

**PULPDENT®**

# DenTASTIC®

## All Purpose Dental Adhesive System

HYDROPHILIC • DUAL CURE

For bonding to dentin, enamel, porcelain, resins, precious and non-precious metals and amalgam.

**Caution:** Federal law restricts this device to sale by or on the order of a dentist.

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### A. Product Description

DenTASTIC is user friendly and is designed to take the mystery out of dental adhesives. It is a complete, reliable and easy to understand system for bonding to all tooth surfaces and restorative materials.

The DenTASTIC Adhesive System is the result of three decades of research in dental adhesive technology. The research and ensuing patents are fully documented by a substantial volume of published literature.\* A complete bibliography is available upon request.

DenTASTIC uses the new PMGDM with the magnesium salt of NTG-GMA. Research shows this superior to the older PMDM formulas in shear bond strength© and shelf life.

Pulpdent manufactures DenTASTIC under license and has enhanced this patented technology with its own proprietary adhesive chemistry.

For technical assistance call Pulpdent toll free (800) 343-4342 or (617) 926-6666.

\* BOWEN, R.L., inventor, patents assigned to American Dental Association Health Foundation. U.S. Patent Nos. 4,514,527; 4,521,550; 4,588,756; 4,659,751; 5,320,886.

\* BOWEN, R.L., and MARJENHOFF, W. A. (1992): Development of an Adhesive Bonding System, Operative Dentistry, Supplement 5, 75-80.

♦ VENZ, S., and DICKENS, B.: Modified Surface-active Monomers for Adhesive Bonding to Dentin, Journal of Dental Research, 72(3): 582-586, March, 1993.

## **B. Basic Rules**

1. Etch or sandblast surfaces, as indicated.\*
2. Prime dentin and enamel with DenTASTIC Adhesive Primer A + B.
3. Prime metals with DenTASTIC Adhesive Primer C + B.
4. Prime porcelain with Silane Bond Enhancer.
5. Place Unfilled Resin Bonding Agent over DenTASTIC and Silane.©
6. Place restorative composite or resin cement over Unfilled Resin.

\**Tin plate high precious alloys for superior results.*

\**When using an opaquer or when bonding new amalgam, Unfilled Resin Bonding Agent is not required.*

### **Procedure 1. Dentin/Enamel Bonding**

1. Isolation and Preparation: Isolate treatment area to achieve a clean, dry field. Prepare tooth for restoration. Place appropriate base/liner in deep cavities, if desired.
2. Etching: Apply Etch-All 10% phosphoric acid gel first to enamel and then to dentin and etch for 30 seconds while agitating gently. Rinse with copious amounts of water. Remove excess water from surface, but **DO NOT DRY DENTIN**. (A cotton pellet may be used for this purpose.) DenTASTIC Adhesive Primer is a hydrophilic monomer which is designed to work best in the moist dentin environment. All of the popular dentin etchants (nitric acid, maleic acid and polyacrylic acid) work equally well with DenTASTIC and provide the same excellent results. Keep this surface clean. **AVOID SALIVA CONTAMINATION**.
3. Adhesive Primer: Mix equal amounts of DenTASTIC Dentin/Enamel Initiator Part A and Universal Base Part B immediately before use. Paint 3 successive coats of this mixture on the dentin and enamel surface waiting 3-5 seconds between coats. **DO NOT DRY BETWEEN COATS**. After the last coat, dry the surface for a few seconds with clean, uncontaminated air. The surface should appear glossy; if not, apply additional coats until glossy surface appears.
4. Unfilled Resin Bonding Agent: **FOR LIGHT CURE RESTORATIONS** use light activated Unfilled Resin Base Part 1 only. **FOR SELF-CURE OR DUAL CURE RESTORATIONS** mix equal amounts of Unfilled Resin Base Part 1 and Catalyst Part 2. Paint a thin layer over the glossy adhesive surface. Wipe resin off brush and immediately use brush to thin the resin layer. Light curing is not required; however, testing shows increased bond strengths when this layer is light cured.
5. Restorative Composite/Resin Cement: Place restorative composite or resin cement directly over the Unfilled Resin. Light cure if appropriate.

**Note:** *To desensitize root surfaces, etch, apply 3-5 coats Primers A + B and light cure. Then either apply 3-5 additional coats of Primers A + B and light cure, or apply Unfilled Resin Bonding Agent and light cure.*

### **Procedure 2. Bonded Porcelain Restorations and Porcelain Repairs**

1. Porcelain Etching: For porcelain repairs, remove loose porcelain, if any, and contour as necessary. For all bonded porcelain restorations and porcelain repairs, etch porcelain surfaces with Pulpdent Porcelain Etch Gel for two minutes. Be sure to place rubber dam for intraoral use. Rinse well using high volume aspirator. Dry porcelain surface completely.
2. Silane: Place Pulpdent Silane Bond Enhancer on the etched porcelain surface. Allow silane to air dry or dry with a gentle stream of clean air. **KEEP THIS SURFACE UNCONTAMINATED AND DRY**. **FOR PORCELAIN REPAIRS** continue with step 6. **FOR BONDED PORCELAIN RESTORATIONS** continue with step 3.
3. Tooth Isolation and Preparation: When bonding **PORCELAIN RESTORATIONS** (veneers, inlays, onlays and crowns) **TO DENTIN/ENAMEL**, isolate treatment area to achieve a clean, dry field. Prepare tooth for restoration. Place appropriate base/liner in deep cavities, if desired.
4. Etching: Apply Etch-All 10% phosphoric acid gel first to enamel and then to dentin and etch for 30 seconds while agitating gently. Rinse with copious amounts of water. Remove excess water from surface, but **DO NOT DRY DENTIN**. (A cotton pellet may be used for this purpose.) DenTASTIC Adhesive Primer is a hydrophilic monomer which is designed to work best in the moist dentin environment. All the popular dentin etchants (nitric acid, maleic acid and polyacrylic acid) work equally well with DenTASTIC and provide the same excellent results.
5. Adhesive Primer: Mix equal amounts of DenTASTIC Dentin/Enamel Initiator Part A and Universal Base Part B immediately before use. Paint five successive coats of this mixture on the dentin and enamel surface. **DO NOT DRY BETWEEN COATS**. After the last coat, dry the surface for a few seconds with a gentle stream of clean, uncontaminated air. The surface should appear glossy; if not, apply additional coats until glossy surface appears.
6. Unfilled Resin Bonding Agent: **FOR LIGHT CURE RESTORATIONS** use light activated Unfilled Resin Base Part 1 only. **FOR SELF-CURE OR DUAL CURE RESTORATIONS** mix equal amounts of Unfilled Resin Base Part 1 and Catalyst Part 2. Paint a thin layer of Unfilled Resin Bonding Agent on the silanated porcelain surface and, when bonding to dentin/enamel, on the glossy adhesive tooth surface, also. Immediately

thin this layer with a gentle stream of air. **DO NOT CURE THE UNFILLED RESIN BONDING AGENT** when bonding veneers, crowns, inlays or onlays. Not curing allows the Unfilled Resin to thin and spread out when you seat the restoration.

7. Restorative Composite/Resin Cement: **FOR PORCELAIN REPAIRS**, place restorative composite on the porcelain surface directly over the Unfilled Resin Bonding Agent. Use a matrix when appropriate. **FOR BONDED PORCELAIN RESTORATIONS** (veneers, inlays, onlays and crowns), place resin cement on the porcelain surface directly over the Unfilled Resin Bonding Agent and carefully seat restoration onto the adhesively prepared tooth. When light curing thin bonded porcelain restorations (veneers), light cure for two to three minutes. Light cure thick bonded porcelain restorations (inlays, onlays, crowns) for three minutes or more.

### **Procedure 3. Repair of Porcelain Fractured From Metal Framework**

1. Surface Preparation: Remove loose or fractured porcelain with a diamond bur and bevel porcelain edge. For best results, sandblast the exposed metal surface with 50 micron aluminum oxide using an intraoral sandblaster. If sandblaster is not available, roughen the metal surface lightly with a diamond bur. Wash and dry the metal surface thoroughly.
2. Adhesive Primer: Mix equal amounts of DenTASTIC Metal Initiator Part C and Universal Base Part B immediately before use. Paint two successive coats of this mixture over the prepared metal surface and adjacent porcelain. Allow the solvent to evaporate for 10 seconds before drying with a gentle stream of air for 3-5 seconds.
3. Unfilled Resin Bonding Agent: **FOR LIGHT CURE RESTORATIONS** use light activated Unfilled Resin Base Part 1 only. **FOR SELF-CURE OR DUAL CURE RESTORATIONS** mix equal amounts of Unfilled Resin Base Part 1 and Catalyst Part 2. Paint a thin layer over the adhesively prepared metal and adjacent porcelain surface, and thin this layer immediately with a stream of air. Light curing this layer is optional. An opaquer may be substituted for the Unfilled Resin Bonding Agent, if required.
4. Restorative Composite: Place restorative composite over the Unfilled Resin Bonding Agent using a matrix. Light cure, if appropriate, contour and polish.

### **Procedure 4. Bonding to Precious and Non-Precious Metals and Porcelain Fusing Alloys**

1. Metal Preparation: For best results, sandblast the metal surface on which the DenTASTIC Adhesive Primer will be placed with 50 micron aluminum oxide. If sandblaster is not available, roughen the metal surface lightly with a diamond bur. The sandblasted or roughened surfaces of **HIGH PRECIOUS ALLOYS** should be tin plated with an appropriate brush plating instrument for superior results. Rinse and dry the metal or plated surface thoroughly.
2. Tooth Isolation and Preparation: When bonding **METAL TO DENTIN/ENAMEL** abutment, isolate treatment area to achieve a clean, dry field. Prepare tooth for restoration. Place appropriate base/liner in deep cavities, if desired.
3. Etching: Apply Etch-All 10% phosphoric acid gel first to enamel and then to dentin and etch for 30 seconds while agitating gently. Rinse with copious amounts of water. Remove excess water from surface, but **DO NOT DRY DENTIN**. (A cotton pellet may be used for this purpose.) DenTASTIC Adhesive Primer is a hydrophilic monomer which is designed to work best in the moist dentin environment. All the popular dentin etchants (nitric acid, maleic acid and polyacrylic acid) work equally well with DenTASTIC and provide the same excellent results.
4. Dentin/Enamel Adhesive Primer: Mix equal amounts of DenTASTIC Dentin/Enamel Initiator Part A and Universal Base Part B immediately before use. Paint 3 successive coats of this mixture on the dentin and enamel surface waiting 3-5 seconds between coats. **DO NOT DRY BETWEEN COATS**. After the last coat, dry the surface for a few seconds with a gentle stream of clean, uncontaminated air. The surface should appear glossy; if not, apply additional coats until glossy surface appears.
5. Metal Adhesive Primer: Mix equal amounts of DenTASTIC Metal Initiator Part C and Universal Base Part B immediately before use. Paint two successive coats of this mixture over the prepared metal surface and allow the solvent to evaporate for 10 seconds before drying with a gently stream of air for 3-5 seconds.
6. Unfilled Resin Bonding Agent: Mix equal amounts of Unfilled Resin Base Part 1 and Catalyst Part 2 and paint a thin layer over the adhesively prepared metal and tooth surfaces. Wipe resin off brush and immediately use brush to thin resin layer. An opaquer may be substituted for the Unfilled Resin Bonding Agent, if required.
7. Resin Cement or Restorative Composite: When bonding metal to dentin/enamel, mix the base and catalyst portions of a self-cure or dual cure resin cement and place on the unfilled resin treated surface of the metal restoration. Do not cure this layer. Quickly seat the restoration. If resin cement is dual cure, light cure to tack restoration in place, if desired, and proceed with finishing. When bonding composite to metal, place restorative composite, light cure, if appropriate, and finish.

**Note:** *When bonding root canal posts using resin cement, use Primers B + C on both the dentin and the post. This will retard the setting time of the resin cement.*

### **Procedure 5. Bonding Composite to Existing Amalgam**

1. Surface Preparation: For best results, sandblast the amalgam surface to which the composite will be bonded with 50 micron aluminum oxide. If sandblaster is not available, roughen the amalgam surface lightly with a diamond bur. Rinse and dry thoroughly.
2. Adhesive Primer: Mix equal amounts of DenTASTIC Metal Initiator Part C and Universal Base Part B immediately before use. Paint two successive coats of this mixture over the prepared amalgam surface and allow the solvent to evaporate for 10 seconds before drying with a gentle stream of air for 3-5 seconds.
3. Unfilled Resin Bonding Agent: **FOR LIGHT CURE RESTORATIONS** use light activated Unfilled Resin Base Part 1 only. **FOR SELF-CURE OR DUAL CURE RESTORATIONS** mix equal amounts of Unfilled Resin Base Part 1 and Catalyst Part 2. Paint a thin layer over the adhesively prepared amalgam surface. Wipe resin off brush and immediately use brush to thin resin layer. Light curing this layer is optional. An opaquer may be substituted for the Unfilled Resin Bonding Agent, if desired.
4. Restorative Composite: Place restorative composite over the Unfilled Resin Bonding Agent. Light cure, if appropriate, contour and finish the composite.

### **Procedure 6. Bonding New Amalgam To Tooth Structure**

1. Isolation and Preparation: Isolate treatment area to achieve a clean, dry field. Prepare the cavity conservatively. Place appropriate base/liner in deep cavities, if desired.
2. Etching: Apply Etch-All 10% phosphoric acid gel first to enamel and then to dentin and etch for 30 seconds while agitating gently. Rinse with copious amounts of water. Remove excess water from surface, but **DO NOT DRY DENTIN**. (A cotton pellet may be used for this purpose.) DenTASTIC Adhesive Primer is a hydrophilic monomer which is designed to work best in the moist dentin environment. All the popular dentin etchants (nitric acid, maleic acid and polyacrylic acid) work equally well with DenTASTIC and provide the same excellent results.
3. Adhesive Primer: Mix equal amounts of DenTASTIC Dentin/Enamel Initiator Part A and Universal Base Part B immediately before use. Paint 5 successive coats of this mixture on the dentin and enamel surface waiting 3-5 seconds between coats. **DO NOT DRY BETWEEN COATS**. After the last coat, dry the surface for a few seconds with a gentle stream of clean, uncontaminated air. The surface should appear glossy; if not, apply additional coats until glossy surface appears.
4. Resin Cement: Mix the base and catalyst portions of Pulpdent ResiLute™ or your preferred self-cure or dual cure resin cement and apply a thin layer on the glossy adhesive cavity surface. **DO NOT CURE THIS LAYER**. (Begin trituration of amalgam during this step.) Dual cure Unfilled Resin Base Part I and Catalyst Part 2 may be used instead of a self-cure or dual cure resin cement; however, research shows increased bond strengths with a partially filled resin cement which intermingles better with the amalgam and locks it into the tooth.
5. Amalgam Placement: Immediately condense the amalgam over the resin cement allowing excess cement to extrude from under the amalgam. **IMMEDIATELY** remove excess resin cement while carving the amalgam to contour.

### **Procedure 7. Bonding New Amalgam To Existing Amalgam**

1. Amalgam Preparation: For best results, sandblast the existing amalgam surface to which the new amalgam will be bonded with 50 micron aluminum oxide. If sandblaster is not available, roughen the surface lightly with a diamond bur. Rinse and dry amalgam surface thoroughly.
2. Adhesive Primer: Mix equal amounts of DenTASTIC Metal Initiator Part C and Universal Base Part B immediately before use. Paint two successive coats of this mixture over the existing amalgam surface and allow the solvent to evaporate for 10 seconds before drying with a gentle stream of air for 3-5 seconds.
3. Resin Cement: Mix the base and catalyst portions of a self-cure or dual cure resin cement and place a thin layer over the adhesively prepared amalgam surface. **DO NOT CURE THIS LAYER**. (Begin trituration of amalgam during this step.)
4. New Amalgam: Immediately condense the new amalgam over the resin cement allowing excess resin cement to extrude from under the amalgam. **IMMEDIATELY** remove the excess resin cement while carving the new amalgam to contour.

## **PULPDENT Corporation**

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