

PULPDENT Adhesives



DenTASTIC UNO

DenTASTIC UNO-DUO

DenTASTIC All-Purpose Adhesive

PULPDENT

DenTASTIC Adhesives

- 40 years of research
- Developed by Dr. Rafael Bowen
- Patents assigned to American Dental Association Health Foundation (ADAHF)
- Extensive Published literature
- Advanced PMDGM chemistry with magnesium salt of NTG-GMA



Dr. Ray Bowen

Defining the Generations

4th Generation

DenTASTIC All-Purpose

Dual Cure - Hydrophilic - Wet Bonding

- Solvent based primers are separate from unfilled resin bonding agent.
- Both primers and unfilled resin bonding agent are 2-part and dual cure.



Defining the Generations

5th Generation Light Cure

DenTASTIC UNO

Light Cure - Hydrophilic - Wet Bonding

- One bottle system. Primer and unfilled resin bonding agent are combined in the same bottle.
- Light cure.



Defining the Generations

5th Generation Dual Cure

DenTASTIC UNO-DUO

Dual Cure - Hydrophilic - Wet Bonding

- Simplified dual cure system.
- DUO is the dual cure catalyst for UNO.



DenTASTIC All-Purpose

The Best of the 4th Generation

- All Purpose Adhesive System
- Hydrophilic
- Dual Cure
- For bonding to dentin, enamel, porcelain, resins, precious and non-precious metal and amalgam



DenTASTIC UNO

5th Generation Light Cure

One Bottle Adhesive

DenTASTIC UNO combines the patented PMGDM adhesive primer with a hydrophilic resin and acetone solvent into a single component adhesive.

- Light Cure
- Compatible with all composites



DenTASTIC UNO-DUO

5th Generation Dual Cure

**DUO is the Dual Cure Catalyst
for DenTASTIC UNO**

2 drops of UNO + 1 drop of DUO provides the simplest dual cure bonding agent for indirect restorations, and self-cure and dual-cure core materials and resin cements.



Understanding Dentin Bonding

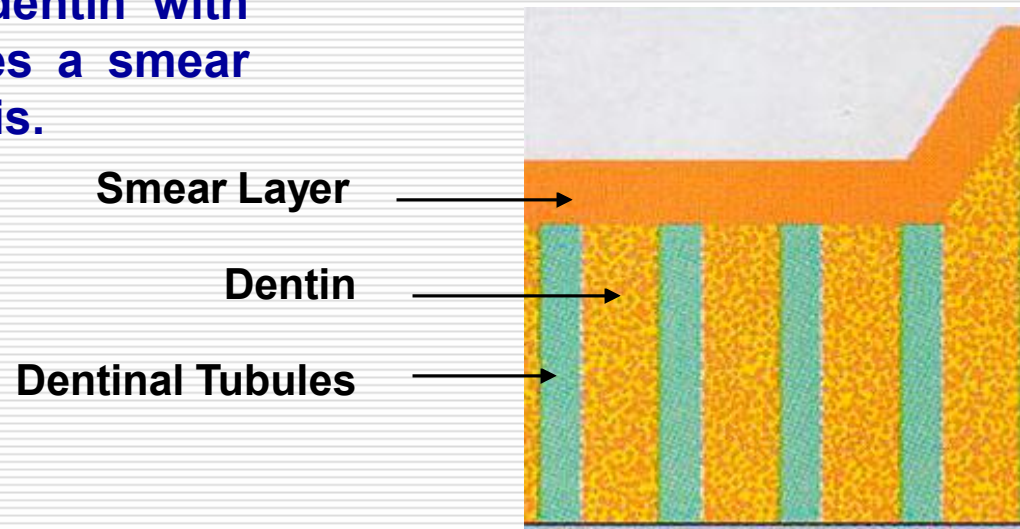
□ Rationale for Wet Bonding

- Dentin contains 15% water
 - Hydrophilic adhesive monomers are combined with solvents that chase moisture and carry the adhesive resin into the open collagen and dentinal tubules.
 - This forms a hybrid layer of collagen and resin with resin tags in the dentinal tubules that provides exceptional micro-mechanical retention.
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Understanding Dentin Bonding

□ Basic Anatomy

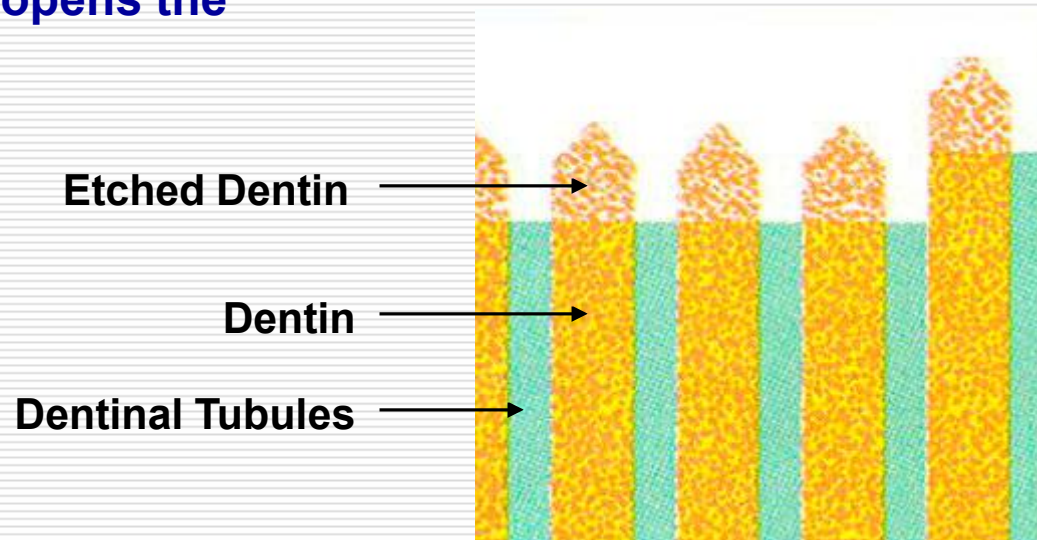
Dentin is a fiber reinforced tissue consisting of minerals, collagen and water. The mineral content is mostly calcium phosphate. Cutting dentin with a rotary bur produces a smear layer of dentinal debris.



Understanding Dentin Bonding

□ Etching

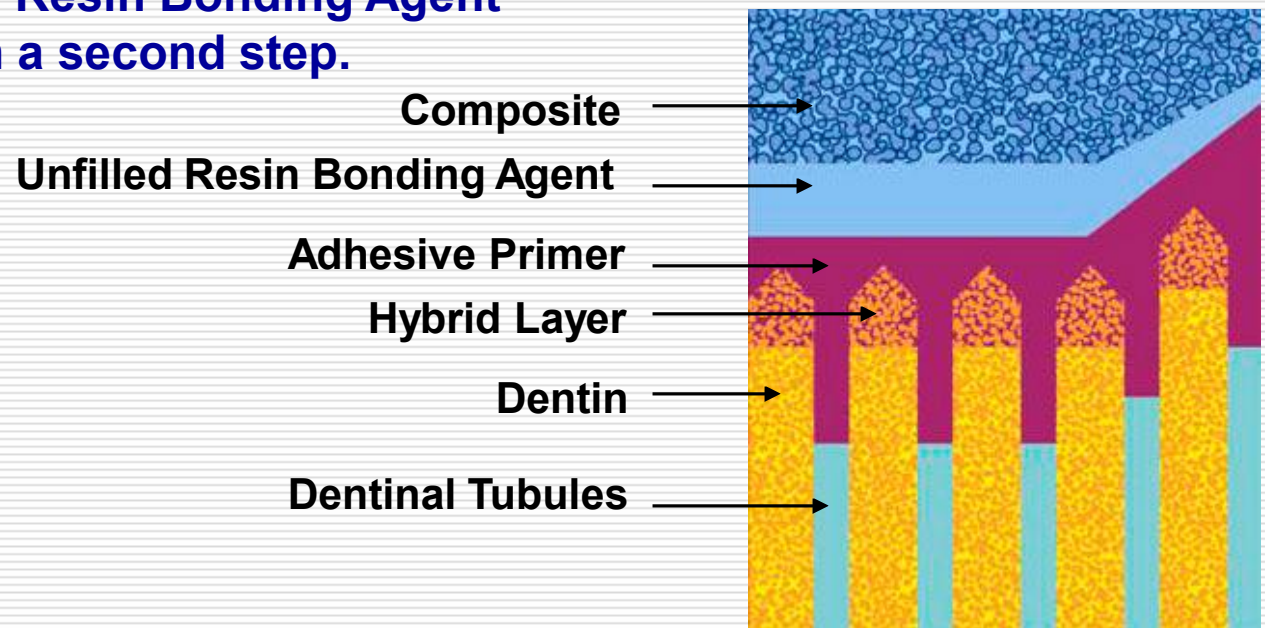
Etching dentin removes the smear layer, dissolves the minerals at the surface exposing the collagen fiber matrix, and slightly opens the dentinal tubules.



Understanding Dentin Bonding

□ 4th Generation Adhesive

Adhesive Primer is applied first,
and Unfilled Resin Bonding Agent
is applied in a second step.



Understanding Dentin Bonding

□ 5th Generation Adhesive

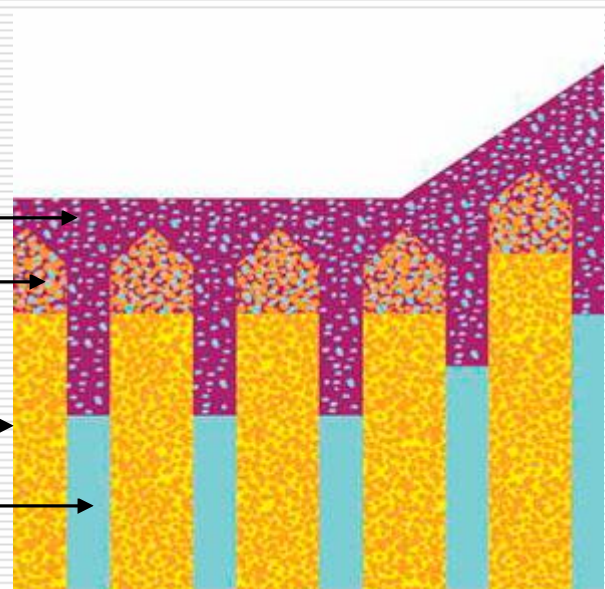
Adhesive Primer and Unfilled Resin Bonding Agent are combined into a single component that forms an interlocking matrix layer with the moist collagen and dentinal tubules creating a hybrid layer that provides extraordinary mechanic retention.

DenTASTIC UNO or UNO-DUO

Hybrid Layer

Dentin

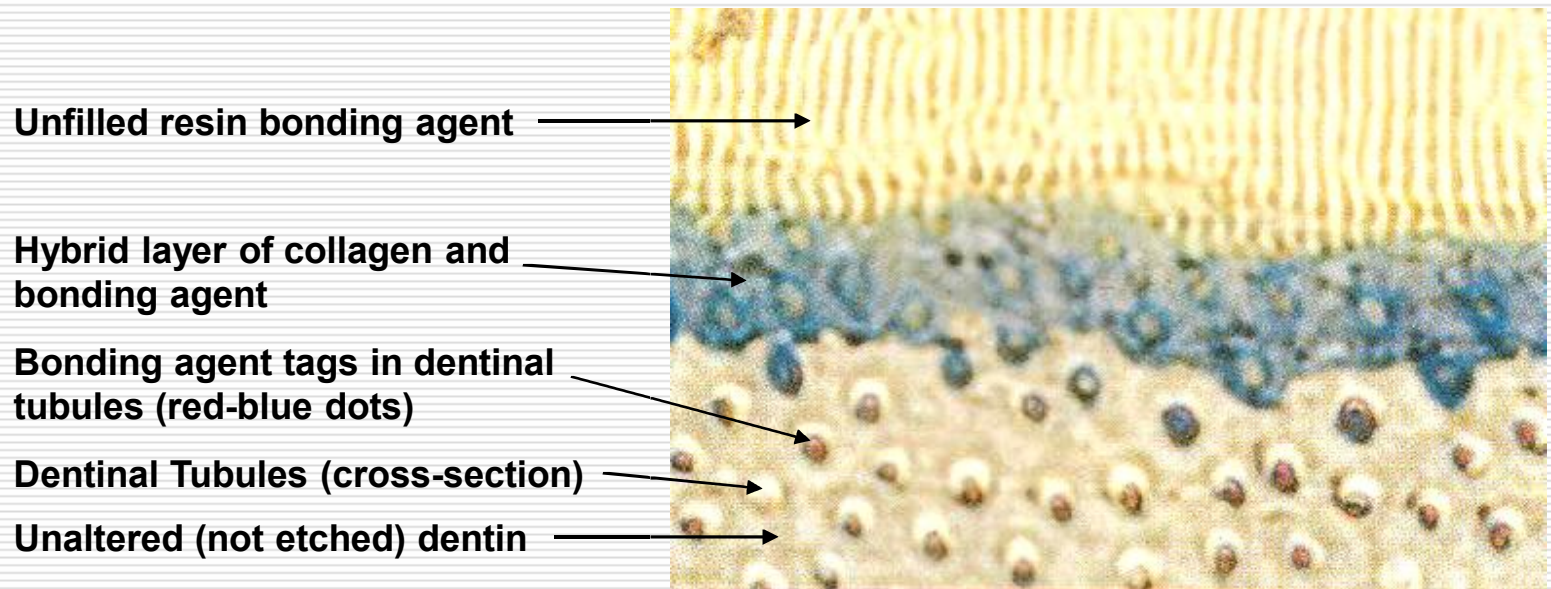
Dentinal Tubules



Understanding Dentin Bonding

□ Dentin Adhesive Interface

This unique light microscopy cross-section shows the dentin-adhesive interface.



DenTASTIC UNO

□ Two Case Studies



DenTASTIC UNO: Case #1



Figure 1

Etch all enamel and dentin surfaces for 15 seconds.



Figure 2

Rinse thoroughly and remove excess moisture leaving tooth surface slightly moist.

DenTASTIC UNO: Case #1

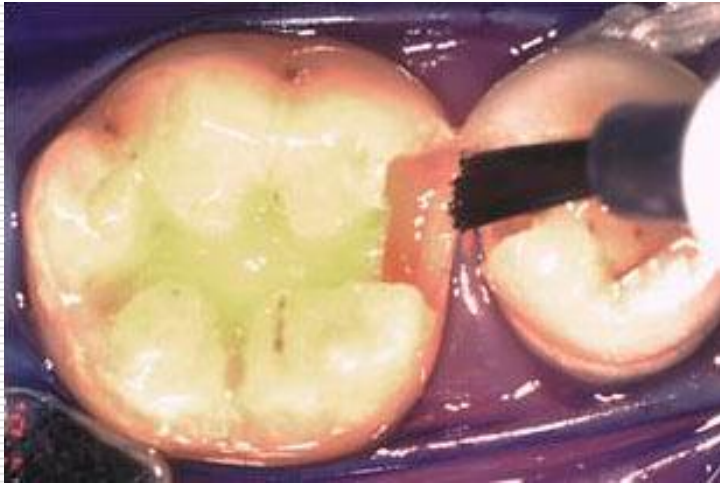


Figure 3

Apply 2-3 coats of UNO to all wet enamel and dentin surfaces.

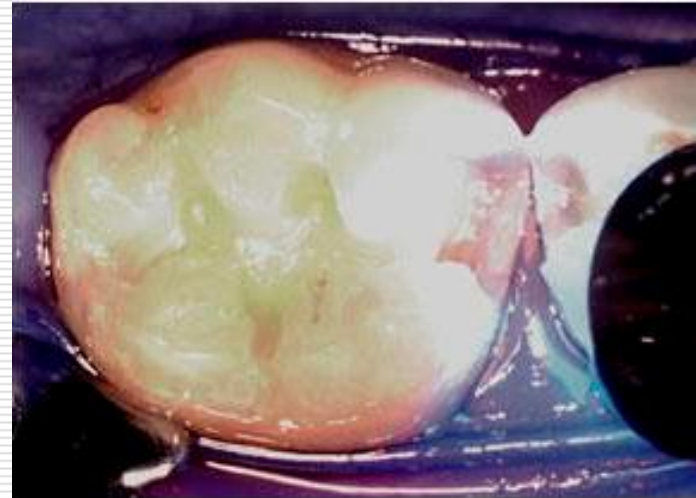


Figure 4

**Light cure for 10 seconds.
Now you are ready to place your preferred composite.**

DenTASTIC UNO: Case #2



Figure 1

Acid etch all enamel and dentin surfaces for 15 seconds.



Figure 2

Pulpdent Lime-Lite is placed over near exposure sites and light cured for 20 seconds.

DenTASTIC UNO: Case #2



Figure 3

Apply 2-3 coats of UNO to all wet enamel and dentin surfaces.



Figure 4

Light cure for 10 seconds.

Now you are ready to place your preferred composite.

DenTASTIC UNO: Case #2

The Final Result



Figure 5

Shows tooth restored with composite resin.
