

THE DENTAL ADVISORTM

Improving Patient Care Through Research & Education

April 2015

Vol. 32, No. 03

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Update on Composites

Over the past 50 years, resin composites have undergone tremendous improvements in strength, wear resistance, reduced polymerization shrinkage, esthetics, and handling characteristics. The addition of nanofillers to composites has resulted in better polishability, surface smoothness and translucency. Recently, new formulations of composites provide the ability for bulk filling and improved flowability in a universal composite.

This issue of THE DENTAL ADVISOR will explore current trends and techniques in simplifying posterior composites. The newest innovations in bulk-fill composites, advances in flowable 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 + + +

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

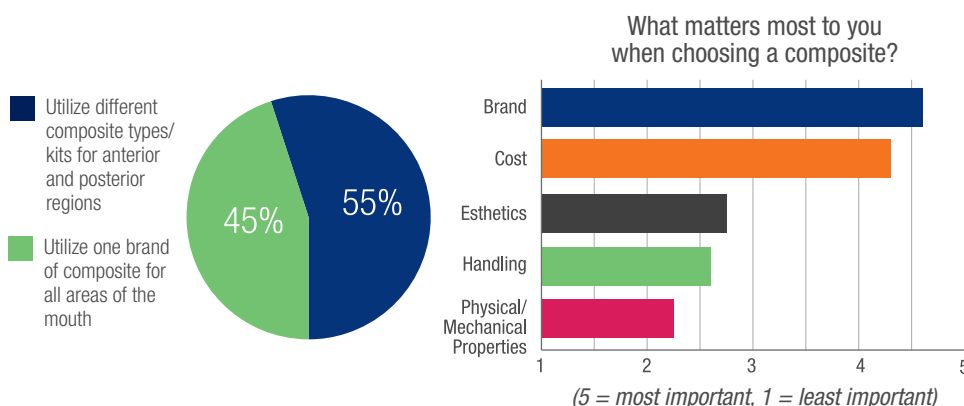


The evolution of resin composite materials is undoubtedly one of the most significant advances in modern dentistry not only in terms of esthetics and strength, but also in conservation and prevention. The revolutionary change in technology has resulted in the creation of several categories and sub-categories of composite materials, increasing the complexity of choosing an appropriate product for a given application.

Manufacturers are aiming to simplify the process by introducing several "universal" composites indicated for use in all areas of the mouth; still, our research indicates that approximately 55% of our surveyed clinical consultants have separate kits designated for posterior and anterior restorations. Surprisingly, these same consultants ranked "brand" and "cost" as the most influential factors when selecting a composite, over esthetics, handling, and mechanical properties. If this is the case, why isn't the number of consultants utilizing one universal kit higher? What is preventing clinicians from fully embracing these universal composites? Perhaps this discrepancy is somehow related to the sheer volume of products on the market. We offer this main topic in an attempt to simplify both the product selection process and the actual composite procedure by discussing several categories of composites and their properties as well as some accessories designed to increase procedural efficiency.

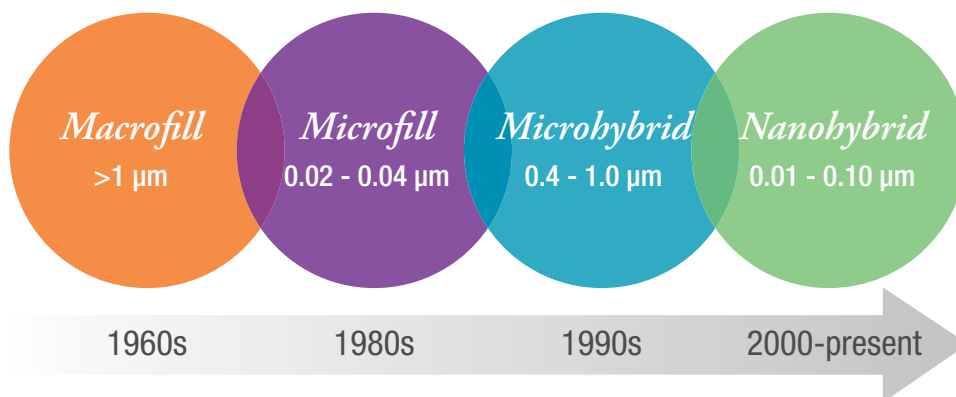
As always, I welcome your comments and suggestions; you can reach me at drbunek@dentaladvisor.com. Thank you for your continued support and reading!

Survey of Clinical Consultants:



Evolution and Classification of Composites

The most common classification system for resin composites considers the distribution and average particle size of the composite filler. The first composites, macrofills, were highly filled (70-75% by weight) and contained large particle sizes (>1µm) making them prone to plucking, resulting in excessive wear. As a result, the composites introduced thereafter all contained smaller filler particles and can be classified into three main categories: microfills, microhybrids, and nanohybrids.



Evolution of Composite Resins

Microfills: Particle size: 0.02-0.04 μm

The extremely small filler particles (0.02 μm to 0.04 μm) and lower filler load (35%-50%) of microfills contribute to the translucency, long lasting high polish, and best wear resistance of this class of materials. The ability to mimic the appearance of enamel make them most suitable for direct composite veneers and Class III, IV, and V restorations. The reduction in filler lowers the strength of these materials; therefore, they should not be used in high-stress areas.

Microhybrids: Particle size: 0.4-1.0 μm

Microhybrids were developed to combine the strength of larger particle size with the esthetics of smaller microfill particles. Microhybrids generally have a filler content of approximately, 75% by weight, with particles ranging in size from (0.4 μm to 1.0 μm). The particle size and filler load give the material the strength and wear resistance needed to perform in the posterior. The polish of these materials is initially satisfactory; however, they lose luster over time. They are the most opaque of all composites and, therefore, work ideally in combination with a microfill layer.

Universal Nanohybrids: Particle size: 0.01-0.10 μm

Nanohybrids contain the smallest particles and are the most recent class of resin composite materials. They continue to gain in popularity because of their excellent strength, esthetics, wear resistance, handling, and polishability. They are referred to as universal composites because the combination of strength and esthetics make them suitable for both anterior and posterior applications.

Universal Nanohybrid Composites

Product	Company	Clinical Rating
Estelite Sigma Quick	Tokuyama Dental America	99%
GrandioSO	VOCO	96%
Tetric EvoCeram	Ivoclar Vivadent, Inc.	96%
BEAUTIFIL II	SHOFU Dental Corporation	94%
Filtek Supreme Ultra	3M ESPE	92%
Aura	SDI (North America) Inc.	91%
Kalore	GC America	91%
Reflectys	Itena North America	91%
Venus Diamond	Heraeus Kulzer	91%
Venus Pearl	Heraeus Kulzer	91%

Venus Pearl

++++ ½

Heraeus Kulzer
(800) 431-1785

www.heraeusdentalusa.com



Product Description: *Venus Pearl* is a universal nano-hybrid composite based on the innovative urethane monomer chemistry of *Venus Diamond*. *Venus Pearl* offers the same combination of low shrinkage stress and high durability—in a creamy consistency. Simple and easy to use, the consistency of *Venus Pearl* is ideal for fine detailed work. Its exceptional sculptability and high degree of polishability make *Venus Pearl* well suited for anterior as well as posterior restorations. It received a 91% 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.

3M ESPE Filtek Supreme Ultra Restorative

++++ ½

3M ESPE

(800) 634-2249

www.3mespe.com/us



Product Description: *3M ESPE Filtek Supreme Ultra* offers fluorescence, additional body shades, improved handling of the translucent shades, and easier polish. This universal composite is designed for use in anterior and posterior direct restorations. It is available in both syringe and single-dose capsules in a wide range of 7 dentin shades, 17 body shades, 8 enamel shades and 4 translucent shades. *Filtek Supreme Ultra* was used by 23 consultants on 1141 restorations. It received a 92% clinical rating.

I. Bulk-fill Composites

Direct posterior composites are among the most performed restorative treatments in dentistry; however, placement can be challenging and time-consuming. To save time and deliver predictable posterior restoration, manufacturers developed bulk-fill composites. Where once it was required to cure composites in increments of 2 mm, newer bulk-fill products can be cured up to 4-6 mm, while decreasing shrinkage stresses generated during polymerization. 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.

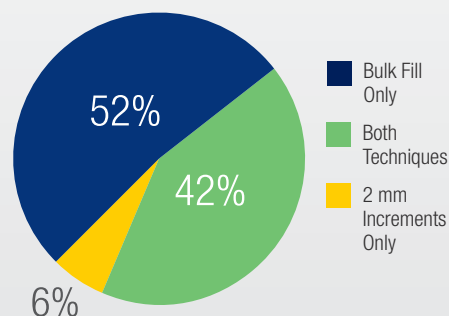
Please log on to dentaladvisor.com to see long-term clinical data on **Tetric EvoCeram Bulk Fill** (Ivoclar Vivadent, Inc.) two-year clinical performance report.

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

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

Survey of Clinical Consultants:

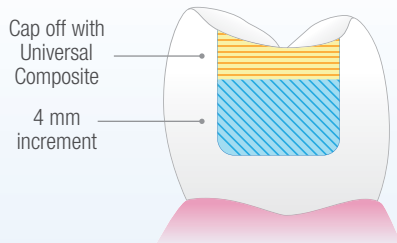
Are you layering in 2 mm increments or utilizing a bulk fill technique?



Types of Bulk-fill Composites

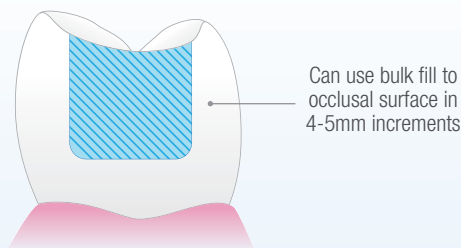
Bulk-fill composites are not all the same. It is important to understand how they differ and to use them accordingly. The main difference among bulk-fill composites can be seen in the viscosity of the material and its delivery.

Bulk-Fill Flowable (Base)



Materials in this category are dispensed in a flowable syringe and can be bulk-filled up to 4 mm in depth. The low viscosity allows for good adaptation to walls and proximal boxes. It is critical to note that these composites are not as highly filled and can exhibit low wear resistance; therefore, they must be layered (capped) with a stronger composite. Currently, five bulk-fill flowable composites are available in the US market: **BEAUTIFIL-Bulk Flowable** (SHOFU DENTAL CORP.), **SureFil SDR flow** (DENTSPLY Caulk), **Filtek Bulk Fill Flowable Restorative** (3M ESPE), **Venus Bulk Fill Flow** (Heraeus Kulzer), and **x-tra base** (VOCO).

Bulk-Fill Restorative



More viscous bulk-fill materials also exist, exhibiting strong physical properties that permit them to be used to restore occlusal surfaces. The higher viscosity of these materials compared to flowable bulk-filled materials allows for sculptability, a desirable property when carving anatomy and when placing material into proximal contact area. Products in this category have a published depth of cure of 4-6 mm; examples include: **Tetric EvoCeram Bulk Fill** (Ivoclar Vivadent, Inc.), **Sonicfill** (Kerr Corporation), and **x-tra fil** (VOCO).

BEAUTIFIL-Bulk Flowable

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SHOFU Dental Corporation
(800) 827-4638
(760) 736-3277
www.shofu.com



Product Description: **BEAUTIFIL-Bulk Flowable** is a low-viscosity, bulk-fill composite indicated for use as a base/liner in Class I and II restorations. It offers continuous fluoride release and rechargeability and low shrinkage stress. The composite self-levels and has a 4 mm depth of cure. **BEAUTIFIL-Bulk Flowable** comes in 2.4 g syringes with 18G needle tips or 0.23g compules. Curing times with an LED light are 20 seconds for the dentin shade and 10 seconds for the universal shade. **BEAUTIFIL-Bulk Flowable** syringe was evaluated by 30 consultants in 608 uses. This flowable bulk-fill composite received an 88% clinical rating.

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

II. Flowable Materials: New Trends

Traditional Low-filled Flowables

Many flowable composites have been introduced to the dental profession since the first light-cured flowable composite arrived on the market in the mid 1990s. This small accessory once only used as an adjunct to certain procedures has now become widely accepted, providing expanding options for restorative dentistry. Until recently, most flowables contain higher resin content and lower filler loading when compared to conventional composites. In general, the reduction in filler lowers the mechanical properties and increases the flowability, while the increase in resin content makes them more prone to polymerization shrinkage. As a result, the highly flexible and low viscosity flowables have been recommended for use in low occlusal loading areas. Some indications include: cavity liner; pit and fissure sealants; minimally invasive class I, II, or III restorations; class V restorations; and the repairs of small defects in direct and indirect restorations (**3M ESPE Filtek Supreme Plus Flowable**, 3M ESPE; **Tetric EvoFlow**, Ivoclar Vivadent, Inc.; **GRADIA DIRECT LoFlo**, GC America, Inc.; and **Estelite Flow Quick**, Tokuyama Dental America, Inc.).



Universal Highly-filled Flowables

In recent years, manufacturers have introduced flowables with higher filler content in varying viscosities. The higher filler content increases strength and wear resistance, lowers polymerization shrinkage, and allows the material to be stacked, making the composite suitable for class I-V restorations (**BEAUTIFIL Flow Plus**, SHOFU DENTAL CORPORATION; **G-aenial Universal Flo**, GC America; **GrandioSO Heavy Flow**, VOCO; **CLEARFIL MAJESTY ES Flow**, Kuraray Noritake Dental Inc.).

Universal (High Viscosity)

Product	Clinical Rating
BEAUTIFIL Flow Plus (Zero Flow, Low Flow)	96%
GrandioSO Heavy Flow (83% filled)	96%
G-aenial Universal Flo	92%
CLEARFIL MAJESTY ES Flow	na

Class I Restoration using **BEAUTIFIL Flow Plus** (From Clinical Case Report No. 24)

A high-caries-risk, 20-year-old male presented with small Class I carious lesions on teeth Nos. 12 and 13 (Figure 1). The teeth were vital and asymptomatic. Figure 5 shows the completed restorations. Please log on to dentaladvisor.com to see full Clinical Case Report, Number 24.



Figure 1. Pre-operative view of teeth Nos. 12 and 13



Figure 2. Caries removal



Figure 3. Post-operative view of final restorations

BEAUTIFIL Flow Plus

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SHOFU Dental Corporation

(800) 827-4638

(760) 736-3277

www.shofu.com



Product Description: **BEAUTIFIL Flow Plus** is a fluoride-releasing and recharging, light-cured flowable restorative material that incorporates Giomer technology. It is designed to be a base, a liner and a final restorative all in one and is available in two viscosities [Zero Flow (F00) and Low Flow (F03)] delivered from syringes designed for no dripping or oozing. **BEAUTIFIL Flow Plus** was evaluated by 15 consultants in 377 uses. It received a 91% clinical rating.

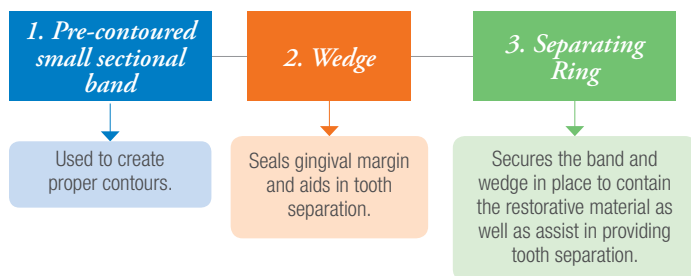
Simplifying Composites

Posterior Composites: Sectional Matrix and Tofflemire-style systems

Successful class II restorations require clinicians to utilize a matrix system to recreate missing proximal tooth structure. The goal is to create an ideal contact with adjacent tooth, restore optimal interproximal contour, and 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 achievable. With the advent of composite restorations, manufacturers have developed newer sectional matrix systems, including the **Composi-Tight 3D™** (Garrison Dental) and the **V3 system** (Ultradent Products, Inc.). These easy to use systems utilize three components, allowing clinicians to predictably and efficiently create interproximal contacts.

Sectional Matrix Systems require the use of three components:

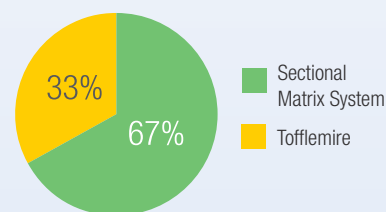


Anterior Composites:

Prefabricated Translucent Template System

Achieving esthetic outcomes for direct composite veneers can be a daunting process. Some clinicians stay away from the conservative restorative option because of the difficulty in creating ideal contours and the amount of time that goes into layering, shade selection, and finishing and polishing of the final restoration. To assist clinicians with this procedure, templates and prefabricated direct composite veneers are becoming available to the market. **Uveneer** (Dental Arts Innovations Pty Ltd) is an easy to use system of translucent templates that are pressed over the clinician's choice of composite material. Curing the composite material through the templates prevents the creation of the oxygen-inhibited layer resulting in a high luster and little flash. The contours of the templates are ideal - cutting down time on shaping, finishing, and polishing and significantly increasing efficiency.

Survey of Clinical Consultants: What are you using for class II restorations?



Some dentists still prefer using a Tofflemire style matrix system for their posterior composites, and clinicians who prefer sectional matrix systems will keep Tofflemire systems in the office for certain indications.

PinkBand Dental Solution (Fly Cast Technologies, Inc.) and **Greater Curve** (Greater Curve) are both highly recommended by THE DENTAL ADVISOR.

Uveneer

Dental Art Innovations

(888) 771-0479

www.uveneer.com



Product Description: **Uveneer** creates predictable direct esthetic veneers in a quick, easy and affordable way. The **Uveneer** delivers beautiful anatomy, form and function to create natural looking restorations. By using the **Uveneer** template, you eliminate the oxygen-inhibited layer during the curing process. This means your restoration is glossy and requires minimal final adjustments. Indications include: immediate direct composite restorations, mock-ups to show patients a new cosmetic smile, class 5 restorations, and temporaries. **Uveneer** is autoclavable.

Q: Are there any universal composites with fluoride release available that are more esthetic than glass ionomer-based restorative materials?

A: Finding the right restorative material for high-carries risk patients can be difficult. Traditional glass-ionomers provide fluoride release and recharge but fall short when it comes to esthetics. **Beautiful II** (Shofu) is a nano-hybrid composite that has proven to be a good restorative choice when the benefits of a glass ionomer (fluoride release and recharge) and composite (esthetics and polishability) are desired. The giomer composite can be used in for anterior and posterior restorations.

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.

Some Important Properties of Composites

Ron A. Yapp, M.S., M. Cowen, B.S., John M. Powers, Ph.D. | 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:

Flexural Strength and Flexural Modulus describe a material's resistance to bending. The flexural modulus (stiffness) of an elastic material is the amount it 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 or permanently deforming.

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 and can be easily machined into a test standard.

Gloss is a surface property related to specular reflection from the surface and is dependent on the material, its surface roughness, and the angle of illumination. Gloss is measured by a gloss meter and can be used to compare surface finishing and polishing performance of composites.

Composite Product (shade: A2)	Flexural Strength, MPa (SD)	Flexural Modulus, GPa (SD)	Radiopacity, mm of aluminum per mm of material	Gloss, gloss units
Universal Composites				
Beautiful II (Shofu Dental Corp.)	124 (9)	11.8 (0.7)	3.1 (0.1)	58
Camouflage Universal (Glidewell Dental Laboratories)	122 (10)	10.0 (0.8)	2.6 (0.0)	72
Venus Diamond (Heraeus Kulzer)	161 (15)	12.4 (1.1)	3.6 (0.0)	59
Venus Pearl (Heraeus Kulzer)	152 (11)	9.6 (0.8)	3.2 (0.0)	67
Reflectys (Itena North America)	137 (3)	10.6 (0.5)	2.7 (0.0)	67
Flowable Composites				
Beautiful-Bulk Flowable (Shofu Dental Corp.)*	120 (4)	10.1 (0.9)	2.7 (0.1)	na
Beautiful Flow Plus (Shofu Dental Corp.)	105 (7)	7.9 (0.5)	2.3 (0.1)	74
Camouflage Flowable (Glidewell Dental Laboratories)	126 (6)	5.3 (0.1)	1.8 (0.0)	71
Clearfill Majesty ES Flow (Kuraray America)	139 (8)	6.7 (0.7)	2.2 (0.0)	76

* Compressive strength = 293 (16) MPa

Venus Diamond®

++++ ½

Heraeus Kulzer

(800) 431-1785

www.herausdentalusa.com



Product Description: *Venus Diamond* is a universal nano-hybrid composite with optimal physical properties that truly performs in every category with low shrinkage stress, unique handling, exceptional strength and durability, and perfect color adaptation. Offering a firmer, more packable consistency, *Venus Diamond* leads the industry in color adaptability with a patented formula that provides an outstanding natural look – replicating nature and mimicking tooth anatomy. Just one shade saves time and produces radiant results.

Reflectys

++++ ½

Itena North America

(877) 224-6608

www.itena-clinical.com



Product Description: *Reflectys* is a light-cured, radiopaque, nano-hybrid composite indicated for all restorations of anterior and posterior teeth. *Reflectys* has exceptional esthetic quality, excellent marginal adaption and easy handling. *Reflectys* is available in 16 shades. Cure time is 20 seconds at a depth up to 3 mm. *Reflectys* was evaluated by 24 consultants in 740 uses. This universal composite received a 91% clinical rating. *Reflectys* is available through Henry Schein or DC Dental - Syringe \$54.99, 20/Pk Capules \$69.99 and Flowable \$36.99.

NeoMTA Plus

Avalon Biomed, Inc.

844-MTA-PLUS (844-682-7587) | www.avalonbiomed.com

Description

NeoMTA™ Plus® root and pulp treatment material is a powder/gel system with no resin. The components are an extremely fine powder primarily tricalcium and dicalcium silicate plus a water-based gel. The powder is off-white, contains no bismuth oxide, and is formulated to prevent staining the tooth. The material is both bioactive and radiopaque and is indicated for pulp capping, cavity lining, base, pulpotomy, root-end filling, apexification, perforation repair, root resorption, sealing, and endodontic obturation. **NeoMTA Plus** achieves washout resistance in less than 3 minutes, allowing continuation of the restorative procedure. It has a 20-minute working time and a 50-minute setting time when mixed to a putty consistency. The powder bottle has a desiccant liner, allowing a shelf life of 3 years; storage is at room temperature. The kit evaluated included 2.5 g powder with scoop and 4 mL liquid in a dropper bottle. **NeoMTA Plus** was evaluated by 21 consultants in 357 uses. This reparative cement received a 91% clinical rating.

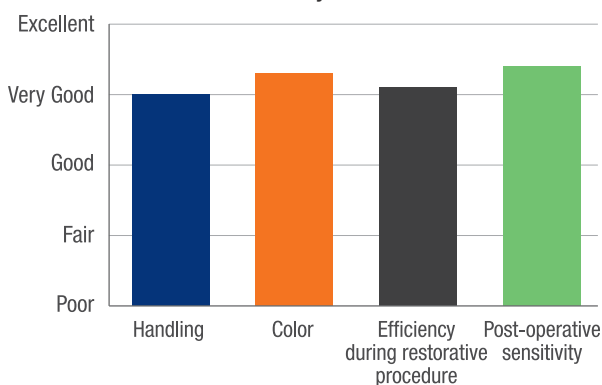
Suggested Retail Cost

2.5g kit	\$117.00
7g kit	\$287.60

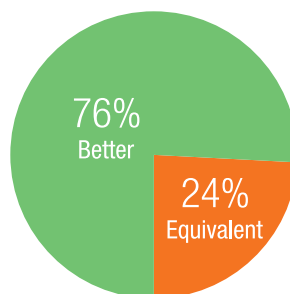
Product Features

NeoMTA Plus has superior handling properties compared to other powder/liquid MTA products available. The smooth consistency creates a cement that can be packed and molded and stays where placed. The ability to mix it to different viscosities offers versatility, depending upon the clinical situation. Most consultants had a need to keep this type of product on hand for occasional use and were pleased with the long shelf life. The packaging was considered economical since the desired amount could be dispensed with no wasted material. When used for direct or indirect pulp capping, consultants reported little to no post-operative sensitivity.

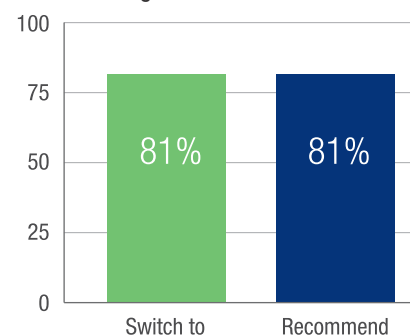
Key Features:



Compared to Competitive Products:



Percentage of Consultants Who Would:



++++ 1/2



Consultants' Comments

"Good radiopacity."

"Versatile material."

"Ideal material to treat a pinpoint pulp exposure during a restorative procedure."

"Consistency is smooth, not gritty."

"Powder and gel are easy to mix."

"Package in a sturdier box that is easier to open."

"Instructions should include powder/gel ratio recommendations for different indications."

Clinical Tip

- When using **NeoMTA Plus** during a restorative procedure, place a flowable composite over the cement before etching the tooth. ■

G-aenial Bond Unit Dose + + + + +

G-aenial Bond is a 7th-generation adhesive that is now available in Unit Dose packaging. Each Unit Dose has 0.1 mL of adhesive in an easy-to-open container that is wide enough to insert the applicator brush and remove a generous volume of liquid on the tip. Fifty-seven percent of consultants preferred **G-aenial Bond** in the Unit Dose vials over the original 5 mL dropper bottle. The majority of dentists (86%) felt it was important that their bonding agent be compatible with multiple etching techniques. **G-aenial Bond** is designed for the selective etching technique (self-etch for dentin, etch and rinse for uncut enamel). Each box contains 50 Unit Dose **G-aenial Bond** and 50 applicator brushes.

GC America, Inc.
(800) 323-7063, (708) 597-0900 | www.gcamerica.com



Crosstex Sterility Assurance System

Crosstex

www.crosstex.com

Description

Crosstex Sterility Assurance System is a combination of products for in-office sterilization monitoring. The components of the system are:

- **Sure-Check Sterilization Pouches** – to be used in each load.
- **STEAMPlus Class 5 Sterilization Integrators** – to be used every day or every load.
- **ConFirm 10 In-Office Biological Monitoring** – to be used at least weekly.

Sure-Check is a self-sealing sterilization pouch with external and internal multi-parameter steam indicators (time, temperature and saturated steam). The indicators change color for visible confirmation of effective sterilization parameters, and the pouches are available in five sizes. **STEAMPlus Class 5 Integrators** are more sensitive than the indicators on the pouches and are used with steam sterilization cycles to provide a definitive pass/fail result. The **STEAMPlus Integrator** is placed in a **Sure-Check** sterilization pouch along with a normal load in the center or middle of the load. The indicator bar moves from left to right during the sterilization cycle and enters the blue “SAFE” area when all three sterilization criteria have been met. **ConFirm 10** is an in-office biological monitoring system that can be used instead of a mail-in program. Using the **ConFirm 10** incubator, final results are available in only 10 hours. The **ConFirm 10** vial is placed in a **Sure-Check** sterilization pouch along with a normal load in the center or middle of the load. After sterilization, the **ConFirm 10** vial is crushed to release a liquid medium, and then placed in the **ConFirm 10** Incubator along with a crushed unprocessed **ConFirm 10** vial which acts as a Control. After incubation, a color change in the **ConFirm 10** vial is read to determine pass/fail results. A booklet is included for recording results. **Crosstex Sterility Assurance System** was evaluated by 15 consultants during a 30-day period. This sterilizer monitoring system received a 93% clinical rating.

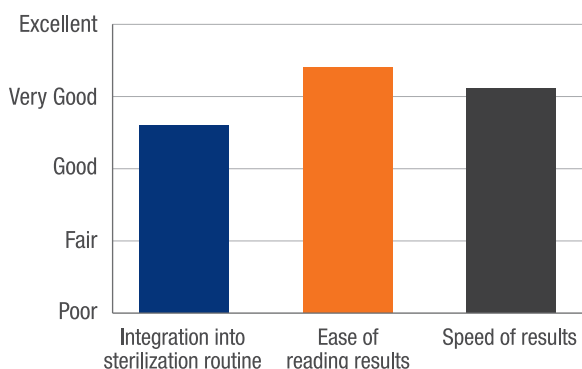
Suggested Retail Cost

System	\$499.95
Includes:	
1 Incubator	
1 x 25 ConFirm 10 BI	
1 Bag – Class 5 Integrators	
1 Box – 3.5 x 9 Sure-Check Pouches	

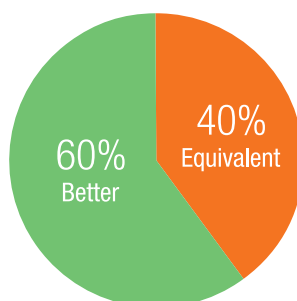
Product Features

Crosstex Sterility Assurance System provides dental offices peace of mind that their sterilizers are performing effectively. The components of the system are easy to use and integrate into the sterilizer monitoring procedures. The **Sure-Check** Sterilization Pouches had a familiar feel to users, and the indicators were reported to be easy to read. The presence of an indicator inside the pouch make the results more valuable. **STEAMPlus Integrators** were equally user-friendly with a blue bar providing clearly visible results. Knowing that these strips are classified to perform equivalent to biological indicators was

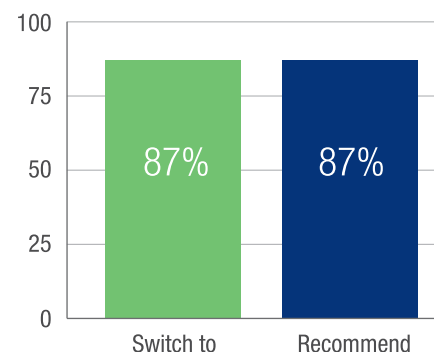
Key Features:



Compared to Competitive Products:



Percentage of Consultants Who Would:



++++ 1/2



Consultants' Comments

- "You can see results right away, as opposed to the monitoring service which takes days."
- "I like having three separate options to verify results."
- "ConFirm 10 saves me time and money compared to the strips I have to mail in for results."
- "A step-by-step protocol of all components would be useful for training new staff members."
- "I like the recordkeeping provided by my off-site monitoring program."

reassuring to dental personnel; however, they do not replace use of weekly BIs for compliance testing. Using the **ConFirm 10** In-Office Biological Monitoring required a period of adjustment in terms of timing to allow overnight incubation of the vials. Crushing the vial is required for activation, and that was not always easy to accomplish. The benefit of a quick result, compared to mail-based systems that take one or more days, was reported to be worth the extra effort. In large offices with multiple sterilizers, recording results became cumbersome. Ninety-three percent of consultants reported that implementing the **Crosstex Sterility Assurance System** gave them added confidence in their sterilization procedures and outcomes.

Clinical Tips

- Place a **STEAMPlus Integrator** in the middle of the load or inside the densest pack at least once daily.
- A **STEAMPlus Integrator** should be used in every load containing an implantable device.
- Recording of results biological monitoring is mandatory. Keep a separate record for each sterilizer in the office. ■

Defend Desensitizer

Mydent International
www.defend.com

Description

DEFEND Desensitizer is a universal desensitizing agent indicated for use under permanent or provisional restorations and on exposed root surfaces. **DEFEND Desensitizer** can be used with resin adhesives and can be placed on areas of cervical abrasion or erosion. **DEFEND Desensitizer** contains glutaraldehyde and HEMA, which aids in sealing dental tubules providing relief from hypersensitivity. **DEFEND Desensitizer** is supplied in a 10 mL dropper bottle. A drop is dispensed and the liquid is applied to the tooth with a small applicator brush. **DEFEND Desensitizer** was evaluated by 28 consultants in 679 uses. This desensitizer received a 91% clinical rating.

Product Features

DEFEND Desensitizer is simple to use and easy to add to current clinical procedures. Additional applications were found to increase effectiveness. Isolation is very important to avoid a caustic effect of the glutaraldehyde on the soft tissue. The solution is a watery liquid, and precise placement is difficult, especially on cervical areas. Many consultants found **DEFEND Desensitizer** to be immediately effective for reducing sensitivity on exposed dentin. Its compatibility with adhesives, cements and amalgam make it a versatile product.

Clinical Tip

- Avoid contact with soft tissue. ■

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Consultants' Comments

"It is a consistent, successful desensitizer. It works well under all restorations, is very easy to apply, and its antimicrobial property is beneficial."

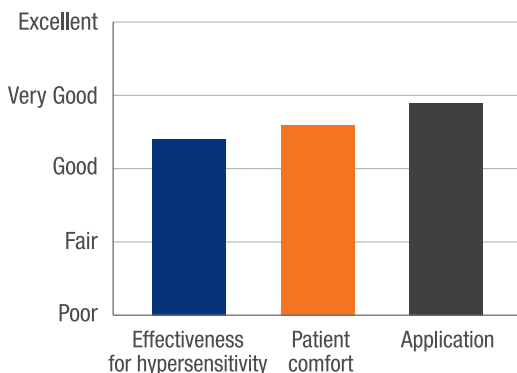
"A good value."

"I will switch because it works."

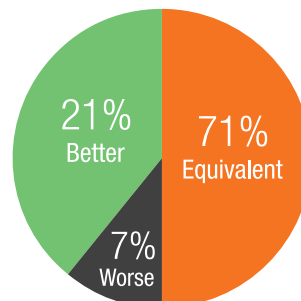
"A smaller opening on the bottle would help control dispensing."

"Instructions do not address use with self-etching adhesives."

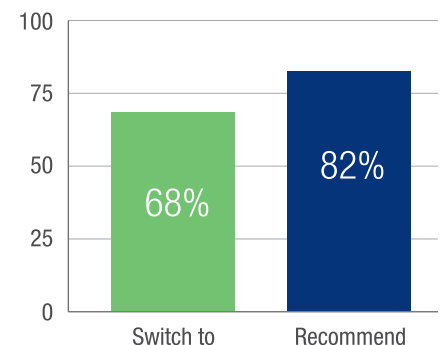
Key Features:



Compared to Competitive Products:



Percentage of Consultants Who Would:



Brush & Sculpt

Cosmedent, Inc.
www.cosmedent.com

Description

Brush & Sculpt is a low viscosity, filled resin formulated to facilitate the placement and manipulation of resin composites while preventing sticking to the placement instrument. **Brush & Sculpt** is filled 36% (by weight), does not contain HEMA and cures with both LED and halogen lights at a wavelength range of 400-500 nm. **Brush & Sculpt** comes in a 1 g syringe with 22 gauge dispensing tips. **Brush & Sculpt** was evaluated by 29 consultants in 621 uses. This sculpting resin received an 87% clinical rating.

Product Features

Brush & Sculpt is colorless so it does not affect the shade of the composite being placed, and it improves the marginal adaptation of posterior restorations. The viscosity was thicker than some users preferred and care had to be taken to avoid the use of too much material. Consultants liked that it did not interfere with the chemistry of the composite restorative material being placed. **Brush & Sculpt** was most often used to "wet" the placement instrument for final smoothing and shaping of the composite surface. It leaves a glossy surface and reduces the need for finishing with rotary instruments. ■

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Ti-Max Z900L

NSK

(888) 675-1675 | www.nskdental.us

Description

Ti-Max Z900L is an air-driven, high-speed handpiece that delivers 26 watts of power and operates between 320,000 and 400,000 rpm. A proprietary, specially shaped turbine allows for this power output, enabling fast cutting as well as a smooth, consistent cutting feel. The handpiece features a solid titanium body with a **DURAGRIP** coating. A slim neck, 94° angled head, and a unique finger and thumb notch enhance ergonomics and access. The **Ti-Max Z900L** is equipped with cellular glass optics and long-lasting ceramic bearings.

The **Ti-Max Z series** handpieces fit **NSK**, **Kavo**, **Midwest**, **Star**, and **W&H Roto Quick** couplers. **Ti-Max Z900L** was evaluated by seven consultants in 228 uses. This high-speed handpiece received a 98% clinical rating.

Suggested Retail Cost

\$1,349.00/unit

Product Features

Ti-Max Z900L performed equal to or better than the high-end handpieces Consultants were using in their practices. **Ti-Max Z900L** ran smoothly with high power output for efficient cutting of all materials. The narrow neck contributed to improved visibility and access in the mouth. The **DURAGRIP** coating allowed a positive grip and improved control even in wet conditions. Illumination was rated excellent. ■

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Consultants' Comments

"Great all-around handpiece."

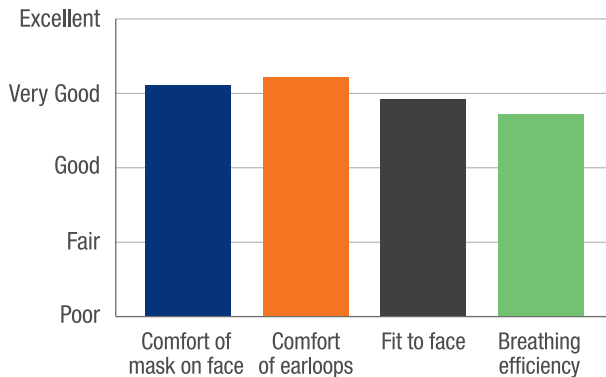
"Seamless transition from my regular handpiece."

"Very smooth and concentric."

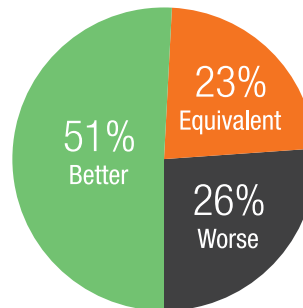
"Even water spray."

"Slim neck - good visibility."

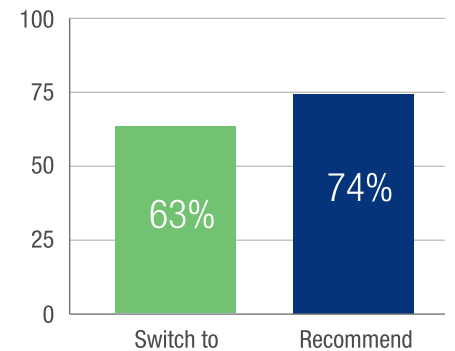
Key Features:



Compared to Competitive Products:



Percentage of Consultants Who Would:



Brush & Sculpt (cont.)

Consultants' Comments

"Helps the instrument glide over the composite."

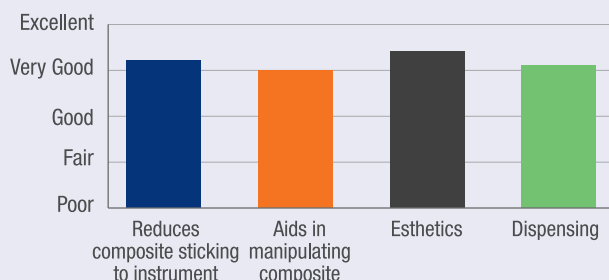
"Economical."

"A small amount goes a long way."

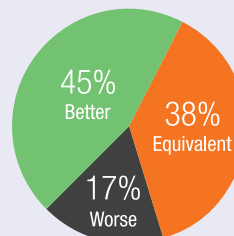
"My primary use would be for anterior esthetic restorations and direct composite veneers."

"A little thicker than I would like."

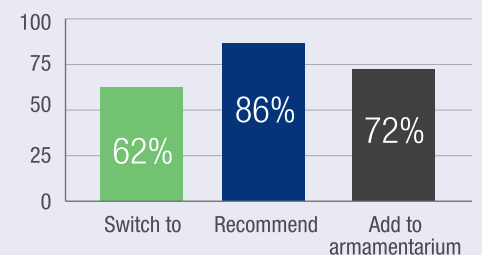
Key Features:



Compared to Competitive Products:



Percentage of Consultants Who Would:



Com-Fit Plush Masks

Sultan Healthcare

(800) 637-8582, (201) 871-1232 | www.sultanhealthcare.com

Description

Com-Fit Plush Masks are designed to offer maximum comfort without sacrificing effectiveness. The masks have a soft inner lining; ear loops which are ultrasonically bound to the mask, minimizing irritation; and a patented pre-curved noseband for optimum fit. **Com-Fit Plush Masks** are available in ASTM Levels 1, 2, and 3, providing light, moderate and heavy fluid resistance, respectively. Levels are printed on the outside surfaces of the masks. Masks are white and come in 40-count boxes. **Com-Fit Plush Masks** were evaluated by 35 consultants in over 1400 uses. This mask received a 91% clinical rating.

Suggested Retail Cost

CFP – 1, box of 40	\$15.00
CFP – 2, box of 40	\$16.25
CFP – 3, box of 40	\$17.50

Product Features

Com-Fit Plush Masks are soft and comfortable against the face. Consultants evaluated all three levels, and some noted that the Level 3 masks were thicker, making breathing a little more difficult. Many consultants were not previously aware of the various ASTM levels and felt more secure with the Level 3 for lengthy procedures. The pre-crimped noseband not only aids in a good fit, but it also identifies the inside/outside of the mask. Less fogging of eyewear was reported.

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Consultants' Comments

"Soft, comfortable mask."

"I was not aware of the different levels of protection available before trying **Com-Fit Plush Masks**."

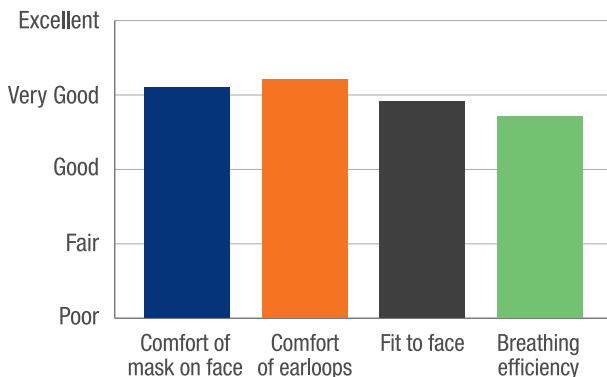
"Outside of the mask is easy to identify."

"Easy to shape around nose; prevented fogging of eyewear."

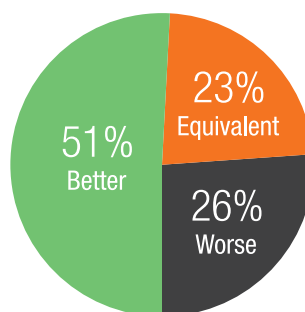
Clinical Tip

- Level 1 masks are appropriate for exams. Use higher levels for longer, more fluid-laden procedures. ■

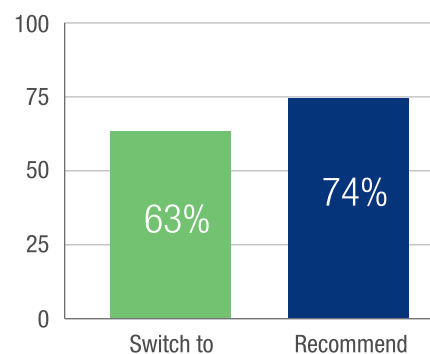
Key Features:



Compared to Competitive Products:



Percentage of Consultants Who Would:



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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. Harlock, 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 · R. Lezell, 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. Tetelman, OH · C. Trubschenko, CA · P. Tu, CA · S. Ura, NH · W. Walcott, MI · L. Wee, MI · D. Wojtowicz, MI · M. Zahn, MI

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Laboratory Consultants:

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