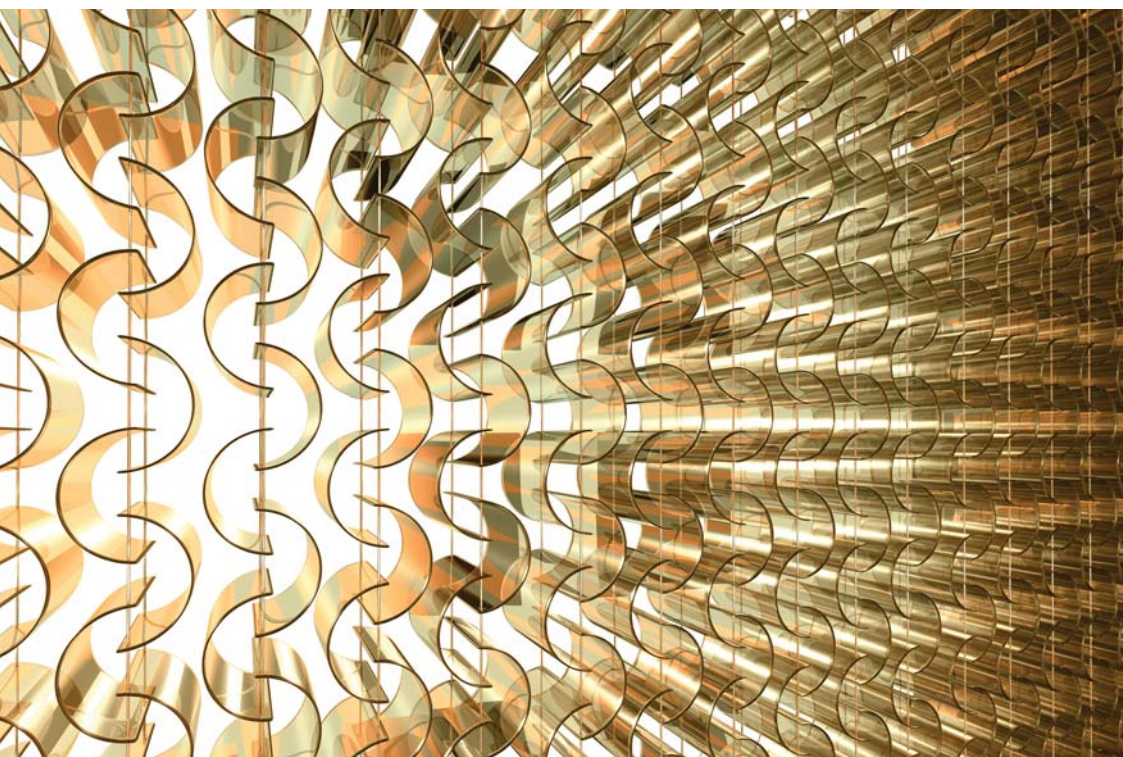


THE DENTAL ADVISOR™

Improving Patient Care Through Research & Education



September 2013

Vol. 30, No. 07

MAIN TOPIC

Simplifying Composite Restorations 2

CLINICAL EVALUATIONS

S.P.E.C. 3 LED (Curing Light)..... 9

Luster for Zirconia
(Polishing Kit) 11

Luster for lithium disilicate
(Polishing Kit) 11

Iveri Whitening System 12

Hemostyp (Hemostatic Sterile Gauze) 12

MTA Fillapex
(Root Canal Sealer) 15

SmartView Sectional Matrix System... 16

LONG-TERM EVALUATIONS

3M ESPE Filtek™ Supreme Plus
Universal Restorative: Ten-year Clinical
Performance 7

EDITORS' CHOICE

A-dec LED
(Dental Light) 8

Safe-Vac
(High-Volume Evacuation Tube) 10

QUATTROcare Plus
(Handpiece Maintenance System)..... 13

Visalys Temp (Provisional Material) 14



Simplifying Composite Restorations

Advances in dental technology in the past few years, particularly improvements in resin composites, have opened the door to a plethora of materials to help clinicians simplify their composite procedures. New bulk-fill materials exhibit reduced polymerization shrinkage and are able to cure to a depth of at least 4 mm. Additionally, advances in sectional matrix systems have made class II restorations easier and more comfortable for the patient. Keeping up with the trends in this critical area of restorative dentistry will help the practicing dentist save time and create higher quality, longer lasting composite restorations.

This issue of THE DENTAL ADVISOR will explore current trends and techniques in simplifying posterior composites. The newest innovations in bulk-fill composites and sectional matrix systems will be reviewed, as well as a translation of what laboratory data means in a clinical setting.

www.dentaladvisor.com

RATINGS:

Excellent + + + + +
Very Good + + + +
Good + + +

SENIOR EDITORS

John W. Farah, D.D.S., Ph.D.
John M. Powers, Ph.D.

EDITOR-IN-CHIEF

Sabiha S. Bunek, D.D.S.

EDITORIAL BOARD

John A. Molinari, Ph.D.
Peter Yaman, D.D.S., M.S.
William A. Gregory, D.D.S., M.S.
Santine Anderson, D.D.S.
Julius E. Bunek, D.D.S., M.S.
Lori K. Brown, D.D.S.
Marie Fluent, D.D.S.
Brent Kolb, D.D.S.
Nizar Mansour, D.D.S.
Charles I. McLaren, D.D.S., M.S.
Kathy O'Keefe, D.D.S., M.S.
Thomas Poirier, D.D.S.
William T. Stevenson, D.D.S.
Robert J. Stevenson, D.D.S.

CONTRIBUTING AUTHORS

Sabiha S. Bunek, D.D.S.
Kathy O'Keefe, D.D.S., M.S.

EXECUTIVE TEAM

Alexander J. Baumann, M.S.
Jackie Farah, M.A.Ed.
Heidi L. Graber
Tricia G. Hurtt
Jennifer Kalasz
John A. Molinari, Ph.D.
Peri D. Nelson, B.S.
Courtney Richardson, B.E.A.
Christopher Voigtman
Nelson Williams, M.S.
Mary E. Yakas, B.A., CMC
Ron Yapp, M.S.

PUBLISHER

Dental Consultants, Inc.

Please send inquiries and address changes to:

THE DENTAL ADVISOR,
3110 West Liberty, Ann Arbor, MI 48103
Call: 800.347.1330 - 734.665.2020
Fax: 734.665.1648
Email: info@dentaladvisor.com
Website: www.dentaladvisor.com

No unauthorized duplication or reprints may be made. Inquiries concerning duplication may be directed to the publisher. Copyright ©2013, Dental Consultants, Inc. All rights reserved. Printed in the U.S.A. (ISSN 0748-4666) by Print-Tech, Inc.

This publication is printed on paper that is 50% recycled and has 25% post-consumer content.

From the Desk of Dr. Bunek, Editor-in-Chief



I travel frequently and have grown dependent on my iPhone apps. From *Fly Delta* to *AroundMe*, these applications are huge time savers, streamlining my decision-making processes.

One area in dentistry that could use an app is the placement of composite restorations. Wouldn't it be great to have a tool to select the appropriate composite in combination with bonding agent, curing light, and matrix system? Well consider this issue your app... my aim is to help streamline the process for you.

In this month's issue, innovations in universal composites, including bulk-fill composites will be reviewed. Our guest co-author, Dr. Kathy O'Keefe, will help simplify composite restorations by explaining advances in materials and matrix systems. Lab data from THE DENTAL ADVISOR Biomaterials Research Center will also be provided. As always, I welcome your comments and suggestions; you can reach me at drbunek@dentaladvisor.com. Thanks for your continued support and reading!

Advances in Resin Composites: Then & Now

As in all other phases of dentistry, research and technology keep moving forward in the area of composite bonding and restorative dentistry. As resin composites continue to improve, many of the problems they have experienced since their introduction have been addressed. The chart below demonstrates how resin composites have changed in the last 10-15 years.

THEN	&	NOW
Filler particles were quite large and not silanated, causing the particles to break out, resulting in ditching and increased wear.	Filler Particle Size	Today's composites contain silanated micro-, micro-hybrid, and nanofilled particles. This chemical surface treatment of exponentially smaller filler particles allows chemical adhesion to the resin matrix, which leads to decreased wear and increased polishability.
Traditionally composites had to be incrementally cured in quantities of 2 mm or less, creating a lengthy, technique-sensitive process.	Incremental Curing	Some of today's composites are able to be bulk cured up to 5 mm deep, eliminating much of the need for incremental curing.
Volumetric shrinkage of 7% was common resulting in various placement techniques to minimize effects of leakage and debonding.	Polymerization Shrinkage	Some of today's composites possess increased filler loading and new polymers resulting in much lower polymerization shrinkage than the products used years ago.
Initial composite systems were available in only a few shades and lacked translucency.	Shades	Manufacturers have included more shade options for clinicians, varying in translucency and opacity. Some esthetic kits have more than 30 shades.
Flowable composites were much less filled, leading to decreased wear resistance and increased shrinkage upon curing.	Flowable Composites	Newer flowable composites are much more highly filled, which allows them to be used not only as bases underneath restorative composites and in non-load-bearing areas, but also universally in most restorative applications.

Bulk-fill Composites

Recently developed bulk-fill composites were introduced to reduce placement time of posterior composites. Where once it was required to cure composites in increments of 2 mm, newer bulk-fill products can be cured up to 4-5 mm. The quicker placement of these materials has made them quite popular; and with the availability of the long-term clinical data, clinicians are becoming more confident in their use.

Advantages: *less technique sensitivity, reduced chair time, fewer voids.*

Disadvantages: *esthetics (sometimes too translucent), limited choice of shades.*

Ideal Characteristics of Bulk-fill Composites:

- Increased Depth of Cure (≥ 4 mm)
- Lower Polymerization Shrinkage
- Acceptable Esthetics (Posterior Use)
 - More Wear Resistant
 - Good Handling and Adaptability

Types of Bulk-fill Composites

Bulk-fill composites are not all the same. It is important to understand how they differ and to use them appropriately. The main difference among bulk-fill composites can be seen in the viscosity of the material and its delivery.

1. Low Viscosity Flowable Bulk-fill

Most products in this category are dispensed in a flowable syringe and can be cured up to 4 mm in depth. The low viscosity allows for good adaptation to walls and proximal boxes. A shortcoming is that these composites are not as highly filled and can exhibit low wear resistance; therefore, they must be layered (or capped) with a stronger composite. Products in this category include **SureFil SDR flow** (DENTSPLY Caulk), **Venus Bulk Fill** (Heraeus), **x-tra fil** (VOCO), and **Filtek Bulk Fill Flowable Restorative** (3M ESPE).

2. Higher Viscosity Restorative Bulk-fill

Tetric EvoCeram Bulk Fill (Ivoclar Vivadent) is delivered in a composite compule. A single increment can be cured up to 4 mm in depth. It exhibits good wear characteristics so there is no need to layer it with an additional composite. The higher viscosity of this material compared to the flowable bulk-filled materials allows for sculptability, which is beneficial when carving anatomy and when compressing material into proximal contact area.

3. Variable Viscosity Sonic Technology Bulk-fill

Sonicfill (Kerr Corporation) is a single-step, bulk-fill composite (up to 5 mm) that does not require an additional composite layer. Sonic activation decreases the viscosity of the highly filled composite, allowing for easy placement and adaptation. After the composite has been placed, it returns to a higher or stackable viscosity. This low-shrink, highly filled composite has a high depth of cure and can be placed in increments of 5 mm.

Sectional Matrix Systems

Successful class II restorations require clinicians to utilize a matrix system to recreate missing proximal tooth structure. In order to prevent food impaction and recurrent decay, the final restoration must be sealed at the gingival margin and the proximal contact/contour needs to be recreated to mimic what was once there.

The goals of restoring Class II preparations:

- Create an ideal contact with adjacent tooth.
- Restore optimal interproximal contour.
- Minimize time spent finishing and polishing.

Restoring class II restorations with amalgam requires circumferential bands/retainer matrix systems. Due to its plasticity, amalgam can be condensed into the proximal cavity, resulting in tight interproximal contacts. Resins cannot be compressed against the matrix band as well as amalgams, and when used in conjunction with conventional matrix systems, a tight contact is not always consistently reproducible. With the advent of composite restorations, manufacturers have developed newer sectional matrix systems.

Sectional Matrix Systems require the use of three components:



Sectional Matrix Systems (cont.)

What's New?

Sectional matrix systems generally contain metal rings, bands, and plastic wedges. There is some concern that light is unable to pass through these components, resulting in an inadequate cure to those areas. To overcome this issue, some manufacturers are developing matrix systems with transparent components (rings, bands, and wedges) that light can pass through in efforts to ensure proper curing. Keep your eye out for the following systems: **V4 ClearMetal Matrix System** (Triodont Corp) and **Composi-Tight 3D™ Clear sectional matrix system** (Garrison Dental Solutions).

LumiContrast (Polydentia) is another new matrix system on the market. This system utilizes mat blue sectional matrices in efforts to reduce eye stress reportedly caused by the reflection and lack of contrast seen with non-coated traditional metal bands. Look for clinical results in a future issue of THE DENTAL ADVISOR.

V4™ ClearMetal Matrix System

Triodont Corp
www.triodent.com



Product Description: The **V4™ ClearMetal Matrix System** creates predictable, tight contacts and natural contours, with the added benefit of transparency for peace-of-mind light-curing, especially with bulk fill and deep cavities. The **V4 System** includes the **V4 Ring™** – Molar and Premolar – the revolutionary ClearMetal Matrix™ with “micro-windows” (resin filled to contain the composite), and the innovative, highly adaptive **V4 Wedge™**. The **V4 Ring** fits the full range of embrasure widths, and the new-shape tines grip on small and wide cavities, even when there is minimal tooth structure remaining.

Q: I always have trouble obtaining adequate proximal contacts when restoring the distal surfaces of canine teeth. I cannot find a matrix system that works well in this area. Do you have any suggestions?

A: There is a new matrix system, **Composi-Tight 3D XR Sectional Matrix System** (Garrison Dental Solutions), that works well for canine teeth and premolars. It is similar to their original **Composi-Tight** system, but this version is made with a new type of silicone to better adapt to proximal surface of all types of teeth and to create tighter proximal contacts. It also uses an ultra retentive matrix ring for a tighter fit.

Q: I find that creating ideal occlusal anatomy with composite restorations is a challenge. Do you have any ideas for instruments that help to create anatomical contours of posterior teeth?

A: There are some innovative instruments available that are made specifically for composite restorations called **OptraSculpt** (Ivoclar Vivadent). These instruments have a unique set of elastomer tips that do not stick to composite. There are six different shapes that can be rotated 360 degrees to allow for the perfect angle for each restoration. These tips can be mixed and matched or even paired with a metal end to create many combinations of unique placement instruments.

Composi-Tight 3D XR Sectional Matrix System

+++++
Garrison Dental Solutions
(888) 437-0032,
(616) 842-2244
www.garrisdental.com



Product Description: **Composi-Tight 3D XR Sectional Matrix System** is designed to create tight, anatomical contacts on Class II composite restorations. The rings are produced with **Soft Face™** silicone to enhance adaptation and improve contacts. **Composi-Tight 3D XR** and **3D Rings** are angled to allow stackability in any combination for MOD and multiple-tooth restorations. The system is available in a variety of kit configurations. **Composi-Tight 3D XR Sectional Matrix System** was evaluated by 14 consultants in 359 uses and received a 96% clinical rating.

V3 Sectional Matrix System

+++++
Triodont Corp
www.triodent.com



Product Description: The **V3 Sectional Matrix System** has three components: **V3 Ring**, **V3 matrix** and **Wave-Wedge**. The **V3 Ring** (Universal and Narrow) is made of nickel-titanium alloy to establish a sound contact area. The matrix features a placement tab with removal holes for use with pin tweezers. The Wave-Wedge is plastic with flexible wings and a hollow underside to accommodate the gingival papilla. Thirty consultants evaluated the **V3 Sectional Matrix System** in more than 900 clinical applications. This product received a 96% clinical rating.

Sectional Matrix Systems

Product	Company	Clinical Rating
Composi-Tight 3D XR Sectional Matrix System	Garrison Dental Solutions	96%
V3 Sectional Matrix System	Triodont Corp	96%

Bands for Tofflemire-style Matrix Systems

Some dentists still prefer using a *Tofflemire*-style matrix system for their posterior composites, and clinicians who prefer sectional matrix systems will still have *Tofflemire* systems in the office for certain indications. The table below highlights two matrix bands that rated highly by THE DENTAL ADVISOR.

Product	Company	Clinical Rating
PinkBand Dental Solution	Fly Cast Technologies, Inc.	98%
Greater Curve	Greater Curve	92%

Universal Composites

Product	Company	TDA Rating
3M ESPE Filtek Supreme Ultra Universal Restorative	3M ESPE	92%
Alert Condensable Composite	Pentron	92%
ALPHA II AP	Dental Technologies	92%
Amaris	VOCO	91%
Artiste Nano Composite	Pentron	nt
BEAUTIFIL II	SHOFU DENTAL CORPORATION	94%
Estelite Sigma Quick	Tokuyama Dental America Inc.	99%
Esthet.X HD High Definition micro matrix restorative	DENTSPLY Caulk	93%
GC KALORE	GC America	91%
GRADIA DIRECT	GC America	98%
GrandioSO	VOCO	96%
IPS Empress Direct	Ivoclar Vivadent, Inc.	93%
N'Durance Cristal	Septodont	86%
NanoCeram-Bright	DMP Limited	87%
Nuance Universal	DenMat	89%
ProFil	Silmet Ltd.	87%
Quadrant Anterior Shine	Cavex Holland B.V.	88%
SelectFil Universal Composite	SciCan	88%
Simile Universal Composite	Pentron	88%
SpectraFill	GlasSpan, Inc.	91%
SYNERGY D6	Coltene/Whaledent	91%
Tetric EvoCeram	Ivoclar Vivadent, Inc.	96%
Venus Diamond	Heraeus	91%
Venus Pearl	Heraeus	91%
Virtuoso Universal	DenMat	96%
Z-Nano Universal Composite	Danville Materials	ce

Bulk-fill Composites

Product	Company	TDA Rating
Filtek Bulk Fill Flowable Restorative	3M ESPE	91%
SureFil SDR flow	DENTSPLY Caulk	97%
Tetric EvoCeram Bulk Fill Nano-Hybrid Composite Restorative	Ivoclar Vivadent, Inc.	97%
Venus Bulk Fill	Heraeus	91%
x-tra Base	VOCO	94%

PinkBand

+++++

Fly Cast Technologies, Inc.

(847) 260-8330

www.PinkBand.org



Product Description: *PinkBand*® is a silicone-coated matrix band for use when placing composite restorations. The silicone coating can provide an additional seal against moisture contamination and facilitate removal of the band. *PinkBand*® is a Tofflemire-style band and is available in Universal, Pedo and Subgingival sizes. Bands are available in both Regular 0.0015" and Ultra Thin 0.001" thicknesses in packages of 25. *PinkBand*® was evaluated by 27 dental consultants who placed 479 composite restorations in patients. The silicone-coated matrix band received a 98% clinical rating.

GrandioSO

+++++

VOCO

(888) 658-2584

<http://www.voco.com/us/home/index.html>



Product Description: *GrandioSO* is a light-cured, radiopaque, nano-hybrid composite. It is indicated for Class I-V restorations. *GrandioSO* is available in 16 shades in syringes and single dose capsules. The composite is compatible with all light-cured bonding agents. Curing times vary with shade selection. The kit evaluated contains 80, 0.25 g caps, 16 each in shades A1, A2, A3, A3.5 and B1; shade guide; product literature; manufacturer instructions; and MSDS. *GrandioSO* was evaluated by 31 consultants in 1054 uses. It received a 96% clinical rating.

Beautiful II

+++++

SHOFU DENTAL CORP.

(800) 827-4638,

(760) 736-3277

www.shofu.com



Product Description: *Beautiful II* is a fluoride-releasing, light-cured, nano-hybrid composite indicated for Class I-V restorations. *Beautiful II* is resin-based, containing filler particles that are derived from S-PRG (Surface Pre-reacted Glass Ionomer) technology. A fluoride-releasing bonding agent like FL-BOND II is highly recommended. *Beautiful II* is available 12 shades. It is packaged in kits containing six-color, 4.5-g syringes or 120 unit-dose tips, Dura-White Stone, Super-Snap Single, and OneGloss Trial Set. Twenty-six clinical consultants evaluated *Beautiful II* in over 700 procedures. This product received a 94% clinical rating.

TRANSLATING THE SCIENCE

Important Properties of Composites

Ron Yapp | Dental Consultants, Inc., Ann Arbor, Michigan

The four properties presented in the table are useful to the clinician in determining how a composite will potentially perform when placed in a patient's tooth. Following is a brief description of these properties, the tests that are used to determine them and why they are clinically relevant. The products presented in the table are excellent examples of composites where these properties are within an acceptable range.

Flexural Strength and Flexural Modulus describe a material's resistance to bending. The three-point bending test (Figure 1) is useful in determining the strength of a specimen at the point of load application. The flexural modulus (stiffness) is the amount a material will deflect elastically for a given applied load. Composite restorative materials must have acceptable flexural strength and stiffness to support the significant loads associated with eating hard foods (e.g., nuts and hard candy) without fracturing.

Radiopacity is a measure of a material's ability to attenuate x-rays passing through it. It is often presented as the equivalent to "millimeters of aluminum" because aluminum has an x-ray attenuation which is similar to tooth tissue. A typical method of determining radiopacity is to position a standard in the form of a step wedge of pure aluminum with steps increasing by 0.5 mm per step into the x-ray view alongside the subject material (Figure 2). The thickness of the material and the grey level of the image on the x-ray film of the specimen and of the step wedge are measured and compared using an x-ray densitometer to determine a thickness of aluminum which attenuates light to the same degree as the specimen. It is an important property of dental materials that allows them to be visualized on an x-ray film and to be found and/or identified (if they were inadvertently swallowed or inhaled).

Depth-of-cure (DOC) is the depth of a composite material that may be successfully cured with a particular curing light for a specific amount of exposure time. A typical method of measuring DOC is to confine the material into a cylindrical shape using flexible Teflon or rubber washers that can be stacked to various heights to form a mold. The composite is then placed into the resulting cylindrical hole to form a column that is then cured with the curing light for a set period of time. The ratio of the hardness of the bottom and top of the composite cylinder is determined for that particular column height (Figure 3). The maximum DOC is the column height where the hardness ratio is 0.8 or greater. The DOC is helpful when determining if a restoration may be cured as a single layer as in bulk-fill materials or must be used in multiple layers to achieve adequate polymerization.



Figure 1

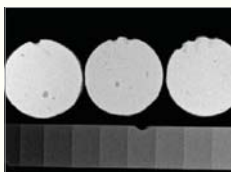


Figure 2



Figure 3

Simile

++++

Pentron

(800) 551-0283,

(714) 551-0283

www.pentron.com



Product Description: *Simile* is a nanohybrid composite intended for use in Class I through Class V restorations. The composite contains UDMA and HDDMA with 68% filler by volume, including barium glass fillers (0.7 µm) and zirconium barium silicate (0.004 µm). On average, these particles are slightly smaller than those in a microfill. *Simile* is available in kits of 10, 4-g syringes or 100 single-dose capsules in Vita Shades A1, A2, A3, A3.5, B1, B2, B3, C2, opaque universal, and incisal. Sixteen editors placed over 150 direct *Simile* restorations during a 6-week period.

Property Summary

Product	Type	Manufacturer	Flexural Strength, MPa	Flexural Modulus, GPa	Radiopacity, mm Al	Depth-of-cure, mm *
SureFil SDR flow	Bulk-fill Flowable	DENTSPLY Caulk	130	6.3	2.8	10
e-on Universal	Universal Composite	Benco Dental Co.	141	14.1	2.5	nt
Simile Nano-Hybrid Composite	Universal Composite	Pentron	133	8.2	2.3	nt
TPH Spectra	Universal Composite	DENTSPLY Caulk	151	8.4	4.2	nt

*Follow manufacturer's DFU for incremental layering of the composite

3M ESPE Filtek™ Supreme Plus Universal Restorative

3M ESPE

(800) 634-2249 | www.3mespe.com

Description

3M ESPE Filtek Supreme Plus is a universal composite indicated for all anterior and posterior direct restorations. It is available in seven dentin shades, 17 body shades, eight enamel shades and four translucent shades. The shades may be layered or used alone. All shades, except for the translucent shades, are radiopaque. Curing time for 2 mm increments is 20 seconds for enamel, body and translucent shades and 40 seconds for dentin shades. **3M ESPE Filtek Supreme Plus** is available in 4 g syringes and 0.2 g unit-dose capsules.

Clinical Evaluation Protocol

- 1571 **3M ESPE Filtek Supreme Plus** restorations were placed and monitored for over 10 years.
- 115 restorations were placed in anterior teeth and 1456 were in posterior teeth.
- Various 5th-, 6th- and 7th-generation bonding agents were used.
- Restorations were evaluated on a 1-5 rating scale: 1 = poor, 2 = fair, 3 = good, 4 = very good, 5 = excellent.

Clinical Observations

Resistance to Fracture/Chipping

The fracture rate of **3M ESPE Filtek Supreme Plus** at 10 years was less than 7%. Over 93% of restorations recalled showed no chips or fractures (Figure 1). Slight chipping occurred on 4% of the restorations, requiring no treatment or minor refinishing. Three percent fractured and required repair or replacement.

Esthetics

3M ESPE Filtek Supreme Plus shades blend well with surrounding enamel, earning excellent ratings for esthetics in 81% of recalled restorations (Figure 1). Surface texture was smooth - in many cases smoother than at the time of initial placement. Some of the 10-year old restorations (3% overall) lacked shade stability and were noted to be yellow or opaque.

Resistance to Marginal Discoloration

Ninety percent of restorations had no visible marginal staining (Figure 1). The majority of staining observed was light brown or gray stain along the margins and was considered to be mild and may also be result of the adhesive step. Eleven restorations (less than one percent) had to be replaced due to marginal discoloration. All of the restorations receiving ratings of 1 or 2 in this category were also associated with open margins or recurrent caries.

Wear Resistance

3M ESPE Filtek Supreme Plus exhibited very good wear resistance (Figure 1). Ninety-four percent of restorations received ratings of excellent, as they exhibited no visible signs of wear. Wear resistance has been consistent through each year of this 10-year evaluation.

Conclusion

Over 1500 **3M ESPE Filtek Supreme Plus** were placed and monitored for more than 10 years. Low fracture rate and high wear resistance have contributed to the long-term success of this universal composite. **3M ESPE Filtek Supreme Plus** earned a 97% clinical performance rating at 10 years, and our five plus rating. ■

10-year Clinical Performance

+++++



Consultants' Comments

"3M ESPE Filtek Supreme Plus has proven itself to be a reliable all-around composite."

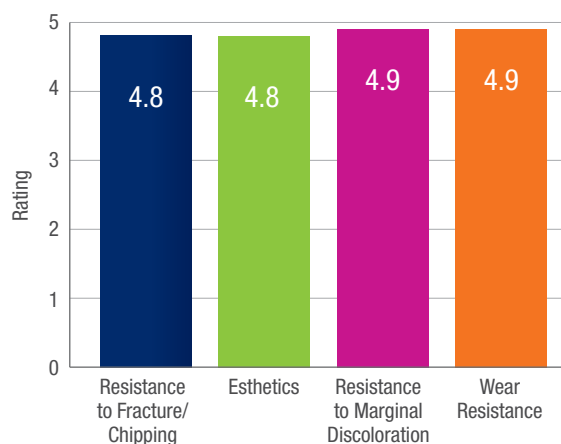
"Fillings still look great."

"Holds up well, even in large posterior restorations."

"Shades are stable."

"Some chipping of marginal ridges has occurred."

FIGURE 1 Results of 3M ESPE Filtek Supreme Plus at 10 years.



Editors' Note

3M ESPE Filtek Supreme Ultra has replaced 3M ESPE Filtek Supreme Plus. This advanced formulation has added fluorescence, additional body shades, improved handling and radiopacity of the translucent shades and easier polishing.

A-dec LED

A-dec
(800) 547-1883, (503) 538-7478 | www.a-dec.com

Description

The **A-dec LED** dental light features intensity settings of 15,000, 25,000, and 30,000 lux, plus a cure-safe mode providing 25,000 lux of only yellow light. The 5000°K color temperature is a neutral, white light with a color rendering index (CRI) of 90 out of 100. Eight white and four yellow LEDs are arranged in a “stadium” pattern that minimizes shadows and produces a rectangular light pattern with feathered edges. A unique heat-sink design keeps the light cool without a fan. Touchpad and automatic on/off controls for the light are available with A-dec chairs and delivery units. It has six mounting options and retrofit capability to older A-dec lights. The **A-dec LED** has a 20-year life for bulbs and light quality. The **A-dec LED** dental light was evaluated by six consultants over a four-month period and received a 97% clinical rating.

Suggested Retail Cost	\$2400 - \$4725 depending on mounting location
-----------------------	--

Equipment Features

A-dec LED provides excellent illumination and elimination of shadows in the operating area. Patients commented on the modern appearance of the light and noted that it did not shine in their eyes. No significant heat was detected during use. Buttons on the back of the light are easy to push with one hand, and indicators on the front of the unit show the intensity mode. **A-dec LED** rotates on three axes, making it easy to position. A clear splash shield covers and protects the LEDs. The shield remained crystal clear during the evaluation period, but is easily replaceable if scratched or damaged. ■



Consultants' Comments

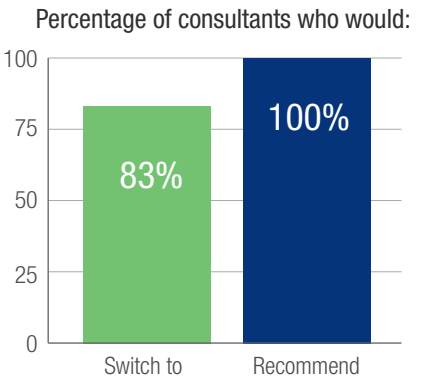
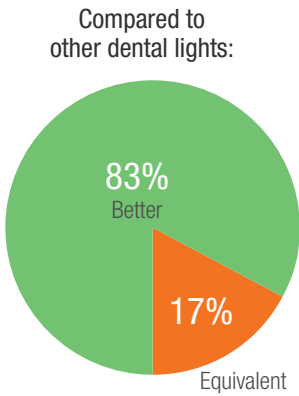
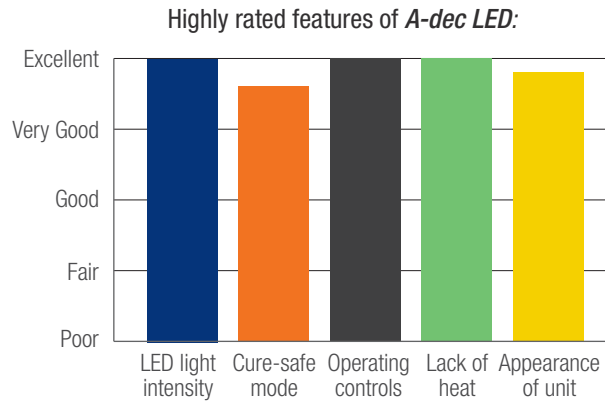
"Great illumination."

"The cure safe-mode was extremely useful when doing multiple fillings on posterior teeth."

"Light stays in position - no drifting."

"Buttons can be accessed from either side of the chair."

"Love this light!"



S.P.E.C. 3 LED

Coltene/Whaledent, Inc.

(800) 221-3046, (330) 916-8800 | www.coltene.com, www.spec3-led.com

Description

S.P.E.C. 3 LED is a pen-style, cordless LED curing light with wavelength output of 430 to 490 nm. Its lightweight construction is designed to reduce hand fatigue, and the sealed aluminum body helps ensure effective disinfection. **S.P.E.C. 3 LED** features multiple curing modes (*Standard*, *3K* and *Ortho*) for rapid and deep polymerization of all light-cured dental materials. *Standard Mode* offers high intensity and cures composite in 2 mm increments in 5 seconds. *3K Mode* offers rapid curing of 2 mm increments in 1 second. *Ortho Mode* is designed for curing an entire arch of brackets with two, 3-second intervals per bracket. Maximum output is 1,600 mW/cm² in the *Standard Mode* and 3,000 mW/cm² in the *3K/Ortho Modes* with the 8 mm turbo tip light guide. The lithium polymer battery provides enough storage capacity to perform over 300 10-second cures between charges. The unit comes with an 8 mm light guide, 100 barrier sheaths, two light shields, curing test block, and charger base with power supply. **S.P.E.C. 3 LED** was evaluated by 13 consultants in over 900 uses. This LED curing light received a 91% clinical rating.

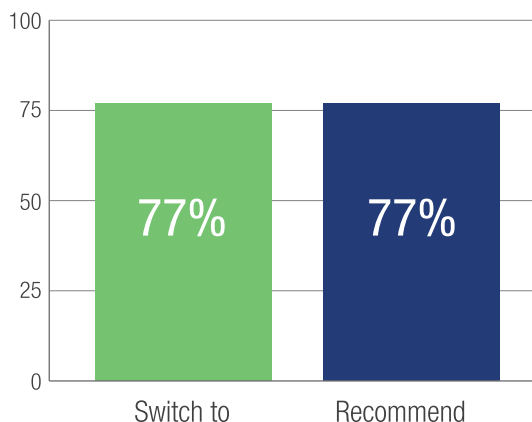
Suggested Retail Cost

unit	\$1199.00
11 mm light guide	\$135.00

Equipment Features

S.P.E.C. 3 LED produced fast curing of dental materials with a unit that is easy to use. Consultants reported that it reduced the amount of time needed to cure composite, enhancing the efficiency of their clinical procedures. When “tack curing” resin cements, only a very brief flash of light is required. The charger base LED illuminates red when the device is charging and green when the unit is fully charged. Attention is required to ensure that the unit is fully seated in the base for charging. The control panel on the **S.P.E.C. 3 LED** includes the activation switch on one end and the mode switch on the other end. Familiarity with the programs is necessary for quick switching between modes. The *3K/Ortho Modes* are indicated by an orange LED, whereas *Standard Mode* is a green LED. The *3K Mode* is especially useful for pediatric patients and

Percentage of consultants who would:



++++ 1/2

Consultants' Comments

"The light intensity gave me more confidence that materials were completely cured."

"Lightweight, easy to manipulate in the mouth."

"The buttons were easy to access."

"Small size makes it easy to see what you are doing."

"Round unit can roll off the counter."

"Offer a black light guide."

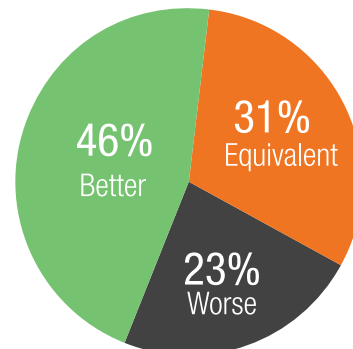
"Offer a simplified instruction card."

patients with strong gag reflexes. The *Standard Mode* allows 5-, 10- and 15-second curing times. Warmth was sometimes felt by patients beyond curing times of five seconds. The cone-shaped, orange light shield fits onto the curing tip but does not block out light along the length of the clear light guide. The optional eye shield accessory can be positioned between the operator and the light guide to ensure complete protection.

Clinical Tips

- When using a high-output, fast-curing light, precise aiming over the material to be cured is necessary before activating the light.
- Allow 2-3 seconds for cooling of the tooth between curing cycles
- Place the curing light in the charging base when not in use.
- Slide the barrier sleeve over the unit, followed by placement of the orange light shield.
- Curing tip may be heat sterilized.
- Discard the orange light shield after five sterilization cycles. ■

Compared to other light-curing units,
S.P.E.C. 3 LED was



Safe-Vac

Safe-Vac, LLC
(866) 294-0321 | www.safe-vac.net

Description

Safe-Vac is a disposable high-volume evacuation (HVE) tube with a cushioned tip designed to enhance patient comfort. These white, vented tubes are available in two versions: screened (blue tip) and standard (green tip). The screened tip is intended to capture small parts (i.e., sectioned crowns, implant components) and avoid suction line obstructions. The patented tips have a cushion made of non-latex materials. **Safe-Vac** fits on standard HVE valves and are available in 50-count packages. **Safe-Vac** was evaluated by 25 consultants in 654 uses. This HVE tip received a 92% clinical rating.

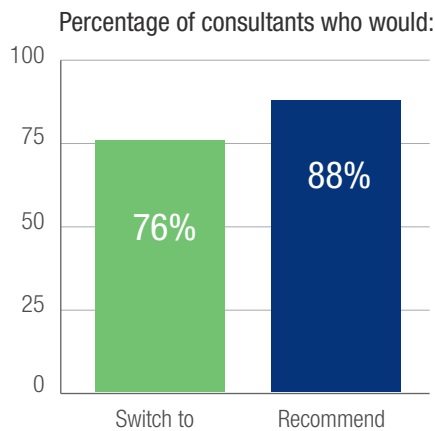
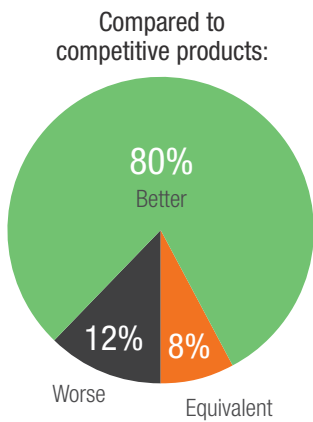
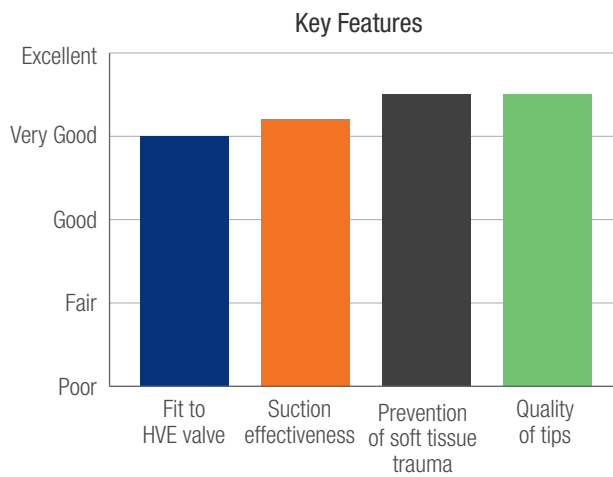
Suggested Retail Cost 18.50/package of 50

Product Features

Safe-Vac has the unique feature of an integrated cushioned tip that is effective in preventing inadvertent trauma to soft tissue. This category was the most highly rated, and it contributed to patient comfort. Tubes are rigid enough to provide retraction, and the tips are color-coded for quick identification of screened vs. open tubes. The screened version was able to catch small objects, protecting the patient from aspiration and the evacuation system from becoming occluded. Consultants commented that the noise level of **Safe-Vac** was higher than other suction tips, and the screened tip made a whistling sound outside the mouth.

Clinical Tips

- The screened version can be used to “hold” a ceramic restoration while etching the internal surface before cementation.
- Hold the screened tip next to the site while placing implant components. **Safe-Vac** could prevent aspiration and effect retrieval of the component. ■



++++ 1/2



Consultants' Comments

- "The soft tip is more comfortable for the patient."*
- "I will keep **Safe-Vac** on hand, as anything that provides more patient comfort is worth the effort and expense to me."*
- "Latex-free."*
- "**Safe-Vac** does not grab the cheeks or tongue."*
- "I think it would be wise to use the screened **Safe-Vac** during any implant procedure, especially when working in the maxillary posterior. I like the added protection from aspiration."*

Luster for Zirconia

Meisinger USA, L.L.C.

(303) 268-5400 | <http://meisingerusa.com>

Description

Luster for Zirconia Adjusting and Polishing Kits contain re-usable burs indicated specifically for use on monolithic zirconia restorations. The *LUS91* intra-oral kit includes three friction-grip diamonds and blue and brown latch-type polishers in cup and point shapes. The *LUS85* extra-oral kit includes an adjustment wheel and point, with blue and brown polishers in wheel and point shapes for use in a straight handpiece. The polishers in both kits are a two-step diamond impregnated system and are organized in autoclavable anodized aluminum bur blocks. **Luster for Zirconia** was evaluated by 14 consultants in 346 uses. These zirconia polishing kits received a 91% clinical rating.

Suggested Retail Cost

Extra-oral kit	\$186.25
Intraoral kit	\$138.50

Product Features

Luster for Zirconia kits contain everything needed for adjusting and polishing zirconia restorations. Adjustment burs produced a smooth surface, and polishing in two steps was quick. A high gloss was achieved. Light pressure, especially with the first polisher, improved durability. Packaging in the metal bur block keeps the items together, and the entire set can be

++++ ½



Consultants' Comments

"Excellent polish."

"High gloss finish."

"The adjustment wheel is perfect for reducing contact areas."

sterilized. Twenty-two percent of consultants reported that **Luster for Zirconia** was better than the polishing kit they were using and 64% reported it was equivalent. Sixty-five percent of consultants would switch to **Luster for Zirconia** and 86% would recommend it.

Clinical Tip

- Use light pressure and water spray intraorally. ■

Luster for lithium disilicate

Meisinger USA, L.L.C.

(303) 268-5400 | <http://meisingerusa.com>

Description

Luster for lithium disilicate Adjusting and Polishing Kits contain re-usable burs indicated specifically for lithium disilicate restorations. The kits are designed for the adjustment of lithium disilicate restorations, including those produced with in-office CAD/CAM systems. The *LUS100* kit is for intra-oral use and the *LUS80* kit is for extra-oral use. Both kits include a two-step diamond impregnated system allowing clinicians to polish the material using first the red polisher and then the gray to leave a high shine. Both kits are presented in autoclavable anodized aluminum bur blocks. The extra-oral kit includes an adjusting wheel and barrel, and red and gray polishers in wheel and point shapes for use in a straight handpiece. The intra-oral kit includes three friction-grip diamonds for adjusting and red and gray latch-type polishers in cup and point shapes. **Luster for lithium disilicate** was evaluated by 18 consultants in 334 uses. This porcelain adjusting and polishing kit received a 92% clinical rating.

Suggested Retail Cost

Extra-oral kit	\$186.25
Intraoral kit	\$138.50

Product Features

The availability of **Luster for lithium disilicate** in intra-oral and extra-oral kits provided consultants with everything needed for adjusting and polishing of lithium disilicate restorations. The lab/chairside combination is ideal for CAD/CAM restorations. Adjustment burs are efficient, and the

++++ ½



Consultants' Comments

"The shapes of the polishers made it easy to adjust crowns."

"Brings a glaze-like shine to the polished porcelain."

"Excellent result with fewer steps."

diamond-impregnated polishers bring a glossy high shine to the porcelain surface. More durability of the polishers was desired by consultants. After use, the bur block, which keeps the instruments well-organized, can be sterilized. Forty-four percent of consultants reported that **Luster for lithium disilicate** was better than the adjusting and polishing kit they were using and 44% reported it was equivalent. Seventy-eight percent of consultants would switch to **Luster for lithium disilicate** and 89% would recommend it.

Clinical Tip

- Use light pressure. ■

Iveri Whitening System

Iveri Whitening, Inc.
iveriwhitening.com

Description

Iveri Whitening System is an in-office system designed to whiten teeth in one or two, 20 minute sessions and is recommended to be combined with a cleaning appointment. Whitening gel is provided in a dual-arch tray, which is one size fits all and can be used as a take home tray for touch ups and maintenance. This eliminates the need to take impressions, pour models etc. for traditional take home trays. The **Iveri** whitening light uses red and blue LED technology to accelerate whitening and protect gingival health without producing heat. Each **Iveri Whitening Kit** contains a tray pre-filled with regular or extra-strength gel and accessories. The extra-strength gel contains 36% carbamide peroxide and 6% hydrogen peroxide, while the regular strength gel contains only 36% carbamide peroxide. All **Iveri** whitening gel formulations contain potassium nitrate and xylitol to eliminate sensitivity and minimize dehydration. The **Iveri Whitening** line of products also includes *At-Home Whitening Kits* (16%, 22%, 35% carbamide peroxide and 8%, 14% Hydrogen Peroxide) and the **Iveri Anywhere Whitening Pen** (35% carbamide peroxide). **Iveri Whitening System** was evaluated by six consultants in 31 uses. This in-office whitening system received an 88% clinical rating.

Suggested Retail Cost	
Iveri In Office Regular Strength Kit	\$25.99
Iveri In Office Extra Strength Kit	\$29.99
Iveri Blue Red LED Light	\$799

Product Features

The short 20 minute procedure time was considered the best feature of **Iveri Whitening System** by consultants and patients alike. It requires minimal preparation and chair time. A light-cured gingival barrier is used for the Extra Strength In Office Whitening prior to placing the tray in the patient's mouth. A Vitamin E Oil is used for the Regular Strength In Office Whitening prior

++++



Consultants' Comments

- "The quickest in-office whitening I have ever used."
- "No gel to mix or apply."
- "Comfortable for patients who have sensitive gag reflexes."
- "A lot of rinsing is required to remove the gel."
- "Gel in the whitening pen makes teeth and lips tingle."

to placing the tray in the patient's mouth. The pre-filled tray is soft and flexible and fits all patients plus can be used for their at home whitening care. The gel is positioned in the tray to cover the facial surfaces and it is viscous enough so that it does not leak out the edges during treatment. The **Iveri** light is simple to operate and covers the entire arch. Patients reported that they were comfortable during their whitening procedure, with little to no tooth sensitivity. Consultants reported that effectiveness of the whitening procedure varied and the extra strength gel showed better results. Seventy-five percent of consultants would switch to **Iveri Whitening System** and 75% would recommend it. ■

Hemostyp

Sinc Ventures, L.L.C.
(855) 255-7462 | Hemostypdental.com

Description

Hemostyp is a hemostatic sterile gauze designed to provide fluid control and protection when placed on a cut or wound. **Hemostyp** is created from naturally regenerated cellulose and works in three stages:

1. **Hemostyp** is applied with direct pressure to a wound and covered with a clean dressing.
2. **Hemostyp** absorbs blood and expands to create pressure.
3. **Hemostyp** encourages quick clotting and becomes a gel that can be wiped away after rinsing with sterile water, saline or hydrogen peroxide.

Hemostyp gauze pads are 2 x 3.5 cm and there are two gauze pads packaged in each foil blister square. Each box contains 20 blister squares in the form of two blister packs with 10 blister squares each. **Hemostyp** was evaluated by 28 consultants in 282 uses. This hemostatic gauze received a 91% clinical rating.

++++ 1/2



Suggested Retail Cost \$100.00/box of 20

QUATTROcare Plus

KaVo Dental

(888) 528-6872, (704) 927-0816 | www.kavousa.com

Description

QUATTROcare Plus is a compact counter-top handpiece maintenance unit designed to provide efficient maintenance of up to four handpieces in one cycle. **QUATTROcare Plus** has a new chuck care feature activated by switching on the chuck service mode. Cleaning and lubricating are accomplished with **QUATTROcare Plus** spray, which expands to reach all internal parts. The unit has a barcode reading feature to ensure only the proper spray is being used. **QUATTROcare Plus** comes with a two-year warranty. **QUATTROcare Plus** was evaluated by seven consultants in 355 uses. This handpiece maintenance unit received a 99% clinical rating.

Suggested Retail Cost

\$2500 /unit with 1 can of **QUATTROcare Plus** Spray

Equipment Features

QUATTROcare Plus is an updated version of the original **QUATTROcare**. It has a modern appearance and is extremely quiet during operation. Simultaneous cleaning, purging and lubrication of up to four handpieces at once enhance efficiency in maintenance procedures. Using an automated system helps to ensure that handpieces are properly managed, leading to longer life with fewer repairs. Forty-three percent of consultants rated **QUATTROcare Plus** better than other handpiece maintenance units they had used and 29% rated it equivalent. Seventy-one percent would switch to **QUATTROcare Plus** and recommend it to a colleague.

+++++



Consultants' Comments

"Better than the original **QUATTROcare**."

"Quiet as a whisper."

"Quick and efficient."

"Allows me to do other tasks while the unit is running."

"The operation button requires several seconds of press-and-hold for the unit to start."

Clinical Tips

- Complete the handpiece maintenance before sterilization.
- Use the chuck cleaning feature once a week. ■

Hemostyp (cont.)

Product Features

Hemostyp exhibited a high level of adherence to wet tissue and provided very good hemostasis. The size of the gauze pads was appropriate for intraoral use and was not easily displaced. For extraction sites, most consultants left the product in place, allowing it to dissolve. Limited instructions are included, and the clinician must determine how best to use this product. The individual packaging is easy to open and keeps the remaining product sterile. No taste or odor was reported. For superficial wounds they rinsed it off, which was challenging because of the stickiness of the gel. Sixty-four percent of consultants rated **Hemostyp** better than other hemostatic products they were using and 14% rated it equivalent. Seventy-five percent would switch to **Hemostyp** and 86% would recommend it to a colleague.

Clinical Tips

- Do not use on infected wounds
- Place the gauze accurately, since it is not easy to reposition once wet.
- Cut gauze pads into smaller pieces or strips if necessary. ■

Consultants' Comments

"The size is just right for covering a molar extraction site."

"Great to use at injury sites."

"Expands to fill the socket."

"No chemical component."

"Stops bleeding very efficiently."

"It worked well for free gingival grafts and extractions."

"Very sticky once it gets wet."

"I would like more detailed instructions for dental indications."

"I would like it in retraction-cord size for use in restorative dentistry."

Visalys Temp

Kettenbach LP

(877) 532-2123, (714) 892-9820 | www.kettenbach.com

Description

Visalys Temp is a bis-acrylic material indicated for provisional crowns, bridges, onlays, and veneers over the short or long term. The material is formulated to provide strength, durability and excellent esthetics during the provisional restoration phase. **Visalys Temp** is available in six shades, A1, A2, A3, A3.5, B1 and BL, and is dispensed from a 50 mL cartridge. **Visalys Temp** has a working time of 40 seconds, can be removed from the mouth between 1:20-2:20 minutes, and has a final set time of 4 minutes from beginning of mix. Each cartridge comes with 15 mixing tips. **Visalys Temp** was evaluated by 19 consultants in 579 uses. This provisional material received a 97% clinical rating.

Suggested Retail Cost \$193.35/cartridge

Clinical Observation

Handling

Visalys Temp extrudes smoothly without bubbles. The viscosity is flowable and was rated excellent. Working time is adequate for most cases, yet setting time is fast. In large, multiple-unit cases, setting could begin before the material is placed in the mouth. Consultants found the setting to occur faster than the manufacturer reported.

Air-inhibited Layer

Excess material on adjacent teeth peeled off cleanly without much sticky residue. The surface of the formed provisional restoration had only a thin air-inhibited layer, which could be removed with alcohol.

Trimming/Finishing/Polishing

Visalys Temp set very hard, allowing margins to be trimmed and polished without chipping. Flowable composite could be used on areas needing repair. Consultants used numerous products and techniques for polishing, and the consensus was that the material achieved a smooth, glossy surface.

Esthetics

The shades available satisfied the range of clinical needs. Shades are accurate and create very esthetic provisional restorations.

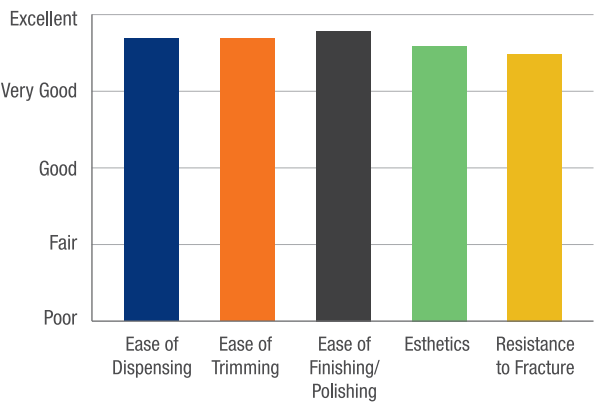
+++++



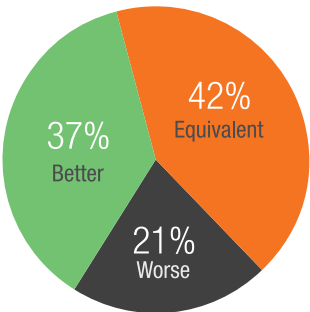
Consultants' Comments

- "Great handling - easy to finish and polish."
- "Good shade selection."
- "Minimal air-inhibited layer."
- "Fit is excellent."
- "This is my new favorite material."
- "Working time is a little short."
- "Print the working/setting times on the cartridge."

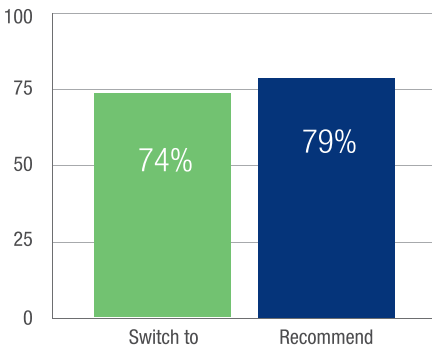
Key Features



Compared to other provisional materials



Percentage of consultants who would:



Visalys Temp (cont.)

Fit

When removed within the recommended time, **Visalys Temp** can be removed over undercuts without locking onto the teeth. After setting, no noticeable shrinkage occurs, resulting in excellent fit of provisional restorations.

Fracture Resistance

Visalys Temp sets hard and strong and provisional crowns have very good resistance to fracture and chipping. The material exhibits some brittleness in longer span bridges.

Summary

Thirty-seven percent of consultants rated **Visalys Temp** better than other provisional materials they were using and 42% rated it equivalent. Seventy-four percent would switch to **Visalys Temp** and 79% would recommend it..

Clinical Tips

- Work quickly on multiple-unit cases.
- Use alcohol to clean the inside and outside of the temporary restoration. ■

MTA Fillapex

Angelus

1-855-FindMTA (1-855-346 3682) | www.angelusdental.com

Description

MTA Fillapex is a mineral trioxide aggregate-based, salicylate resin root canal sealer. It is designed to provide a high flow rate and a low film thickness for easy penetration of lateral and accessory canals. It contains 13% MTA and salicylate resin for their antimicrobial and biocompatibility properties. The working time is 23 minutes with a complete set time is approximately 2 hours. **MTA Fillapex** is a two-paste system and is provided in a 4 g automix syringe and 30 g tubes. **MTA Fillapex** was evaluated by 28 consultants in 438 uses. This root canal sealer received an 88% clinical rating.

Suggested Retail Cost

4 g syringe	\$19.99
30 g tube	\$109.99

Product Features

MTA Fillapex mixes to a creamy consistency with a high degree of flow. It coats gutta percha and canals without exhibiting stickiness. Working and setting times are adequate and fulfill requirements of ISO 6876 for Root canal sealing materials. Based on positive past experience with MTA, consultants were enthusiastic about its inclusion in a sealer paste. A significant amount of the product was required to fill the automix tips, and the low viscosity paste oozed out of the tip after mixing. **MTA Fillapex** is also available in tubes. Twenty-one percent of consultants rated **MTA Fillapex** better than other root canal sealers they were using and 36% rated it to be equivalent.

Clinical Tip

- Store at room temperature. Do not refrigerate. ■

++ ++



Consultants' Comments

"Flows well."

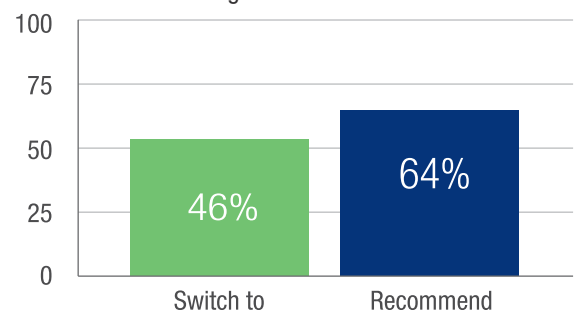
"**MTA Fillapex** helps the gutta percha slide into the canal."

"Good radiopacity."

"No post-op irritation."

"Syringe delivery system needs improvement and presentation in tubes might be preferred."

Percentage of consultants who would:



SmartView Sectional Matrix System

DentiSmart, LLC

(888) 208-1765 | www.dentismart.com

Description

SmartView Sectional Matrix System is designed to create tight, anatomically accurate contacts on Class II composite restorations. The system includes **SmartView Clips**, **SmartBands**, **SmartView Clip Forceps** and **SmartBand Forceps**. The **SmartView Clips** are strong and flexible, work with any wedge and have interior and exterior placement locations. The contoured, stainless steel **SmartBands** have gingival extensions and an occlusal grip tab; bands are available with or without a non-stick coating. The **SmartView Sectional Matrix System Deluxe Kit** was evaluated by 10 consultants in 181 uses. This sectional matrix system received an 86% clinical rating.

Suggested Retail Cost

\$239.00/deluxe kit

Product Features

SmartView Sectional Matrix System is a complete kit that produced very good contacts in Class II composite restorations. The **SmartView Clips** fit securely and adapt around the tooth, resulting in minimal flash. The nylon tines are slightly pliable and seat low on the tooth to minimize flash. Stacking clips for restoration of multiple surfaces is a common procedure, and **SmartView Sectional Matrix System** is limited in use due to its inability to stack the bands. The thin, 0.001" **SmartBands** insert smoothly and are available in a useful range of sizes. The cervical extension on each band is substantial and is not necessary in all cases. Both the **SmartBand Forceps** and the **SmartView Clip Forceps** are made of blue titanium and have a lightweight feel; both are available in stainless steel as well. Ten percent of consultants reported that **SmartView Sectional Matrix System** was better than the matrix system they were using and 40% reported it was equivalent. Forty percent of consultants would switch to **SmartView Sectional Matrix System** and 50% would recommend it.



Consultants' Comments

"Nicely packaged system."

"Great variety of band sizes."

"**SmartView Clips** fit securely, even on short teeth."

"Composite does not stick to coated bands."

"**SmartView Clip Forceps** are too retentive - hard to disengage in the mouth. Shorter prongs on the forceps would be easier to use."

"Rings cannot be stacked."

"A shorter, angled clip would improve access."

Clinical Tips

- **SmartView Clips** can double as a rubber dam clamp.
- If multiple clips are necessary, they can be placed facing one another. ■

SPECIAL THANKS TO:

Select Senior Clinical Consultants (Over 20 years):

J. Amara, CT · R. Fisher, OH · W. Gregory, MI · E. Katkow, MD · J. Lockwood, MI · J. Mayer, OH · W. Nagy, TX · G. Poy, MI · J. Shamraj, MI · R. Trushkowsky, NY · P. Yaman, MI

Senior Clinical Consultants (15-19 years):

S. Anderson, MI · R. Anthony, OH · K. Baker, TX · F. Berman, PA · L. Brimhall, MT · M. Briskin, NY · L. Brown, MI · R. Ciccone, MI · C. Colbert, MI · M. Conrad, PA · J. Dingman, WI · J. Doueck, NY · M. Dwoskin, MI · M. Eannaccone, NY · R. Engle, IL · K. Fairbanks, MI · K. Fischer, IN · G. Franco, NY · N. Garlisi, OH · K. Goodman, MI · S. Graber, IL · P. Grandsire, NY · B. Gursky, MI · E. Gutman, NY · K. Hamlett, TX · G. Hart, OH · R. Herwig, KS · J. Kaminski, MI · R. Kaprielian, NJ · M. Kastner, OH · C. Kehr, MI · M. LaMarche, WA · J. Leitner, MI · M. Livernois, NC · B. Manne, FL · N. Mansour, MI · N. Markarian, CA · J. W. Mikesell, IL · G. Mosso, PA · E. Mosso, PA · E. Odenweller, OH · J. Paris, TX · D. Parris, GA · D. Peterson, MD · T. Pieper, WY · D. Pitak, MI · V. Plaisted, NY · D. Qualliotine, NC · C. Reed, MI · P. Sandvick, WI · K. Schwartz, FL · J. Shea, MO · B. Shumaker, NJ · B. Sims, NY · H. Tetalman, OH · C. Trubschenck, CA · P. Tu, CA · S. Ura, NH · W. Walcott, MI · L. Wee, MI · D. Wojtowicz, MI · R. Wilkie, MI · M. Zahn, MI

Clinical Consultants (14 years or less):

C. Adamson, MI · A. Albright, NY · N. Alexa, MI · B. Argersinger, NC · A. Bagchi, MI · B. Barricklow, OH · L. Bartoszewicz, MI · J. Bechtel, MI · C. Bhatti, MI · L. Bishop, MI · T. Bizga, OH · J. Bostic, OH · N. Brezden, MI · C. Brown, LA · W. Brownscombe, MI · S. Bunek, MI · J. Bunek, MI · J. Bush, PA · H. Cadorette, MI · P. Campo, NY · D. Chacko, TN · P. Chaiken, IL · R. Cherry, FL · J. Chips, PA · T. Chips, PA · W. Co, MI · M. Connelly, MI · S. Dillingham, NY · R. Dost, VA · A. Dutko, MI · J. Dwahan, MA · M. Eford, MI · O. Erdt, MI · F. Facchini, MI · F. Falcao, FL · M. Feinberg, NY · L. Feldman, NJ · M. Fluent, MI · M. Frankman, SD · L. Gee, OK · C. Goldin, MI · B. Greenwood, UT · P. Gronet, KY · H. Gulati, MA · D. Haas, Ontario · J. Haddad, MI · S. Harden, GA · J. Hastings, CA · J. Hengehold, MI · B. Herrmann, CA · D. Hock, MI · D. Hassoun, MI · C. Huang, CA · P. Indianer, MI · J. Ireland, MI · C. Jaghab, MI · M. Kachi-George, MI · D. Kapp, NY · J. Karam, MI · S. Kazan, MI · E. Kelly, GA · J. Kelly, GA · L. Kemmet, MN · D. Keren, NY · M. Koczarski, WA · B. Kolb, MI · C. Latham, OH · R. Le, NC · T. Leonard, FL · S. Lever, MD · I. Levine, NY · E. Lowe, BC, CAN · J. Lusby, MI · M. Man, NY · C. Manduzzi, MI · K. Mantzikos, NY · F. Margolis, IL · M. Mason, NY · T. McDonald, GA · C. McLaren, MI · J. McLaren, MI · M. McMullin, MI · H. Menchel, FL · L. Metsger, PA · M. Migdal, MI · J. Minsky, CA · R. Mizrahi, NY · G. Molinari, MI · L. Montes, NY · M. Murphy, MI · J. Nash, MI · A. Nazarian, MI · N. Nealis, IL · M. Nemeth, MI · V. Nerikar, FL · C. Noe, MD · J. Olsen, MI · F. Orlando, NY · R. Oshrain, NY · A. Overall, MI · S. Owens, MI · M. Paquette, MI · J. Park, IL · J. Parrott, MI · M. Patel, MI · T. Poirier, MI · D. Radtke, MI · G. Raichelson, Ontario · G. Ramos, NY · C. Ramsey, FL · T. Reeves, TN · N. Rego, CA · G. Reskakis, NY · J. Riggs, MI · J. Rowe, AR · F. Ruder, FL · A. Saddy, MI · R. Selvan, NJ · M. Shapiro, MS · S. Shoukfeh, MI · P. Shumaker, MI · J. Smith, MI · B. Stevenson, MI · P. Symeonides, NY · S. Tamber, MI · S. Tamber, MI · G. Tarantola, FL · T. Teel, IN · T. Trullard, MI · Lyn. Vandelaar, MI · M. Vanderbeek, MI · H. Vann, MS · M. Waranowicz, MI · J. Wehr, MI · E. Whittier, FL · L. Williams, MI · K. Wilson, MI · D. Wolf, MA · W. Wright, CA · H. Yeung, CA · D. Young, MI · P. Zanetti, MI · J. Zanetti, MI · S. Zimmer, MI

Laboratory Consultants:

Apex Dental Milling, MI · Bullinger Dental Lab, MI · Centric Dental Laboratory, TX · Cornerstone Dental Studio, Inc., MI · David's Dental Laboratory, NY · Expertec Dental Lab, MI · Heritage Dental Laboratory, IL · Technique Crown and Bridge, Inc., NC