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Anterior Adhesive Cementation

The most durable and strongest bond when cementing anterior restorations is always to use a “Total-Etch” or “Select-Etch,” 4th or 8th generation dentinal adhesive system combined with a resin cement. My recommendation is to use a “light-cure” only cement which allows for unlimited working time, color stability, and immediate polymerization upon curing.

Types of restorations

IPS Empress veneers and crowns, e.max (lithium disilicate) veneers and crowns, feldspathic veneers and crowns, and zirconium-oxide restorations (both monolithic and core supported)

1) Remove provisional

2) Clean preparation with chlorahexadine pumice

Recommended Product:
• Consepsis Scrub (Ultradent)

3) Try-in restorations using water soluble try-in gels using different shades of the try-in gels to obtain desired final

Recommended Products:
• Variolink Esthetic (Ivoclar)
• Choice 2 (Bisco)
• Relyx Veneer Cement (3M)
• NX 3 (Kerr)

4) Clean out try-in gel using air/water syringe from inside restoration when shade is chosen

5) Prepare restoration for bonding

- a) If restoration is IPS Empress, feldspathic, or lithium disilicate (e.max)
i) Clean internal with phosphoric acid, rinse, and dry
ii) Apply silane coupling agent for 1 minute

Recommended Products:
• Porcelain Primer (Bisco)
• MonoBond + (Ivoclar)

- b) If restoration is Zirconium-oxide
i) Clean internal with NaOH2

Recommended Product:
• Ivoclean (Ivoclar)

- ii) Place Zirconium-oxide/metal primer on internal surface for 1 minute

Recommended Product:
• Z Prime + (Bisco)

- c) Place a very thin layer of unfilled resin and air thin

Recommended Product:

- Porcelain Bonding Resin (Bisco)

- d) Place the light-cure only resin cement inside restoration and place in light protective container

Recommended Products:

- “Light-Cure” only cements
 - Variolink Esthetic (Ivoclar)
 - Choice 2 (Bisco)
 - Relyx Veneer Cement (3M)
 - NX 3 (Kerr)
- Light protected container
 - VivaPad- (Ivoclar)

6) Prepare teeth for adhesive bonding

- a) After shade selection, rinse teeth thoroughly to remove try-in gel
- b) Etch dentin and enamel for 15-20 seconds using a 35% phosphoric acid

Recommended Product:

- HV Select Etch (Bisco)

c) Rinse and lightly dry

d) Apply glutaraldehyde /water/ HEMA desensitizer

Recommended Products:

- MicroPrime G (Danville)
- Telio Desensitizer (Ivoclar)
- Gluma (Heraeus)

e) Place adhesive agent

Recommended Products:

- All Bond 3 (Bisco)
- All Bond Universal (Bisco)
- Scotchbond Universal (3M)
- Adhese Universal (Ivoclar)

f) Air Dry and light polymerize for 10 seconds

Recommended Products:

- Bluephase Style (Ivoclar)
- Valo Cordless (Ultradent)

g) Place all restorations in at one time-inward upward pressure using instruments to ensure complete seating-do not clean up excess

h) "Tack"- using a 2.0 mm light guide, tack each restoration into place for 1 second in the middle of the restoration away from margins

i) "Wave"- using an 8.0 mm or 11.0 mm light guide, "Wave" all restorations for a total of 5 seconds

j) Remove excess resin gently using Bard Parker blades, scalers, and explorer

k) Floss through contacts using a metal strip

Recommended Product:

- Serrated Saw (Brasseler)

l) Floss through contacts using waxed dental floss

m) Place glycerin around all margins to eliminate the oxygen inhibition layer

Recommended Products:

- DeOx (Ultradent)
- Liquid Strip (Ivoclar)

n) Light polymerize for at least 40 seconds per restoration

o) Rinse off glycerin

p) Remove excess cement using scalers, Bard Parker blades, etc

q) Finish margins using 15 or 25 µm finishing diamonds

Recommended Product:

- Hornbrook Finishing kit (Brasseler)

r) Finish interproximals with finishing strips

Recommended Products:

- 1954N strip (3M)
- Epitax Strips (GC)

s) Polish all margins (that were adjusted) and adjust occlusion using ceramic polishing points and cups

Recommended Products:

- Hornbrook lithium disilicate adjusting and polishing kit (DiaShine/VH Technologies)
- OptraFine (Ivoclar)



For technical questions, contact Dr. David Hornbrook at david@hornbrook.com

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