Posterior Adhesive Cementation

The most durable and strongest bond when cementing posterior restorations is always to use a "Total-Etch" or "Select-Etch" dentinal adhesive system combined with a resin cement. My recommendation is to use either a 4th or 8th generation adhesive system and a "dual-cure" cement which allows for complete polymerization even in areas where there is little light penetration.

Dr. David Hornbrook
Clinical Director of Education and Technology

Types of restorations
IPS Empress crowns, e.max (lithium disilicate) crowns less than 1.5 mm thick or with low retention preparations, inlays and onlays, and zirconium-oxide restorations with low retention preparations (both monolithic and core supported)

1) Remove provisional

2) Clean preparation with chlorahexadine pumice

Recommended Products:
• Consepsis Scrub (Ultradent)

3) Try-in restorations using water or glycerin

4) After checking aesthetics and proximal contacts, rinse thoroughly

5) Prepare restoration for bonding
a) If restoration is IPS Empress 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 on the inside of the restoration and place in light protective container

   Recommended Products:
   • Dual cure resin cement

• Duolink (Bisco)
• NX 3 (Kerr)

• Light protective container
• VivaPad (Ivoclar)

6) Prepare teeth for adhesive bonding
a) Etch dentin and enamel for 15-20 seconds using a 35% phosphoric acid (For Select-Etch procedure, etch enamel only)

   Recommended Product:
   • HV Select Etch (Bisco)

b) Rinse and lightly dry

c) Apply glutaraldehyde /water/ HEMA desensitizer

   Recommended Products:
   • MicroPrime G (Danville)
   • Telio Desensitizer (Ivoclar)
   • Gluma (Heraeus)

d) Place dentinal-enamel adhesive agent

   Recommended Products:
   • All Bond 3 (Bisco)
   • All Bond Universal (Bisco)
   • Scotchbond Universal (3M)
   • Adhese Universal (Ivoclar)

e) Air dry and light polymerize for 10
   seconds

   Recommended Products:
   • Bluephase Style (Ivoclar)
   • Valo Cordless (Ultradent)

f) Seat restoration completely using blunt
   tipped instrument - do not clean up
   excess

g) "Tack"- using a 2.0 mm light guide in
   middle of occlusal surface for 5 seconds,
   away from margin

h) "Wave"- using 8.0 mm or 11.0 mm light
   guide and "Wave" all margins for a total
   of 5 seconds

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

j) Floss through contacts metal strip

   Recommended Product:
   • Serrated Saw (Brasseler)

k) Floss through contacts using waxed
   dental floss

l) Place glycerin around all margins

   Recommended Products:
   • DeOx (Ultradent)
   • Liquid Strip (Ivoclar)

m) Light polymerize for at least 40 seconds

n) Rinse off glycerin

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

p) Finish margins and adjust occlusion using
   15 or 25 μm finishing diamonds

   Recommended Product:
   • Hornbrook Finishing kit (Brasseler)

q) Finish interproximals with finishing strips

   Recommended Product:
   • 1954N strip (3M)

r) Polish all margins (that were adjusted)
   and occlusal surfaces using ceramic
   polishing points and cups

   Recommended Products:
   • Hornbrook Lithium disilicate adjusting
     and polishing kit (DiaShine/VH
     Technologies)
   • OptraFine (Ivoclar)

**Cementation Guidelines courtesy
of Keating Dental Lab**

16881-A Hale Avenue
Irvine, California 92606
1-800-433-9833
www.keatingdentallab.com

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