

VITA ENAMIC® for Glidewell Dental FastDesign™ System

Working Instructions



VITA shade taking

VITA shade communication

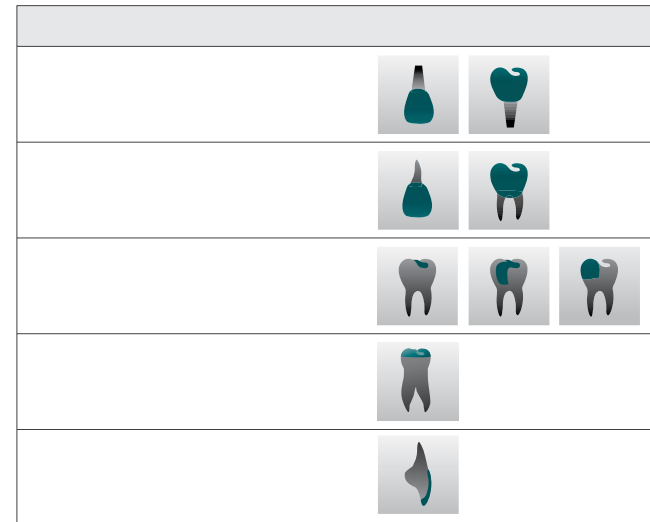
VITA shade reproduction

VITA shade control



VITA shade, VITA made.

VITA



Indication

VITA ENAMIC is indicated for the fabrication of fully anatomical, esthetic single tooth restorations if

- the preconditions for the adhesive or self-adhesive bonding technique are fulfilled.

* 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.

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)

Processing requirements for VITA ENAMIC

Hardware requirements

VITA ENAMIC can be ground when wet or milled when dry.*

⚠ Note:

Dental treatment and the integration of dental restorations involve the general risk of iatrogenic damage to hard tooth substance, pulp and/or oral soft tissue. The use of bonding systems and the integration of dental restorations involve the general risk of postoperative hypersensitivity. In the event of noncompliance with the processing instructions of the products in use, the product characteristics can not be ensured so that product failure and irreversible damage to the natural hard tooth substance, pulp and/or oral soft tissue may result.

Important!

Under no circumstances should restorations made from VITA ENAMIC be fired during processing. Shade characterization and individualization are performed by way of polymerization.

⚠ Note:

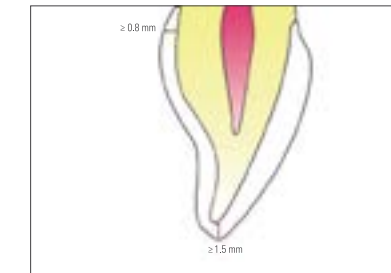
Cleaning agents containing acetone for cavities, prepared teeth, root canals and tooth surfaces (such as FOKALDRY, Lege Artis) should not come into contact with restorations made of VITA ENAMIC since they may damage the surfaces of the restorations.

* Please request information from the supplier of your CAD/CAM system.



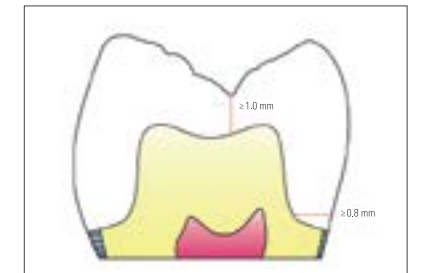
Layer thicknesses and preparation guidelines

To ensure clinical success of restorations made from VITA ENAMIC, the following minimum layer thicknesses **must be adhered to:**



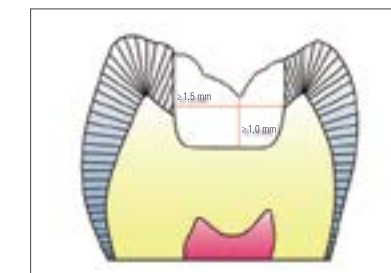
Anterior crowns

Incisal: **at least 1.5 mm**
Circumferential: **at least 0.8 mm**



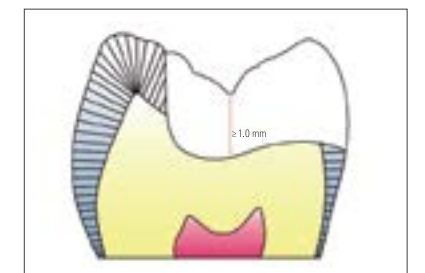
Posterior crowns

Occlusal: **at least 1.0 mm**
Circumferential: **at least 0.8 mm**



Inlays

Occlusal: **at least 1.0 mm**
In the area of the isthmus: **at least 1.5 mm**



Onlays

Occlusal: **at least 1.0 mm**

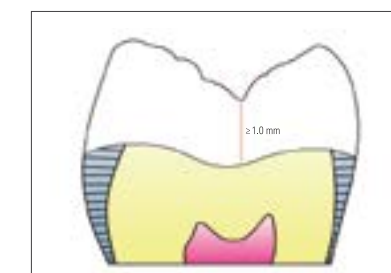
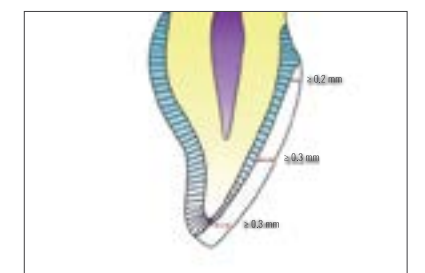


Table tops

Occlusal: **at least 1.0 mm**



Veneers

Incisal: **at least 0.3 mm**
Labial: **at least 0.2 mm**
Cervical: **at least 0.2 mm**

Manual reworking

Do not rework VITA ENAMIC restorations manually using tungsten carbide instruments as these may damage the material. Use only diamond-coated milling tools or special polishers. When reworking, use water and exert only slight pressure. Special 2-stage polishing assortments were developed for intraoral and extraoral polishing of VITA ENAMIC. The use of these assortments allows for successful high-gloss polishing:



VITA ENAMIC Polishing Set technical



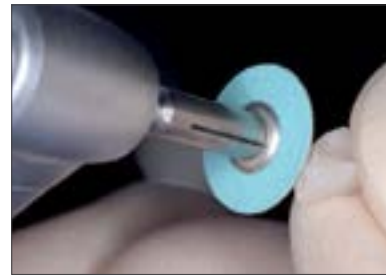
VITA ENAMIC Polishing Set clinical



- Use diamond tool to remove the sprue.



- Fit in and check proximal and occlusal contacts.



- Use the instruments of the VITA ENAMIC Polishing Set technical or clinical for contouring or pre- and high-gloss polishing.

Additionally, a goat hair brush and diamond polishing paste can be used for high-gloss polishing.

Tip:

If Sof-Lex polishing discs are used for prepolishing, it must be ensured to use only the medium grain (M) and very fine grain (SF) types.

Important note:

Since dust is formed when grinding sintered dental ceramic products, always wear a face mask or grind when wet. Use an extraction unit in the laboratory.



Optional: shade characterization (staining technique)

The shade of VITA ENAMIC restorations can be easily characterized (staining technique) with the special VITA ENAMIC STAINS (polymerization). Then the surface is sealed with a special varnish. For this purpose, the special VITA ENAMIC STAINS KIT, including 6 shades and accessories, is available.

Please observe the detailed working instructions, No. 1931.

Conditioning the surface

The surface of the ENAMIC restoration to be characterized needs to be rough and free from grease to optimize wetting and the retentive bond of the stain. Do not use on polished surfaces! The surface should be conditioned in the following way:

Etch with 5% hydrofluoric acid gel, such as VITA CERAMICS ETCH, for 60 seconds or sandblast with Al₂O₃, max. 50 µm and a pressure of max. 1 bar to remove any residues carefully.

Then silanize the roughened surface, for example with VITASIL. The surface must not be touched any longer!



Mixing the stain

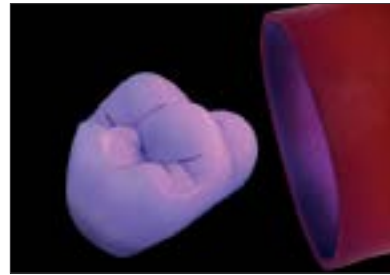
Mix stain powder with VITA ENAMIC STAINS LIQUID on the porcelain mixing plate. The mixing ratio can be varied depending on the desired intensity of the shade: from aqueous-transparent to opaque.



Application of the stain

Apply the shade and polymerize in steps. Then use VITA ENAMIC GLAZE to seal the applied stain.





Final polymerization

VITA ENAMIC GLAZE can be polymerized with all standard dental light-curing devices **with a spectral range of 350 - 500 nm.**
All coated surfaces must be completely polymerized.



Individualization of restorations made of VITA ENAMIC

To achieve an enhanced esthetic appearance, shade individualization of VITA ENAMIC restorations can be performed using VITA VM LC flow or paste (layering technique), particularly in the transparent area of anterior restorations or in the vestibular area of posterior restorations. Excellent results can be achieved even with thin layers of VITA VM LC.

The cut-back is carried out using CAD software or manually as a preparatory step for individualizing or veneering. The following minimum layer thicknesses for ENAMIC must be adhered to (see page 8).

Conditioning the surface

- The surface of the VITA ENAMIC restoration to be individualized must be roughened and oil-free to ensure perfect bonding to the composite.
- Adhesion of residue such as milling liquid or lubricant (such as Dentatec) to the surface is not permitted. Remove these either with ethanol or using an ultrasonic bath.
- The level of surface roughness immediately following CAM processing is sufficient for individualization.



If subsequent reworking of the surface has reduced the level of roughness, the following three alternative methods can be used to increase roughness again:

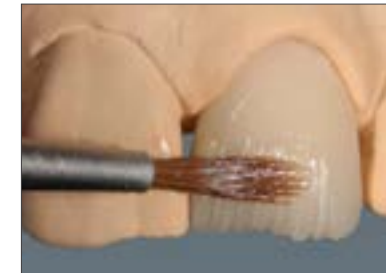
1. Roughening with a diamond bur or
2. Sandblasting using Al₂O₃ at max. 50 µm and a blasting pressure of max. 1 bar or
3. Extraorally only (!): etching with a 5% hydrofluoric acid gel such as VITA CERAMICS ETCH as follows:



Using a small disposable brush, apply VITA CERAMICS ETCH to the surfaces to be etched. Etching time: 60 sec. Once the application time has come to an end, completely remove any residual acid from the etched surface by rinsing off with copious amounts of water, by cleaning thoroughly using a steam jet device, or by cleaning in an oil-free ultrasonic bath using distilled water. Do not brush off, as this would lead to significant surface contamination.

- Surfaces sandblasted with Al₂O₃ must also be cleaned thoroughly.
- After cleaning, the surface should no longer be touched.

Application of VITA VM LC or VITA VM LC flow



- Apply silane solution, e.g. VITASIL, to the roughened surface.
- Apply VITA VM LC MODELLING LIQUID.



Layering mamelons with e.g. EFFECT ENAMEL flow EE2 and EE5. If required, set by curing briefly.



Building up the tooth shape using ENAMEL flow and / or flow EFFECT ENAMEL flow.



The completed ENAMIC restoration individualized with VITA VM LC flow.



To prevent formation of an inhibition layer and facilitate finishing, we recommend the use of VITA VM LC GEL during final polymerization. Apply a coat of gel directly from the syringe to cover the entire veneer surface or use an instrument to apply the gel.

- Perform final polymerization.
- Then completely remove VITA VM LC GEL using running water.
- Use a fine diamond instrument (marked with red ring, grit size 27 - 76 µm) for coarse finishing.



Note: VITA ENAMIC must not be milled with carbide milling tools. The completed ENAMIC restoration individualized with VITA VM LC flow.

Perform prepolishing using the instruments provided with the VITA ENAMIC Polishing Set technical and a goat-hair brush. A polishing material for veneering composites and a cotton/leather buff or a felt wheel are used for high-gloss polishing. Avoid generating excess heat (for the maximum polisher speed, refer to the manufacturer's specifications)

Finishing and polishing (intraoral)

Pay attention to margins and contact points when finishing and polishing the restoration. Generation of heat must be avoided!



- Check if excess material has been applied, finish with Sof-Lex discs or files in an oscillating dental handpiece.



Fine morphological adjustments
The occlusion must be completely free of interferences. Remove unwanted occlusal contacts with diamond abrasives (40 µm).

- In order to achieve a natural surface shine, two steps are required.



Prepolishing with the pink polishers of the VITA ENAMIC Polishing Set (7,000 – 10,000 rpm) while cooling with water.



High-gloss polishing with the grey diamond-coated polishers of the VITA ENAMIC Polishing Set (5,000 - 8,000 rpm). Exert slight pressure only!



Tip: High-gloss polishing at lowest speed and without water cooling. If Sof-Lex polishing discs are used for finishing and prepolishing, use only the medium grain (M) and very fine grain (SF) types.



Situation prior to treatment.



Situation after treatment. The restorations were fabricated using VITA ENAMIC blocks of shade 1M2 HT.

Adhesive bonding

- **Adhesive bonding using light- or dual-curing fine-hybrid composites is required for restorations made from VITA ENAMIC.**
- **The self-adhesive composite RelyX Unicem 2 (3M ESPE) is exclusively suitable also for cementing crowns (dentine adhesion). When using this composite, the restoration is etched with VITA CERAMICS ETCH for 60 sec and silanized subsequently.**
- Adhesive bonding of crowns should preferably be performed using a more flowable, dual-curing composite (depending on the thickness of the layering).
- The ultrasonic insertion method or preheated composite can be used for stronger composite materials.
- Dual-curing composites should not be used for thin veneers since these composites may cause a slight change in color (yellow shade) after curing. Therefore a light-curing composite is preferred. A microbrush that is adhesively bonded to the veneer using light-curing bonding or a glue stick can be used as a holder. Fixing the veneer with a finger allows more uniform distribution of pressure during the adhesive cementation.

Adhesive technique	Adhesive composite	VITA ENAMIC				
		Crown		Inlay/Onlay/Partial crown/Table top		
Conventional with adhesive system	Fine-hybrid composite with adhesive system: for example VITA DUO CEMENT with VITA A.R.T. BOND or PANAVIA F 2.0 with ED Primer II	●	●	●	●	●
Self-adhesive	Self-adhesive luting composite: RelyX Unicem 2	● ¹⁾	—	—	—	—

¹⁾ luted to dentine

Procedure for conventional adhesive technique with adhesive system

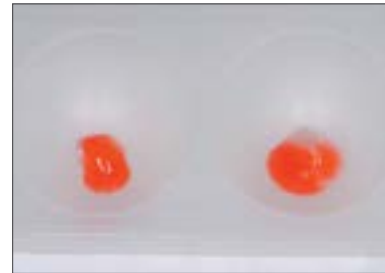
Conditioning the tooth substance



- If present, etch enamel with VITA ETCHANT GEL (phosphoric acid gel, 35%) for 30 sec., spray clean for 30 sec. and dry for 20 sec. Control: etched surface must be white opaque.



- Agitate dentin primer (for example VITA A.R.T. BOND Primer A+B) with a disposable brush or Microbrush for 30 sec., dry with air for 15 sec. Agitate primer coat of adhesive (for example VITA A.R.T. BOND, Bonder) for 20 sec., clean carefully for 5 sec. (using air). Any excess should be soaked up with endo paper points. Light curing: 60 sec.



Conditioning the restoration

- Use ethanol to degrease the restoration before it is seated. **Apply VITA CERAMICS ETCH (hydrofluoric acid gel, 5%) to the inner surfaces. Etching time: 60 sec.** Cover any polished outer surface in order to avoid accidental etching.



- Completely remove any remaining acid by using water spray (60 sec.) 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 whitish opaque appearance. Apply silane (for example VITASIL) to the etched surfaces. Allow to evaporate



- Apply primer coat of adhesive (for example VITA A.R.T. BOND Bonder), blow off.
- Do not light cure!
- The restoration must be protected against light before it is inserted.



- Insertion of the restorations.




- Light curing of the composite.



VITA ENAMIC high translucent (HT)				
Shade	Designation of block	Size in mm	Content of pack	Item No.
0M1-HT	EM-14	12 x 14 x 18	5 pcs.	EGLEM4022765
1M1-HT	EM-14	12 x 14 x 18	5 pcs.	EGLEM4062765
1M2-HT	EM-14	12 x 14 x 18	5 pcs.	EGLEM4072765
2M2-HT	EM-14	12 x 14 x 18	5 pcs.	EGLEM4122765
3M2-HT	EM-14	12 x 14 x 18	5 pcs.	EGLEM4202765



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