



# THE ALL-PURPOSE DESENSITIZER & WETTING AGENT THAT WON'T AFFECT BOND STRENGTH

Effective Desensitization of Class I & II Direct Posterior Restorations When Utilizing 4th and 5th Generation Adhesives & a Total-Etch Technique



## BONDING

Post-operative sensitivity is an ever-present clinical problem with posterior restorations, with studies showing an incidence rate of up to 63%<sup>1</sup>. While your patient's comfort is of paramount importance, the clinician should also be concerned with dentinal hypersensitivity causing added chair time through compromised restorations if an ineffective desensitizing technique is utilized.

## BONDING ABILITY & STRENGTH

Variations in the depth of etch of phosphoric acid, amount of wetness, degree of penetration of the bonding resin into the collagen matrix, and the amount of coverage and thickness of the bonding layer are just some of the many variables in the total-etch technique that can negatively effect the restoration. In addition, many self-etching adhesives have a tendency to etch enamel ineffectively and form "water trees", percolations of water that affect the ability to bond effectively. Their lack of versatility with self-cure and auto-cure composites has further complicated efforts to establish a truly predictable posterior restorative technique. G5™ from CLINICIAN'S CHOICE® is an all purpose desensitizer designed to address the challenges presented by 4th and 5th generation adhesives.

## G5 - THE PREDICTABLE SOLUTION FOR EFFECTIVE DESENSITIZATION

G5 is an aqueous, 5% glutaraldehyde-based desensitizer with 35% HEMA (a pre-primer resin) designed for use with 4th and 5th Generation adhesives. G5 works by coagulating the plasma proteins contained within the dentinal tubule fluid. This coagulation forms an initial "plug" (which can be seen to a depth of 200 microns<sup>2</sup>), eliminating the movement of fluid within the tubules—the root cause of dentinal sensitivity. In clinical studies, glutaraldehyde has consistently been shown to significantly decrease sensitivity<sup>3</sup> on hypersensitive teeth without effecting bond strength between treated surfaces and controls<sup>4</sup>. Glutaraldehyde has shown little or no effect on retention on crowns luted with zinc phosphate, glass ionomer, and resin-modified glass ionomer cements<sup>5</sup>, and is one of few desensitizers that will not adversely affect bond strengths of resin cement to dentin<sup>6</sup>. Glutaraldehyde has an antibacterial effect, protecting the tooth/restoration surfaces from bacteria growth and may prevent secondary caries in cases where microleakage has occurred. Additionally, G5's sealing effect means you'll experience gap free margins.

## BOND LONGEVITY

MMPs, matrix metalloproteinases, are enzymes found in collagen that become active after acid etching. These enzymes gradually degrade the collagen fibers at the dentin/adhesive interface causing diminishing bond strengths. Fortunately, studies have shown glutaraldehyde acts to inhibit the activity of the MMPs, resulting in long-term bond strengths. G5 helps to inhibit the negative affects of MMPs.

### FOR USE WITH ONE-BOTTLE OR MULTI-BOTTLE SYSTEMS THAT EMPLOY WET BONDING WITH A TRADITIONAL TOTAL-ETCH APPROACH:

NOTE: Apply G5 as a rewetting agent after acid etching and before priming.

1. Etch the preparation with phosphoric acid and rinse thoroughly.
2. Lightly dry the preparation with air or blot with a cotton pellet to remove the excess water without desiccation.
3. Apply G5 uniformly to the dentin with a Multi-Brush (Clinician's Choice®) until surface has a glistening appearance. DO NOT DRY G5.
4. Finally, if using a multi-bottle bonding system, apply the primer. If using a one-bottle bonding system, apply the dentin adhesive as per the manufacturer's instructions.

### FOR DESENSITIZING CROWNS:

1. Scrub the preparation for 30 seconds to penetrate the smear layer.
2. Dry the preparation (or, keep tooth wet with G5, depending on the requirements of the cement used).
3. Cement as normal.
4. Rinsing of the tooth is optional after application.

Because self-etch adhesives create a smear layer that blocks the dentinal tubules and G5 from entering them, they are not recommended for use with this product. G5 is not recommended for use with self-etching cement adhesives. Ensure excess G5 is rinsed from soft tissues following any usage.



G5's glutaraldehyde-based formulation has been proven to help obturate dentin tubules by coagulating plasma proteins.

1. Wat P, Cheung GS. Incidence of post-operative sensitivity following indirect indirect porcelain only restorations. Asian J Aest Dent. 1995;3:3-7. 2. Shupach P, Lutz, Finger WJ. Closing of dentinal tubules by Gluma desensitizer. Eur J Oral Sci. 1997; 105:414-421. 3. Dall'Orologio GD, Maferrari S. Desensitizing effects of Gluma on hypersensitive teeth. Am J Dent 1993; 6:283-286. 4. Reinhardt JW, Stephens NH, Fortin, D. Effect of Gluma desensitization on dentin bond strength. Am J Dent 1995; 4:170-172. 5. EJ Swift Jr., AH Loyd, DA Fenton. The effect of resin desensitizing agents on crown retention. JADA Vol.128, Issue 2; 195-200. 6. Cobb, DS, Reinhardt, JW, Vargas, MA. Effect of HEMA-containing dentin desensitizers on shear bond strength of a resin cement. Am J Dent. 1997; 2:62-65.

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