

# VITAVM<sup>®</sup>15

## Product information



VITA shade taking

VITA shade communication

VITA shade reproduction

VITA shade control

Date of issue: 08.13

VITA shade, VITA made.

**VITA**

For full veneering of metal substructures made of multi-indication alloys (especially eco alloys) with a CTE of 16.0 – 17.3.  
Exclusively available in VITA SYSTEM 3D-MASTER shades.

## VITAVM<sup>®</sup>15 Perfectly matched with all indications

### Veneering Material · VITAVM<sup>®</sup>15

Available in VITA SYSTEM 3D-MASTER shades



#### Matched with all multi-indication alloys

high gold content



reduced gold content



palladium-silver alloys /  
non-precious metal alloys



#### Logical product designation

VITA VM 15 was developed as a low-melting, fine-structure veneering material especially for substructures with a CTE of  $16.0 - 17.3 \cdot 10^{-6} \cdot K^{-1}$ .

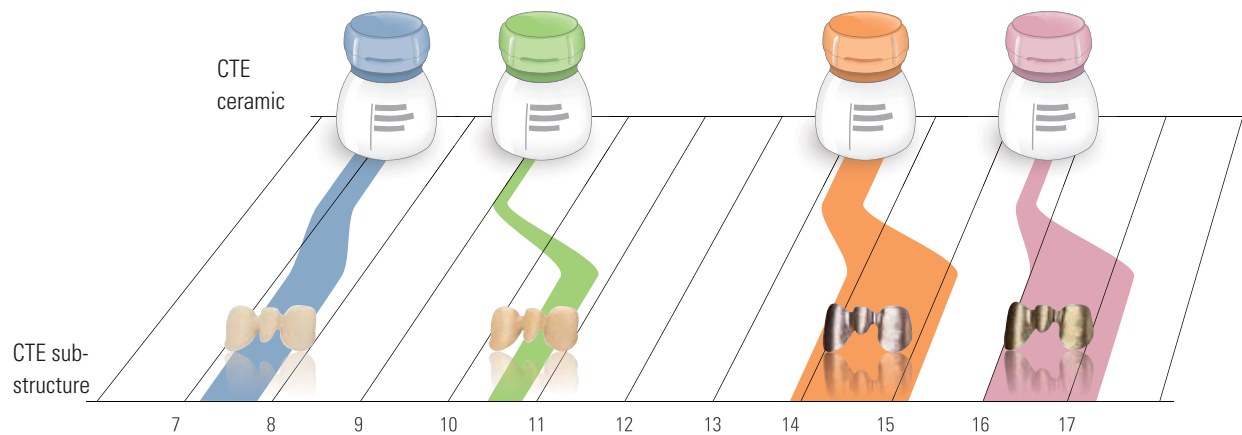
As a result, the CTE range and the firing temperatures of VITA VM 15 are perfectly matched with high-expansion alloys.

To ensure top-quality results, the veneering material features a somewhat lower CTE than the substructure material.

Due to adhesive bonding, the ceramic must follow the thermal behavior of the substructure material.

If cooled down, the ceramic is exposed to slight tangential compressive stress, which ensures optimum bonding of ceramic and alloy.

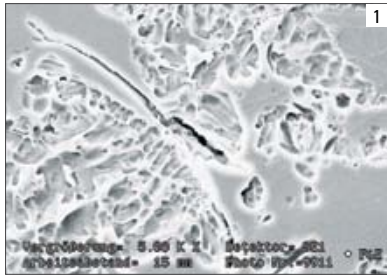
## VITAVM.15 Reliable use thanks to simple classification



Veneering material	Substructure material
VITA VM 7 CTE (25–500°C) $6.9\text{--}7.3 \cdot 10^{-6} \cdot \text{K}^{-1}$	VITA In-Ceram ALUMINA CTE (25–500°C) $7.2\text{--}7.6 \cdot 10^{-6} \cdot \text{K}^{-1}$ VITA In-Ceram ZIRCONIA CTE (25–500°C) $7.6\text{--}7.8 \cdot 10^{-6} \cdot \text{K}^{-1}$
VITA TITANIUM PORCELAIN CTE (25–500°C) $8.2\text{--}8.9 \cdot 10^{-6} \cdot \text{K}^{-1}$	for titanium and titanium alloys Titanium CTE (25–500°C), approx. $9.6 \cdot 10^{-6} \cdot \text{K}^{-1}$ $\text{Ti}_6\text{Al}_4\text{V}$ CTE (25–500°C), approx. $10.2 \cdot 10^{-6} \cdot \text{K}^{-1}$
VITA VM 9 CTE (25–500°C) $9.0\text{--}9.2 \cdot 10^{-6} \cdot \text{K}^{-1}$	VITA In-Ceram YZ CTE (25–500°C), approx. $10.5 \cdot 10^{-6} \cdot \text{K}^{-1}$ VITABLOCS CTE (25–500°C) approx. $9.4 \cdot 10^{-6} \cdot \text{K}^{-1}$ VITA PM 9 CTE (25–500°C) $9.0\text{--}9.5 \cdot 10^{-6} \cdot \text{K}^{-1}$
VITA VM 13 CTE (25–500°C) $13.1\text{--}13.6 \cdot 10^{-6} \cdot \text{K}^{-1}$	High gold content, reduced precious metal content, palladium based and non-precious alloys CTE (25–600°C) $13.8\text{--}15.2 \cdot 10^{-6} \cdot \text{K}^{-1}$ *
VITA VM 15 CTE (25–500°C) $15.5\text{--}15.7 \cdot 10^{-6} \cdot \text{K}^{-1}$	Multi-indication alloys (especially eco alloys) CTE (25–600°C) $16.0\text{--}17.3 \cdot 10^{-6} \cdot \text{K}^{-1}$ *

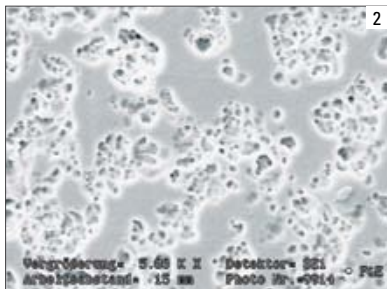
\* visit the download section of our website for more information about alloys

## VITAVM.15 Homogeneous surface



### The conventional metal ceramic

The etched surface reveals agglomerates of leucite crystals in the glass phase. The differences in the CTE of the leucite agglomerates and the glass phase may result in stress cracks.



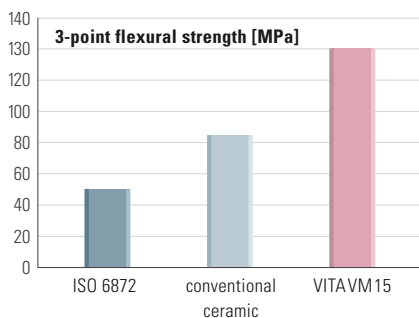
### The fine difference

With VITA VM 15, a ceramic has been developed which clearly reveals more homogeneous distribution of the crystal and glass phases after firing than conventional ceramics. As a result, the formation of stress cracks is avoided and a smooth and perfectly dense surface is created, which provides VITA VM 15 with excellent milling and polishing properties. Plus, the accumulation of plaque on the ceramic surface is considerably reduced and easy care and cleaning of restorations are enabled.

**Fig. 1:** SEM image of the surface of a conventional metal ceramic (magnification 5000 x)

**Fig. 2:** SEM image of the surface of VITA VM 15 (magnification 5000 x)

This innovative fine-structure ceramic is unrivaled and characteristic for all ceramic components of the VITA VM concept – whether for metal or all-ceramic materials.



### Improved physical properties

Compared to conventional metal ceramics, VITA VM 15 features exceptional physical values, such as increased flexural strength, higher bond strength, improved thermal stability and lower solubility in acid. The low solubility in acid guarantees high resistance in situ and ensures an extended period of wearing.

Flexural strength of VITA VM 15 compared with that of a conventional metal ceramic and the ISO limit according to ISO 6872.

## VITAVM.15 Advantages at a glance

All fine-structure ceramics of VITA are convincing because of their excellent enamel-like properties, which is documented by the studies of the Dental Clinic of the University of Zurich and the Goldman School of Medicine of the University of Boston carried out with VITA VM7 and VITA VM9.

(Literature: E. A. McLaren, R. A. Giordano II, R. Pober, B. Abozenada „Zweiphasige Vollglas Verblendkeramik“, (Quintessenz Zahntech 30, 1, 32-45 [2004])

### Advantages of the innovative VITA VM fine-structure ceramic:

- Excellent bonding ensures reliable results
- Optimal processing characteristics such as superior stability, minimized shrinkage behavior and high edge stability
- Outstanding firing stability even after several firing processes
- Excellent grinding and polishing properties, especially in situ
- Homogeneous and dense surfaces
- Proven similarity with enamel
- Perfectly matched range of additional materials for individualization
- Compatible with VITA AKZENT Plus and VITA INTERNO materials

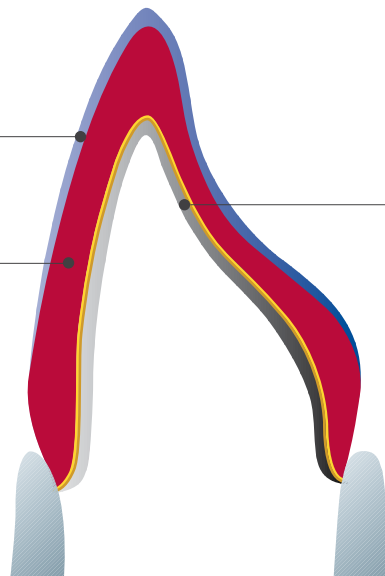


## VITA VM<sup>15</sup> Efficiency thanks to two layering types

VITA VM 15 ENAMEL



**BASIC layering**



OPAQUE-coated metal  
substructure in the  
CTE range of 16.0–17.3

VITA VM 15 BASE DENTINE



The VITA VM layering concept is based on the structure of natural teeth and differs clearly from all familiar layering concepts.

### **BASIC layering**

After applying WASH OPAQUE and OPAQUE, color-intensive VITA VM 15 BASIC layering includes the application of two materials:

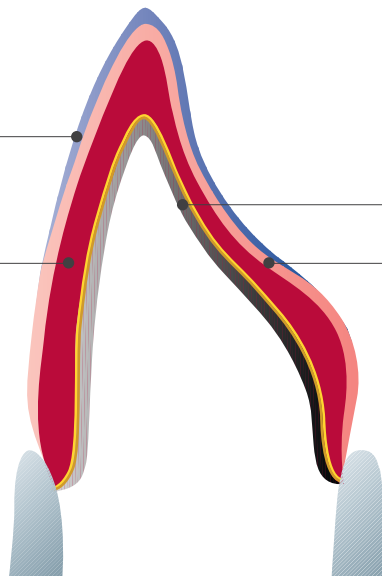
- BASE DENTINE
- ENAMEL

Thanks to the color-bearing BASE DENTINE, this two-layer variation is particularly suited for the reproduction of the shade of restorations with thin walls and provides a reliable and efficient solution. After the application of OPAQUE, the user is able to prepare a natural restoration with a lifelike appearance with only two layers.

VITA VM 15 ENAMEL



### BUILD UP layering



OPAQUE-coated metal  
substructure in the  
CTE range of 16.0–17.3

VITA VM 15 BASE DENTINE



VITA VM 15 TRANSPA DENTINE



### BUILD UP layering

After applying WASH OPAQUE and OPAQUE, translucent VITA VM 15 BUILD UP layering consists of three materials:

- BASE DENTINE
- TRANSPA DENTINE
- ENAMEL

The combination of color-bearing BASE DENTINE and translucent TRANSPA DENTINE creates an enhanced effect of depth in demanding high end restorations, which results in even more convincing reproductions of the natural example.

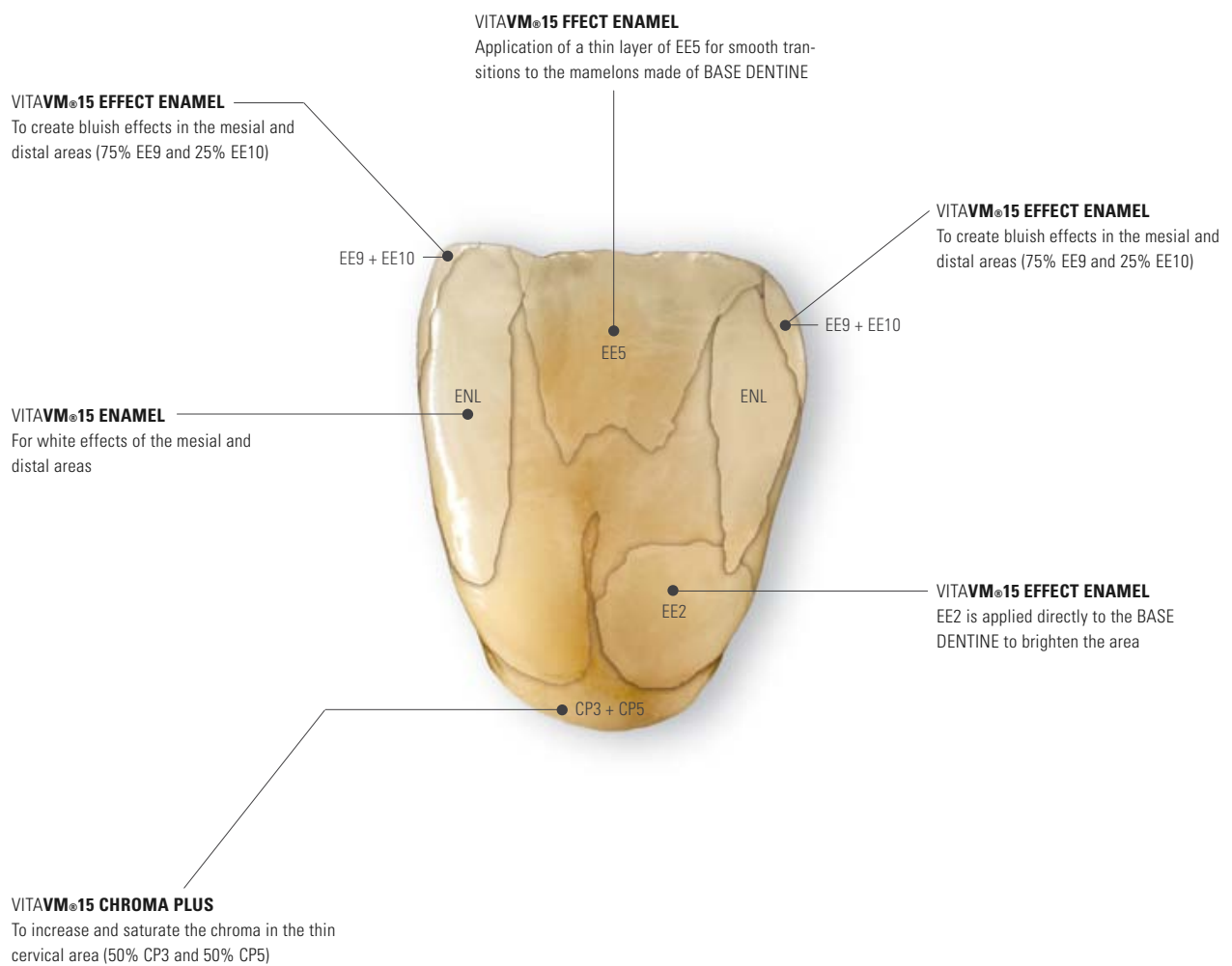
### Individualization

For both layering types, a perfectly matched range of additional materials is available for individual characterization of restorations.

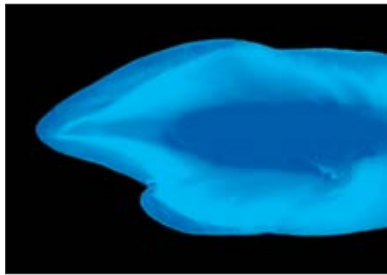
## VITAVM<sup>®</sup>15 Matched additional materials for top-quality individualization



Example of an aged tooth with lifelike appearance and effect of depth. This tooth was layered with BASE DENTINE, ENAMEL and individual additional materials.



## VITAVM.15 Natural esthetics



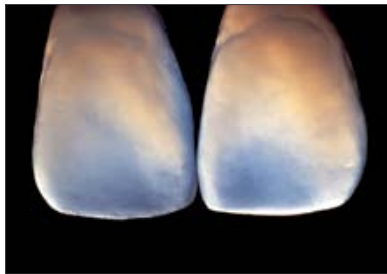
### Vivid play of colors with VITAVM®15

The objective of any esthetic dental restoration is the reproduction of the fluorescence and opalescence of natural teeth. Like all VITA VM materials, VITA VM 15 excels in its refraction and reflection behavior which can be compared to that of enamel.

The picture taken under UV light clearly shows that different levels of fluorescence are found in natural teeth.

Numerous VITA VM materials contain pigments which add fluorescence to the restorations. The use of fluorescent and opalescent additional materials leads to individual and esthetically appealing results.

VITA VM EFFECT LINER and VITA VM MAMELON materials, for example, feature particularly distinctive fluorescence.









**Fig.:** Facets of VITA VM (in the original condition) viewed with transmitted light. The opal effect becomes clearly visible








The VITA VM EFFECT OPAL materials were especially developed to create the opal effect found in the surface of translucent and young teeth.



## VITAVM®15 Modular and efficient arrangement of assortments

	<p><b>VITAVM®15 BASIC KIT</b> Basic assortment for BASIC layering (also available as BASIC KIT SMALL with reduced range of materials)</p>
	<p><b>VITAVM®15 BUILD UP KIT</b> Add-on assortment for BUILD UP layering (also available as BUILD UP KIT SMALL with reduced range of materials)</p>
	<p><b>VITAVM®15 PROFESSIONAL KIT</b> For incorporating all natural effects and characteristics (also available as PROFESSIONAL KIT SMALL with reduced range of materials)</p>
	<p><b>VITAVM®15 BLEACHED COLOR KIT</b> Ultra-bright shades for the reproduction of bleached teeth</p>
	<p><b>VITAVM®15 GINGIVA KIT</b> Gingiva materials with natural effects</p>
	<p><b>VITAVM®15 MARGIN KIT</b> For ceramic shoulder design</p>

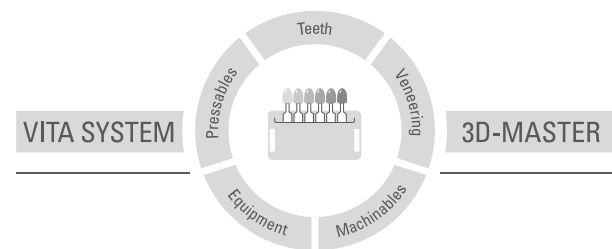
## VITAVM.15 A perfectly harmonized complete system

	<p><b>VITA Easyshade® Advance 4.0</b></p> <p>VITA Easyshade Advance 4.0 is a further refinement of VITA Easyshade Advance. This digital shade measurement device allows any user to determine the shade of natural teeth or to verify restorations in a matter of seconds, regardless of the ambient lighting. The tooth shade measured is indicated in VITA classical A1–D4, VITA SYSTEM 3D-MASTER and in VITABLOC shades. Automatic activation, Bluetooth®, VDDS interface, bleaching mode and numerous other innovative features guarantee maximum precision for even greater reliability and comfort.</p>
	<p><b>VITA Linearguide 3D-MASTER/VITA Toothguide 3D-MASTER®</b></p> <p>With the VITA SYSTEM 3D-MASTER you can determine the correct tooth shade swiftly and accurately. The new VITA Linearguide 3D-MASTER is an alternative to the proven VITA Toothguide 3D-MASTER and features different (linear) arrangement of the shade sample teeth.</p>
	<p><b>VITA VACUMAT® 6000 M furnace</b></p> <p>The fully automatic microprocessor-controlled firing unit is ideal for all dental ceramic firing requirements. The furnace offers superb quality and a host of new features to ensure first-rate firing results, user safety, convenience and reduction of working time. Available in stainless steel or anthracite finish.</p>
	<p><b>VITA AKZENT® Plus</b></p> <p>With VITA AKZENT Plus stains, users can optimize the shade of all types of dental ceramic restorations simply and efficiently, regardless of the CTE of the restoration.</p>
	<p><b>VITA INTERNO®</b></p> <p>The materials create in-depth shade effects. Their high fluorescence adds very high luminosity to the shades.</p>

For more information visit [www.vita-zahnfabrik.com](http://www.vita-zahnfabrik.com)

VITA VM 15 veneering material is available in VITA SYSTEM 3D-MASTER shades. Shade compatibility with all VITA 3D-MASTER materials is guaranteed.

With the unique VITA SYSTEM 3D-MASTER, all natural tooth shades can be systematically determined and perfectly reproduced.



**Please note:** Our products must be used in accordance with the instructions for use. We accept no liability for any damage resulting from incorrect handling or usage. The user is furthermore obliged to check the product before use with regard to its suitability for the intended area of application. We cannot accept any liability if the product is used in conjunction with materials and equipment from other manufacturers that are not compatible or not authorized for use with our product. Furthermore, our liability for the accuracy of this information is independent of the legal basis and, in as far as legally permissible, shall always be limited to the value as invoiced of the goods supplied, excluding value-added tax. In particular, as far as legally permissible, we do not assume any liability for loss of earnings, indirect damages, ensuing damages or for third-party claims against the purchaser. Claims for damages based on fault liability (culpa in contrahendo, breach of contract, unlawful acts, etc.) can only be made in the case of intent or gross negligence. The VITA Modulbox is not necessarily a component of the product.  
Date of issue of this information: 07.13

After the publication of these working instructions any previous versions become obsolete. The current version can be found at [www.vita-zahnfabrik.com](http://www.vita-zahnfabrik.com)

VITA Zahnfabrik has been certified in accordance to the Medical Device Directive and the following products bear the CE mark **CE** 0124:

VITA VM<sub>15</sub> · VITA AKZENT® Plus · VITA INTERNO®

The photos on pages 6, 7 and 9 were provided with the kind support of Mr. Claude Sieber.

# VITA

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