



Reliance Orthodontic Products, Inc.

Orthodontic Bonding Technique Manual

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TOOTH PREPARATION



1. Prophylaxis: Using a rotary instrument with a rubber cup or brush, prophylax the enamel surfaces to be bonded with 1st & Final[®] or plain pumice. Do not use prophylax pastes which contain oil because they can leave a film that will inhibit the etch. Special attention should be given to posterior teeth and lingual surfaces because patient hygiene may not be satisfactory and tartar and calculus may be in excess.



2. Rinse thoroughly and dry teeth with oil / moisture free compressed air.

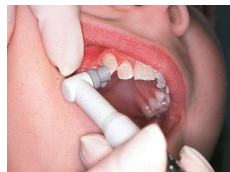


3. Etch: Dispense etching agent onto mixing pad. Etchant may be liquid or gel. Isolate the teeth for etching. With a cotton pledget or brush, dab the etching agent onto the entire area to be bonded. Do not rub the etching agent onto enamel. Allow 30 seconds for etching (60 sec. for deciduous teeth). Avoid placing etching agent on soft tissue.



4. Rinse & Dry: Rinse each tooth with water/air spray for 10 seconds (20 sec. for gel etch) to stop etching process and remove demineralized particles. A thorough rinsing on each tooth is critical. Reisolate and dry teeth thoroughly. The etched area should appear frosty white. If not, re-etch for an additional 20 seconds. If the enamel appears mottled or fluorosed or has been contaminated with saliva, the enamel should be conditioned with Enhance[™] or Assure[®] Universal Bonding Resin.

RELIANCE S.E.P.[™] (SELF ETCHING PRIMER)



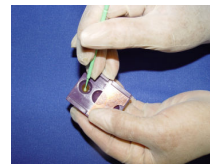
1. Thorough prophylaxis is mandatory.



2. Rinse and dry the enamel.



3. Dispense one full click* of the S.E.P.[™] into the light impervious mixing well. The liquid dispenses in a 3:1 ratio.



4. Mix the dispensed liquids thoroughly and slide the light shield over the well to protect from ambient light. The mixture can be used for up to 6 hours.



5. Using a Micro Brush[®], apply a small amount of mixed solution to the enamel and scrub for 5 seconds where the bracket will be applied and slightly beyond.



6. Dry the enamel surface with 2 bursts of compressed air.



7. Apply bracket with a light cure paste.



8. Light cure.

*One click will dispense enough material for one full arch.

KEYS TO SUCCESS WITH SELF-ETCHING PRIMERS

1. Thorough prophylaxis is mandatory.
2. Apply a small amount of primer to the tooth surface (thin coat).
3. Longer agitation (5s.) vs. (3s.).
4. After drying, tooth must look “resin” shiny – not “water” shiny.
5. Saliva contamination after application must repeat process.

Bonding To Fluorosed, Hypocalcified Or Deciduous Enamel

1. Prophylax the tooth with 1st & Final[®] or medium prophylax pumice. Rinse and dry.
2. Acid etch the surface for 30 seconds.
3. Rinse thoroughly and dry.
4. Apply four coats of Assure[®] Universal Bonding Resin and lightly air dry after the last coat only.
5. Bond bracket onto tooth surface with Phase II[®], Excel[®], Rely-a-Bond[®] or light cure adhesive. With Phase II[®], Excel[®] and light cure, the sealant must be placed on the enamel and the paste on the bracket. With Rely-a-Bond[®], the Rely-a-Bond[®] Primer must be applied to the enamel and bracket base, and the Rely-a-Bond[®] Paste applied to the bracket. The bracket should then be immediately placed on the tooth.

NOTE: If Enhance[™] Adhesion Booster or Enhance[™] L.C. is used, apply 4 continuous coats on the etched, lightly dried enamel. Wait 10 seconds and lightly dry with air for 5 seconds. Paint a thin coat of sealant or bonding resin on the tooth before applying the bracket with paste. If PRO SEAL[®] or LED PRO SEAL[®] is used, apply on top of the Assure[®] Universal Bonding Resin or Enhance[™] Adhesion Booster and then light cure. Proceed with the placement of the bracket with bonding paste.

Assure[®] Universal Bonding Resin

BONDING TO WET OR DRY, NORMAL OR ATYPICAL ENAMEL:

Prophylax, Etch, Rinse and Dry - As prescribed in the TOOTH PREPARATION card.

Application of Universal Bonding Resin - With a brush or sponge pellet apply two coats of Assure[®] Universal Bonding Resin to each prepared tooth and stroke over to insure evaporation of the solvent. Enamel should appear shiny, if not, apply two additional coats. No light curing of the bonding resin is required. Proceed with the application of paste and bracket. NOTE: In difficult atypical enamel situations, it is recommended to use four coats of Assure[®] Universal Bonding Resin and lightly dry after the last coat.

Application of Paste - At this point the appliance can be bonded with any light cure, chemical cure or dual cure paste system without the use of additional bonding resins or sealants. (If Rely-a-Bond[®] is used, the Rely-a-Bond[®] Primer must be applied to the conditioned tooth and bracket base.)

BONDING TO A TOOTH WITH A COMPOSITE RESTORATION:

Condition any exposed enamel as previously described and roughen the composite surface with a fine diamond. Rinse and dry the area, apply four coats of Assure[®] Universal Bonding Resin and lightly dry after the last coat. Proceed with the application of paste and bracket.

BONDING TO PORCELAIN CROWN:

Refer to instructions provided with Reliance Porc-Etch[™] and Reliance Porcelain Conditioner. Assure[®] Universal Bonding Resin is recommended as the bonding resin because it will improve adhesion to all types of porcelain.

BONDING TO AN AMALGAM RESTORATION OR METAL SURFACE:

Condition any exposed enamel as previously described. Microetch or roughen the metal surface. Apply four coats of Assure[®] Universal Bonding Resin and lightly dry after the last coat. Proceed with application of paste and bracket.

BONDING TO DENTIN



1. Prophy.



2. Rinse and dry.



3. Acid etch for 30 seconds.



4. Rinse and dry. Do not desiccate, leave moist.



5. Apply 4 coats of Assure[®] Resin. Lightly dry after last coat. If surface does not appear shiny, apply 2 additional coats and dry.



6. Apply bracket with paste.

Note: Enhance[™] may be substituted for Assure[®] Universal Bonding Resin, but a bonding resin must be applied before Step 6.

BONDING TO BLEACHED ENAMEL



1. Prophy teeth with a slurry of Vitamin C and water.



2. Rinse and dry.



3. Acid etch for 30 seconds.



4. Rinse and dry.



5. Use 4 coats of Assure[®] Resin or Enhance[™] after etching. Lightly dry after the last coat.



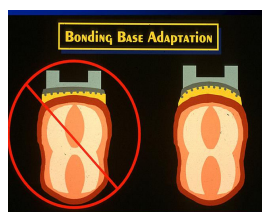
6. Apply bracket with adhesive of choice and cure.

Keys To Successful Bonding Of Bicuspid And Molars

1. Adapt the bracket base.
2. Sandblast the bracket base.
3. Prophyl, rinse and dry the enamel.
4. Sandblast the enamel, rinse and dry.
5. Acid etch 30 seconds, rinse and dry.
6. Apply 2-4 coats of Assure[®] Universal Bonding Resin, lightly dry after last coat.
7. Apply bracket with paste A.S.A.P. to reduce chance of surface contamination.

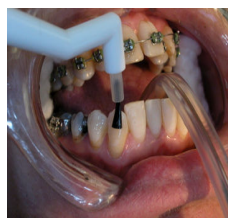
KEY: If there is any delay from application of Assure[®] Universal Bonding Resin to placement of bracket, apply an additional coat of Assure[®] Universal Bonding Resin and lightly dry, then immediately place bracket.

Direct Bonding Metal and Ceramic Brackets with Rely-a-Bond[®]



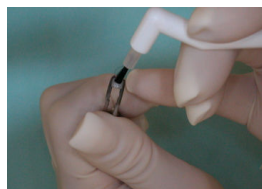
Step 1

The bracket to be bonded with Rely-a-Bond[®] should have a base that fits flush to the labial surface. Using a pliers, adapt any bases that do not conform.



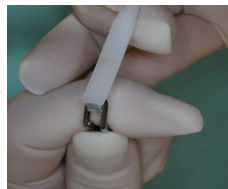
Step 2

Apply a thin coat of Rely-a-Bond[®] Primer to each etched, dried tooth in the area to which the bracket is to be bonded.



Step 3

Apply a thin coat of Rely-a-Bond[®] Primer to the underside of each bracket base.



Step 4

With a toothpick or syringe apply a small quantity of Rely-a-Bond[®] Paste to the underside of each bracket base and place on tooth.

Step 5: Within 25 seconds, position the bracket to desired angulation and press firmly on the bracket. The Rely-a-Bond[®] Primer will be forced into the paste, increasing bond strength and ensuring the paste is in a thin, uniform layer. Excess adhesive can be easily removed from the periphery of the bracket base after all brackets are in place. An active archwire can be inserted 5 minutes after placement of last bracket.

“The 5 Keys to Success with a No Mix Bonding Adhesive”

1. Bracket base must fit tooth surface.
2. Thin coat of primer on tooth.
3. Thin coat of primer on bracket base.
4. Small amount of paste on bracket.
5. Press bracket against tooth.

Direct Bonding Metal & Ceramic Brackets with Phase II®



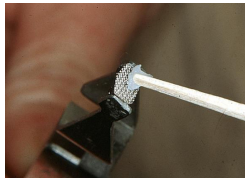
1. Dispense equal amounts of Reliance Bonding Resin Parts A & B onto mixing pad. Using a brush or sponge pellet, mix the two resins thoroughly.



2. Apply a thin coat of mixture onto the etched surface (Assure® Universal Bonding Resin can be substituted for Reliance Bonding Resins A & B).



3. Place equal portions of Phase II® Paste A & B on the mixing pad. Spatulate the two pastes for 10 seconds. A 1:1 mix ratio of Paste A & B produces a 2 minute working time from start of the mix. To extend the working time to 4.5 minutes, mix on a paper covered frozen slab.



4. Apply mixed Phase II® Pastes to bracket pad with wooden applicator, ensuring proper penetration into the mesh base.



5. Place the bracket firmly on the tooth and position to desired angulation. Remove adhesive flash. Do not move the bracket.

Step 6. An active arch wire may be inserted 5 minutes after material sets.

“The 3 Keys to Success with a Mix Adhesive”

1. Apply a thin coat of Resin on the enamel.
2. Mix Paste A & B thoroughly.
3. Apply and move bracket within two minute working time.

Curing Light Terminology

Photon

What is emitted from the light that will react with the catalyst in your sealant or adhesive to harden it (purple or blue).

Nanometer (nm)

Wavelength of the photon emitted.
390-440nm – Purple
440-480nm – Blue

Milliwatt (mW)

Intensity of light.
Higher mW the better – 1000 mW and above.

Keys to Purchasing an L.E.D. Light

- ✓ Intensity: 1000 mW and above.
- ✓ Turn on light, run for three minutes continuously...then
- ✓ Check the light intensity.
- ✓ Be sure handle does not get too warm to hold.
- ✓ When curing, be as close to bracket as possible.

Direct Bonding Metal & Ceramic Brackets with a Light Cure Adhesive



1. Dispense 1-2 drops of sealant resin onto mixing pad.
2. With a brush, apply a thin uniform layer of sealant on the etched enamel. It is not necessary to cure the sealant at this time. However, if the sealant is cured and saliva contamination does occur, the contaminated tooth can be cleaned by dabbing lightly with Enhance™ or Assure® Universal Bonding Resin and drying with air. If PRO SEAL® or LED PRO SEAL® is used, it must be cured first.



3. Using the syringe tip or spatula, apply the light cure paste and work it into the bracket base. Place on the tooth and press firmly in the desired position.



4. With a metal bracket, light cure for 10 seconds from the incisal edge and for 10 seconds from the gingival, distal, or mesial edge. With a ceramic bracket, cure directly through the bracket from the labial for 20 seconds. If a high intensity light is used, curing time is 10 seconds – 5 seconds each from two angles.



5. When curing, position the light director as close to the bracket base as possible. Once the material has been properly cured, an active arch wire can be placed immediately.

“The 5 Keys to Success with a Light Cure Bonding Adhesive”

1. Light must be of proper intensity.
2. Cure from two angles, one always being the incisal (occlusal)....
“Light behind a picture frame”.
3. Place light director as close to bracket base as possible.
4. Be sure light maintains intensity throughout entire curing process.
5. Adequate cure time – 10 seconds total if light intensity is 1000mw^2 .
20 seconds total if light intensity is 500mw^2 .

Bonding Metal & Ceramic Brackets With: Phase II[®] DUAL CURE

1. **MIXING & APPLICATION OF SEALANT RESIN:** With a brush, apply a thin uniform layer of self cure sealant or light cure bonding resin on the etched, rinsed and dried enamel surface. If a light cure sealant is used, cure with a visible light from close proximity for 10 seconds. If PRO SEAL[®] or LED PRO SEAL[®] is used, cure first with the appropriate curing light for 20 seconds per tooth.
 2. **MIXING & APPLICATION OF ADHESIVE PASTE:** Mixing: Immediately prepare the bonding paste by placing equal portions of pastes A and B onto the mixing pad, using opposite ends of the spatula to avoid cross contamination of paste, if in jars. Spatulate the two pastes for 10 seconds. A 1 to 1 mix ratio of Catalyst to Base produces a 4 minute working time from the start of mix. The mixed paste should be shielded from intense direct light.
 3. **APPLICATION TO BRACKET PAD:** Apply mixed Phase II[®] DUAL CURE paste to pad with wooden applicator in sufficient volume so that the pad will be fully covered when placed on the tooth. Excess material should be wiped from the placement instrument before it polymerizes.
 4. **BRACKET PLACEMENT:** Place the bracket firmly on the tooth and position to desired angulation. Excess flash should be removed from the periphery of the bracket base. When final position is achieved, the bracket can be tack set by light curing for 10 seconds from any angle. An active archwire can then be inserted after 5 minutes.
NOTE: If only one bracket is to be bonded and immediate ligation is desired, simply use Phase II[®] DUAL CURE paste A only on the bracket. Place on the sealed tooth and light cure for 20 seconds from the incisal edge and 10 seconds from the mesial or distal edge.
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Instructions for Use of PRO SEAL[®] and L.E.D. PRO SEAL[®]

1. **APPLICATION:** Dispense a drop or two of PRO SEAL[®] onto a mixing pad. With a brush, apply a thin uniform layer on the etched enamel surface. Stroke over with the same brush to ensure a thin layer and proper coverage. If not applied in a thin layer, LED PRO SEAL[®] may appear yellow.
If using original PRO SEAL[®], cure each tooth for 20 seconds with any corded halogen, plasma or LED curing light in the purple range (390 – 440 nM). If using L.E.D. PRO SEAL[®], cure each tooth for 20 seconds with any corded halogen, plasma or LED curing light (440-480 nM) compatible with the majority of orthodontic adhesives.
Note: In order for PRO SEAL[®] to remain on a normal tooth surface, it must be applied to properly conditioned, dry enamel. Atypical enamel should be first etched and then conditioned with multiple coats of Enhance[™] Adhesion Booster or Assure[®] Universal Bonding Resin, then lightly dried before the PRO SEAL[®] is applied. In order for PRO SEAL[®] to completely cure, a proper intensity light must be used for the prescribed time at close range.
If PRO SEAL[®] is cured and saliva contamination occurs, the contaminated tooth can be cleaned by dabbing lightly with Enhance[™] or Assure[®] Sealant and dried with air.
2. **REMOVAL OF SEALANT RESIN:** After the adhesive paste has been removed with a Renew[™] System Bur (#118S, #118L or #218), removal of PRO SEAL[®] sealant is easy. Use the #383 Renew[™] System Point on your choice of handpiece. Lightly polish the entire tooth surface with the #383 rubber point where PRO SEAL[®] has been applied.

Note: If patient will visit the hygienist during treatment, the enamel should not be cleaned with a prophylactic jet as this can remove the PRO SEAL[®]. Use fine pumice for cleaning.

BONDING TROUBLE SHOOTING

TYPE I – BOND FAILURE:

Majority of adhesive on bracket

POSSIBLE CAUSES:

1. Improper prophyl.
2. Rubbing acid etch on tooth.
3. Too short (<15s.) or too long of etch (>90s.).
4. Incomplete rinsing of etch.
5. Insufficient drying of tooth; or drying with contaminated air.
6. Saliva contamination after etch.
7. Excessive sealant (primer) on tooth.
8. Insufficient drying after scrubbing enamel with Self Etching Primer
9. Moving bracket during adhesive gel period.
10. Hard, acid resistant, fluorosed, hypocalcified or aprismatic enamel.

BONDING TROUBLE SHOOTING

TYPE II – BOND FAILURE:

Majority of adhesive on enamel surface

METAL BRACKETS:

1. Paste not “battered” into mesh.
2. Adhesive placed on bracket during gel period.
3. Bracket being moved during gel period.

CERAMIC BRACKETS:

1. Improper silination of bracket base.
2. Base contaminated by handling.

BONDING TROUBLE SHOOTING

TYPE III – BOND FAILURE:

COHESIVE

Cause: Patient abuse

Bonding To A Composite Restoration Or An Acrylic Jacket

1. With a fine diamond, lightly abrade the composite surface. Etch any enamel that is present.
2. Rinse and dry area.
3. Using a sponge pellet or brush, apply four continuous coats of Assure[®] Universal Bonding Resin. Lightly dry after last coat. When bonding to an acrylic temporary it is recommended to follow Steps 1 and 2 then use a thin coat of Reliance Plastic Conditioner, lightly air dry and apply two coats of Assure[®] Universal Bonding Resin.
4. If Phase II[®], Excel[®] or light cure is the adhesive of choice, apply bracket with paste directly on the Assure[®] Universal Bonding Resin conditioned surface. If Rely·a·Bond[®] is used, apply the Rely·a·Bond[®] Primer to the conditioned surface and the bracket base. Apply the Rely·a·Bond[®] Paste to the bracket base; place the bracket on the tooth and position.

Note: Enhance[™] Adhesion Booster can be substituted for Assure[®] Universal Bonding Resin but a bonding resin should be applied before the bracket with paste.

Bonding To Amalgam, Gold or Stainless Steel

1. With a microetcher, sandblast the metal surface to be bonded, rinse thoroughly and dry. If enamel is present, etch for 30 seconds with phosphoric acid. Rinse and dry.
2. With a brush, paint a thin coat of Reliance Metal Primer or four coats of Assure[®] Universal Bonding Resin on the roughened metal surface and lightly air dry. If Metal Primer is used, apply a thin coat of sealant or resin on the conditioned metal surface.
3. A. Bond the attachment with any light, chemical or dual cure adhesive paste. Bands can be cemented with Band-Lok[®] or *Ultra* Band-Lok[®].
B. If Rely·a·Bond[®] is used, paint a thin coat of Rely·a·Bond[®] Primer on the conditioned metal surface and the bracket base. Apply the paste to the bracket and position on tooth. Press firmly.

NOTE: If Enhance[™] Adhesion Booster or Enhance[™] L.C. is used, apply four coats on the roughened metal surface. Wait ten seconds and lightly air dry for five seconds. Paint a thin coat of sealant or resin on the conditioned surface.

Bonding To A Porcelain Jacket

1. With a microetcher, sandblast the surface to be bonded.
2. Thoroughly isolate and place Reliance Barrier Gel on the gingiva. Carefully apply a thin coat of the Porc-Etch™ to the crown. After four minutes, rinse into central evacuation.
3. With a brush or sponge pellet, apply a THIN coat of Reliance Porcelain Conditioner to the porcelain surface.
4. Wait 60 seconds. Caution should be taken at this time not to rinse, air dry or contaminate the porcelain surface. Apply two coats of Assure® Universal Bonding Resin and lightly dry after second coat.
5. A. If Rely·a·Bond® is used, paint a thin coat of Rely·a·Bond® Primer on the conditioned porcelain surface and the bracket base. Apply the paste to the bracket and position on tooth. Press firmly.
B. If Phase II®, Excel® or light cure is used, apply the paste to the bracket base and position on the tooth.
C. Band-Lok® or Ultra Band-Lok® can be used to cement bands.
6. After debonding, the luster of the porcelain surface can be restored by prophying with Restore™ Diamond Polishing Paste.

CAUTION: Porc-Etch™ contains hydrofluoric acid. Placement of a rubber dam is suggested. Do not allow material to contact gingival.

Rebonding a Bracket

NOTE: If you have a microetcher, sandblast all the composite off of bracket base and proceed with Steps 3-5.

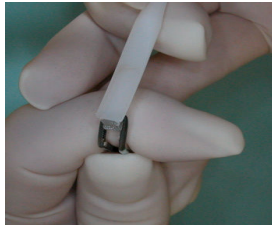
1. If a microetcher is not available, use a fine diamond and lightly roughen the adhesive on the bracket base. **DO NOT EXPOSE THE MESH.**
2. Paint a generous coat of Reliance Plastic Conditioner, Enhance™ Adhesion Booster, or Assure® Universal Bonding Resin to the bracket base. Wait 30 seconds and lightly air dry the bracket base.
3. Prophy, etch, rinse and dry enamel as previously described.
4. Apply 2-3 coats of Enhance™ Adhesion Booster or Assure® Universal Bonding Resin to the enamel. Wait 20 seconds and lightly dry with air.
5. A. If Rely·a·Bond® is used, the Rely·a·Bond® Primer must be applied to the enamel and bracket base, and the Rely·a·Bond® Paste applied to the bracket and position on tooth.
B. If Phase II®, Excel® or light cure paste is used, paint a thin coat of sealant on the bracket base and tooth surface. Apply the paste to the bracket base and position on the tooth. With Phase II® DUAL CURE and light cure paste, cure the adhesive with a visible light.

NOTE: If Enhance™ L.C. is used, apply four coats on the etched enamel and lightly air dry after the final coat. Paint a thin coat of light cure sealant resin on the tooth and light cure the sealant for 10 seconds (20 seconds for PRO SEAL® with a conventional halogen curing light or a curing light that emits a wavelength between 390-440nm). Proceed with light cure paste on the bracket.

Bonding a Plastic Bracket



1. Paint a thin, uniform coat of Reliance Plastic Appliance Conditioner on the bracket base and allow to completely dry (60 seconds). The bracket base will now appear frosty.

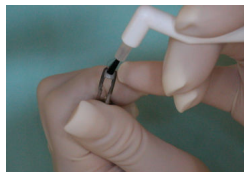


2. Place chemical or light cure paste directly on the conditioned base. Avoid contacting base with fingers or gloves.



3. Place bracket on etched, sealed tooth. Light cure, if necessary.

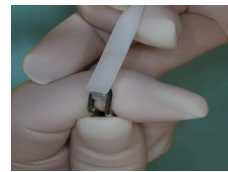
4. If using Rely-a-Bond[®], be sure to:



4a. Apply the Rely-a-Bond[®] Primer to the "conditioned" plastic bracket.



4b. Apply the Rely-a-Bond[®] Primer to the tooth surface.



4c. Apply the Rely-a-Bond[®] Paste to the bracket base and immediately place on the tooth.

Key Points For Bonding Lingual Retainers

1. Adapt the retainer to anatomy of each tooth;
"The better the fit, the better the bond."
2. Sandblast the retainer wire wherever it will be bonded.
3. Before etching, sandblast the lingual surfaces of each tooth to be bonded.
4. After etching use Enhance[™] Adhesion Booster or Assure[®] Universal Bonding Resin on enamel.

Bonding a Thermoplastic Aligner



1. Prophyl, rinse and dry.



2. Acid etch for 30 seconds with Phosphoric acid, rinse and dry.



3. Apply 2-3 coats of Assure[®] Universal Bonding Resin and lightly dry after last coat.



4. Apply FlowTain[™] to the thermoplastic aligner matrix.



5. Place the aligner in the mouth and light cure for 20 seconds.

Occlusal Buildup of Posterior Teeth to Open Bite



1. Prophyl, rinse and dry.



2. Acid etch for 30 seconds with Phosphoric acid, rinse and dry
or
Condition with a Self Etching Primer per the manufacturer's instructions.



3. Apply Ultra Band-Lok[®], Light Bond[™] Blue or LCR[™] adhesive to the conditioned, dried surface.



4. Light cure for 20 seconds.

Cementing Bands With: Band-Lok®

- Step 1. Lightly roughen the inside of the band with a fine diamond bur or microetcher.
- Step 2. Prophylax, rinse, dry and isolate tooth to be banded.
- Step 3. On a mixing pad place equal parts of Band-Lok® Pastes A and B. A one inch strip of each part will provide enough cement for four bands. (A ¼ inch strip of each will cement one band.) If paste is not going to be mixed immediately, shield from light.
- Step 4. Mix Pastes A and B thoroughly for 10 seconds and place in band. Seat band and clean off excess flash (to prevent cement from sticking to metal instruments, wipe instrument in wax before touching cement).
- Step 5. **At this point you have three curing options:**
 - A. With a dental curing light, cure the cement from occlusal for 10 seconds. Cement can be exposed to saliva at this point. Final cure will occur in five minutes.
 - B. With a dental curing light, cure the cement from the occlusal for 30 seconds. Cement is now completely cured and can be exposed to headgear forces immediately.
 - C. Allow the cement to chemically cure on its own; complete polymerization will occur in 10 minutes.

GENERAL INFORMATION: In high stress situations (banded expanders), etching the enamel prior to band placement will significantly increase the adhesion. Band-Lok® will adhere to a composite restoration or acrylic jacket that has first been roughened and conditioned with Reliance Plastic Conditioner, Enhance™ Adhesion Booster or Assure® Universal Bonding Resin. When bonding to a porcelain crown, condition first with Porc-Etch™ and Porcelain Conditioner. When bonding to amalgam, gold or a stainless steel crown, sandblast and condition with Reliance Metal Primer, Enhance™ Adhesion Booster or Assure® Universal Bonding Resin before seating band. To extend the working time of Band-Lok® to seven minutes, mix on a paper covered frozen slab. Unused kits of Band-Lok® should be kept refrigerated.

Cementing Bands With: Ultra Band-Lok®

- Step 1. Lightly roughen the inside of the band with a fine diamond bur or microetcher.
- Step 2. Prophylax, rinse, dry and isolate tooth to be banded.
- Step 3. Place the *Ultra* Band-Lok® Paste in the band, seat band and clean off flash in the mouth in the following manner:
 - A. Wipe the occlusal surface with a damp cotton roll or,
 - B. Lightly cure from the occlusal for one second with a dental curing light (use caution not to exceed one second of light exposure). Peel away excess flash.
- Step 4. Position light tip in close proximity to the occlusal surface of the tooth and band interface. Moving in a slow circle around the top of the band, light cure for 30 seconds. At this point the cement is fully cured, allowing immediate archwire placement.

GENERAL INFORMATION: The curing light utilized should be capable of providing a minimum of 800 milliwatts of intensity to cure material properly. Check your curing light with a radiometer monthly. *Ultra* Band-Lok® will adhere to a composite restoration that has been roughened and conditioned with Reliance Plastic Conditioner, Enhance™ Adhesion Booster or Assure® Universal Bonding Resin. To bond to a porcelain crown, condition surface first with Porc-Etch™ and Porcelain Conditioner. When bonding to amalgam, gold or a stainless steel crown, sandblast the metal surface and condition with Reliance Metal Primer, Enhance™ Adhesion Booster or Assure® Universal Bonding Resin before seating band. Bands preloaded with *Ultra* Band-Lok® cement should be shielded from ambient light. In high stress situations (banded expanders), etching the enamel prior to band placement will significantly increase the adhesion.

Cementing Bands With: Precedent[®] Glass Ionomer Cement

1. Prophyl teeth to be bonded.
2. With a bur or microetcher, lightly score the inside of each band.
3. For each band, place two level scoops of powder and 4 drops of liquid on a mixing pad.
4. Mix all the powder and liquid together until a uniform, creamy consistency is obtained. Place in band and seat. Clean excess with a damp cotton roll. Wait 10 minutes to apply force. Cleanup should be done before cement completely hardens.
5. The working time of Precedent[®] at room temperature is 2½ minutes. To extend to 4½ minutes, place a sheet of the mixing pad on a frozen glass or aluminum slab. Place powder and liquid on the paper on the slab. Wait 2 minutes and mix thoroughly.

NOTE: Precedent[®] can be used to bond an attachment to a phosphoric acid etched intruded cuspid. In this case, wait 20 minutes before applying force.

Crown Lok[™] Contains Fluoride Luting Cement

SUGGESTED USES: Crown Lok[™] can be used to cement metal crowns, orthodontic bands and Maryland bridges.

DIRECTIONS FOR USE

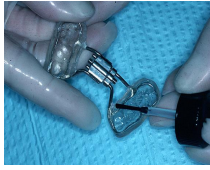
PROPHYLAXIS: Using a rotary instrument with a rubber cup or brush, prophyl the enamel surfaces to be bonded with 1st & Final[®] or plain pumice. Do not use prophyl paste which contains oil, which may leave a film. Special attention should be given to posterior teeth and lingual surfaces, where patient hygiene may not be satisfactory and tartar and calculus may be in excess. Rinse thoroughly and dry teeth with oil and moisture-free compressed air.

ETCH (OPTIONAL STEP): To further increase adhesion without making removal more difficult, etch a small area on the buccal and lingual surface of the tooth. Rinse and dry thoroughly.

PREPARING THE CROWN OR BAND: With a microetcher, sandblast the inside of the crown, band or bridge. If a sandblaster is not available, roughen with a medium diamond bur.

MIXING & CEMENTATION: Mix equal volumes of Crown Lok[™] Paste A and Paste B for 15 seconds on the supplied mixing pad and place inside the appliance. When loading a crown, caution should be taken to only line the crown with cement. The working time from the start of mix is 2 minutes. Final set will occur 5 minutes from the start of mix. To extend the working time to 4 minutes, mix the pastes on a paper covered frozen slab.

Bonding a Large Acrylic Appliance



1. Apply a uniform coat of Reliance Plastic Appliance Conditioner to the underside of the acrylic appliance.



2. Prophyl the teeth to be bonded.



3. Acid etch the buccal and lingual tooth surfaces as well as the distal of the last molar. Do not etch the occlusal surface. Rinse and dry thoroughly.*



4. Mix Bonding Resin Parts A and B and apply to all etched areas. Assure[®] Resin can be substituted for Bonding Resin A & B.

* When bonding to deciduous enamel, Enhance[™] or Assure[®] Universal Bonding Resin must be applied to the etched surfaces and lightly air dried.



5. Mix equal portions of Excel[®] Regular Paste A and B. **



6. Apply the paste to the appliance so that the underside is completely covered. The working time of the material is 3 minutes.



7. Place the appliance into the mouth and clean up flash with a Q-tip[™]

To remove a bonded acrylic appliance from multiple teeth, use a 349 pliers and place the nylon pad on the occlusal surface and the blade at the enamel/acrylic interface. Pull down towards the occlusal, loosening one side, then the other. ** NOTE: Band-Lok[®] and Ultra Band-Lok[®] can be substituted for Excel[®] Paste. If Ultra Band-Lok[®] is used, cure for 10 seconds per tooth through the acrylic from occlusal.

Keys to Successful Bonding and Removal of Large Acrylic Appliances

- Use Reliance Plastic Conditioner.
- Do not etch occlusal surface.
- Condition deciduous enamel with Enhance[™] Adhesion Booster or Assure[®] Universal Bonding Resin.
- Cover buccal, lingual and occlusal surfaces of appliance with paste.

Debonding Brackets and Adhesive Removal

Physically remove the metal bracket by applying a “pinch” or “torque” to the bracket base and pop off the bracket. This can be done using a bracket removing plier, ligature cutter or Weingart plier.

A. Remove any bulk residue adhesive from the tooth surface with Renew[™] Finishing System Bur #118S, #118L, #218 or #815 in a high speed handpiece. To polish the tooth surface, use the Renew[™] Finishing System Point #383 (Friction Grip, Latch or Straight Handpiece) on a slow setting. Prophyl with 1st & Final[®] to further polish without residue.

B. Reliance Restore[™] Polishing Paste, in a slow speed prophyl cup, is used to put back the smooth shiny finish after debonding a bracket from a porcelain jacket, composite restoration or metal crown.

When removing ceramic or sapphire brackets, consult the bracket manufacture for proper method and debonding tool. IT IS IMPERATIVE to remove any adhesive flash from around the bracket base with a finishing bur like the Renew[™] Finishing System Bur #118s before attempting removal. This allows the instrument to firmly grip the bracket base and prevent the plier from riding up the bracket base and shearing off the tie wings when pressure is applied.

To effectively remove adhesive paste from the lingual surfaces, use the Renew[™] Finishing System #815 bur.

INDIRECT BONDING TROUBLE SHOOTING:

LAB PROBLEMS

INACCURATE MODELS DUE TO:

- 1.) Inaccurate impression material - Use Polyvinylsiloxane
- 2.) Extracted teeth
- 3.) Placement of separators before or after impression
- 4.) Partially erupted teeth
- 5.) Distorted pour-ups
- 6.) Models not poured immediately
- 7.) Improper powder / water ratio of stone
- 8.) Voids / bubbles in model

TRAY / BRACKET BASE DISTORTION DUE TO:

- 1.) Wet model
 - 2.) Improper solution or amount of separating medium on model
 - 3.) Bending / twisting Bioplast[®] tray
 - 4.) Cleaning tray in hot water
 - 5.) Over microetching Custom Bracket Base
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INDIRECT BONDING TROUBLE SHOOTING:

Chairside

1. Saliva contamination.
2. Insufficient amount of working time with chemical cure bonding material or excessive movement of tray during placement.
3. Failing to wait seven minutes before removing tray when using a chemical cure system.
4. Inadequate curing time when using a light cure composite to transfer brackets into mouth.
5. Applying too much finger pressure on tray in mouth.