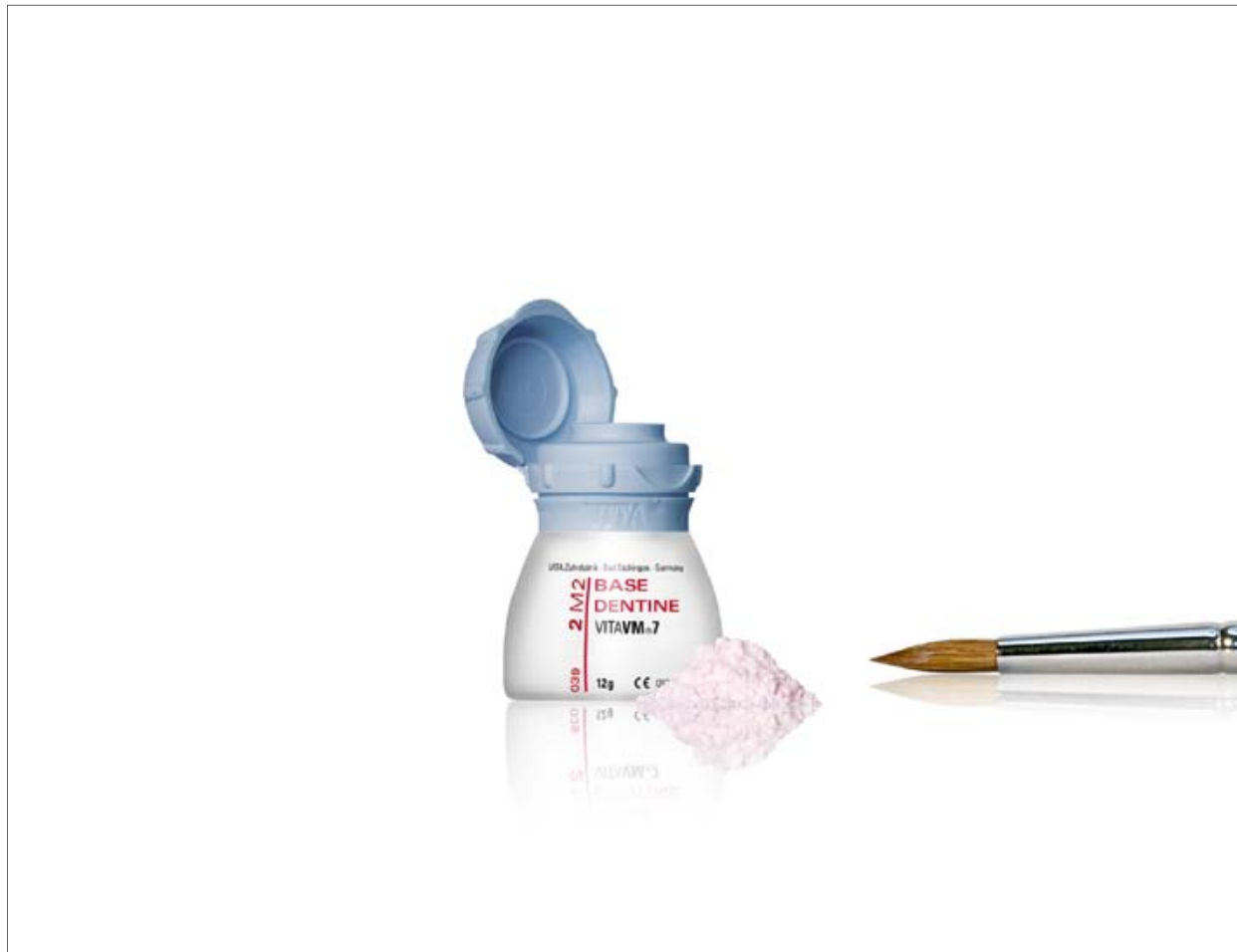


# VITAVM<sup>®</sup>7

## Working Instructions



VITA shade taking

VITA shade communication

VITA shade reproduction

VITA shade control

Date of issue: 10.13

VITA shade, VITA made.

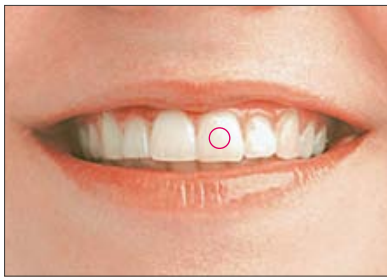
**VITA**

for veneering oxide-ceramic  
substructures in the CTE range of 7.2–7.8  
Available in VITA SYSTEM 3D-MASTER shades

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### Competence for more than 80 years

Shade management is more than just shade determination. At VITA, shade management means incorporating our best solutions into a complete process. The key question we have always asked ourselves is: How can we improve shade determination and reproduction? By establishing standardized process steps to increase the efficiency. Today, dental specialists are expected to achieve better results while spending less time and money. It is this goal that brings us together.



### VITA shade taking

The accurate determination of the basic shade of a tooth is the key prerequisite for patient acceptance. The basic shade is generally found in the dentine center.



### The determination of the effects

Natural teeth are unique and a perfect creation of nature. Therefore, after determining the base shade, details of a tooth (translucent zones or anomalies, for example) need to be recorded to obtain a perfect match. We recommend the use of a digital photo to analyze details or effects.



### VITA shade communication

To ensure perfect reproduction of the determined shade, it is essential to ensure that all parameters are communicated accurately to the dental laboratory. Any misunderstanding leads to expensive and unnecessary extra work. For this reason we recommend using the color communication form to describe the basic shade and a digital photo for the analysis of effects or details. The software of VITA Easyshade Advance 4.0 provides a template to have all data on a single sheet – a laboratory communication form. This information will enable you to create a restoration that matches the remaining teeth perfectly in a quick and reliable manner.



### VITA shade reproduction

The most important step in reproducing a tooth is to ensure that the determined tooth shade is accurately reproduced. Then the shade effects of the tooth can be reproduced to obtain a high-quality restoration.

You can be sure that whichever VITA materials you choose, you will be able to achieve this objective without time-consuming mixing or testing.

### VITA shade control

In the final step, qualitative shade evaluation is no longer left to the subjective opinion of an individual. Within the VITA process, objective control of the final restoration is the most important prerequisite for ensuring satisfied patients and avoiding additional work.

VITA VM 7 was developed as a special, low-fusing fine-structure veneering ceramic for all-ceramic substructures in the CTE range of  $7.2\text{--}7.8 \cdot 10^{-6} \cdot \text{K}^{-1}$  (e.g. VITA In-Ceram ALUMINA and ZIRCONIA).

Like all VITA VM materials, VITA VM 7 excels in its refraction and reflection behavior which can be compared to that of enamel. The use of additional fluorescent and opalescent materials enables highly individual restorations with a high standard of esthetics to be achieved.

### Enamel-like properties

In a study by Giordano at the Goldman School of Dental Medicine at the University of Boston, the abrasion behavior of various ceramic materials was compared to that of natural tooth enamel. The best results were obtained with VITA VM 7 since it demonstrates virtually ideal, enamel-like properties thanks to its fine structure.

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

### The concept of "fine-structure ceramic"

With the development of a new type of dental ceramic, VITA felt obliged to create a term which fully reflects the nature of this innovative product.

Compared to conventional ceramic materials, the fine-structure ceramic is distinguished mainly by the fact that the different phases of its structure are more finely and considerably more homogeneously distributed. This is achieved by modifying the manufacturing process.

As a result, the VITA fine-structure ceramic differs completely from traditional dental ceramics. The resulting product characteristics are unique.

### Fine-structure ceramic under the scanning electron microscope

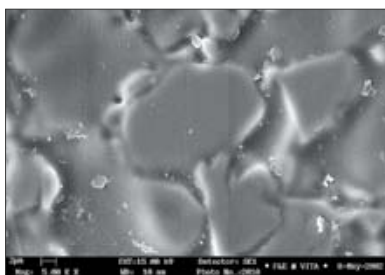
The homogeneous distribution of the two glass phases is shown by the comparison of the SEM images. Images 1 and 2 show the etched surface of VITADUR ALPHA and VITA VM 7 with identical coefficients of thermal expansion (CTE).

The two phases can be clearly distinguished in the structure of VITADUR ALPHA. Etching with hydrofluoric acid leads to increased abrasion in one phase, so that the glass phase that has been etched less strongly protrudes almost like an "elevation". This phase is marked with arrows in the image.

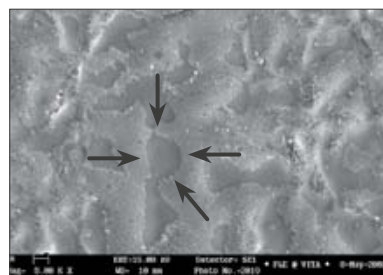
In contrast the phases are more homogeneously distributed in the fine-structure ceramic (image 2) so that even during etching no "elevations" become visible. In the SEM images, the different phases can only be distinguished by the light or dark shades.

### Material-technical advantages of the fine-structure ceramic

Compared to conventional ceramics, the fine-structure ceramic achieves clearly better physical results. All requirements of the ISO 6872 are easily fulfilled.



**Fig. 1:** SEM image of the etched surface of VITADUR ALPHA (magnification 5000 x).

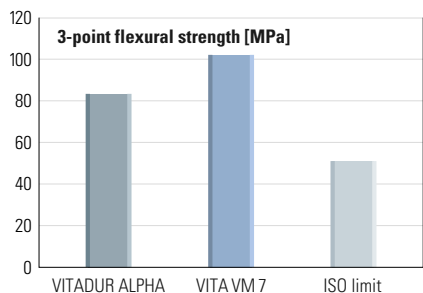


**Fig. 2:** SEM image of the etched surface of VITA VM 7 (magnification 5000 x).

### Solubility

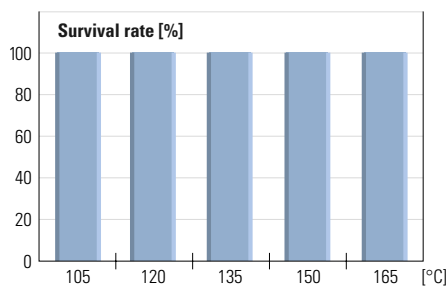
Ceramics have generally proved their reliability in various fields of medical supply due to their outstanding biocompatibility.

The low solubility of VITA VM 7 ensures high resistance in the oral environment and prolonged period of wearing.



### Flexural strength

The flexural strength values of VITA VM 7 are more than twice as high as the values required by the ISO standard. This excellent result underlines the high reliability of restorations layered with VITA VM 7.



### Thermal shock resistance

The thermal shock resistance test is used to measure the absence of stress in a ceramic restoration and for successful coordination of the coefficients of thermal expansion within the system. A survival rate of 100% of restorations veneered with VITA VM 7 is ensured even at variations of temperature up to 165°C. This illustrates that ceramic and substructure have been matched perfectly and indicates long-term clinical success.

VITA VM 7 – Physical properties	Unit of measure	Value
CTE (25–500°C)	$10^{-6} \cdot K^{-1}$	6.9 – 7.3
Softening point	°C	approx. 689
Transformation temperature	°C	approx. 615
Solubility in acids	$\mu g/cm^2$	approx. 10.8
Density	$g/cm^2$	approx. 2.4
Average particle size	$\mu m$	approx. 18
3-point flexural strength	$\mu m$	approx. 106

### Advantages for dental laboratory processing

The benefits of a fine-structure ceramic for dental technicians are found in excellent stability during modelling as well as in a highly homogeneous surface after firing. This contributes to enhanced processing characteristics, e.g. when grinding the restoration. The firing stability of the ceramic is still excellent even after several firing processes.

### VITA VM 7 – from the patient's view

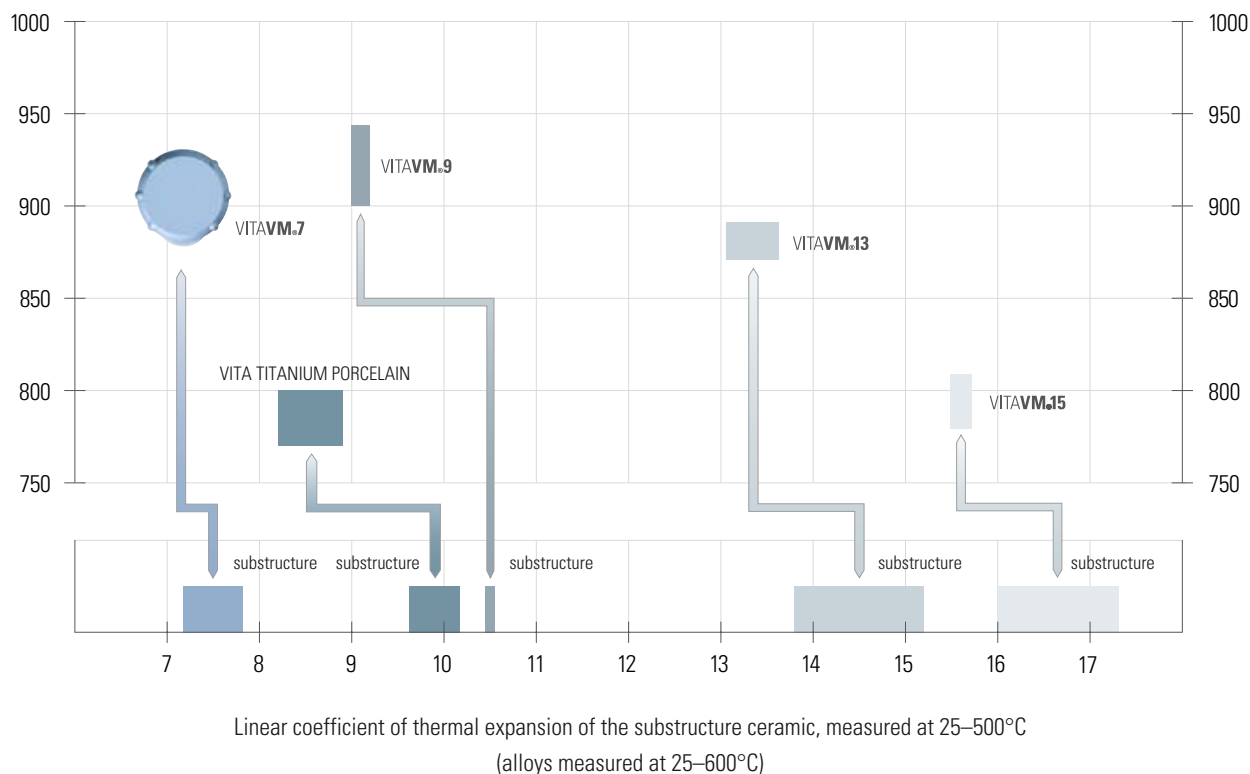
The fine-structure ceramic offers patients additional comfort of wearing. The veneer feels softer in situ – comparable to the enamel of natural teeth. The homogeneous surface of the veneers ensures pleasant tongue contact and supports the patient in the hygiene of their high-quality restoration.

for substructure materials in the CTE range of 7.2–7.8, such as VITA In-Ceram ALUMINA and ZIRCONIA

Firing temperature  
of ceramic [°C]

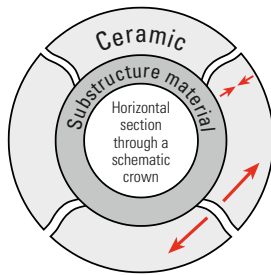
Linear coefficient of thermal expansion of the ceramic, measured at 25–500°C

Firing temperature  
of ceramic [°C]

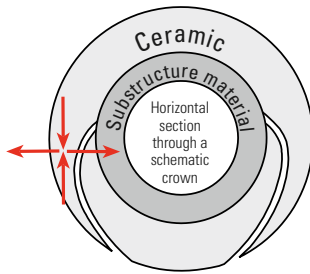


<b>VITA VM 7</b> CTE (25–500°C) $6.9\text{--}7.3 \cdot 10^{-6} \cdot K^{-1}$	VITA In-Ceram ALUMINA, CTE (25–500°C) $7.2\text{--}7.6 \cdot 10^{-6} \cdot K^{-1}$ VITA In-Ceram ZIRCONIA, CTE (25–500°C) $7.6\text{--}7.8 \cdot 10^{-6} \cdot K^{-1}$
VITA TITANIUM PORCELAIN CTE (25–500°C) $8.2\text{--}8.9 \cdot 10^{-6} \cdot K^{-1}$	for titanium and titanium alloys Titanium (grade 1) CTE (25–500°C), approx. $9.6 \cdot 10^{-6} \cdot K^{-1}$ Ti <sub>6</sub> Al <sub>4</sub> V CTE (25–500°C), approx. $10.2 \cdot 10^{-6} \cdot K^{-1}$
<b>VITA VM 9</b> CTE (25–500°C) $9.0\text{--}9.2 \cdot 10^{-6} \cdot K^{-1}$	VITA In-Ceram YZ, CTE (25–500°C), approx. $10.5 \cdot 10^{-6} \cdot K^{-1}$ VITABLOCKS, CTE (25–500°C) approx. $9.4 \cdot 10^{-6} \cdot K^{-1}$ VITA PM 9, CTE (25–500°C) $9.0\text{--}9.5 \cdot 10^{-6} \cdot K^{-1}$
<b>VITA VM 13</b> CTE (25–500°C) $13.1\text{--}13.6 \cdot 10^{-6} \cdot K^{-1}$	High gold content-, reduced precious metal content, palladium based and non-precious alloys CTE (25–600°C) $13.8\text{--}15.2 \cdot 10^{-6} \cdot K^{-1}$
<b>VITA VM 15</b> CTE (25–500°C) $15.5\text{--}15.7 \cdot 10^{-6} \cdot K^{-1}$	Multi-indication alloys CTE (25–600°C) $16.0\text{--}17.3 \cdot 10^{-6} \cdot K^{-1}$

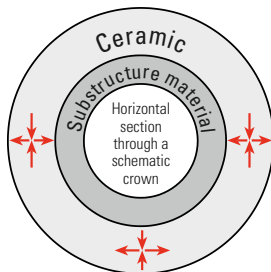
\* visit the download section of our website for more information about alloys



If the CTE of the substructure material is considerably lower than the CTE of the veneering ceramic, tangential tensile stress will increase and form radial cracks that run to the outside. This may result in late cracks.



If the CTE of the substructure material is considerably higher than the CTE of the veneering ceramic, tangential compressive stress will increase and form cracks that run almost parallel to the substructure. This may result in chipping.



The ideal tangential and radial tensile stress is ensured if the CTE of the ceramic has been optimally matched with the CTE of the substructure material.

Optimal preconditions are given if the veneering ceramic features a somewhat lower CTE value 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.

If a substructure material is veneered with ceramic, the layer thickness of the veneer is a decisive factor in addition to the CTE value. Accordingly, differences in strain (radial tensile stress) are obtained, which will grow in case of increasing layer thickness.

When using dental ceramics, the firing result largely depends on the individual firing procedure of the user. The type of furnace, the location of the temperature sensor, the firing tray as well as the size of the object during the firing cycles are key factors for the final restoration. Our application-technical recommendations for the firing temperatures (regardless whether they have been provided orally, in writing or in the form of practical instructions) are based on extensive experience and tests. The user, however, should consider this information only as a reference. Should the surface quality or the degree of transparency or glaze not correspond to the result that is achieved under optimum conditions, the firing procedure must be adjusted correspondingly.

⚠ **Note:** Firing trays may also have significant influence on the result.

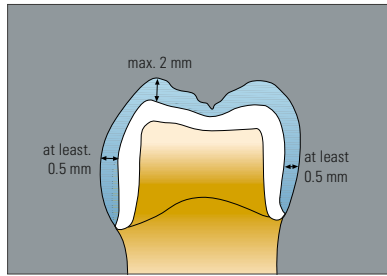
All firing temperatures for VITA VM 7 are based on the use of dark-colored ceramic firing trays. When using light-colored firing trays, the temperature may vary by 10–20°C - in some cases even by up to 40° - from the reference value given depending on the type of furnace that is used and need to be adjusted correspondingly.

The crucial factors for the firing procedure are not the firing temperature displayed by the furnace but the appearance and the surface condition of the firing object after the firing process.

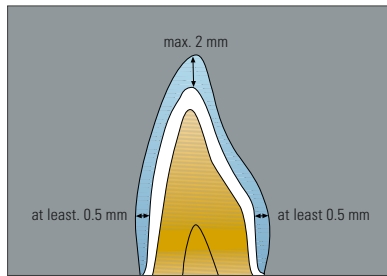


A slight luster of the ceramic surface is an evidence for correct firing. If the ceramic, however, appears to be milky and non-homogeneous, the firing temperature is too low. Approach the correct firing temperature in steps of 5–10°C.





### Veneering premolars and molars



### Veneering anterior teeth

Please observe the detailed instructions given in the respective working instructions!

### Layer thicknesses for ceramics

When preparing a ceramic veneer, a uniform layer thickness across the entire surface to be veneered must be ensured.








The entire thickness of the ceramic layer, however, should not exceed 2 mm (the optimum layer thickness ranges from 0.7 to 1.2 mm).

The substructure should always have a design to support the tooth stump, i.e. it should have a reduced anatomical tooth size and not have any sharp edges.

No matter what your scheduled indication, with the highest degree of innovation, cutting edge technology and precision, VITA provides you with the best material every time: VITA In-Ceram. The wide range of oxide ceramics is matched precisely to your requirements. For every indication you can always be sure of the best material. Whatever your patient's initial situation, or whatever manufacturing procedure you choose (slip-casting or milling technique), our wide range of ceramics for glass infiltration and dense sintering guides you through the process of selecting the correct material from the innovative VITA In-Ceram product family straight towards the perfect solution each time.

### VITA In-Ceram permits

- a wide range of indications through a wide variety of materials
- shade accuracy through individual shading of substructures
- excellent esthetics and biocompatibility
- non-adhesive bonding of the restorations
- reliable working procedure and clinical success based on 16 million clinical restorations

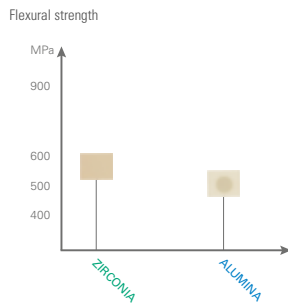
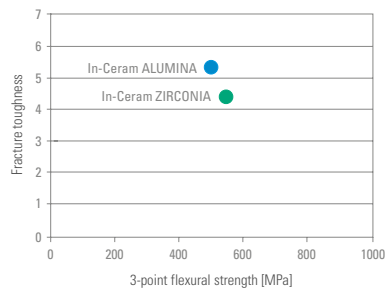
							
VITA In-Ceram ALUMINA	—	—	—	●	●	●	—
VITA In-Ceram ZIRCONIA	—	—	—	○	○	●	●

● recommended    ○ possible    — not possible

### The material

After sintering, VITA In-Ceram ALUMINA and ZIRCONIA are initially porous materials. The porosities are then sealed with a special glass by means of an infiltration procedure. This means that these are compound materials.

Aluminium dioxide ( $\text{Al}_2\text{O}_3$ ) is an oxide ceramic with many fascinating properties, such as its translucency in the case of thin wall thicknesses, its bright color and its outstanding biocompatibility. It is no coincidence that this material is frequently used in the field of implantology.



Overview of the different degrees of translucency and the strengths of the various VITA In-Ceram materials.

### Material properties and their advantages for clinic and laboratory

Compared to glass or feldspar ceramics, oxide ceramics exhibit higher flexural strength and fracture toughness and are therefore suitable for the fabrication of all-ceramic crown and bridge substructures.

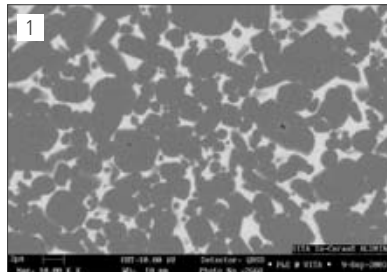
- High radiopacity
- Outstanding esthetics and excellent biocompatibility
- High functional strength thanks to excellent physical values

As industrially manufactured, porously presintered blocks, the VITA In-Ceram ALUMINA and ZIRCONIA BLANKS are more strongly sintered (necking) than the corresponding In-Ceram slip material. As a result all VITA In-Ceram block materials are ideally suited for machine processing, particularly homogeneous and demonstrate a very high degree of strength.

VITA In-Ceram is a material concept which offers advantages to suit different requirement profiles.

The result is a universal material and processing system for future-oriented dental laboratories and practices.

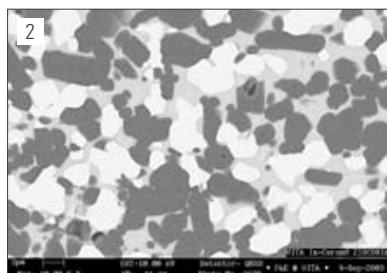
### Glass infiltration



#### VITA In-Ceram ALUMINA ( $\text{Al}_2\text{O}_3$ )

ALUMINA – the synthesis of esthetics and strength – is highly versatile and ideally suited for the fabrication of anterior and posterior crown substructures and three-unit anterior bridges. In-Ceram ALUMINA is made of synthetically manufactured corundum which is extracted from bauxite.

Fig. 1: ALUMINA structure, glass infiltrated (magnification 10,000 x)



#### VITA In-Ceram ZIRCONIA ( $\text{Al}_2\text{O}_3/\text{ZrO}_2$ )

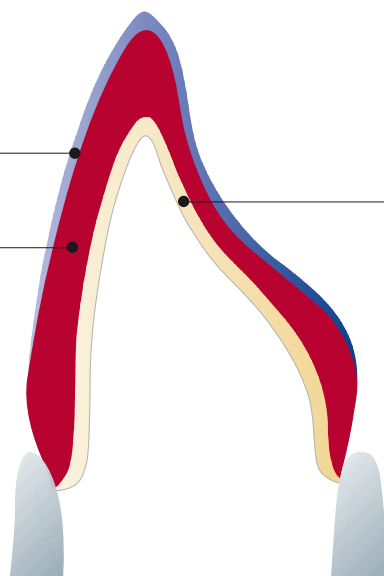
The extremely high strength of ZIRCONIA makes it suitable for posterior crowns and posterior bridges of up to three units. ZIRCONIA is aluminium oxide ( $\text{Al}_2\text{O}_3$ ) reinforced with zirconium dioxide ( $\text{ZrO}_2$ ) and combines the fracture toughness of  $\text{ZrO}_2$  with the high flexural strength of aluminium oxide.

Fig. 2: ZIRCONIA structure, glass infiltrated (magnification 10,000 x)

VITA VM 7 ENAMEL



VITA VM 7 BASE DENTINE



all-ceramic substructure  
(CTE 7.2–7.8)

VITA VM 7 BASIC layering consists of the application of the two materials BASE DENTINE and ENAMEL.

The color-bearing BASE DENTINE materials, which provide good coverage, offer the perfect precondition for the preparation of veneers with intensive shades. With this two-layer alternative VITA offers an ideal solution for the reproduction of optimal shade results in case of thin walls. Additionally, the intensive shade effect of the BASE DENTINE porcelains permits variable use of the ENAMEL porcelains which create the desired translucency. The user is able to prepare a natural restoration with a lifelike appearance with only two layers.

**⚠ Note:** The intensity of the restoration can be varied with different layer thicknesses of BASE DENTINE and ENAMEL. The thicker the BASE DENTINE layer, the more intensive is the shade of the restoration. The thicker the ENAMEL layer, the paler is the shade of the restoration.

The use of CHROMA PLUS materials helps to achieve perfect shade reproduction in the cervical area.





**VITA In-Ceram crown and bridge substructures  
(CTE  $7.2-7.8 \cdot 10^{-6} \cdot K^{-1}$ )**

VITA In-Ceram ALUMINA crown and bridge substructures ready for veneering. To allow easy removal of the restoration later on, the model must be previously insulated using the VITA Modisol pen.



**Application of BASE DENTINE**

Apply the desired shade of BASE DENTINE starting from the neck to obtain the required complete tooth shape. The centric, lateral and protrusive occlusion should be checked in the articulator already during this stage.



To obtain adequate space for the enamel, removal of corresponding amount of the BASE DENTINE according to the layering pattern is required.



**Application of ENAMEL**

Apply several small portions of ENAMEL to complete the crown mould beginning from the lower third of the crown. To compensate firing shrinkage, the size of the mould must be prepared somewhat larger.

The classification tables for the VITA VM 7 ENAMEL materials can be found on page 22.



Prior to the first dentine firing, the individual units of bridges must be separated in the interproximal areas down to the substructure.



The applied porcelains ready for first dentine firing.

#### Recommended firing - first dentine firing

Predry. °C	$\xrightarrow{\quad}$ min.	$\nearrow$ min.	$\nearrow$ °C/min.	approx. temp. °C	$\xrightarrow{\quad}$ min.	VAC min.
500	6.00	7.27	55	910	1.00	7.27



Restoration after first dentine firing.



#### Corrections of shape/further layering

Insulate the model once more with the VITA Modisol pen.

The interdental spaces and the basal surface of the pontic must be filled with BASE DENTINE.



Apply BASE DENTINE starting from the neck and add ENAMEL in the body area up to the incisal area to perform subsequent corrections of the shape.

#### Recommended firing - second dentine firing

Predry. °C	$\xrightarrow{\quad}$ min.	$\nearrow$ min.	$\nearrow$ °C/min.	approx. temp. °C	$\xrightarrow{\quad}$ min.	VAC min.
500	6.00	7.16	55	900	1.00	7.16



Bridge and crown after second dentine firing.



### Finishing





Finish the bridge or crown respectively. Prior to glaze firing, the entire surface must be ground evenly and then grinding dust must be thoroughly removed.

In case of formation of dust, use an extraction system or wear a face mask. Additionally, protective goggles must be worn when grinding the fired ceramic.



If required, the entire restoration can be coated with VITA AKZENT Glaze and then individualization can be carried out using the VITA AKZENT Plus stains. (see VITA AKZENT Plus working instructions, No. 1925)

### Recommended firing – Glaze firing with VITA AKZENT Plus

Predry. °C	 min.	 min.	 °C/min.	approx. temp. °C	 min.	VAC min.
500	4.00	5.00	80	900	1.00	–



Completed restoration on the model.

**Note:** If the restoration needs to be adjusted (ground) when it is tried in, it must be smoothed again. Polishing or glaze firing have proved to be very suitable.

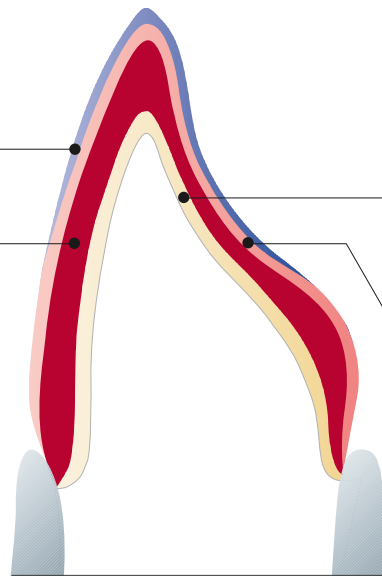
VITA VM 7 ENAMEL



VITA VM 7 BASE DENTINE



VITA VM 7 TRANSPA DENTINE



all-ceramic substructure  
(CTE 7.2–7.8)

The VITA VM 7 BUILD UP layering includes the application of the three materials BASE DENTINE, TRANSPA DENTINE and ENAMEL.

The combination of color-bearing BASE DENTINE and translucent TRANSPA DENTINE in the VITA VM 7 BUILD UP layering creates an enhanced effect of depth in the restoration.

The use of the three-layer method permits reduced and more individual application of the ENAMEL porcelains, which results in even more convincing reproduction of the natural example.

**Note:** By combining ENAMEL and TRANSPA DENTINE according to the layer thickness of BASE DENTINE, the intensity of the shade can be individualized. An increased proportion of BASE DENTINE results in an intensified shade whereas larger quantities of TRANSPA DENTINE and ENAMEL will reduce the chroma of the shade.

The use of CHROMA PLUS materials helps to achieve perfect shade reproduction in the cervical area.







**VITA In-Ceram crown and bridge substructures  
(CTE 7.2-7.8 · 10<sup>-6</sup> · K<sup>-1</sup>)**

VITA In-Ceram ALUMINA crown and bridge substructures ready for veneering.  
To allow easy removal of the restoration later on, the model must be previously insulated using the VITA Modisol pen.



**Application of BASE DENTINE**

Apply the desired shade of BASE DENTINE starting from the neck to obtain the required complete tooth shape.



Completely layered BASE DENTINE.



**Application of TRANSPA DENTINE**

TRANSPA DENTINE is applied in the required complete tooth shape.  
The centric, lateral and protrusive occlusion should be checked in the articulator already during this stage.



To obtain sufficient space for the enamel, the volume of the TRANSPA DENTINE must be reduced correspondingly.



**Application of ENAMEL**

To complete the crown, apply several small portions of ENAMEL to the upper third of the crown. To compensate firing shrinkage, the mould must be prepared somewhat larger.

The classification tables for the VITA VM 7 ENAMEL materials can be found on page 22.







Prior to firing, the individual units of bridges must be separated in the interdental areas down to the substructure.



Restoration prior to first dentine firing.

**Recommended firing - first dentine firing**

Predry. °C	 min.	 min.	 °C/min.	approx. temp. °C	 min.	VAC min.
500	6.00	7.27	55	910	1.00	7.27



Restoration after first dentine firing.



### Corrections of shape/further layering

Insulate the model once more at the pontic with the VITA Modisol pen. The interdental spaces and the basal surface of the pontic must be filled with BASE DENTINE.



Subsequent corrections of the shape in the body area are carried out using TRANSPA DENTINE ...



... and ENAMEL in the incisal area.

### Recommended firing - second dentine firing

Predry. °C	$\xrightarrow{\text{min.}}$	$\xrightarrow{\text{min.}}$	$\xrightarrow{\text{°C/min.}}$	approx. temp. °C	$\xrightarrow{\text{min.}}$	VAC min.
500	6.00	7.16	55	900	1.00	7.16



Bridge and crown after second dentine firing.



### Finishing

Finish the bridge or crown respectively. For glaze firing, the entire surface must be ground evenly and grinding particles must be removed carefully.

In case of formation of dust, use an extraction system or wear a face mask. Additionally, protective goggles must be worn when grinding the fired ceramic.





If required, the entire restoration can be coated with VITA AKZENT Plus GLAZE and then individualization can be carried out using VITA AKZENT Plus stains.  
(see VITA AKZENT Plus working instructions, No. 1925)





#### Recommended firing – Glaze firing with VITA AKZENT Plus

Predry. °C	$\xrightarrow{\quad}$ min.	$\nearrow$ min.	$\nearrow$ °C/min.	approx. temp. °C	$\xrightarrow{\quad}$ min.	VAC min.
500	4.00	5.00	80	900	1.00	–



Completed restoration on the model.

**⚠ Note:** If the restoration needs to be adjusted (ground) when it is tried in, it must be smoothed again. Polishing or glaze firing have proved to be very suitable.

	Predry. °C	 min.	 min.	 °C/min.	approx. temp. °C	 min.	VAC min.
MARGIN* firing	500	6.00	7.40	60	960	1.00	7.40
EFFECT LINER* firing	500	6.00	8.11	55	950	1.00	8.11
First dentine firing	500	6.00	7.27	55	910	1.00	7.27
Second dentine firing	500	6.00	7.16	55	900	1.00	7.16
Stains fixation firing	500	6.00	3.00	100	800	0.00	–
Glaze firing	500	0.00	5.00	80	900	1.00	–
Glaze firing with AKZENT Plus	500	4.00	5.00	80	900	1.00	–
Corrective firing with CORRECTIVE*	500	4.00	6.00	55	830	1.00	6.00





\* Indication range, see pages 24/25

**When using dental ceramics, the firing result largely depends on the individual firing procedure of the user, i.e. among other aspects, the type of furnace, the location of the temperature sensor, the firing tray as well as the size of the object during the firing cycles.**

**Our application-technical recommendations for the firing temperatures (regardless whether they have been provided orally, in writing or in the form of practical instructions) are based on extensive experience and tests. The user, however, should consider this information only as a reference.**

**Should the surface quality or the degree of transparency or glaze not correspond to the result that is achieved under optimum conditions, the firing procedure must be adjusted correspondingly. The crucial factors for the firing procedure are not the firing temperature indicated on the furnace display, but the appearance and the surface quality of the firing object after firing.**

## Explanation of the firing parameters

Predry. °C	Start temperature
	Predrying time in minutes, closing time
	Heating time in minutes
	Temperature rise rate in degrees Celsius per minute
Temp. approx. °C	End temperature
	Holding time for end temperature
VAC min.	Vacuum holding time in minutes

The classifications given below are only intended to provide reference values!

VITA SYSTEM 3D-MASTER shades	ALUMINA GLASS POWDER	ZIRCONIA GLASS POWDER	ENAMEL	EFFECT LINER ZIRCONIA**	CHROMA PLUS**	MARGIN**
0M1	AL light	ZR	ENL	EL1	—	M1
0M2	AL light	ZR	ENL	EL1	—	M1
0M3	AL light	ZR	ENL	EL1	—	M1
1M1	AL light	ZR	ENL	—	—	M1/M7*
1M2	AL light	ZR	ENL	—	—	M1/M7*
2L1.5	AL light	ZR	ENL	EL4	CP2	M1/M7*
2L2.5	AL light	ZR	ENL	EL4	CP2	M1/M4*
2M1	AL light	ZR	ENL	EL4	CP2	M1/M4*
2M2	AL light	ZR	ENL	EL4	CP2	M1/M4*
2M3	AL light	ZR	ENL	EL4	CP2	M4
2R1.5	AL light	ZR	ENL	EL4	CP2	M1/M7*
2R2.5	AL light	ZR	ENL	EL4	CP2	M1/M4*
3L1.5	AL light	ZR	ENL	EL4	CP3	M4/M7*
3L2.5	AL light	ZR	ENL	EL4	CP3	M4/M7*
3M1	AL light	ZR	ENL	EL4	CP3	M7
3M2	AL light	ZR	ENL	EL4	CP3	M4/M7*
3M3	AL light	ZR	ENL	EL4	CP3	M4/M9*
3R1.5	AL light	ZR	ENL	EL4	CP3	M7
3R2.5	AL light	ZR	ENL	EL4	CP3	M4/M7*
4L1.5	AL dark	ZR	END	EL3	CP4	M7
4L2.5	AL dark	ZR	END	EL3	CP4	M4/M9*
4M1	AL dark	ZR	END	EL3	CP4	M7
4M2	AL dark	ZR	END	EL3	CP4	M4/M9*
4M3	AL dark	ZR	END	EL3	CP4	M9
4R1.5	AL dark	ZR	END	EL3	CP4	M7/M8*
4R2.5	AL dark	ZR	END	EL3	CP4	M7/M9*
5M1	AL dark	ZR	END	EL3	—	M7/M8*
5M2	AL dark	ZR	END	EL3	—	M7/M9*
5M3	AL dark	ZR	END	EL3	—	M5/M9*

\* Mixing ratio 1:1

\*\* Indication range, see pages 24/25

When processing VITA In-Ceram ZIRCONIA, please use ZIRCONIA GLASS POWDER for shade reproduction.

When veneering VITA In-Ceram ZIRCONIA, EFFECT LINER materials are required for perfect shade reproduction.



**VITA VM MODELLING LIQUID**

For mixing BASE DENTINE, TRANSPA DENTINE, ENAMEL and additional materials.

VITA VM MODELLING LIQUID provides excellent stability characteristics during layering and allows faster evaporation of the liquid.

Perfectly suitable for the fabrication of small restorations or for processing without the permanent use of an extraction unit.













**VITA MODELLING FLUID** (not included in the assortment)

For mixing all dentine, incisal and additional materials.

VITA MODELLING FLUID avoids rapid drying of the ceramic material.

Moreover increased plasticity during layering is achieved.

<b>VITA VM 7 EFFECT LINER</b> – to control the fluorescence from the depth of the restoration – universally suitable to support and intensify the base shade – applied in the gingival area, they enhance the distribution of light – for reliable shade reproduction of VITA In-Ceram ZIRCONIA (classification tables on page 22)		<table><tr><td>EL1</td><td>snow</td><td>white</td></tr><tr><td>EL2</td><td>cream</td><td>beige</td></tr><tr><td>EL3</td><td>tabac</td><td>brown</td></tr><tr><td>EL4</td><td>golden fleece</td><td>yellow</td></tr><tr><td>EL5</td><td>papaya</td><td>orange</td></tr><tr><td>EL6</td><td>sesame</td><td>green-yellow</td></tr></table>	EL1	snow	white	EL2	cream	beige	EL3	tabac	brown	EL4	golden fleece	yellow	EL5	papaya	orange	EL6	sesame	green-yellow	
EL1	snow	white																			
EL2	cream	beige																			
EL3	tabac	brown																			
EL4	golden fleece	yellow																			
EL5	papaya	orange																			
EL6	sesame	green-yellow																			
<b>VITA VM 7 MARGIN</b> – for minor corrections at the margin area – after the application, the plastified MARGIN material must be hardened through the supply of heat; it is recommended to use a hair-drier or radiated heat from the furnace to stabilize the shoulder		<table><tr><td>M1</td><td>icy beige</td><td>white</td></tr><tr><td>M4</td><td>wheat</td><td>yellow</td></tr><tr><td>M5</td><td>amber</td><td>amber</td></tr><tr><td>M7</td><td>seashell</td><td>light beige</td></tr><tr><td>M8</td><td>tan</td><td>pastel-brown</td></tr><tr><td>M9</td><td>beach</td><td>light orange</td></tr></table>	M1	icy beige	white	M4	wheat	yellow	M5	amber	amber	M7	seashell	light beige	M8	tan	pastel-brown	M9	beach	light orange	
M1	icy beige	white																			
M4	wheat	yellow																			
M5	amber	amber																			
M7	seashell	light beige																			
M8	tan	pastel-brown																			
M9	beach	light orange																			
<b>VITA VM 7 MAMELON</b> – highly fluorescent porcelain which is mainly used in the incisal area – for shade characterization between incisal edge and dentine		<table><tr><td>MM1</td><td>ecru</td><td>beige</td></tr><tr><td>MM2</td><td>mellow buff</td><td>warm yellow-brown</td></tr><tr><td>MM3</td><td>peach puff</td><td>tender orange</td></tr></table>	MM1	ecru	beige	MM2	mellow buff	warm yellow-brown	MM3	peach puff	tender orange										
MM1	ecru	beige																			
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<b>VITA VM 7 GINGIVA</b> – to restore the original gingival situation – are applied and fired during the first and / or second dentine firing – color nuances range from orange-red and reddish to brown-red		<table><tr><td>G1</td><td>rose</td><td>dusky pink</td></tr><tr><td>G2</td><td>nectarine</td><td>orange-pink</td></tr><tr><td>G3</td><td>pink grapefruit</td><td>pink</td></tr><tr><td>G4</td><td>rosewood</td><td>brown-red</td></tr><tr><td>G5</td><td>cherry brown</td><td>black-red</td></tr></table>	G1	rose	dusky pink	G2	nectarine	orange-pink	G3	pink grapefruit	pink	G4	rosewood	brown-red	G5	cherry brown	black-red				
G1	rose	dusky pink																			
G2	nectarine	orange-pink																			
G3	pink grapefruit	pink																			
G4	rosewood	brown-red																			
G5	cherry brown	black-red																			
<b>VITA VM 7 CORRECTIVE</b> – with reduced firing temperature (830°C) for corrections after glaze firing – in three nuances for neck, dentine and enamel areas		<table><tr><td>COR1</td><td>neutral</td><td>neutral</td></tr><tr><td>COR2</td><td>sand</td><td>beige</td></tr><tr><td>COR3</td><td>ochre</td><td>brown</td></tr></table>	COR1	neutral	neutral	COR2	sand	beige	COR3	ochre	brown										
COR1	neutral	neutral																			
COR2	sand	beige																			
COR3	ochre	brown																			



<b>VITA VM 7 EFFECT ENAMEL</b> – can be used for all enamel areas of the natural tooth – universally suitable translucent enamel effect material – to achieve a natural effect of depth		<table><tr><td>EE1</td><td>mint cream</td><td>whitish-translucent</td></tr><tr><td>EE2</td><td>pastel</td><td>pastel</td></tr><tr><td>EE3</td><td>misty rose</td><td>pink-translucent</td></tr><tr><td>EE4</td><td>vanilla</td><td>yellowish</td></tr><tr><td>EE5</td><td>sun light</td><td>yellowish-translucent</td></tr><tr><td>EE6</td><td>navajo</td><td>reddish translucent</td></tr><tr><td>EE7</td><td>golden glow</td><td>orange-translucent</td></tr><tr><td>EE8</td><td>coral</td><td>red-translucent</td></tr><tr><td>EE9</td><td>water drop</td><td>bluish-translucent</td></tr><tr><td>EE10</td><td>silver lake blue</td><td>blue</td></tr><tr><td>EE11</td><td>drizzle</td><td>greyish-translucent</td></tr><tr><td></td><td></td><td></td></tr></table>	EE1	mint cream	whitish-translucent	EE2	pastel	pastel	EE3	misty rose	pink-translucent	EE4	vanilla	yellowish	EE5	sun light	yellowish-translucent	EE6	navajo	reddish translucent	EE7	golden glow	orange-translucent	EE8	coral	red-translucent	EE9	water drop	bluish-translucent	EE10	silver lake blue	blue	EE11	drizzle	greyish-translucent				
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<b>VITA VM 7 EFFECT PEARL</b> – only suitable for effects on the surface, not for layering in – perfectly suitable for bleached restorations – to obtain nuances of yellow and red		<table><tr><td>EP1</td><td>pearl</td><td>shade in pastel-yellow</td></tr><tr><td>EP2</td><td>pearl blush</td><td>shade in pastel-orange</td></tr><tr><td>EP3</td><td>pearl rose</td><td>shade in pastel-rosé</td></tr><tr><td></td><td></td><td></td></tr></table>	EP1	pearl	shade in pastel-yellow	EP2	pearl blush	shade in pastel-orange	EP3	pearl rose	shade in pastel-rosé																												
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<b>VITA VM 7 EFFECT OPAL</b> – to create the opal effect in restorations of young and translucent teeth		<table><tr><td>E01</td><td>opal</td><td>neutral, universally suitable</td></tr><tr><td>E02</td><td>opal whitish</td><td>whitish</td></tr><tr><td>E03</td><td>opal bluish</td><td>bluish</td></tr><tr><td>E04</td><td>opal blue</td><td>blue</td></tr><tr><td>E05</td><td>opal dark violet</td><td>dark violet</td></tr><tr><td></td><td></td><td></td></tr></table>	E01	opal	neutral, universally suitable	E02	opal whitish	whitish	E03	opal bluish	bluish	E04	opal blue	blue	E05	opal dark violet	dark violet																						
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E04	opal blue	blue																																					
E05	opal dark violet	dark violet																																					
<b>VITA VM 7 EFFECT CHROMA</b> – color-intensive modifier porcelains – to accentuate certain color areas of the tooth – to vary the lightness value in the neck, dentine and enamel areas		<table><tr><td>EC1</td><td>ghost</td><td>white</td></tr><tr><td>EC2</td><td>linen</td><td>sand-beige</td></tr><tr><td>EC3</td><td>pale banana</td><td>light yellow</td></tr><tr><td>EC4</td><td>lemon drop</td><td>tender lemon yellow</td></tr><tr><td>EC5</td><td>golden rod</td><td>light orange</td></tr><tr><td>EC6</td><td>sunflower</td><td>orange</td></tr><tr><td>EC7</td><td>light salmon</td><td>pink</td></tr><tr><td>EC8</td><td>toffee</td><td>beige-brown</td></tr><tr><td>EC9</td><td>doe</td><td>brown</td></tr><tr><td>EC10</td><td>larch</td><td>green-brown</td></tr><tr><td>EC11</td><td>gravel</td><td>green-grey</td></tr><tr><td></td><td></td><td></td></tr></table>	EC1	ghost	white	EC2	linen	sand-beige	EC3	pale banana	light yellow	EC4	lemon drop	tender lemon yellow	EC5	golden rod	light orange	EC6	sunflower	orange	EC7	light salmon	pink	EC8	toffee	beige-brown	EC9	doe	brown	EC10	larch	green-brown	EC11	gravel	green-grey				
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EC11	gravel	green-grey																																					
<b>VITA VM 7 CHROMA PLUS</b> – Chroma Plus materials can be used to achieve more intensive shade reproduction in the cervical region – in case of thin walls, they enhance the shade in an efficient manner		<table><tr><td>CP2</td><td>almond</td><td>beige</td></tr><tr><td>CP3</td><td>moccasin</td><td>light orange-brown</td></tr><tr><td>CP4</td><td>caramel</td><td>orange</td></tr><tr><td></td><td></td><td></td></tr></table>	CP2	almond	beige	CP3	moccasin	light orange-brown	CP4	caramel	orange																												
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CP3	moccasin	light orange-brown																																					
CP4	caramel	orange																																					


**VITA VM 7 BASIC KIT\***

BASIC assortment for BASIC layering

Quantity	Content	Material
3	12 g	EFFECT LINER EL2–EL4
3	12 g	CHROMA PLUS CP2–CP4
26	12 g	BASE DENTINE 1M1–5M3**
2	12 g	ENAMEL ENL,END**
1	12 g	NEUTRAL NT**
1	12 g	WINDOW WIN**
3	12 g	CORRECTIVE COR1–COR3
1	50 ml	VITA VM MODELLING LIQUID
1	–	VITA MODISOL pen
1	pack	Firing tray G
1	pack	Fibrous pad firing supports
1	–	Shade indicator
1	–	VITA Toothguide 3D-MASTER
1	–	Working Instructions

\*\* also available in 50 g in the following shades: 1M1, 1M2, 2M1, 2M2, 2M3, 3L1.5, 3L2.5, 3M1, 3M2, 3M3, 3R1.5, 3R2.5, 4M1, 4M2, 4M3, NT, WIN, ENL, END

\* also available as BASIC KIT SMALL with reduced range of materials.


**VITA VM 7 BUILD UP KIT\***

Add-on assortment for BASIC layering

Quantity	Content	Material
26	12 g	TRANSPA DENTINE 1M1–5M3**
1	50 ml	VITA VM MODELLING LIQUID

\*\* also available in 50 g in the following shades: 1M1, 1M2, 2M1, 2M2, 2M3, 3L1.5, 3L2.5, 3M1, 3M2, 3M3, 3R1.5, 3R2.5, 4M1, 4M2, 4M3

\* also available as BUILD UP KIT SMALL with reduced range of F-materials.


**VITA VM 7 PROFESSIONAL KIT\***

For incorporating natural effects and characteristics

Quantity	Content	Material
11	12 g	EFFECT CHROMA EC1–EC11
11	12 g	EFFECT ENAMEL EE1–EE11
6	12 g	EFFECT LINER EL1–EL6
3	12 g	MAMELON MM1–MM3
3	12 g	EFFECT PEARL EP1–EP3
5	12 g	EFFECT OPAL EO1–EO5
5	–	Shade guides

\* Also available as PROFESSIONAL KIT SMALL (EC1, EC4, EC6, EC8, EC9, MM2, EP1, EO2, EE1, EE3, EE7, EE8, EE9, EE10, EE11)


**VITA VM 7 BLEACHED COLOR KIT**

Ultra-bright shades for the reproduction of bleached teeth

Quantity	Content	Material
1	12 g	EFFECT LINER EL1
3	12 g	BASE DENTINE 0M1, 0M2, 0M3
3	12 g	TRANSPA DENTINE 0M1, 0M2, 0M3
1	12 g	ENAMEL ENL
1	12 g	NEUTRAL NT
1	12 g	WINDOW WIN
1	50 ml	VITA VM MODELLING LIQUID
1	–	BLEACHED SHADE GUIDE SHADE GROUP 0M
1	–	Working Instructions


**VITA VM 7 GINGIVA KIT**

Gingiva materials with natural effects

Quantity	Content	Material
5	12 g	GINGIVA G1–G5
1	–	Shade guide

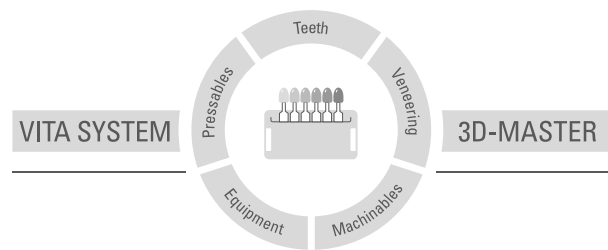

**VITA VM 7 MARGIN KIT**

Only for minor corrections in the area of margins

Quantity	Content	Material
6	12 g	MARGIN M1, M4, M5, M7, M8, M9
1	–	Shade guide

VITA VM 7 veneering material is available in VITA SYSTEM 3D-MASTER shades. Shade compatibility with all VITA 3D-MASTER materials is ensured.

With the unique VITA SYSTEM 3D-MASTER, all natural tooth shades can be systematically determined and completely 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: 10.13

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<sup>®</sup>7 · VITA In-Ceram<sup>®</sup> ALUMINA · VITA In-Ceram<sup>®</sup> ZIRCONIA**  
**VITA AKZENT<sup>®</sup> Plus**

# VITA

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