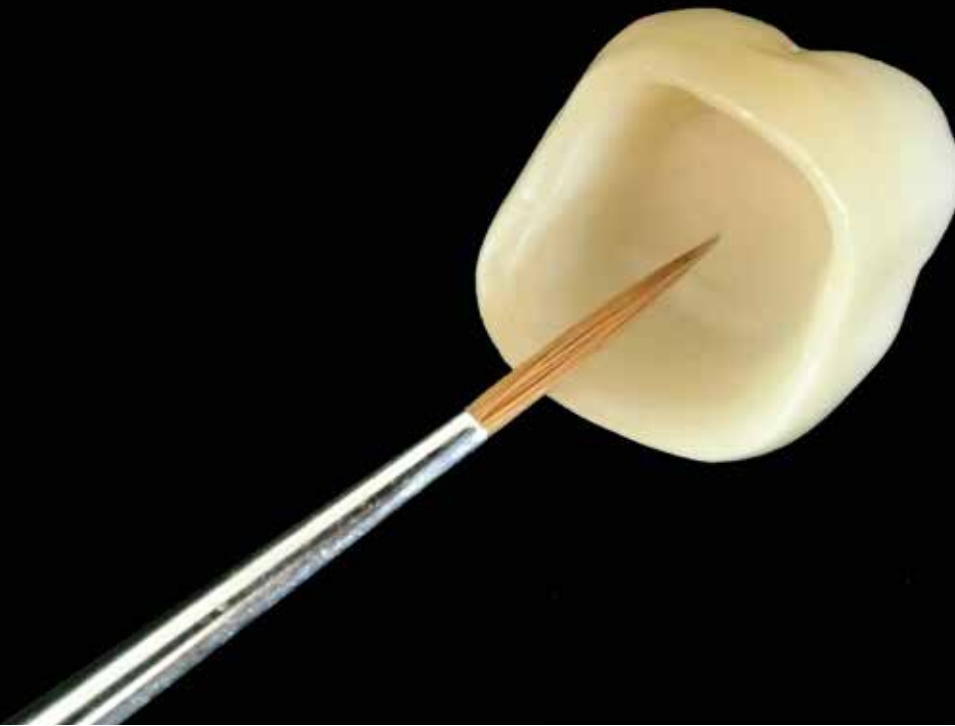


BONDING

priti® multidisc ZrO₂ and priti® multibloc ZrO₂



Cementing priti® multidisc ZrO₂ and priti® multibloc ZrO₂
all-ceramic restorations

Bonding
pritti® multidisc ZrO₂ and
pritti® multibloc ZrO₂

// Statements on Sand blasting

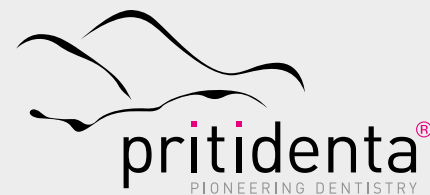
- Regardless of the cementing method used, gentle, extra-oral sandblasting of the cementing surface (internal surface in the case of crowns and bridges) is recommended for priti® multidisc ZrO₂ restorations.
- We recommend aluminum oxide with a grain size < 50 µm at a pressure of 1 bar. This allows efficient roughening, provides a larger cementing surface and thus more micromechanical interlocking without adversely affecting material strength.
- Clean the inside of the zirconium oxide restoration with alcohol and dry with air free of water and oil.
- CAD 4 practice consensus conference opinion:
The experts and members of consensus conference agreed on the recommendation to gently blast the copings on the inside (parameters: 50 µm fine corundum blasting material, max. 1 bar pressure, 10 mm distance, 5 seconds exposure time per unit). No special blasting angle can be stated.
(Florian Beuer et al., Munich, Zirkonoxid Konsens, dental dialogue 12:90-98, Oct. 2011)
- The blasting process has a generally positive effect on the adhesive bond, probably due to the mechanical cleaning and increase in surface size.
(Florian Beuer et al., Munich, Zirkonoxid Konsens, dental dialogue 12:90-98, Oct. 2011)

// Statements on Selecting the Cement

- Due to the strength of priti®multidisc ZrO₂ an adhesive bond is not essential in normal indications for crowns and bridges – these can be cemented using conventional products.
- In principle, all conventional cements (phosphate and glass ionomer cements) are suitable for bonding priti®multidisc ZrO₂. Conventional cementing can be recommended if the following conditions are met: Sufficient preparation height (4 mm) and 30 to 50 preparation angle.
- For esthetic reasons or where preparations have poor retention (e.g. low preparation height, highly conical stumps, small surface areas), a self-adhesive or adhesive bond is indicated for crowns and bridges.
- **Note:** For esthetic reasons in particular, adhesive or self-adhesive cement is recommended for priti®multidisc ZrO₂ Translucent und High Translucent.
- The cementing surfaces of the restoration should be roughened by sand blasting (aluminum oxide 50 µm, 1 bar pressure) to improve retention.
(A. BEHRENS et al. Fracture Strength of Sandblasted Coloured and Non-coloured Zirconia. J Dent Res 84 (Spec Iss A): 558, 2005); (J.L. CHAPMAN et al. Flexural Strength of High-Strength Ceramics after Sandblasting. J Dent Res 84 (Spec Iss A): 1757, 2005)
- Another scientific statement: From a clinical perspective, micromechanical retention plays a dominant role in adhesive technology.
(Frankenberger et al. DGZ Gutachten, 2014; Pneumans et al. 2007; van Landuyt et al. 2007); (Ortrop et al. 2012, Rinke et al. 2013. Clinical studies on conventional cements and adhesive bonding); (Q. Cai et al. Retention of zirconia crowns bonded with adhesive resin cements. J Dent Res 91 (Spec Iss A) 156376, 2012)

Cementing
priti® multidisc ZrO₂ and
priti® multibloc ZrO₂
all-ceramic restorations

// Instructions for cementing Crowns and Bridges:



| Basic principles | Conditioning the stump | Preparing the restoration** |
|-----------------------------|--|-----------------------------|
| Conventional cements | <ul style="list-style-type: none"> • Clean • Recommendation* (optional) for zinc oxide phosphate cements: Clean using 3% H₂O₂ • Recommendation* (optional) for glass ionomer cements: • Apply polyacrylic acid | |
| | Apply cement to bonding area of restoration, place on stump and remove excess. | |
| Adhesive cement | <ul style="list-style-type: none"> • Clean • Allow stump to dry • Apply a dentine adhesive • Apply bonder / primer | |
| | Apply adhesive to bonding area of restoration, place on stump, remove excess and allow to set. | |
| Self-adhesive cement | <ul style="list-style-type: none"> • Allow stump to dry • Clean • Apply a dentine adhesive* | |
| | Apply adhesive to bonding area of restoration, place on stump, remove excess and allow to set. | |

*Recommendations are manufacturer-specific

**Blasting the adhesive surface at 1 bar with 50 µm Al₂O₃ followed by blowout increases adhesive bond

Note: When adhesive or self-adhesive cements are used for bonding to enamel, 37% phosphoric acid must be etched onto the enamel for one minute.

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