

# VIDENT™

## Dental Technology Update



Summer 2006 • Volume 2



Dentistry by Dr. Alessandro Devigus  
Labwork by Giordano Lombardi

**Dr. Werner Mörmann, creator of CEREC®, reflects on the first 20 years**

**NO FUTURE For Removable Dentures?**

**FIRST IMPRESSIONS: VITA CAD-Waxx for inLab®**



**VIDENT™**

3150 E. Birch Street  
Brea, CA 92821



# NO FUTURE For Removable Dentures?

Due to increased life expectancy in industrialized countries, the number of elderly persons dependent on social welfare is rising continuously. Yet society has limited funds available to those who need care, and in times of recession these are even harder to come by.

In addition to the difficult pecuniary situation, the problem of providing basic care to elderly patients is a central issue. Ensuring that these patients are adequately hydrated and nourished is especially important, yet here there is a vicious circle where lack of oral hygiene and uncomfortable prostheses lead to the refusal of food. This circle must be broken. Refusal of food by elderly patients leads to physical privation and is often the result of the unappealing gruel-like meals that they are reduced to eating because of masticatory dysfunction. Thus the functional reconstruction and preservation of the orofacial system will be the outstanding achievement of the future. The central focus of prophylactic measures is hygiene of the oral cavity and prostheses, often the task of care staff. Sometimes, when patients become senile, it becomes impossible to carry out dental and oral hygiene; intricate, fixed dental restorations cannot then be cleaned sufficiently, so they become damaged. By contrast, removable restorations can be checked for hygiene at any time, making these a preferable

option. The hygiene efficiency of the restoration is more important than esthetics, not forgetting the adequate function of the restoration; enabling pain-free food consumption by means of stable prostheses is an absolute necessity. Stabilization of upper and lower prostheses during chewing is easily achieved using the functional set-up method and VITA PHYSIODENS teeth, as this takes into account the neuromuscular path (NAAB). Fabricating removable restorations is more lucrative than making fixed restorations, both in terms of initial fabrication and maintenance, as changes to the dental status and/or the implant bed can easily be accommodated using simple techniques.

To summarize, when creating restorations for older patients, it is important to consider how the restoration will be kept clean, especially as this may be the responsibility of the patient's care provider.

Dr. Andreas Polei and  
Viktor Ivanov, MDT

**“Removable restorations  
can be checked for  
hygiene at any time.”**



# VITA Denture Teeth NOW AVAILABLE Through U.S. National Dealers



We are pleased to announce effective immediately a partnership in the U.S. with Zahn Dental and Darby Dental Lab Supply to distribute VITA denture teeth. Zahn and Darby join Hi-Tec, already a VITA tooth distributor.

VITA denture teeth offer dental professionals exceptionally natural, individualized teeth that are meticulously handcrafted. It is this unique approach to denture teeth manufacturing that has gained VITA the reputation as a premiere denture tooth designer around the world.

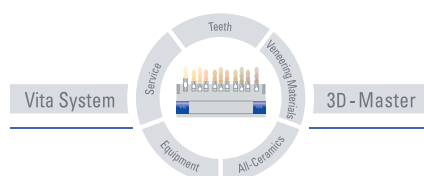
Each dealer is distributing two lines of quality VITA anterior and posterior denture teeth: VITA Physiodens® and Vitapan®. Physiodens teeth feature a highly anatomical occlusal design and are ideal for all occlusal set up techniques including lingualized occlusal. The Physiodens teeth size and morphology is excellent for partials or combination cases where matching existing natural teeth is important.

VITA® has long been recognized as the leader in dental shade determination, beginning with the introduction of the VITA Classical (Lumin Vacuum) shade guide in 1956 and followed by the revolutionary VITA 3D-Master Shade Guide in 1997. VITA denture teeth are manufactured to exacting standards

that assure a precise shade match between all of their restorative dental materials. This shade fidelity is not compromised with VITA teeth even when the teeth are ground on.

Vitapan denture teeth are ergonomic, simple and rational and feature outstanding physical properties. Vitapan acrylic material is based on a specific match of cross-linked polymer content and organic additives, resulting in a patented material that offers premium esthetics and proven wear resistant denture teeth. The impact resistance and innate elasticity of the material creates a tooth that can be ground without chipping. A result of the patented polymerization is reduced water absorption and no plaque affinity.

All VITA denture teeth demonstrate high polishability with no porosities and offer a degree of translucency, opalescence and fluorescence that correspond to natural teeth.



**Darby Dental**  
**800-826-6050**

**Hi-Tec Dental**  
**800-859-2006**

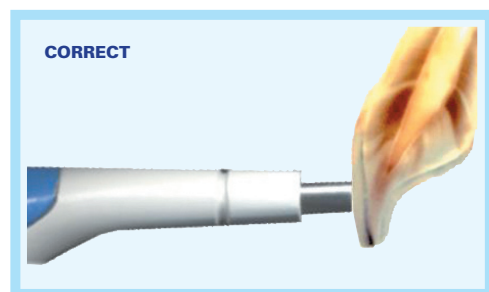
**Zahn Dental™**  
**800-496-9500**



# SHADE TAKING With The VITA Easyshade

## HANDPIECE PROBE TIP PLACEMENT

1. Position handpiece tip perpendicular to and in full contact with the tooth surface while facing the patient, so tip position can be clearly seen on the tooth.



2. Next, move to a lateral view to confirm full contact of tip with tooth

3. Tooth should be free of debris and easily removable stains.

4. Tip should be 1-2 mm from the gingival influence and 1-2mm from incisal edge when in tooth mode.

## HOLDING TIP STEADY

1. Use Easyshade Infection Control Shield, which is specially designed with anti-slip material.



2. To further minimize tip slipping, wipe tooth surface with gauze pad.

3. Use opposite hand to create a stabilizing bridge for the handpiece when taking the shade.

4. Ensure the tip is held steady and in proper position, depress handpiece switch, and hold this position until the beep tone stops (about 3 seconds). The shade is then reported.



## TAKING THE SHADE OF TOOTH AREAS

Position the tip 1-2mm from the gingiva and take the shade. Hold this position until beeping stops. Repeat with tip in the middle third and then the incisal third.

Do not allow tip to overhang the incisal edge. *Remember not to remove tip from tooth until beeping ends.*

Incisal measurements are currently displayed in dentine-shaded values. Reported incisal shades may be affected by the amount of translucency and or underlying dentine in the incisal region.

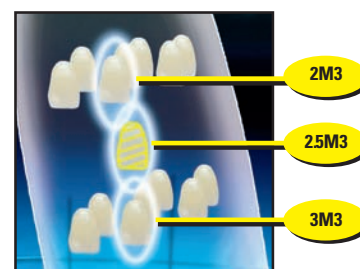
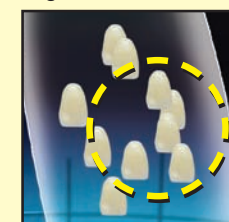


Fig. 1  
3D-Master Interpolated Shade  
Precise Match

Fig. 2



Classical Shade System  
Multiple Matches

A1 & B1
A3.5, B3 & B4
C2 & D4
A4 & C4
A3 & D3

Classical Shade System  
Clusters

## MEASUREMENT APPROXIMATION

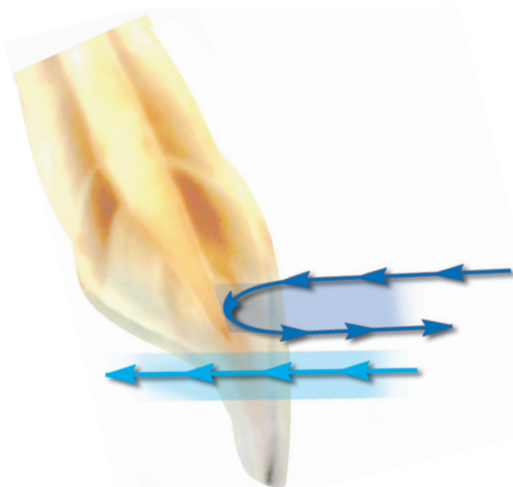
VITA 3D-Master Shade System (Fig.1) Shade tabs are equally spaced and there is only one discernible shade between adjacent tabs. Easyshade can report intermediate or interpolated shades for a precise shade match (e.g. 2M3 + 3M3 = 2.5M3)

VITA Classical Shade System (Fig.2) Shade tabs are not equally spaced, precluding accurate shade interpolation (e.g. A1 + A2 ≠ A2.5). The measured tooth may be equally close to multiple shade tabs, causing Easyshade to report inconsistent readings in sequential measurements. This is most evident when shade tabs are clustered near the measured tooth shade (see table).

*Continue on next page*



Continue from page ?

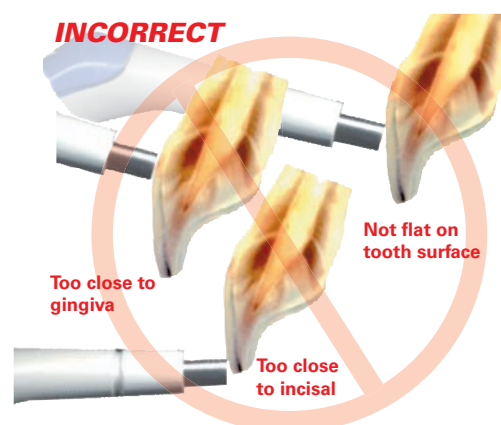


### Incisal Translucency

1. Incisal measurements are currently displayed in dentine-shaded values. Reported incisal shades may be affected by the amount of translucency and underlying dentine in the incisal region.

2. High translucency may result in reporting of a shade that is grayer than the base shade of the measured tooth because a significant proportion of the light passes through the tooth rather than reflecting back.

3. Use appropriate VITA Dentine and Enamel Shade Tabs to confirm the best shade choice for the incisal region.



## VITA VM<sup>®</sup>13 It's impact on the industry

Porcelains come and go, but some leave a lasting impression. VITA VM13 is one of those porcelains that have been changing the way dentists and laboratories view ceramics.

VM13 features exceptional physical properties, handling characteristics and clinical wear characteristics that mimic those of enamel. With a CTE of 13.1 – 13.6, it's ideal for veneering metals that have a coefficient of thermal expansion in the range of 13.8 – 15.2 (that's most metals).

This coveted porcelain offers laboratories optimum firing stability, which preserves shades even after several firings. It fires at lower temperatures and features reduced firing shrinkage. It also offers excellent shade cover with the new high chroma, high opacity Base Dentines. These specially designed powders can often achieve excellent shade match without Dentine powders!

Dental ceramists who work with VM13 are very excited about its modeling characteristics and its structural and color stability. They really like how it grinds and polishes. The now popular VM esthetic build-up technique, with its more logical approach to shading/layering, makes doing PFM's much easier and yields excellent esthetic results consistently.



### Here's what some top ceramists are saying

*"VM 13's exceptional quality and life-like appearance in 3D-Master shades enables you to place porcelain-to-metal crowns next to natural teeth and all-porcelain crowns, in with confidence."*

*Abel Fernandez  
The Master's Touch, San Marcos, CA*

*"Having had the opportunity to research Vita VM13 ceramic, I am happy to say the esthetic and physical properties of this system far exceed other metal ceramic systems used in today's marketplace."*

*Ken Chizick, RDT  
University of Manitoba*

*"I've waited my entire career for the life essence that VM13 reproduces. Its fluorescent, opalescent and color properties are true to nature."*

*Kris Kersten  
SunTouch Ceramics, Solvang, CA*



**inVizion**<sup>™</sup>  
A VITA ALL-CERAMIC RESTORATION

**ENHANCE YOUR BUSINESS**

**Dear Doctor and Dental Laboratory,**

You can now offer perfect fitting, extremely strong, esthetically pleasing, all-ceramic inVizion restorations with state of the art CAD/CAM technology.

Vident's inVizion Restoration consists of two materials that provide exactly what the patient needs. There is a zirconia substructure called VITAYZ. This amazing support material offers extraordinary strength (averaging 1,000 MPa flexural strength). Compare this to the 300 MPa strengths of the pressable materials you have been cementing for years. VITAYZ can be used in single copings and in multiple-unit bridges. It's so strong it allows for thinner connectors and axial walls, which translates into more space for porcelain. That means even better esthetics!

In addition to VITAYZ for strength, the inVizion Restoration features an important veneering porcelain, which gives the restoration its natural appearance. It is called VITAVM<sup>®</sup>9, and is made specifically to veneer zirconia substructures. You'll be glad to learn that not only is VM9 a beautiful, natural-looking porcelain, it exhibits lower antagonistic tooth wear than even enamel. The combination of exceptionally high strength and low solubility is unbeatable. Labs love the fact that VM9 can be fired more times than conventional porcelains and still maintain its life-like appearance. Dentists love the clinical performance and the high level of patient satisfaction.

VITA inVizion materials, the Sirona inLab<sup>®</sup> and a great laboratory combine to produce restorations that are timely, beautiful and long lasting. Call us now and we'll prove it to you!

Sincerely,

*Bernie Jaroslow*

Bernard Jaroslow, CDT  
Senior Product Manager, Porcelains



Actual patient



Dr. Tony Gallegos and Brian Johnson, CDT



Ceramics and dentistry by Dr. Ed McLaren



# ARCON™

## Plasterless Articulator

Vident's ArCon articulator is a plaster-less articulator that enables you to complete articulation directly from the model for mers. This eliminates the separate, labor-intensive steps of creating the models and then articulating them.

The ArCon articulator is compatible with dowel-pinned models, model-trays, Dental Ventures of America (DVA) pre-manufactured base and Zeiser model systems.

Upper and lower models have freedom to move in every direction until they are locked into position.

### True Arcon design.

Regular hinge-type articulators offer a poor version of natural lateral and protrusive movements. The ArCon articulator corresponds closely to the patient's condyle.

### Can be used with or without incisal guidance.

The ArCon articulator's incisal pin has a millimeter scale and the choice of a flat incisal table or angled table.

### Versatile, easy to use,

**durable.** The ArCon articulator provides many innovative features at an affordable price.

### Mount cases in less than 2 minutes.

If the bite is wrong and has to be changed, the ArCon articulator does not have to be re-articulated. It can be changed easily and quickly.

Plus, ArCon articulators are lightweight and inexpensive to ship!

## ONE ARTICULATOR, 4 CHOICES:



- #1 Dowel-pinned models without incisal guidance
- #2 Dowel-pinned models with incisal guidance
- #3 Klic-Lok™ (and similar) model trays
- #4 DVA, Zeiser and pin-based models



# FIRST IMPRESSIONS



**DR. CLAUS BREGLER**, dentist, graduate in macroeconomics and dental technician, is head of the Dentallabor Bregler GmbH & Co. KG laboratory in Offenburg, southern Germany, where Sirona Dental Systems' inLab system has been used since 2001.

**Dr. Bregler and his laboratory took part in the initial trials of VITA CAD-Waxx, and we asked him what he thought of it.**

***Dr. Bregler, CAD-Waxx blocks from VITA were made available to your laboratory for testing. How many units have you fabricated using these blocks so far?***

We have been working with these new blocks for about six months now and have used them for various indications. I would estimate that we have fabricated around 100 units using them. We are impressed with their performance in fabricating restorations using CAD/CAM technology, or rather inLab, in terms of both esthetics and cost-effectiveness.

***Is there any difference in the machining of CAD-Waxx blocks and VITA all-ceramic blocks?***

No, the machining process is identical and has proved itself well. The milling process is exactly the same, using the same diamond milling instruments as are used for ceramics, and the results are of the same degree of accuracy as we have come to expect. The only difference is that because of the material used, a different inLab

tank needs to be fitted. But this is not a limitation, the changeover is so easy to do that it is simply routine now.

***What are the main indications for which your laboratory uses CAD-Waxx blocks?***

They are suitable for the fabrication of crown and bridge frameworks using metal-ceramic, full-casting or press-over techniques. The first advantage of these blocks is that they enable the user to fabricate constructions that need to be checked or tried for fit before the final restoration is milled, eliminating the need for grinding in-situ. Secondly, they avoid the problems which often occur when conventional wax modeling is used, particularly when the span of a bridge

is very large, because the wax model is now stable and a perfect fit – the times when we had to fight with the wax shrinking, dimension changes and warping have passed. Modeling using CAD-Waxx blocks is also faster and more efficient than manual wax modeling. And finally, something else that makes life easier for us is the fact that once the scan process is over, the inLab 3D software automatically checks the minimum wall thicknesses and connector surfaces necessary, ensuring that the resulting restoration is accurate. This virtually eliminates any need to apply, remove and adjust the restoration, saving us a considerable amount of time.

***Will you be using CAD-Waxx blocks from VITA in the future?***

Of course. And a positive side effect of using them is that we can fully exploit the capacity of inLab, because the fact is that the more restorations we produce using inLab, the more worthwhile it makes our investment in the system. Besides, using the machine to make models frees up capacity for us to concentrate even more on esthetics such as ceramic veneering.

***Dr. Bregler, thank you for your time.***





# NEW: VITABLOCS® TriLuxe

## *Now also available for long anterior teeth*



VITA has developed a special production procedure that makes it possible to integrate 3 different degrees of color saturations and 3 different degrees of translucency into one VITABLOCSTriLuxe block. These fine-structure feldspar ceramics cause less wear to instruments, have abrasion properties that correspond to those of natural tooth enamel, and glisten due to excellent reflective effects and white fluorescence.

The blocks – TRI-12 (10 x 12 x 15 mm) and TRI-14 (12 x 14 x 18 mm) – are particularly suited to the fabrication of anterior and posterior partial and full crowns and veneers. VITABLOCS TriLuxe are also now available in a slightly larger 14 x 14 x 18 mm size.

The extra 2 mm of length in these new blocks enables them to be used for fabricating crowns and veneers for very long anterior teeth. To process the new block size using the CEREC system from Sirona, CEREC 3D Software ≥ V.2.80 is required.



## **ABRASION of FRAMEWORKS for VITA In-Ceram® YZ**

The surfaces of frameworks fabricated from VITA In-Ceram YZ must not be sand-blasted prior to veneers being fixed, since abrasion can cause the zirconium oxide to undergo a phase change and result in tension at the veneer interface which could lead to (late) cracks in the veneer once the restoration has been fitted.

However, if the zirconium oxide restoration is secured using a resin composite containing phosphate monomer (e.g. Panavia® from Kuraray), abrasion of the internal surfaces using Al<sub>2</sub>O<sub>3</sub>, max. 50 μm, at ≤ 2.5 bar, creates a durable bond between the composite and the oxide ceramic.\*

\*Cf.: Wegner, St. M.; Kern, M.: Long-Term Bond Strength to Zirconia Ceramic. J Adhesiv Dent 2, 139- 147 (2000)

## Visit the NEW Vident Website:

### [www.vident.com](http://www.vident.com)

Our newly designed web site is devoted to providing answers to all of your technical questions regarding VITA and Vident products. The site features a search bar right on the home page for easy access to everything you need. From the latest product news to courses, even our 100-page product catalog. It's all at your fingertips at [www.vident.com](http://www.vident.com)





## FASTER, EASIER, BETTER: CEREC® Is 20 Years Old!

HOW are ceramic inlays fabricated? You could make a wax model, cast the inlay and then hot press it, or build it up layer by layer and fire it. Whichever way, it all boils down to the same thing: the dentist who wants to use inlays as an alternative to amalgam or composites is unable to carry out the procedure then and there, and it creates a lot of work for the dental technician. Yet the advantages of inlays are obvious, polished to a shine and ready to use, created by a dental technician under controlled conditions, they have anatomically perfect approximal and occlusal surfaces and look natural into the bargain.

By 1980 I had already spent 10 years teaching dental students how to fill teeth. People were just beginning to develop a real aversion to amalgam, composites were no good for posterior restorations, and I realized that a new type of restorative technique was possible. The challenge was to make what had previously been impossible possible, to develop a technique that allowed dentists themselves to fabricate ceramic restorations. My apologies – at the time I never imagined that this would impact on dental technology, my goal was simply to provide an alternative to amalgam and composites. We somehow needed to take a mold of the area electronically and process it there and then rather than sending it to a laboratory. So I approached Dr. Marco Brandestini, an ingenious electro-technician; he and I designed the 3D intra-oral camera to take an “optical impression,” as well as the CEREC 1 device. We set up the company Brains AG in Zurich, Dr. Brandestini built the prototypes, we produced an initial 15 devices, and on September 19, 1985, I was able to fabricate and fit the first inlay using this method, in one sitting and without the patient even needing to leave the chair. The impossible had been achieved.

I had begun to design the material blocks early on, making them first from composite, then from ceramics, which we fired ourselves. On May 26, 1984, once our system worked, I approached Mr. Henry Rauter, Assessor, who immediately recognized its potential. Thus began our cooperation with VITA Zahnfabrik, and with it the professional development of “Machinable Ceramics.”

CEREC 2 was used to make the first full crowns from VITA Mark II as well as crown frameworks from VITA In-Ceram SPINELL, ALUMINA and ZIRCONIA. Those were real developments in dental technology. Next, the CEREC 3 and inLab devices enabled us to manufacture bridge frameworks, and I ran my first course for dental technicians on May 5, 2001. Nowadays, the CEREC 3D software, the inEos scanner and the VITA In-Ceram YZ and AL blocks, used by both dentists and dental technicians, make this fascinating system faster, simpler and better than conventional technologies, wouldn't you agree?

**WHAT ONLY A FEW COULD EVER DREAM OF  
HAS NOW BECOME REALITY FOR MANY**

My warmest regards,

WERNER H. MÖRMANN





# VITA Las Vegas



To register, visit [www.HappyBirthdayCEREC.com](http://www.HappyBirthdayCEREC.com)  
or call 888-232-3732

## 20TH ANNIVERSARY EXPERIENCE OCTOBER 13-15, 2006 BALLY'S CASINO AND HOTEL LAS VEGAS, NEVADA

When Sirona called and said they were putting on a bash in Las Vegas to celebrate 20 years of CEREC®, we couldn't book our tickets fast enough. VITA has been Sirona's CAD/CAM partner for 20 years now, and together we have placed millions of successful restorations worldwide. We're going to celebrate those first 20 years with a dazzling, hands-on display of the latest in CAD/CAM machinable ceramics. Join us in Las Vegas, and discover for yourself why the next 20 years of VITABLOCS are going to be even better!

For information on VITA products  
call 800-828-3839 or visit [www.vident.com](http://www.vident.com)

**VITA®** **VIDENT™**

**sirona**  
The Dental Company

**LIMITED  
TIME OFFER**

## **SPECIAL OFFER** *THE REVOLUTIONARY NEW* **Quick-Fix Mandrel System**



- Convenient and fast changing of discs
- Improved productivity due to reduced downtime
- High quality discs at very competitive prices
- Up to 3 times longer lifetime of separating discs

This new mandrel system dramatically cuts the time it takes to change discs. The Yellow mandrels are designed for the larger two-layered diamond model/die cutting discs. The Black mandrels are used specifically for the extraordinary Golden Devil separating discs.

### **Hi-tech Diamond Plaster Disc Set** 1 mandrel & 2 discs (B30-001)

**\$89** Reg. \$105

### **Diamond Porcelain Contour Set** 1 mandrel (yellow), 2 discs (B30-003)

**\$38** Reg. \$45

### **Golden Devil Separating Set** 1 mandrel & 50 discs (B30-002)

**\$36** Reg. \$42

Not valid with any other offer

**CALL TODAY! 800-828-3839**

## VITA Easyshade®



**\$2995**

Reg. Price  
**\$3995**

**SAVE \$1000**

## **ZETA CC** **COLD CURE POLYMER RESIN**



**When you purchase 4 (19g) Dentin Refills Get 1 FREE Refill**

Ideal for producing beautiful temporary restorations in VITA shades. Zeta Cold Cure is an unfilled, acrylic based polymer material which polishes to a high luster.

**BUY 4  
GET 1  
FREE**

**SAVE \$19**

**eNEWS**  
by VIDENT™



**STAY UP  
TO DATE**

*Vident's Email NEWS keeps you informed of all the latest and greatest news and technologies in the dental industry*

**Go to [www.vident.com](http://www.vident.com) to sign-up for eNEWS.**

## **VIDENT™ COURSE SCHEDULE**

**visit [www.vident.com](http://www.vident.com) or  
call 800-828-3839 x226**