matrix, compared to some other composite veneer techniques, is that it's 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 3M™ 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 3M™ 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 3M™ Filtek™ Matrix procedure. 3M™ Filtek™ Supreme Flowable Restorative is a great option, as it comes in a new ergonomically designed syringe that leads to virtually no bubbles or material run-on and is also designed to specifically match the shades of

3M™ Filtek™ Supreme Ultra Universal Restorative and 3M™ 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 US FDA for warming in 3M™ Filtek™ Universal Restorative. 3M™ Filtek™ Supreme Ultra Universal Restorative and 3M™ Filtek™ Supreme Flowable Restorative have also been proven to be safe and effective when warmed through extensive physical property, biocompatibility and pulp temperature testing.



*<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 3M™ Filtek™ Matrix procedure include, but are not limited to, predictability, efficiency, esthetic results and a conservative procedure.



Predictability

Clinicians have found that using the 3M™ 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.



Efficiency

Clinicians have found that using the 3M™ Filtek™ Matrix allows for a 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.



Esthetic Results

Clinicians have found that the 3M™ Filtek™ Matrix allows them to deliver esthetic results while performing composite procedures. This makes it a viable alternative to more costly ceramic procedures.



Conservative

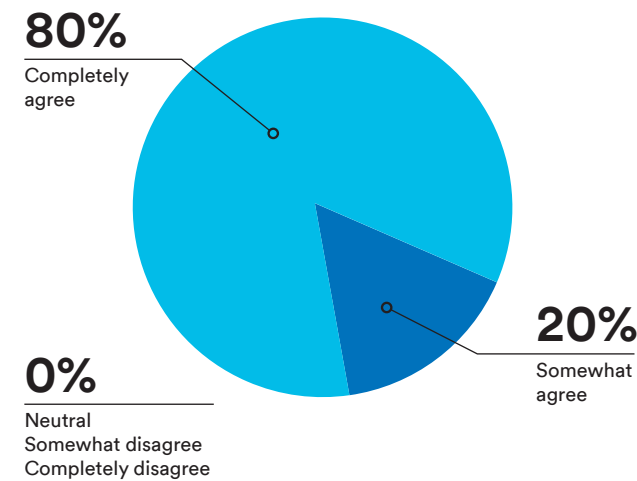
Due to the inherent nature of composite procedures, the 3M™ Filtek™ Matrix procedure is additive and maintains healthy tooth structure. This leads to a more conservative design than other more invasive ceramic procedures which require tooth preparation and reduction to otherwise healthy enamel.

Predictability

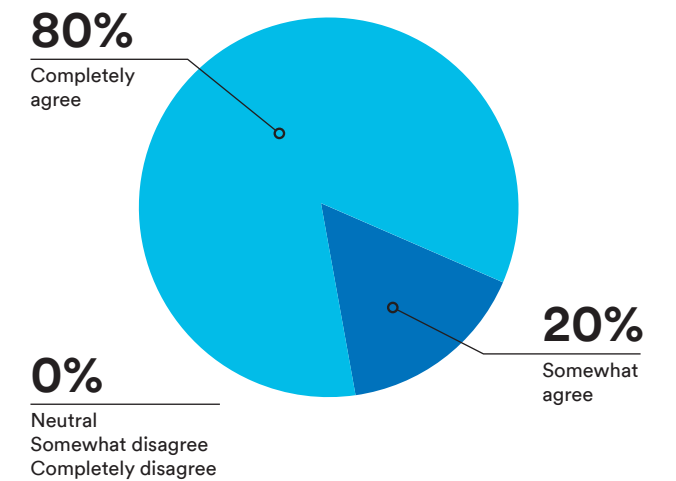
Clinicians have found that using the 3M™ Filtek™ Matrix allows for more predictable results, due to the matrix delivering desired symmetry, shape, length and contour, as well as simplifying desired facial anatomy and incisal edge length.

In the charts below, it can be seen how clinicians rated different aspects of the 3M™ Filtek™ Matrix in a clinical application test.

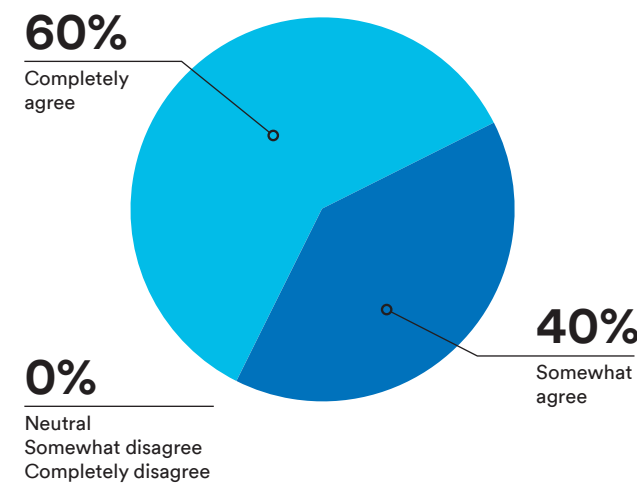
The 3M™ Filtek™ Matrix delivers more predictable results.



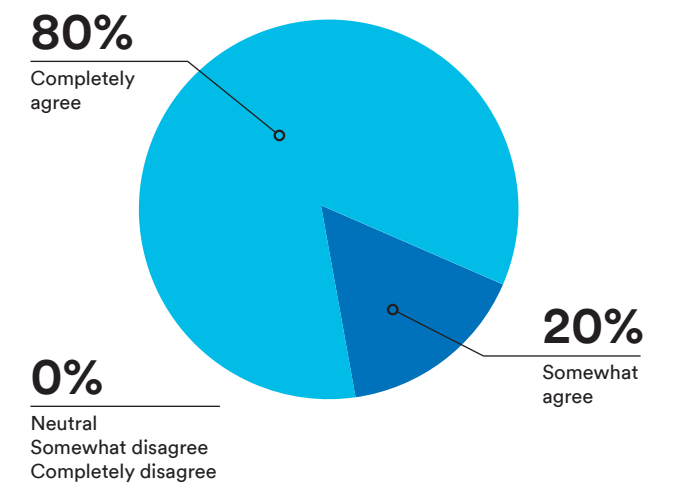
The 3M™ Filtek™ Matrix increases confidence in the success of the restorative procedure.



The 3M™ Filtek™ Matrix delivers predictable outcomes with esthetics aligned to the digital design.



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

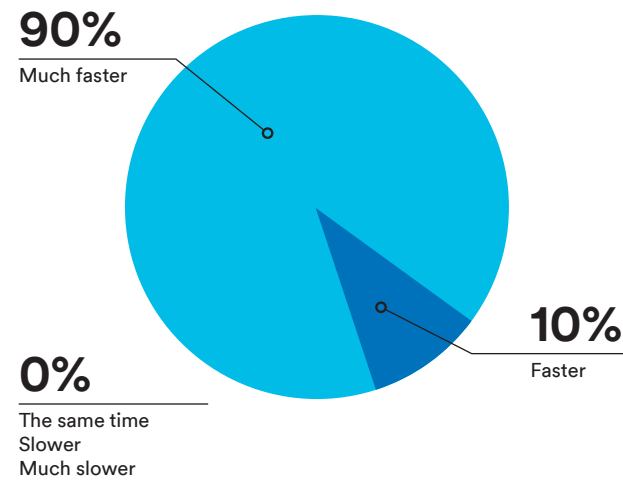


Efficiency

Clinicians have found that utilizing the 3M™ Filtek™ Matrix allows for a 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.

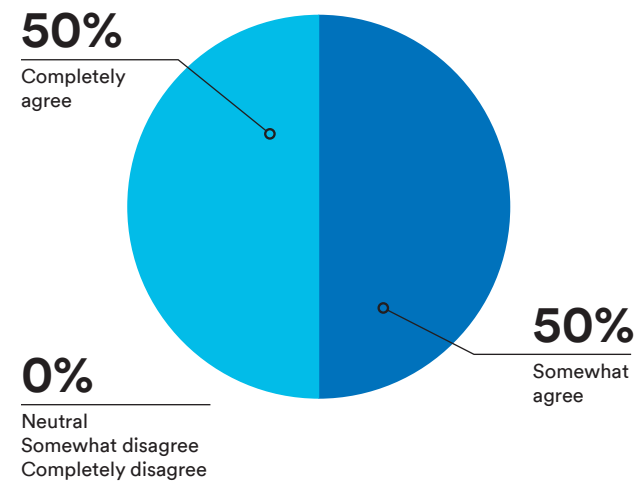
In the charts below, it can be seen how clinicians rated different aspects of the 3M™ Filtek™ Matrix in a clinical application test.

Compared to the traditional freehand method, the 3M™ Filtek™ Matrix procedure was:

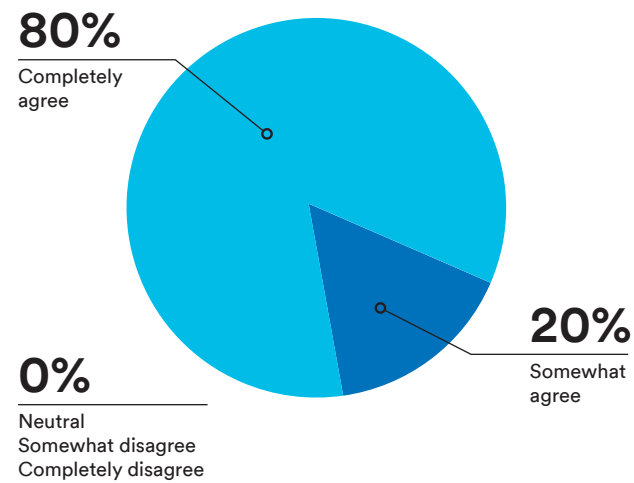


Compared to the freehand technique...

The 3M™ Filtek™ Matrix enables a simplified procedure.



The 3M™ Filtek™ Matrix makes the procedure more efficient.

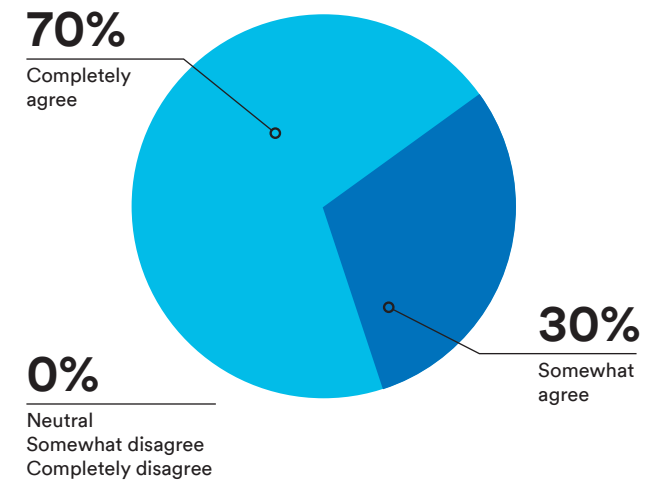


Esthetic Results

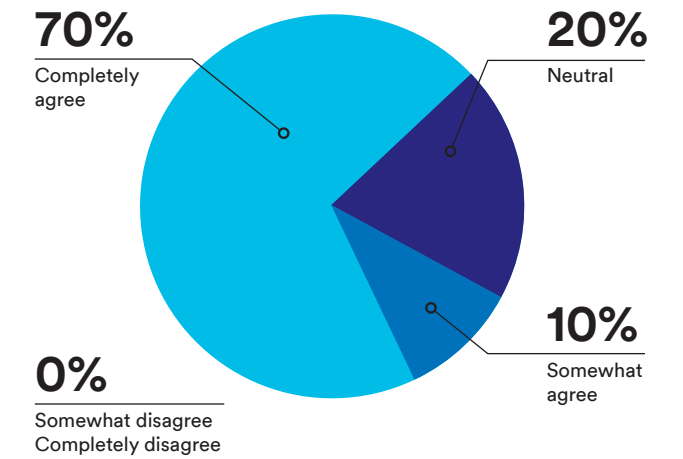
Clinicians have found that the 3M™ Filtek™ Matrix allows them to deliver esthetic results while performing composite procedures. The cosmetic results of the 3M™ Filtek™ Matrix allows it be an alternative to more costly ceramic procedures.

In the charts below, it can be seen how clinicians rated different aspects of the 3M™ Filtek™ Matrix in a clinical application test.

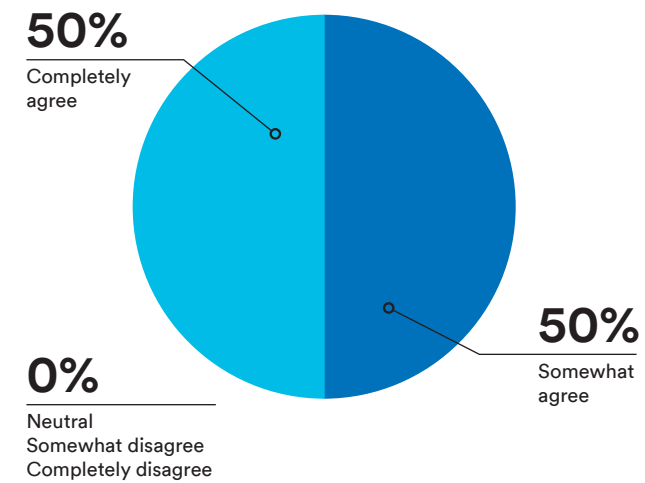
Using the 3M™ Filtek™ Matrix delivers esthetic results.



The 3M™ Filtek™ Matrix offers superior results.



The 3M™ Filtek™ Matrix is an alternative to more costly ceramic procedures.



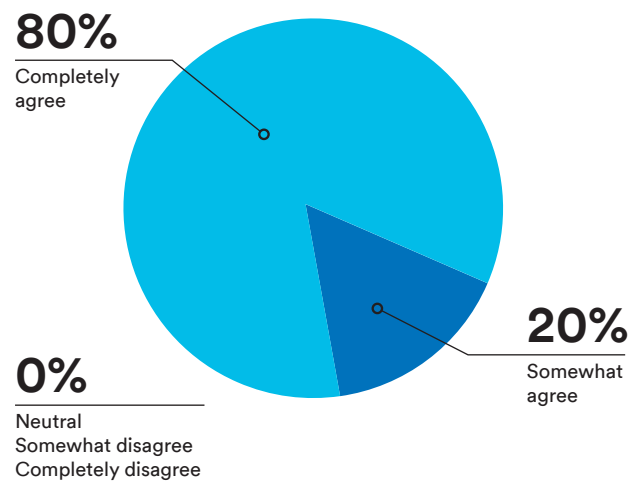
Conservative



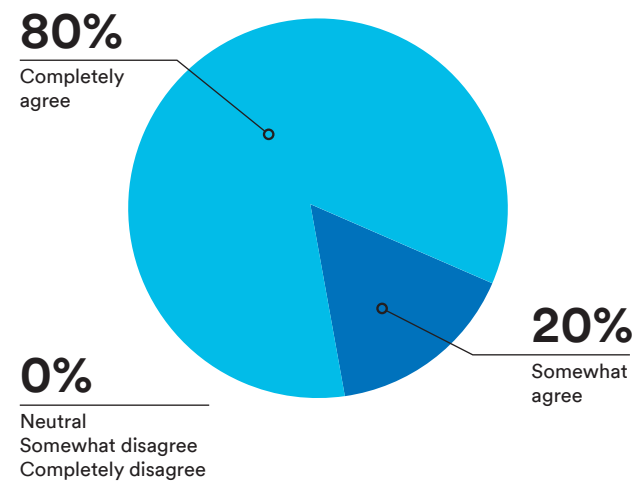
Due to the inherent nature of composite procedures, the 3M™ Filtek™ Matrix procedure is additive and maintains healthy tooth structure. This leads to a more conservative design than other more invasive ceramic procedures which require tooth preparation and reduction to otherwise healthy enamel.

In the charts below, it can be seen how clinicians rated different aspects of the 3M™ Filtek™ Matrix in a clinical application test.

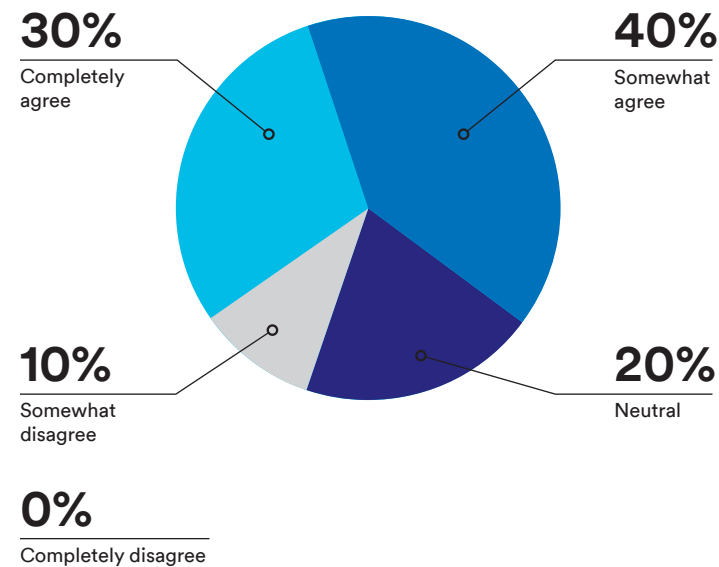
The 3M™ Filtek™ Matrix procedure is minimally invasive/conservative.



The 3M™ Filtek™ Matrix's additive restoration technique maintains healthy tooth structure.



The 3M™ Filtek™ Matrix procedure doesn't require anesthetic in many cases.



Commonly Asked Questions

► **Is the 3M™ Filtek™ Matrix compatible with all composites?**

The 3M™ Filtek™ Matrix was designed to take advantage of 3M™ Filtek™ 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 3M™ 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. 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.

► **What are the indications of the 3M™ Filtek™ Matrix?**

3M™ Filtek™ Matrix is indicated for use to assist with moulding 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 3M™ Filtek™ Matrix?**

The 3M™ 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 3M™ Filtek™ Matrix?**

The 3M™ Filtek™ Matrix can treat teeth numbers 1.4-2.4 and 3.3-4.3 (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 3M™ Filtek™ Supreme Ultra Universal Restorative or 3M™ Filtek™ Universal Restorative, which have been proven to be safe and effective when warmed up to 70°C for 1 hour in a capsule.† It is not recommended to use warmed flowable composite with the 3M™ 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 colour-matching shades (such as 3M™ Filtek™ Supreme Flowable Restorative and 3M™ 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 3M™ Filtek™ Matrix case?**

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

▶ **Can the matrix be used subgingivally?**

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 3M™ 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 IFU.

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

No, the matrix is single-use and should be discarded per the IFU.

▶ **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.

Warranty

3M warrants this product will be free from defects in material and manufacture at the time of purchase. 3M makes no other warranties or conditions including any implied warranty or condition of merchantability or fitness for a particular purpose. User is responsible for determining the suitability of the product for user's application. If this product is defective within the warranty period, your exclusive remedy and 3M's sole obligation shall be repair or replacement of the 3M product.

Limitation of Liability

Except where prohibited by law, 3M will not be liable for any loss or damage arising from this product, whether direct, indirect, special, incidental or consequential, regardless of the theory asserted, including warranty, contract, negligence or strict liability.



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