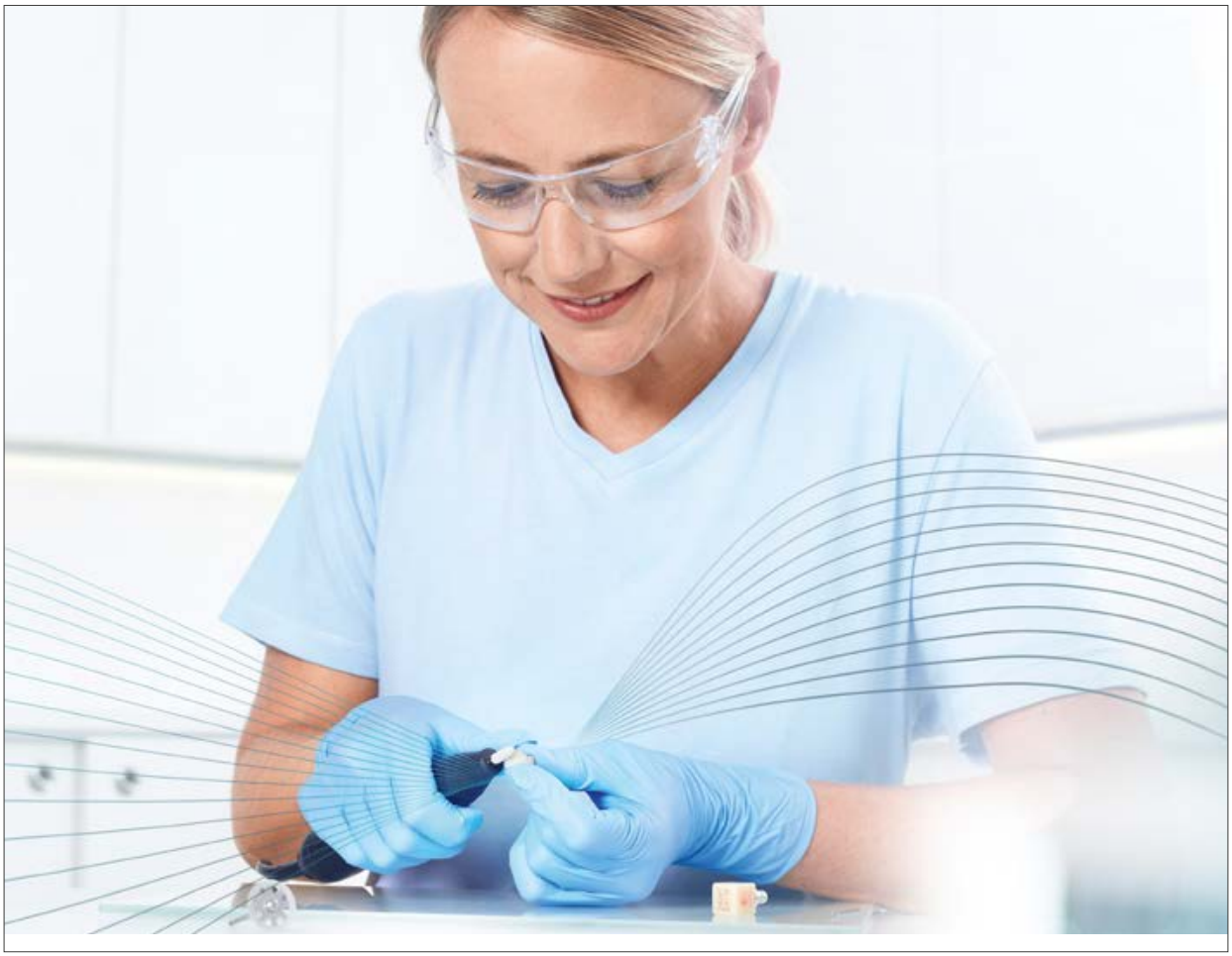
VITA ENAMIC® Implant-supported crowns

Working Instructions

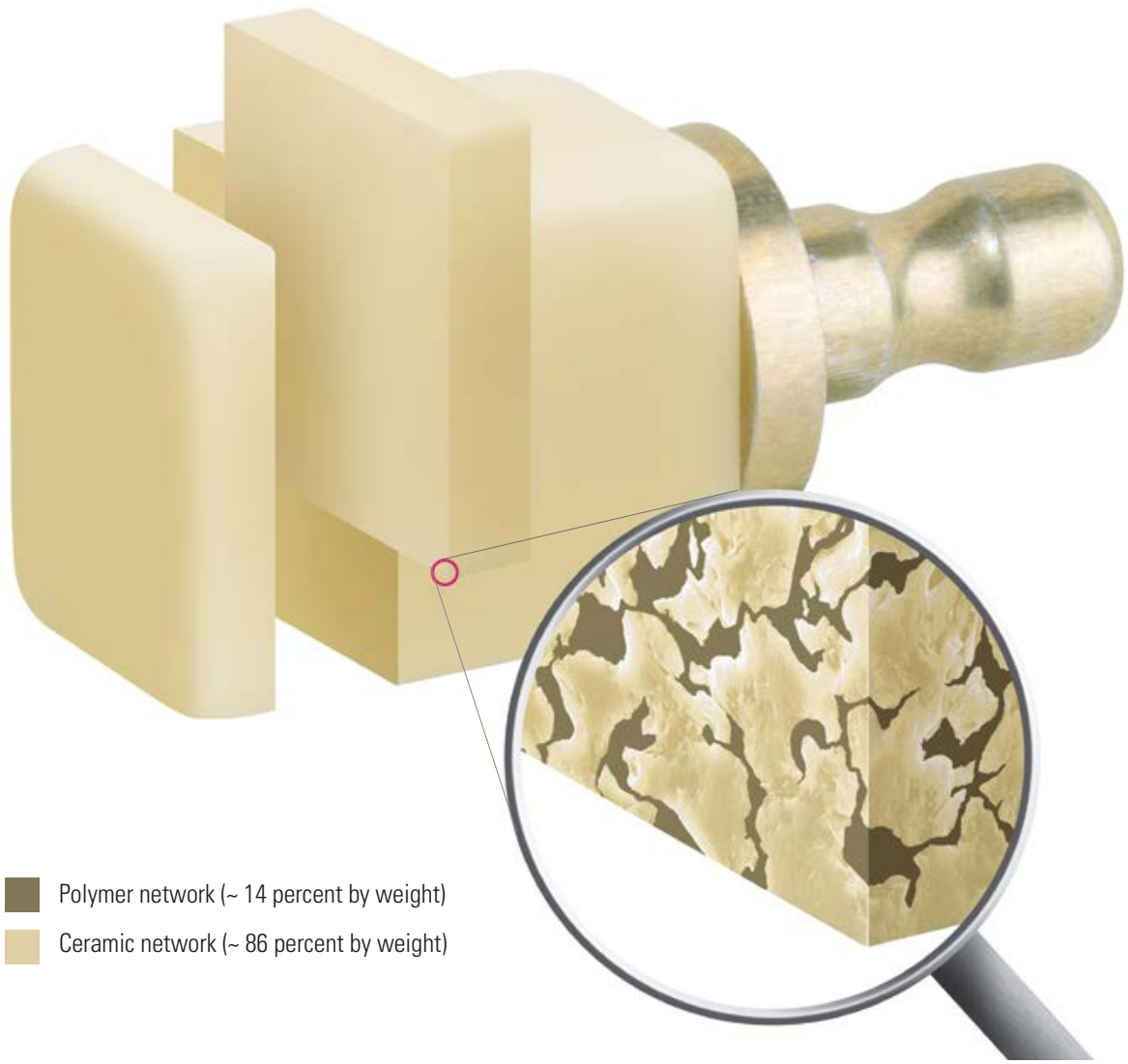


VITA shade determination | VITA shade communication | VITA shade reproduction | VITA shade control

Date of issue: 11.18

VITA – perfect match.

Information about VITA ENAMIC hybrid ceramic
is available at www.vita-enamic.com



Product description

VITA ENAMIC is the first hybrid dental ceramic in the world with a dual-network structure. In this dental material, the dominant ceramic network is reinforced by a polymer network, with both networks fully integrated with one another. VITA ENAMIC is a dental hybrid material that combines the positive characteristics of a ceramic and a composite.

VITA ENAMIC is indicated for single crowns on implant abutments

Requirements for this indication:

- Reliable adhesive bonding between the VITA ENAMIC crown and the abutment:
  – Sufficient geometry (diameter, height, emergence profile) of the abutment[1]*.
- Full compliance with the requirements for all-ceramic restorations [2]*
  – Avoiding sharply defined margins and edges at the abutment.
- Cervical support of the crown on the abutment shoulder, just like on a natural tooth stump
  – Chamfer or rectangular step with rounded inner angle and a minimum width of 0.8 mm

⚠ **Note:** The processing instructions for the abutments are general recommendations given without guarantee. Please contact the manufacturer of your implant [3]* if you are not sure which implant to use for the respective indication.

Overview of indications	
Anterior and posterior crowns implant-supported*	
Anterior and posterior crowns	
Inlays / Onlays / Partial crowns	
Table tops	
Veneers	

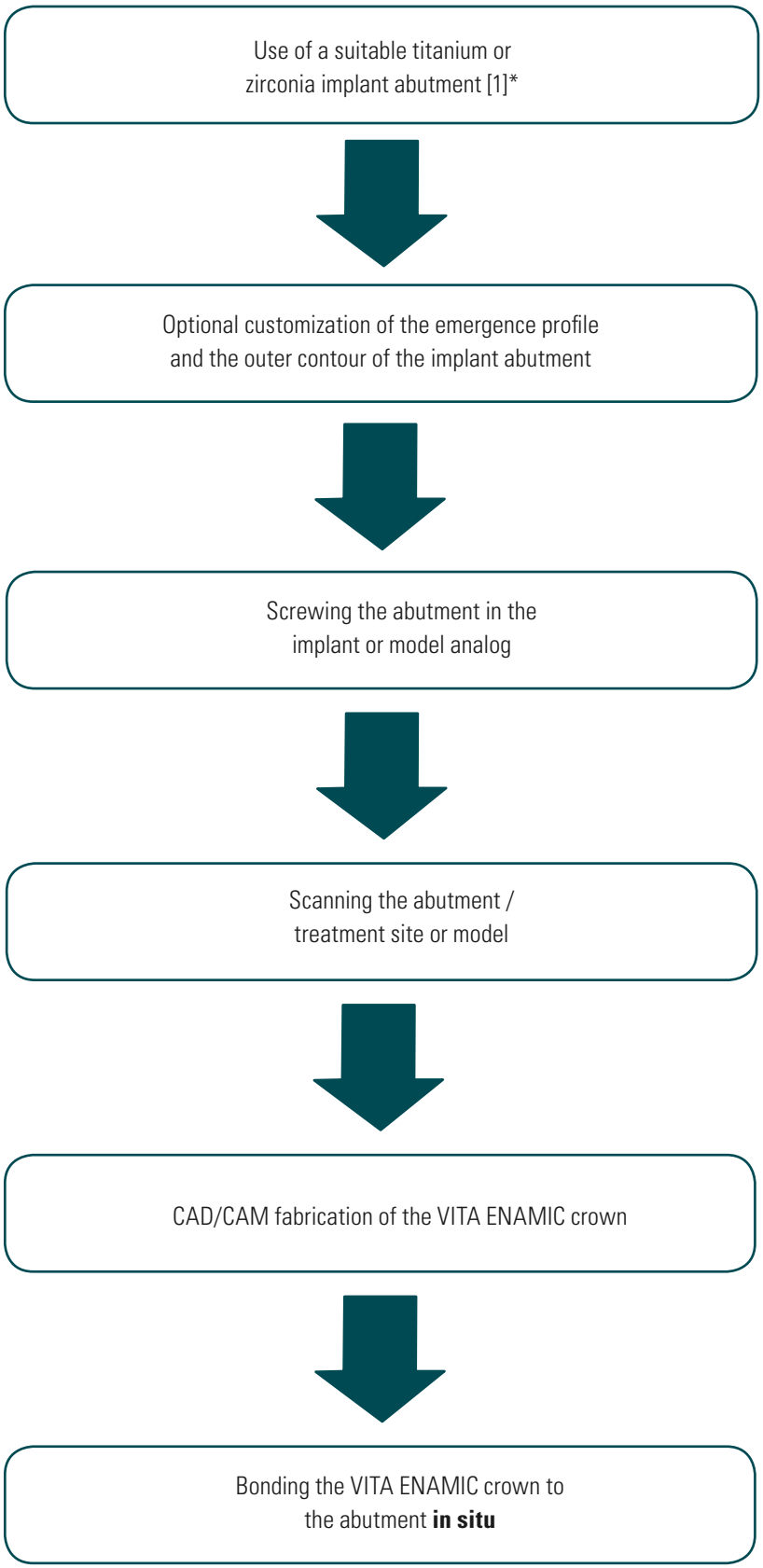
* The abutments must be designed in a way to meet the requirements for ceramic-specific preparation and to observe the minimum wall thicknesses of crowns made of VITA ENAMIC. Please observe the processing instructions of the manufacturer of the implant and the adhesive bonding material.
For more information: VITA ENAMIC implant-supported crowns Working Instructions, Prod. No. 10077 and VITA IMPLANT SOLUTIONS Working Instructions, Prod. No. 10150.

Contraindication

- Bridge restorations
- Free-end restorations
- Parafunction (for example bruxism)

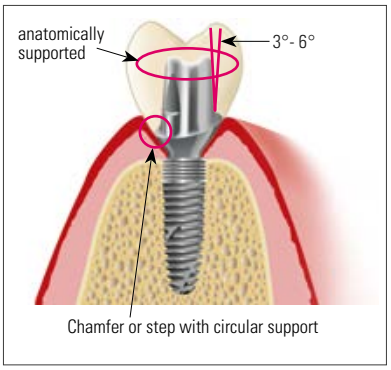
* References, see page 15

Process steps – VITA ENAMIC crown on abutment – adhesively bonded



*References, see page 15

Geometric requirements for the abutment

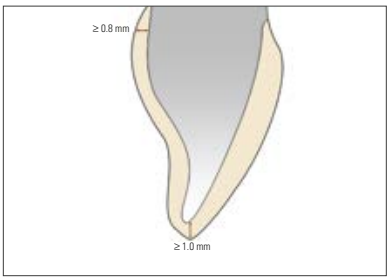


⚠ **Note:** When preparing the abutment, please observe the general guidelines on the preparation of tooth stumps to support an all-ceramic crown and the information of the respective manufacturers on the use of the abutments.

General requirements:

- The diameter or the size must be adapted to the clinical situation and to the implant system selected.
- The abutment may only be processed if the instructions of the respective manufacturer are observed.
- The geometric requirements for safe static of the crown restoration must be fulfilled:
- Avoid sharply defined margins and edges.
- Vertical convergence angle of the abutment: 3°- 6°.

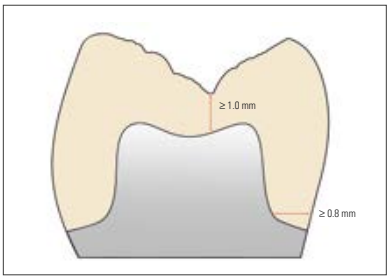
Geometric requirements for the VITA ENAMIC crown



To ensure clinical success of VITA ENAMIC restorations on implants, the following minimum layer thicknesses must be adhered to:

Anterior crowns

Incisal wall thickness:	**at least 1.0 mm**
Circumferential wall thickness:	**at least 0.8 mm**



Posterior crowns

Fissure area:	**at least 1.0 mm**
Circumferential wall thickness:	**at least 0.8 mm**

⚠ **Please note:**

- To achieve optimum bonding of VITA ENAMIC crowns on implant abutments, the exclusive use of adhesive bonding is recommended. The use of suitable bonding agents on titanium or zirconia abutments is required to achieve excellent bonding of materials. Special bonding composites or bonding agents are suitable, which contain phosphate monomers and adhesive silanes and form a hydrolysis-resistant chemical bond with titanium or zirconia surfaces.
- Self-adhesive bonding with composites or conventional cementing using zinc phosphate, carboxylate or glass ionomer cements is not recommended.
- Precise and careful preparation of the bonding surfaces is the precondition to achieve durable and reliable adhesion of the VITA ENAMIC crown on the abutment.

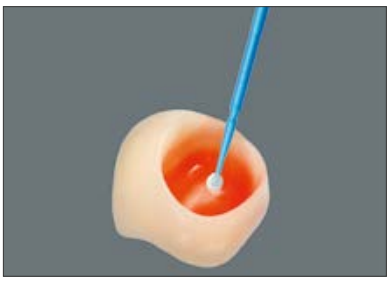
Please observe the instructions for use of the manufacturers of the corresponding products!

Conditioning the surfaces

1. Conditioning the VITA ENAMIC crown

Use alcohol to degrease the crown prior to adhesive bonding.

It may be required to cover any polished outer surface in order to avoid accidental etching.



Apply VITA ADIVA CERA-ETCH (hydrofluoric acid gel, 5%) to the surfaces to be bonded.

Etching time: 60 sec.

Completely remove any remaining acid by using water spray or clean in the ultrasonic bath.

Then dry for 20 sec. Do not clean with a brush to avoid the risk of contamination! After drying, the etched surfaces have a white opaque appearance.

Apply silane bonding agent (for example, VITA ADIVA C-PRIME) to the etched surfaces.

Then dry the silane bonding agent gently with air.

2. Conditioning zirconia abutments

Use wax or silicone to protect or to seal the emergence profile and the screw channel of the zirconia abutment. Protect connection geometry with a model analog or polishing cap [3]*.

Use high-grade aluminium oxide (Al_2O_3) and carefully sandblast the bonding surface of the zirconia abutment

– Particle size: 50 µm
– Pressure: 2 bar

Then clean in the ultrasonic bath or with alcohol or steam and dry with oil-free air.

The surface to be bonded must not be touched after cleaning to avoid any contamination, which may have a negative effect on the adhesive bond.

Application of a phosphate monomer-containing bonding agent for zirconia, such as VITA ADIVA ZR-Prime, using a disposable brush or microbrush.

Allow VITA ADIVA ZR-PRIME to act for 10 seconds and then blow gently with oil-free air.

⚠ **Note:** Please observe the instructions for use of the manufacturers of the corresponding products!

*References, see page 15

Overview of process steps for bonding the VITA ENAMIC crown on a zirconia abutment

	Process steps	Zirconia abutment	VITA ENAMIC crown
1.	Sandblast with high-grade aluminium oxide (Al_2O_3)	50 µm, max. 2.0 bar	–
2.	Cleaning the surface	Ultrasonic, ethanol	Ethanol
3.	Etching (extraoral)	–	VITA ADIVA CERA-ETCH, 5% HF, 60 s
4.	Cleaning the surface	–	with water spray or in the ultrasonic bath.
5.	Bonding agent / silanization	Apply VITA ADIVA ZR-PRIME and allow to act for 10 seconds; then blow gently with air.	Apply VITA ADIVA C-PRIME and blow gently
6.	Full-adhesive/self-adhesive bonding	e.g., VITA ADIVA F-CEM or VITA ADIVA S-CEM	

3. Conditioning titanium abutments

Use wax or silicone to protect the emergence profile and the screw channel of the titanium abutment. Protect connection geometry with a model analog or polishing cap [3]*.

Use high-grade aluminium oxide (Al_2O_3) and carefully sandblast only the bonding surface of the titanium base

– Particle size: 50 µm
– Pressure: 2 bar

until a matte surface is obtained.

Then remove wax or silicone.

Clean titanium base with alcohol or use a steam jet and dry with oil-free air.

*References, see page 15

The surface to be bonded must not be touched after cleaning to avoid any contamination, which may have a negative effect on the adhesive bond.

Application of a suitable metal bonding agent, such as VITA ADIVA M-PRIME, using a disposable brush or microbrush.

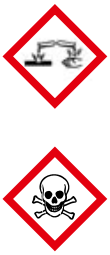
Allow VITA ADIVA M-PRIME to act for 10 seconds and blow gently with oil-free air.

⚠ **Note:** Please observe the instructions for use of the manufacturers of the corresponding products!

Overview of process steps for bonding the VITA ENAMIC crown on a titanium abutment

Process steps		Titanium abutment	VITA ENAMIC crown
1.	Sandblast with high-grade aluminium oxide (Al_2O_3)	50 µm, 2.0 bar	–
2.	Cleaning the surface	Ultrasonic, ethanol	Ethanol
3.	Etching (extraoral)	–	VITA ADIVA CERA-ETCH, 5% HF, 60 s
4.	Cleaning the surface	–	with water spray or in the ultrasonic bath.
5.	Conditioning/silanizing	Apply ADIVA M-PRIME, allow to act for 10 seconds and blow gently with air	Apply VITA ADIVA C-PRIME and blow gently
6.	Full-adhesive/self-adhesive bonding	e.g., VITA ADIVA F-CEM or VITA ADIVA S-CEM	

Recommended products	
• **Ceramic etching gel for VITA ENAMIC** – VITA ADIVA CERA-ETCH, 5% hydrofluoric acid gel (VITA) – Available as a syringe, 3 ml – Available as dropper bottle, 6 ml	
• **Silane bonding agent for VITA ENAMIC** – VITA ADIVA C-PRIME	
• **Bonding agent for zirconia** – VITA ADIVA ZR-PRIME	
• **Bonding agent for titanium** – VITA ADIVA M-PRIME	
• **Dual-curing luting composites for VITA ENAMIC on titanium/zirconia abutments** – VITA ADIVA F-CEM – VITA ADIVA S-CEM	

The following products require hazard identification:		
VITA ADIVA® CERA-ETCH **(hydrofluoric acid ceramic etching gel)**	**Caustic / Toxic** For extraoral use only! Contains hydrofluoric acid. Toxic if swallowed. Fatal in contact with skin. Causes severe skin burns and damage to eyes. Harmful by inhalation. Wear protective gloves/protective clothing/safety goggles. Keep locked up. If swallowed, call Toxicological Information Center immediately and provide safety data sheet. In case of contact with clothing/skin, remove contaminated clothing immediately and rinse with copious amount of water. Specific measures, see safety data sheet. In case of contact with eyes, rinse with water for a few minutes and consult a doctor/Toxicological Information Center. This material and its container must be disposed of as hazardous waste.	

The following products require hazard identification:		
VITA ADIVA® C-PRIME **(Silane bonding agent)**	**Danger** Highly flammable liquid and vapor. Keep away from heat/sparks/open flame/hot surfaces. No smoking.	
VITA ADIVA® ZR-PRIM**E** **(zirconia bonding agent)**	**Danger** Highly flammable liquid and vapor. Causes severe eye irritation. May cause drowsiness and dizziness. Keep away from heat/open flame/hot surfaces. No smoking.	
VITA ADIVA® M-PRIME **(metal bonding agent)**	**Danger** Highly flammable liquid and vapor. Causes severe eye irritation. May cause drowsiness and dizziness. Keep away from heat/open flame/hot surfaces. No smoking.	
VITA ADIVA® S-CEM **(self-adhesive luting composite)**	**Important** Causes skin irritation. Causes severe eye irritation. May cause allergic skin reactions. Respiratory irritation – may cause respiratory irritation.	

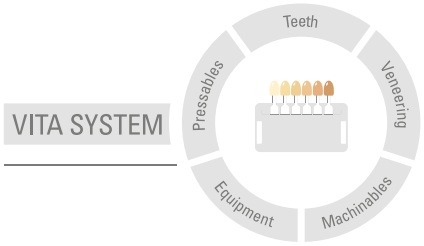
Protective clothing	While work is in progress, wear suitable safety goggles/face protection, gloves and safety clothing. In case of formation of dust, use an extraction system or wear a face mask.	

The corresponding safety data sheets can be downloaded at www.vita-zahnfabrik.com/sds.

References:

[1] Prefabricated or individual abutments for cemented or adhesively bonded dental restorations. Please contact the manufacturer of your implant to obtain system-related recommendations.
[2] "Clinical aspects of all-ceramics," VITA Zahnfabrik, Order No. 1696
[3] Please contact the manufacturer of your implant to obtain system-related recommendations.

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 applications. 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 and this results in damage. The VITA Modulbox is not necessarily a component of the product. Date of issue of this information: 11.18

After the publication of this information for use any previous versions become obsolete. The current version can be found at 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 ENAMIC®

We would like to thank BEGO Implant Systems, Bremen, Germany for providing the title image and the graphic at the top of page 7, and for the implant components required for visualization.

VITA

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