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An O.I.C.S. Specialty Laboratory
Occlusion - Implants - Cosmetic - Sleep

How to Increase the Bond Strength of Zirconia Based Restorations

The use of zirconia based dental restorations has increased in recent years due to their superior aesthetic appearance and metal-free structure. The clinical success of fixed ceramic restorations seems to be strongly dependent on the cementation procedure. Zirconia based restorations can be bonded to teeth structures by both conventional and resin cements; however, dual cure resin cements are preferred because they have the advantages of marginal seal, good retention, and improvement of fracture resistance of ceramic materials.

Zirconia based restorations cannot be acid etched due to their lack of silica and glass, so sandblasting is the preferred surface-roughening method.

Here are some suggested methods to treat zirconia based restorations prior to bonding to improve restoration retention.

Method 1: If Sandblasting (Micro-Etching) Is available

Step 1: Sandblasted with 50 μm Al_2O_3 particles from a distance of 10 mm perpendicular to the specimen surface at a pressure of 2.5 bar for 15 s.

Step 2: Coat zirconia surface with Z-PRIME Plus (Bisco Canada 1-800-667-8811) or Monobond Plus (Ivoclar Vivadent Canada 1-800-263-8182) and allowed to air dry

Step 3: Cement with Preferred Dual Cure Resin Cement



Method 2: If Sandblasting (Micro-Etching) Is Not available

Step 1: Clean zirconia surface with ZirClean Restoration Cleaner (Bisco Canada 1-800-667-8811) or Ivoclean (Ivoclar Vivadent Canada 1-800-263-8182)

Step 2: Coat zirconia surface with Z-PRIME Plus (Bisco Canada 1-800-667-8811) or Monobond Plus (Ivoclar Vivadent Canada 1-800-263-8182) and allowed to air dry

Step 3: Cement with Preferred Dual Cure Resin Cement



Helping our clients achieve the very best clinical outcomes, is just another way we are,
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