



# Universal Cementation Guide for Dental Restorations

## ◆ 1. Restoration Types & Materials

Restoration Type	Material	Common Cementation Method
Crown	Zirconia	Resin-modified glass ionomer (RMGI) or resin cement
Crown	Lithium Disilicate (e.max)	Adhesive resin cement (light or dual-cure)
Crown	Porcelain-fused-to-metal (PFM)	RMGI or traditional luting cement
Crown	Full gold	RMGI or zinc phosphate
Veneer	Feldspathic / e.max	Light-cure adhesive resin cement
Inlay/Onlay	Composite / Ceramic	Adhesive resin cement (dual-cure)
Bridge	Zirconia / PFM	RMGI or adhesive resin cement
Implant Crown	Zirconia or PFM	Screw-retained or temporary resin cement
Maryland Bridge	Zirconia or Ceramic Wings	Adhesive resin cement
Temporary Crown/Bridge	PMMA / Composite	Non-eugenol temporary cement

## ◆ 2. Cement Types Overview

Cement Type	Properties & Use
<b>Resin-Modified Glass Ionomer (RMGI)</b>	Easy cleanup, fluoride release, moderate bond strength. Ideal for zirconia, metal.
<b>Adhesive Resin Cement</b>	High bond strength, technique-sensitive. Required for glass ceramics, veneers.
<b>Self-Adhesive Resin Cement</b>	Simplified protocol, decent bond strength. For metal, zirconia, some e.max.
<b>Zinc Phosphate</b>	Strong, retentive, but no adhesion. Used for traditional full coverage.
<b>Temporary Cement</b>	Easy removal, used for provisional restorations.



### ◆ 3. Material-Specific Surface Treatments

Material	Intaglio Surface Prep	Tooth Prep
<b>Zirconia</b>	Sandblast (50 µm alumina), apply MDP primer	Clean, lightly roughen enamel/dentin
<b>e.max (Lithium Disilicate)</b>	Etch with 5% HF acid (20s), rinse, silane	Etch tooth with phosphoric acid, apply bonding agent
<b>Feldspathic Porcelain</b>	Etch with 5% HF acid (60s), rinse, silane	Same as above
<b>Metal (Gold, PFM)</b>	Sandblast, metal primer (optional)	Clean and dry
<b>Composite (for inlays)</b>	Sandblast or clean with alcohol	Etch and bond

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### ◆ 4. Cementation Protocol (Example: e.max Crown)

1. **Try-in crown** and check occlusion and fit.
  2. **Etch e.max intaglio** with HF acid 20s, rinse, dry.
  3. **Apply silane** to intaglio, allow to sit for 60s, dry.
  4. **Etch tooth** with phosphoric acid (15s enamel, 10s dentin), rinse.
  5. **Apply bonding agent** to tooth (do not cure).
  6. **Apply resin cement** inside crown.
  7. **Seat crown**, spot cure to tack, clean excess.
  8. **Final cure** each surface for 20s.
  9. **Check occlusion** and polish margins.
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### ◆ 5. Tips for Success

- Always **follow manufacturer instructions** for specific materials and cements.
- Use **rubber dam or isolation** when bonding for ideal outcomes.
- Avoid **eugenol-based cements** if planning future resin bonding.
- **Warm cement slightly** before placement for easier handling (if recommended).
- Use **air abrasion** on zirconia or metal surfaces for improved retention.