

# VITA ENAMIC<sup>®</sup> HYBRID CERAMIC

The simple steps for indication, preparation, bonding and polishing

Benefits

Indication

Layer thicknesses and  
preparation guidelines

Available shades

Luting

Polishing

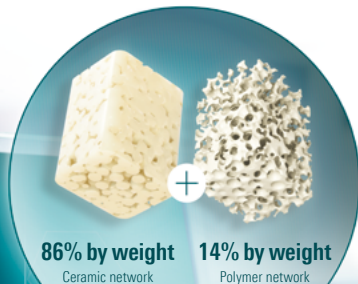
References

**VITA**



## VITA Zahnfabrik has developed a dental hybrid ceramic that is unique worldwide:

VITA ENAMIC is the world's first and only tooth-colored hybrid dental ceramic featuring a dual ceramic-polymer network structure. This special material combines enormous load capacity with high elasticity, allowing simple, efficient and precise fabrication of dental restorations.












### VITA ENAMIC – Your benefits:

- Gentle and substance-preserving preparation, as restorations can be ground very precisely and thinly.<sup>7-12</sup>
- Wide indication range from table tops to non-prep veneers.<sup>8,9,15</sup>
- Load capacity and elasticity that resembles natural teeth.<sup>1,4,5,6,14</sup>
- Superior esthetics with integrated natural shade gradient.<sup>13</sup>
- Antagonist-friendly and similar to enamel.<sup>14</sup>
- Especially suitable on implants, as the innovative hybrid material absorbs occlusal forces.<sup>1,2,3,11</sup>

For references see back cover



Overview of indications				Recommended materials
Anterior and posterior crowns on implants			<b>VITA ENAMIC HT<sup>1</sup></b> <b>VITA ENAMIC HT multiColor<sup>2</sup></b>	
Anterior and posterior crowns			<b>VITA ENAMIC HT<sup>1</sup></b> <b>VITA ENAMIC HT multiColor<sup>2</sup></b>	
Inlays / Onlays / Partial crowns				<b>VITA ENAMIC ST<sup>3</sup></b>
Table tops		<b>VITA ENAMIC ST<sup>3</sup></b>		
Veneers		<b>VITA ENAMIC HT<sup>1</sup></b> <b>VITA ENAMIC HT multiColor<sup>2</sup></b>		

### Contraindication

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

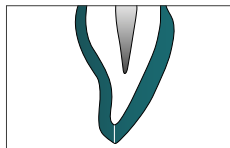
<sup>1</sup> high translucent material

<sup>2</sup> for particularly high esthetic requirements

<sup>3</sup> super translucent material type with distinctive chameleon effect

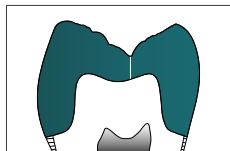


To ensure clinical success of restorations made from VITA ENAMIC, the following minimum layer thicknesses must be adhered to:



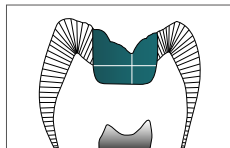
### Anterior crowns

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



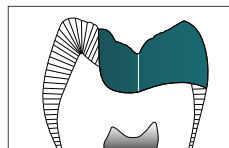
### Posterior crowns

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



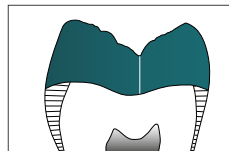
### Inlays

Occlusal: **at least 1.0 mm**  
Isthmus area: **at least 1.0 mm**



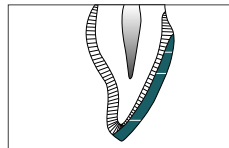
### Onlays

Occlusal: **at least 1.0 mm**



### Table tops

Occlusal: **at least 1.0 mm**



### Veneers

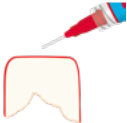
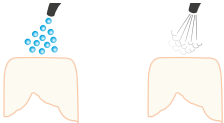

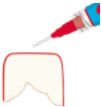
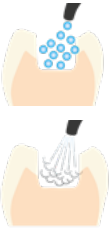
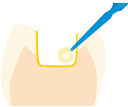

Incisal: **at least 0.3 mm**  
Labial: **at least 0.3 mm**  
Cervical: **at least 0.2 mm**



VITA ENAMIC is available in matched VITA SYSTEM 3D-MASTER shades, which is the only tooth shade system available on the market that takes all three color dimensions into account, and integrates them into a systematic classification principle for shade determination and shade reproduction.

Variations	Chromaticity	0M1	1M1	1M2	2M1	2M2	2M3	3M1	3M2	3M3	4M2
<b>VITA ENAMIC ST</b> (Super Translucent)	monochromatic										
<b>VITA ENAMIC HT</b> (High Translucent)	monochromatic										
<b>VITA ENAMIC T</b> (Translucent)	monochromatic										
<b>VITA ENAMIC HT multiColor</b> (High Translucent)	multichromatic										



Conditioning the restoration	<b>Etching</b>	<b>Clean spraying/drying</b>	<b>Silanizing</b>	
	 <p>Etch with 5% hydrofluoric acid (e.g., VITA ADIVA CERA ETCH) for 60 seconds.</p>	 <p>Completely remove any remaining acid by using water spray (60 sec.) or clean in the ultrasonic bath. Then dry for 20 sec.</p>	 <p>Apply silane (e.g., VITA ADIVA C-PRIME) to the etched surfaces. Allow to evaporate completely.</p>	
Conditioning the tooth	<b>Etching</b>	<b>Clean spraying/drying</b>	<b>Bonding</b>	<b>Application of bonding composite</b> Light curing
	 <p>Etch the tooth substance with 37% phosphoric acid gel (e.g., VITA ADIVA TOOTH-ETCH) for 20 sec.</p>		 <p>Apply bonding system to the tooth substance (e.g., VITA ADIVA T-BOND). Please observe the relevant instructions for use!</p>	 <p>Apply luting composite, e.g. VITA ADIVA F-CEM.</p>

For details, see VITA ENAMIC Working Instructions, Print No. 1982.



Adhesive technique	bonding composite	Crown	Inlay/Onlay/Partial crown/Table top	Veneer
Conventional with adhesive system	Bonding composite with adhesive system: e.g., VITA ADIVA F-CEM with VITA ADIVA T-BOND	●	●	●
Self-adhesive	Self-adhesive bonding composite: e.g., VITA ADIVA S-CEM	●	—	—

### Other recommended bonding systems

- Variolink Esthetic (Ivoclar Vivadent), Vitique (DMG)
- NX3 (KerrHawe), Calibra Ceram (DENTSPLY), RelyX Ultimate (3M ESPE), Bifix QM (VOCO)
- PANA VIA F2.0/PANA VIA V5 (Kuraray), DuoCem (Coltène/Whaledent)

## Manual reworking

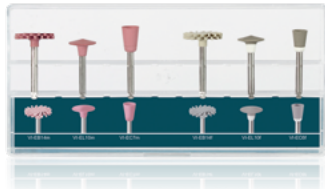
Use only diamond-coated milling tools or special polishers. When intraorally reworking, use water and exert only slight pressure. Special two-stage polishing assortments were developed for intraoral and extraoral polishing.

The use of these assortments allows for successful high-gloss polishing:

### VITA ENAMIC Polishing Set clinical

First step: prepolishing ○ 7,000 - 10,000 rpm

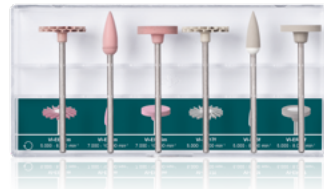
Second step: high-gloss ○ 5,000 - 8,000 rpm



### VITA ENAMIC Polishing Set technical

First step: prepolishing ○ 7,000 - 10,000 rpm

Second step: high-gloss ○ 5,000 - 8,000 rpm



Additionally, a goat hair brush and diamond polishing paste can be used for final high-gloss polishing. Then repolish with a dry cotton buff.







- <sup>1</sup> Furtado de Mendonca A, Shahmoradi M, Gouvêa CVD, De Souza GM, Ellakwa A. Microstructural and Mechanical Characterization of CAD/CAM Materials for Monolithic Dental Restorations. *J Prosthodont* 2019 Feb; 28: e587-e594. doi: 10.1111/jopr.12964. Epub 2018 Aug 18.
- <sup>2</sup> Kurbad A. Final restoration of implants with a hybrid ceramic superstructure. *Int J ComputDent* 2016; 19: 257-79.
- <sup>3</sup> Rohr N, Coldea A, Zitzmann NU, Fischer J. Loading capacity of zirconia implant supported hybrid ceramic crowns. *Dent Mater* 2015 Dec; 31:e279-88. doi: 10.1016/j.dental.2015.09.012. Epub 2015 Oct 14.
- <sup>4</sup> Swain MV et al. Interpenetrating network ceramic-resin composite dental restorative materials. *Dent Mater* 2015; 32: 34–42.
- <sup>5</sup> Della Bona A, Corazza PH, Zhang Y. Characterization of a polymer-infiltrated ceramic network material. *Dent Mater*. 2014;30:564–569.
- <sup>6</sup> Coldea A, Swain MV, Thiel N. Mechanical properties of polymer-infiltrated-ceramic-network materials. *Dent Mater* 2013; 29:419–426.
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- <sup>8</sup> Mainjot AKJ. The One step-No prep technique: A straightforward and minimally invasive approach for full-mouth rehabilitation of worn dentition using polymer-infiltrated ceramic network (PICN) CAD-CAM prostheses. *J Esthet Restor Dent*. 2020 Mar; 32: 141-149. doi: 10.1111/jerd.12432. Epub 2018 Oct 27.
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- <sup>11</sup> Azarbal A, Azarbal M, Engelmeier RL, Kunkel TC. Marginal Fit Comparison of CAD/CAM Crowns Milled from Two Different Materials. *J Prosthodont*. 2018 Jun;27(5):421-428. doi: 10.1111/jopr.12683. Epub 2017 Nov 16.
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- <sup>13</sup> Steinbrenner H. Multichromatic and highly translucent hybrid ceramic VITA ENAMIC. *Int J Comput Dent* 2018; 21: 239-250.
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- <sup>15</sup> Dirxen C, Blunck U, Preissner S. Clinical performance of a new biomimetic double network material. *Open Dent J* 2013 Sep 6; 7: 118-22. doi: 10.2174/1874210620130904003 eCollection 2013.

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