







VITA

VITA YZ[®] ZIRCONIA

The essentials for indication, preparation,
bonding and polishing

| Product | Details |
|--|--|
|  <p>VITA VITA YZ[®] MULTI TRANSLUCENT Shade AZ Block 1002 / 100 mm VITA Zahnfabrik Kulmbach Germany CE 0124 (MD)</p> | <p>VITA YZ[®] MULTI TRANSLUCENT</p> <p>The latest generation of premium zirconia (4Y-TZP cervical, 5Y-TZP incisal) combines the highest flexural strength with a natural shade and translucency gradient.</p> |
|  <p>VITA VITA YZ[®] XT^{Multicolor} Extra Translucent Zirconia VITA Zahnfabrik Kulmbach Germany CE 0124 (MD)</p> | <p>VITA YZ[®] XT^{Multicolor} – extra translucent ZrO₂ blanks</p> <p>VITA YZ XT Multicolor impresses with its high translucency (50%) and good flexural strength.</p> |
|  <p>VITA VITA YZ[®] ST^{Multicolor} Super Translucent Zirconia VITA Zahnfabrik Kulmbach Germany CE 0124 (MD)</p> | <p>VITA YZ[®] ST^{Multicolor} – super translucent ZrO₂-blanks</p> <p>VITA YZ ST Multicolor stands out, thanks to its consistently high strength of 1,200 MPa and impressive esthetics. The super translucent material offers a translucency of 46%.</p> |
|  <p>VITA VITA YZ[®] HT^{Clear} High Translucent Zirconia VITA Zahnfabrik Kulmbach Germany CE 0124 (MD)</p> | <p>VITA YZ[®] HT – highly translucent ZrO₂ blanks</p> <p>The VITA YZ HT are highly translucent ZrO₂ blanks for natural, individual, fully veneered substructures.</p> |

VITA YZ ZIRCONIA offers remarkable strength and exceptional esthetics for reliable restorations. VITA YZ materials enable the precise and accurate shade production of fully / partially veneered and monolithic restorations. Discover the advantages.



- High shade accuracy and vivid chroma for exceptional esthetics ¹⁻⁴
- Proven long-term clinical stability and biocompatibility ⁵⁻⁷
- High strength for the reliable restoration of teeth and implants ⁸⁻¹⁰
- Easy and reliable polishing ¹¹
- Tested material structure for reliable processing, veneering and integration ¹²⁻¹⁸
- Precise, outstanding fit ^{19, 20}
- Restoration that preserves the tooth structure, thanks to reduced wall thickness ²¹⁻²³



Dental technical workflow

Shade determination

CAD/CAM
process

Sintering

Individualization

Characterization

Polishing

Luting

Our product recommendations

Digital shade determination

- VITA Easyshade V
- VITA Easyshade LITE

Visual shade determination

- VITA classical A1-D4 shade guide
- VITA Toothguide 3D-MASTER

Polishing instruments

- VITA CERAMICS Polishing Set clinical
- VITA CERAMICS Polishing Set technical

Polishing paste

- VITA Polish Cera

Self-adhesive

- VITA ADIVA SELF-ADHESIVE
- RelyX Unicem 2 (3M ESPE)


Fully adhesive

- VITA ADIVA FULL-ADHESIVE
- VITA ADIVA IA-CEM, ultra opaque
- MultiLink Automix (Ivoclar Vivadent)
- Panavia V5 (Kuraray)

Glass ionomers

- Ketac CEM (3M ESPE)
- Vivaglass CEM (Ivoclar Vivadent)
- GC Fuji I (GC Dental)

| | | | | | | | | | | |
|----------|----------|----------|--------------------------------|--------------------|--------------------------------------|---|--------------------------------------|-----------|-----------------------|------------|
| Overview | Benefits | Workflow | Recommended indications | Gradient portfolio | Preparation guidelines VITA YZ XT | Preparation guidelines VITA YZ MULTI TRANSLUCENT/ST | Preparation guidelines VITA YZ HT | Polishing | Self-adhesive bonding | References |
|----------|----------|----------|--------------------------------|--------------------|--------------------------------------|---|--------------------------------------|-----------|-----------------------|------------|

| Indication | VITA YZ® MULTI TRANSLUCENT | VITA YZ® XT Extra Translucent | VITA YZ® ST Super Translucent | VITA YZ® HT High Translucent |
|---|-------------------------------|----------------------------------|----------------------------------|---------------------------------|
|  | ● | ● | ● | ○ |
|  | ● | ● | ● | ○ |
|  | ● | ● | ● | ○ |
|  | ● | ● | ● | ○ |
|  | ● | × | ● | ○ |
|  | ● | ● | ● | ○ |
|  | ● | ● | ● | ○ |
|  | ● | × | ● | ○ |
|  | ● | × | ● | ● |
|  | ○ | ○ | ○ | ● |
|  | ○ | ○ | ○ | ● |
|  | ○ | × | ○ | ● |
|  | ○ | ○ | ○ | ● |
|  | ○ | ○ | ○ | ● |
|  | ○ | × | ○ | ● |

● recommended ○ possible × not possible

| | | | | | | | | | | |
|----------|----------|----------|-------------------------|---------------------------|--------------------------------------|---|--------------------------------------|-----------|-----------------------|------------|
| Overview | Benefits | Workflow | Recommended indications | Gradient portfolio | Preparation guidelines VITA YZ XT | Preparation guidelines VITA YZ MULTI TRANSLUCENT/ST | Preparation guidelines VITA YZ HT | Polishing | Self-adhesive bonding | References |
|----------|----------|----------|-------------------------|---------------------------|--------------------------------------|---|--------------------------------------|-----------|-----------------------|------------|

| | VITA YZ® MULTI TRANSLUCENT | VITA YZ® XT ^{Multicolor} | VITA YZ® ST ^{Multicolor} |
|--|--|-----------------------------------|---|
| Bending strength Translucency Yttrium content | cervical: 1200 MPa, incisal: 850 MPa cervical: 46%, incisal: 50% cervical: 4Y-TZP, incisal: 5Y-TZP | 850 MPa 50 % 5Y-TZP | 1200 MPa 46% 4Y-TZP |
| Speed sintering | 50 minutes | - | in less than 60 min. |
| Geometries | Ø 98.4 mm | Ø 98.4 mm | Ø 98.4 mm |
| Heights | 14, 18, 22, 25 mm | 14, 18, 22 mm | 14, 18, 22, 25 mm |
| Stains | All VITA classical A1-D4 shades, three Bleach shades (0M1, 0M2, 0M3) | A1, A2, A3, A3.5, B2, C2, D2 | All VITA classical A1-D4 shades, VITA SYSTEM 3D-MASTER shades: 0M1, 0M2, 0M3, 1M1, 1M2, 2M1, 2M2, 3M1, 3M2, 4M1, 4M2 |
| Esthetic level | ***** | **** | **** |
| Range of indications | ***** | ** | **** |
| Technology | Multi-gradient technology** | Shade-gradient technology*** | Shade-gradient technology*** |

* Detailed information on the Zirconia Color Portfolio can be found in brochure 10829 or on our website.

** Continuously harmonious shade transitions and natural translucency gradient from the neck to the highly translucent incisal area.

*** Seamless shade transitions, from the neck to the translucent incisal area.

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

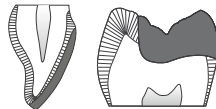
Anterior / posterior crowns (fully anatomical or substructure)

| | |
|------------------|--------|
| Incisal: | 0.8 mm |
| Occlusal: | 0.8 mm |
| Circumferential: | 0.7 mm |



Inlays / Onlays / Veneers

| | |
|------------------|--------|
| Incisal: | 0.8 mm |
| Occlusal: | 0.8 mm |
| Circumferential: | 0.7 mm |



Fully anatomical anterior bridges and substructures with one pontic

| | |
|---------------------------|---------------------|
| Incisal: | 1.0 mm |
| Circumferential: | 0.8 mm |
| Connector cross-sections: | 9.0 mm ² |



Fully anatomical posterior bridges and substructures with one pontic

| | |
|---------------------------|----------------------|
| Occlusal: | 1.2 mm |
| Circumferential: | 1.0 mm |
| Connector cross-sections: | 12.0 mm ² |



To ensure the clinical success of restorations made from VITA YZ MULTI TRANSLUCENT und VITA YZ ST, the following minimum layer thicknesses must be observed:

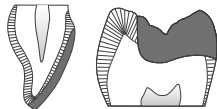
Anterior / posterior crowns (fully anatomical or substructure)

| | |
|------------------|--------|
| Incisal: | 0.6 mm |
| Occlusal: | 0.6 mm |
| Circumferential: | 0.5 mm |



Inlays / Onlays / Veneers

| | |
|------------------|--------|
| Incisal: | 0.6 mm |
| Occlusal: | 0.6 mm |
| Circumferential: | 0.5 mm |



Fully anatomical anterior bridges and substructures with one pontic

| | |
|---------------------------|---------------------|
| Incisal: | 0.6 mm |
| Circumferential: | 0.6 mm |
| Connector cross-sections: | 9.0 mm ² |



Fully anatomical posterior bridges and substructures with one pontic

| | |
|---------------------------|----------------------|
| Occlusal: | 0.7 mm |
| Circumferential: | 0.6 mm |
| Connector cross-sections: | 12.0 mm ² |



Fully anatomical anterior bridges and substructures with two pontics

| | |
|---------------------------|----------------------|
| Incisal: | 0.8 mm |
| Circumferential: | 0.6 mm |
| Connector cross-sections: | 12.0 mm ² |



Fully anatomical posterior bridges and substructures with two pontics

| | |
|---------------------------|----------------------|
| Occlusal: | 0.8 mm |
| Circumferential: | 0.6 mm |
| Connector cross-sections: | 15.0 mm ² |



To ensure clinical success of restorations made from VITA YZ HT, the following minimum layer thicknesses must be observed:

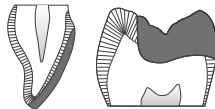
Anterior / posterior crowns (fully anatomical or substructure)

| | |
|------------------|--------|
| Incisal: | 0.5 mm |
| Occlusal: | 0.5 mm |
| Circumferential: | 0.4 mm |



Inlays / Onlays / Veneers

| | |
|------------------|--------|
| Incisal: | 0.5 mm |
| Occlusal: | 0.5 mm |
| Circumferential: | 0.4 mm |



Fully anatomical anterior bridges and substructures with one pontic

| | |
|---------------------------|---------------------|
| Incisal: | 0.5 mm |
| Circumferential: | 0.5 mm |
| Connector cross-sections: | 7.0 mm ² |



Fully anatomical posterior bridges and substructures with one pontic

| | |
|---------------------------|---------------------|
| Occlusal: | 0.6 mm |
| Circumferential: | 0.5 mm |
| Connector cross-sections: | 9.0 mm ² |



Fully anatomical anterior bridges and substructures with two pontics

| | |
|---------------------------|---------------------|
| Incisal: | 0.6 mm |
| Circumferential: | 0.5 mm |
| Connector cross-sections: | 9.0 mm ² |



Fully anatomical posterior bridges and substructures with two pontics

| | |
|---------------------------|----------------------|
| Occlusal: | 0.7 mm |
| Circumferential: | 0.6 mm |
| Connector cross-sections: | 12.0 mm ² |



The polishing of the occlusal surface, especially the areas that are in direct contact with the antagonist, is particularly important in monolithic restorations.



Preparation

- Grind zirconia wet

Prepolishing

Speed:
7,000 - 12,000 rpm

diamond-coated
polishing instruments,
pink

High luster finish

Speed:
4,000 - 8,000 rpm

diamond-coated
polishing instruments,
grey

Final high-gloss polishing

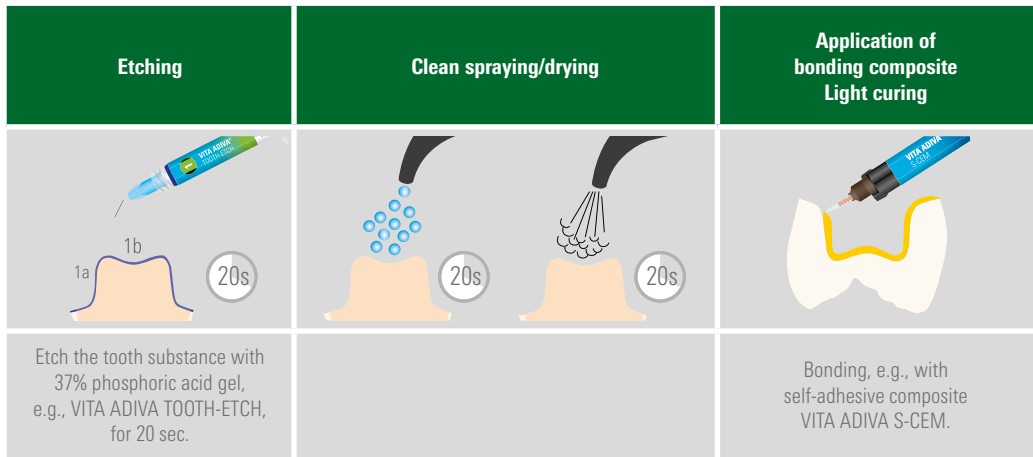
Speed:
5,000 - 10,000 rpm

Dry cotton buff.
Note: Maintain the recommended speed and work with moderate contact pressure to avoid excessive heat development

VITA Polish Cera:

Apply polishing paste using a soft goat hair or bison polishing brush. It is very suitable in conjunction with the polishing instruments of the VITA CERAMICS Polishing Sets clinical and technical.

| | | | | | | | | | | |
|----------|----------|----------|-------------------------|--------------------|-----------------------------------|---|-----------------------------------|-----------|------------------------------|------------|
| Overview | Benefits | Workflow | Recommended indications | Gradient portfolio | Preparation guidelines VITA YZ XT | Preparation guidelines VITA YZ MULTI TRANSLUCENT/ST | Preparation guidelines VITA YZ HT | Polishing | Self-adhesive bonding | References |
|----------|----------|----------|-------------------------|--------------------|-----------------------------------|---|-----------------------------------|-----------|------------------------------|------------|



*Self-adhesive bonding is the standard method for zirconia.

Full-adhesive bonding is also possible according to your personal preference.

More information on bonding of VITA YZ restorations can be found at www.vita-zahnfabrik.com/adiva

| Overview | Benefits | Workflow | Recommended indications | Gradient portfolio | Preparation guidelines VITA YZ XT | Preparation guidelines VITA YZ MULTI TRANSLUCENT/ST | Preparation guidelines VITA YZ HT | Polishing | Self-adhesive bonding | References |
|----------|----------|----------|-------------------------|--------------------|-----------------------------------|---|-----------------------------------|-----------|-----------------------|------------|
|----------|----------|----------|-------------------------|--------------------|-----------------------------------|---|-----------------------------------|-----------|-----------------------|------------|

- ¹ Devigus A, Lombardi G. Shading Vita YZ substructures: influence on value and chroma, part I. *Int J Comput Dent* 2004 Jul; 7: 293-301.
- ² Sen N, Isler S. Microstructural, physical, and optical characterization of high-translucency zirconia ceramics. *J Prosthet Dent* 2020 May; 123: 761-768.
- ³ Manziuc MM, Gasparik C, Burde AV, Dudea D. Color and masking properties of translucent monolithic zirconia before and after glazing. *J Prosthodont Res* 2021 Aug 21; 65(3): 303-310.
- ⁴ Devigus A, Lombardi G. Shading Vita In-ceram YZ substructures: influence on value and chroma, part II. *Int J Comput Dent* 2004 Oct; 7(4): 379-88.
- ⁵ Chaar MS, Kern M. Five-year clinical outcome of posterior zirconia ceramic inlay-retained FDPs with a modified design. *J Dent* 2015 Dec; 43(12): 1411-5.
- ⁶ Rizo-Gorrita M, Luna-Oliva I, Serrera-Figallo MÁ, Gutiérrez-Pérez JL, Torres-Lagares D. Comparison of Cytomorphometry and Early Cell Response of Human Gingival Fibroblast (HGFs) between Zirconium and New Zirconia-Reinforced Lithium Silicate Ceramics (ZLS). *Int J Mol Sci* 2018 Sep 11; 19: 2718.
- ⁷ Brizuela-Velasco A, Chento-Valiente Y, Chávarri-Prado D, Pérez-Pevida E, Diéguez-Pereira M. Zirconia and radioactivity: An in vitro study to establish the presence of radionuclides in dental zirconia. *J Prosthet Dent* 2021 Jul; 126(1): 115-118.
- ⁸ Spitznagel FA, Röhrig S, Langner R, Gierthmuehlen PC. Failure Load and Fatigue Behavior of Monolithic Translucent Zirconia, PICN and Rapid-Layer Posterior Single Crowns on Zirconia Implants. *Materials (Basel)* 2021 Apr 15; 14: 1990.
- ⁹ Rohr N, Balmer M, Müller JA, Märtin S, Fischer J. Chewing simulation of zirconia implant supported restorations. *J Prosthodont Res* 2019 Jul; 63: 361-367.
- ¹⁰ Brizuela-Velasco A, Diéguez-Pereira M, Álvarez-Arenal Á, Chávarri-Prado D, Solaberrieta E, Fernández-González FJ, Chento-Valiente Y, Santama-ría-Arrieta G. Fracture Resistance of Monolithic High Translucency Zirconia Implant-Supported Crowns. *Implant Dent* 2016 Oct; 25: 624-8.
- ¹¹ Chun EP, Anami LC, Bonfante EA, Bottino MA. Microstructural analysis and reliability of monolithic zirconia after simulated adjustment protocols. *Dent Mater* 2017 Aug; 33(8): 934-943.
- ¹² Wertz M, Hoelzig H, Kloess G, Hahnel S, Koenig A. Influence of Manufacturing Regimes on the Phase Transformation of Dental Zirconia. *Materials (Basel)*. 2021 Aug 31; 14(17): 4980.

| Overview | Benefits | Workflow | Recommended indications | Gradient portfolio | Preparation guidelines VITA YZ XT | Preparation guidelines VITA YZ MULTI TRANSLUCENT/ST | Preparation guidelines VITA YZ HT | Polishing | Self-adhesive bonding | References |
|----------|----------|----------|-------------------------|--------------------|-----------------------------------|---|-----------------------------------|-----------|-----------------------|------------|
|----------|----------|----------|-------------------------|--------------------|-----------------------------------|---|-----------------------------------|-----------|-----------------------|------------|

- ¹³ Guilardi LF, Pereira GKR, Gündel A, Rippe MP, Valandro LF. Surface micro-morphology, phase transformation, and mechanical reliability of ground and aged monolithic zirconia ceramic. *J Mech Behav Biomed Mater* 2017 Jan; 65: 849-856.
- ¹⁴ Coldea A, Fischer J, Swain MV, Thiel N. Damage tolerance of indirect restorative materials (including PICN) after simulated bur adjustments. *Mater* 2015 Jun; 31(6): 684-94.
- ¹⁵ Kohorst P, Butzheinen LO, Dittmer MP, Heuer W, Borchers L, Stiesch M. Influence of preliminary damage on the load-bearing capacity of zirconia fixed dental prostheses. *J Prosthodont* 2010 Dec; 19(8): 606-13.
- ¹⁶ Figueiredo VMG, Pereira SMB, Bressiani E, Valera MC, Bottino MA, Zhang Y, Melo RM. Effects of porcelain thickness on the flexural strength and crack propagation in a bilayered zirconia system. *J Appl Oral Sci* 2017 Sep-Oct; 25: 566-574.
- ¹⁷ Tholey MJ, Swain MV, Thiel N. Thermal gradients and residual stresses in veneered Y-TZP frameworks. *Dent Mater* 2011 Nov; 27: 1102-10.
- ¹⁸ Şanlı S, Çömlekoğlu MD, Çömlekoğlu E, Sonugelen M, Pamir T, Darvell BW. Influence of surface treatment on the resin-bonding of zirconia. *Mater* 2015 Jun; 31: 657-68.
- ¹⁹ Att W, Komine F, Gerds T, Strub JR. Marginal adaptation of three different zirconium dioxide three-unit fixed dental prostheses. *J Prosthet Dent* 2009 Apr; 101(4): 239-47.
- ²⁰ Kohorst P, Brinkmann H, Dittmer MP, Borchers L, Stiesch M. Influence of the veneering process on the marginal fit of zirconia fixed dental prostheses. *J Oral Rehabil* 2010 Apr; 37(4): 283-91.
- ²¹ Devigus A, Lombardi G. Shading Vita YZ substructures: influence on value and chroma, part I. *Int J Comput Dent* 2004 Jul; 7: 293-301.
- ²² Devigus A, Lombardi G. Shading Vita In-ceram YZ substructures: influence on value and chroma, part II. *Int J Comput Dent* 2004 Oct; 7(4): 379-88.
- ²³ Chaar MS, Kern M. Five-year clinical outcome of posterior zirconia ceramic inlay-retained FDPs with a modified design. *J Dent* 2015 Dec; 43(12): 1411-5.



VITA YZ® ZIRCONIA

VITA Zahnfabrik H. Rauter GmbH & Co. KG

Spitalgasse 3
79713 Bad Säckingen
Germany

Phone: +49 7761 562-0
Hotline: +49 7761 562-222
E-mail: info@vita-zahnfabrik.com

Follow us on
Social Media!



www.vita-zahnfabrik.com