

MPa^M Maximum Performance Adhesive

TECHNIQUE GUIDE

1.800.841.4522 BrasselerUSA.com



Precautions

- 1. Eye protection should always be used for patients and all operators.
- 2. Resins can be sensitizing. Dental personnel should avoid repeated contact of uncured dental resin with skin. Do not use on patients with a known sensitivity to acrylates or other resins.
- 3. Remember that light activated bonding agents are sensitive to ambient light; bottle caps should be replaced following use to prevent unwanted polymerization or evaporation. We recommend covering the bottle tip with 2 x 2 gauze if left exposed to ambient light for long periods of time during the procedure.
- 4. Adhesive resins should be refrigerated for long-term storage to maintain shelf life. Bring refrigerated materials to room temperature before using.
- 5. Applicator tips should not be re-used to prevent cross-contamination.
- 6. To optimize bond strength, use oil-free, moisture-free air.
- 7. WARNING! When using G5 All-Purpose Desensitizer, avoid contact with eyes, skin, and mucous membranes. Eye protection and rubber dam isolation are ESSENTIAL for use with this product. If accidental contact occurs, FLUSH IMMEDIATELY WITH WATER. CONSULT PHYSICIAN IMMEDIATELY IF EYE CONTACT OCCURS. Keep away from children. (Please refer to the G5 SDS included with this kit.)

MPa Max Indications For Use

For use in most light-accessible bonding procedures.

NOTE: MPa Max is an adhesive resin used with a total-etch procedure indicated for the following procedures:

- 1. Dentin and Enamel (light-cure and self-cure composite)
- 2. Porcelain/Metal Repair and Metal Bonding
- 3. Composite Repair
- 4. Porcelain Veneers
- 5. Indirect Crowns, Inlays, Onlays, Zirconia
- 6. Post Cementation & Core Build-Up

G5 Indications For Use

G5[™] is an outstanding desensitizing agent that excels in preventing sensitivity associated with the placement of crowns, inlays/onlays, composites or amalgam restorations. G5 also can be used to help desensitize exposed root surfaces, but works best if subsequently sealed with a resin sealing agent or dentin adhesive.

WARNING: G5 will burn soft tissues. Avoid contact with eyes, skin, and mucous membranes. Eye protection is required for both the patient and the dental team.

G5 Mechanism of Action

G5 has profound antimicrobial qualities and acts as an excellent disinfectant. Additionally, G5 helps to seal the dentin tubules by coagulating plasma proteins within the tubules, thus forming a series of coagulation plugs. This coagulation phenomenon results in a significant reduction in dentin permeability and fluid flow, which are vital keys to desensitization.

When used with resin-bonded restorations, G5 also acts as a flocculating agent, effectively fostering collagen cross links that result in enhanced collagen bonding. Unlike many one bottle desensitizers, G5 does not adversely affect the bonding of any resin-based restorative materials or cements.

INDICATIONS

Total-Etch Technique



1. After preparation, cleaning and removing caries affected dentin, the preparation is etched for 20 seconds with Max Etch phosphoric acid etchant.



 Etchant is rinsed for a minimum of 5 seconds, or until visibly clean.
A clean, etched surface remains with no residual pigment or filler to affect adhesive integrity.



3. Application of G5 All-Purpose Desensitizer. Scrub for 10 seconds, damp blot excess. Surface should remain visibly moist.



4. MPa Max adhesive is applied and brush/scrubbed gently for 10 seconds.



 Thin/dry for 10 seconds using 1/4 to 1/2 air pressure. Preparation should appear shiny.
Avoid pooling. Light-cure for 10 seconds using a standard light with output >600mW/cm2 (20 seconds if <600mW/cm2).



entistry and photography court Dr. Robert Margeas

6. Proceed with composite placement.

TOTAL-ETCH TECHNIQUE

DENTIN AND ENAMEL Light-Cure Composite Technique

- Prepare Tooth Surface: Prepared dentin and enamel surfaces to be bonded should be clean and isolated. Surfaces should be caries free. For abrasion/abfraction Class V preparations, roughen with a diamond bur. We recommend the use of a rubber dam where appropriate.
- 2. Etch: Beginning with enamel, apply Max Etch (35% H3PO4) onto all tooth preparation surfaces and leave for 20 seconds. Rinse dentin and enamel thoroughly for a minimum of 5 seconds or until visible etchant is removed with firm air/water spray. Lightly dry using either: high volume suction, mini sponge, cotton pellet, or a brief blast of air. Leave surface slightly damp.
- **3. Desensitize** (Recommended for all posterior restorations. Optional for anterior restorations): Re-wet the entire preparation with G5 All-Purpose Desensitizer* using an MPa Max applicator and scrub for 10 seconds. Avoid soft tissue contact (rinse after application if G5 comes in contact with soft tissue). If pooling of G5 occurs, damp blot the excess. The dentin should exhibit a glistening appearance. Do not dry with compressed air.
- 4. Bond: Immediately apply a uniform coat of MPa Max onto all etched tooth surfaces with an MPa Max applicator. Brush/scrub gently for 10 seconds. Thin/dry for 10 seconds using 1/4 to 1/2 air pressure. Preparation should appear shiny (ensure there is no pooling). Light-cure for 20 seconds using a standard light with an output less than 600mW/cm2. Light-cure 10 seconds using a light with an output greater than 600mW/cm2.
- 5. Composite: Apply your choice of composite material according to manufacturer's recommendations. A flowable composite may be used for a super-adaptive initial layer in Class I and II restorations. Use a paste composite to build up the rest of the restoration, in 1-2mm increments. Follow composite manufacturer's directions for use.

DENTIN AND ENAMEL Self-Cure Composite Technique

- 1. Prepare Tooth Surface: Prepared dentin and enamel surfaces to be bonded should be clean and isolated. Surfaces should be caries free. We recommend the use of a rubber dam where appropriate.
- 2. Etch: Beginning with enamel, apply Max Etch (35% H3PO4) onto all tooth preparation surfaces and leave for 20 seconds. Rinse dentin and enamel thoroughly for a minimum of 5 seconds or until visible etchant is removed with firm air/water spray. Lightly dry using either: high volume suction, mini sponge, cotton pellet, or a brief blast of air. Leave surface slightly damp.
- **3. Desensitize** (Recommended for all posterior restorations. Optional for anterior restorations): Re-wet the entire preparation with G5 All-Purpose Desensitizer* using an MPa Max applicator and scrub for 10 seconds. Avoid soft tissue contact (rinse after application if G5 comes in contact with soft tissue). If pooling of G5 occurs, damp blot the excess. The dentin should exhibit a glistening appearance. Do not dry with compressed air.
- 4. Bond: Immediately apply a uniform coat of MPa Max onto all etched tooth surfaces with an MPa Max applicator. Brush/scrub gently for 10 seconds. Thin/dry for 10 seconds using 1/4 to 1/2 air pressure. Preparation should appear shiny (ensure there is no pooling). Light-cure for 20 seconds using a standard light with an output less than 600mW/cm2. Light-cure 10 seconds using a light with an output greater than 600mW/cm2.
- 5. Before Self-Cure Composite Placement: Using a cotton pellet soaked in alcohol, wipe away the adhesive (MPa Max) oxygen inhibited layer (sticky layer) on all surfaces. Air dry entire preparation for 10 seconds. Proceed with self-cure composite/core material placement. Note: If you are using a dual-cure composite or core material without light activating the material, it is important to follow this step, to ensure high bond strength.
- 6. Composite Placement: Apply your choice of composite material according to manufacturer's instructions.
 - * G5 Please refer to pages 1 & 2 for G5 precautions and indications.



Porcelain/Metal Repair & Metal Bonding

- Prepare Surface: Remove weakened portions of porcelain, micro-abrade (sandblast) metal surface. Rinse and dry. PLEASE NOTE: Bond strength to metal is determined by metal alloy and a superior surface preparation technique. PORCELAIN/METAL
- 2a. Clean/Etch: Apply hydrofluoric acid to fractured porcelain area for 90 seconds or according to manufacturer's instructions. Suction acid from surface THEN rinse and dry. Apply Max Etch (35% H3P04) for 5 seconds to remove porcelain salts and debris formed by hydrofluoric acid etching. Rinse and dry completely. Apply a puddle coat of silane for 60 seconds. Dry thoroughly, do not rinse. Refer to manufacturer's instructions for silane application. Proceed to step 3.

METAL ONLY

- **2b.** Apply Max Etch to all sandblasted metal surfaces for 5-10 seconds, rinse thoroughly, dry completely. Proceed to step 3.
- 3. Bond: Apply a puddle coat of MPa Max onto etched/cleaned porcelain/metal surfaces with an MPa Max applicator and gently agitate for 10 seconds. Thin/dry for 10 seconds using 1/4 to 1/2 air pressure. Preparation should appear shiny. Light-cure for 20 seconds using a standard light with an output less than 600mW/cm2. Light-cure 10 seconds using a light with an output greater than 600mW/cm2.
- 4. Composite Placement: Composite resin of choice may now be placed following manufacturer's directions for use. Begin with 0.5 - 1.5mm initial layer. Cure for 20 seconds, then continue building in 1-2mm incremental layers.

PLEASE NOTE: When metal opaquing or opaquing of dark dentin is necessary, use a thin layer (0.2 - 0.5mm) of the appropriate shade of Opaquer and light-cure before placement of composite resin.

Composite Repair

Prepare Surface: Remove weakened portions of existing composite. Roughen surface with diamond bur.

Etch: Etch the dentin/enamel adjacent to restoration and all prepared composite surfaces for 10 seconds. Rinse thoroughly for a minimum of 5 seconds or until visible etchant is removed with firm air/water spray. Lightly dry using either: high volume suction, mini sponge, cotton pellet, or a brief blast of air. Leave surface slightly damp.

Preparations with Exposed Dentin: <u>IF</u> areas of the preparation are in dentin, lightly dry the tooth and apply G5 All-Purpose Desensitizer* to the areas of dentin prior to the application of MPa Max adhesive (avoid pooling of G5). Contact of G5 on enamel will not adversely affect the enamel bonds.

Bonding: Apply a uniform coat of MPa Max onto etched surface with an MPa Max applicator. Lightly agitate for 10 seconds. Thin/dry for 10 seconds using 1/4 to 1/2 air pressure. Preparation should appear shiny. Light-cure for 20 seconds using a standard light with an output **less** than 600mW/cm2. Light-cure 10 seconds using a light with an output **greater** than 600mW/cm2.

Composite Placement: Build incrementally with an appropriate composite following manufacturer's directions.

Porcelain Veneers

VENEER SURFACE TREATMENT

1. Following try-in of the veneer to verify fit. Prepare the veneer as follows:

a. Apply hydrofluoric acid to inside surface of prosthesis for 60 seconds or as per manufacturer's instructions, rinse and dry completely.

b. Apply Max Etch (35% H₃PO4) for 5 seconds to remove porcelain salts and debris formed by HF etching. Rinse and dry completely.

c. Apply silane to inside surface of prosthesis for 1 minute, dry and set prosthesis aside or as per manufacturer's instructions. Do not rinse.

TOOTH PREPARATION

1. Etch prepared tooth for 20 seconds with Max Etch (35% H₃PO4).

2. ENAMEL ONLY PREPARATIONS: Rinse the tooth thoroughly, and dry thoroughly. A uniformly frosted surface should appear as evidence of properly etched enamel.

PREPARATIONS WITH EXPOSED DENTIN: If areas of the preparation are in dentin, lightly dry the tooth and apply G5 All-Purpose Desenstizer* to the areas of dentin prior to the application of MPa Max adhesive (avoid pooling of G5). Contact of G5 on enamel will not adversely affect the enamel bonds.

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PORCELAIN VENEERS ...CONTINUED

BOND

- Apply 1 coat of MPa Max adhesive with an MPa Max applicator to all conditioned surfaces of the veneer and tooth preparation, agitate adhesive while applying for 10 seconds. Thin the MPa Max adhesive with light air pressure to volatilize the solvent or until the adhesive no longer moves around (approximately 7-10 seconds). Do not light-cure.
- 2. Apply a light-cured resin veneer cement in the veneer and seat the veneer carefully on the tooth, according to manufacturer's instructions.
- 3. Carefully inspect the veneer and ensure that it is accurately positioned.
- 4. Clean excess cement away from the margins using a Microbrush.
- 5. Place De-Ox or equivalent on all veneer margins (this step is optional).
- 6. Cure resin veneer cement using a curing light directed from both the facial and lingual sides for 20 seconds per surface. (20 seconds for 1.5mm of A2 porcelain; increase exposure with darker shades and thicker veneers.) If curing light tip diameter is smaller than the veneer surface, additional curing is recommended to ensure complete curing of all resin cement.

INDIRECT BONDING Indirect Crowns, Inlays, Onlays, Zirconia

PROSTHESIS SURFACE TREATMENT

- 1. Clean preparation, rinse and dry. Verify prosthetic fit.
- 2. Prepare inside surface of prosthesis, as indicated below.
 - a. METAL-BASED:
 - i. Microabrade/sandblast inside surface of prosthesis
 - ii. Rinse and dry completely.
 - **b.** CERAMIC/PORCELAIN

i. Apply hydrofluoric acid to inside surface of prosthesis for 60 seconds or as per manufacturer's instructions, rinse and dry completely.

ii. Apply Max Etch (35% H₃PO₄) for 5 seconds to remove porcelain salts and debris formed by HF etching. Rinse and dry completely.

iii. Apply silane to inside surface of prosthesis for 1 minute, dry and set prosthesis aside, as per manufacturer's instructions. Do not rinse.

c. ZIRCONIA

i. Prepare as per manufacturer's instructions.

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PREPARE TOOTH SURFACE

- **3. a.** Apply Max Etch (35% H₃PO4) to all surfaces of tooth preparation for 20 seconds. Rinse thoroughly for a minimum of 5 seconds or until visible etchant is removed with firm air/water spray.
 - **b.** Lightly dry using the air/water syringe or by placing the high volume suction directly over the preparation. Leave the surface slightly damp.
 - c. Apply 1 coat of G5 All-Purpose Desensitizer* on all surfaces and scrub for 10 seconds, damp blot excess. Surface should appear glossy. Do not rinse.
- 4. Bond
 - a. Apply a puddle coat of MPa Max using a MPa Max applicator, gently agitate for 10 seconds.
 - **b.** Thin/dry 10 seconds using 1/4 to 1/2 air pressure. Avoid puddling at internal line angles and margins. Preparation should appear shiny.
 - c. Light-cure for 10 seconds (20 seconds for lights with output < 600mW/cm2).
- 5. Cement

Apply a dual-cure resin cement to the prostheses and follow manufacturer's instructions for use.

NOTE: Immediate dentin sealing requires DIRECT TECHNIQUE steps 3 and 4. Apply glycerin over MPa Max and light-cure 10 seconds. Rinse Glycerin. Make final impression. Re-apply glycerin to preparation as a separating medium prior to fabricating provisional.

Post Cementation and Core Build-up

1. Prepare the Tooth

- a. Drill post hole using a rubber stop and appropriate size Macro-Lock drill.
- b. Thoroughly rinse the post space for 10 seconds using the TriAway Adaptor (Ultradent) and a 22g Endo-Eze Tip (Ultradent). Dry with TriAway Adaptor and a 22g Endo-Eze Tip from the bottom of the preparation up.
- c. Verify post (Macro-Lock Illusion X-RO post) fit and cut to desired length using a high speed diamond disc.
- d. Clean the post with alcohol to remove surface contaminants.

NOTE: Carbide and operative burs may fray the fibers, do not cut.

2. Etch

- a. Attach a tip to the Max Etch (35% H₃PO₄) syringe.
- b. Start apically and fill post space coronally. Apply to coronal preparation. Etch for 20 seconds.
- c. Suction off excess etchant.
- **d.** Rinse thoroughly from the bottom of canal up and lightly air dry, leaving the post space slightly damp. A paper point can be used to remove excess water in the canal.

3. Bond

- a. Place 1-3 drops of MPa Max into the disposable dappen dish.
- **b.** Apply MPa Max to the post space and gently agitate the full length of the canal and tooth preparation for 10 seconds using a thin brush applicator.
- c. Remove excess MPa Max using the TriAway Adaptor (Ultradent) and the 22g Endo-Eze Tip (Ultradent) and soak up excess adhesive from the post space with a paper point.
- d. Thin/dry the outer preparation for 10 seconds using 1/4 to 1/2 air pressure. Preparation should appear shiny.
- e. Light-cure down the post space for 20 seconds (40 seconds for lights with output <600mW/cm2).
- f. Remove oxygen inhibited layer from cured MPa Max inside the canal using a paper point and alcohol. Air dry thoroughly.
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4. Post Cementation and Core Build-Up

- a. Apply an even/thin layer of MPa Max onto post, air dry for 10 seconds, light-cure adhesive/post for 20 seconds. Verify fit of the post in the canal to ensure complete seating.
- b. Remove cap from the Zircules Nano-Filled Core Material syringe. Place a mixing tip onto the dual barrel syringe lining up the two ports. Twist clockwise until locked in place. Attach the flexible intraoral tip to the mixing tip for delivery directly into the canal from the cartridge.
- c. Express and discard a small amount of core material before placing in the post space.
- d. Insert the tip into the post space to full depth. Using slow, even pressure deliver Zircules starting apically and moving coronally.
- e. Immediately insert the post (Macro-Lock Illusion X-RO) slowly into the canal, displacing the excess cement.
- f. Place curing light directly above the post and light-cure 20 seconds to stabilize the post (Zircules self-cures in 3:30 minutes).
- g. Continue building layers of Zircules around post as needed. NOTE: Light-cure for 20 seconds between layers to gel and form core. Do a final cure on core for 40 seconds.
- **h.** Do not remove mixing tip until next use. Disinfect syringe and mixing tip.

Precautions and Warnings

- 1. Eye protection should always be used for patients and all operators.
- 2. Carefully read and understand all instructions before using MPa Max.
- 3. For professional use only.
- 4. Re-cap MPa Max bottle immediately following use to avoid polymerization.
- 5. Always verify material flow of syringe materials prior to applying intraorally. If resistance is met, replace tip and re-check.
- 6. Keep caps on the bottle until use.
- 7. Clinician and patient should wear UV protective eyewear when curing resin materials.
- 8. If not used daily, refrigerate MPa Max.
- 9. Bring refrigerated products to room temperature before using.
- 10. To optimize bond strengths use oil-free and moisture-free air.
- 11. Redirect overhead light to prevent premature polymerization of all resin-based materials.
- 12. Resins can be sensitizing. Avoid repeated contact of uncured dental resin with skin. Do not use on patients with a known sensitivity to acrylates or other resins. If allergic reaction, dermatitis or rash develops, consult a physician.
- 13. Dispose of tips, empty syringes and bottles properly.
- 14. Keep out of reach of children.
- 15. Do not use after expiration date noted on containers.
- 16. Re-cap, disinfect and wipe syringe with an intermediate level disinfectant between uses. If disposable syringe cover is used, remove tip, re-cap, and discard syringe cover.
- 17. Tips are disposable. To avoid cross-contamination, do not re-use tips.
- 18. Keep products out of direct heat/sunlight.
- 19. Isolate strong chemicals to area of treatment.



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