indirect bonding

Bonding brackets to the patient’s stone model and transferring the bonding tray to the patient’s mouth

Developed to improve the accuracy of bracket placement (especially premolars)
Proposed Disadvantages:

- Increased lab time
- Increased lab expenses

Other Advantages:

- Reduces doctor chair time
- Reduces staff chair time
- Improves patient comfort
- Possibly reduces treatment time (less likely need for repositioning)
- Adds value to the practice
100% Light Cured
IDB System

Transparent Inner Tray
Turbo
LC Flowable
LC Bonding Resin
Separating Medium
Tray Finish
Light Box
Beading Wax
STEP 1: Prepare a stone model (colored stone) from an accurate alginate impression and apply two coats of separating medium.

STEP 2: Position brackets on the model using composite.

STEP 3: After final positioning, light cure the brackets on the model using a curing light or triad light table.
STEP 4: Form indirect bonding tray.

STEP 5: Remove IDB tray from the study model, dry, and micro-etch. The custom pad formed on the bracket base is now ready for delivery.

STEP 6: Prepare the teeth for bonding (etch and apply resin).

STEP 7: Place resin and a small amount of LC flowable on the custom bracket pad.

STEP 8: Place the IDB tray in the patient’s mouth. Hold with fingers and apply equal pressure. Cure the tray and remove the transfer tray, leaving the brackets in place.
Laboratory Phase

Fabricating the IDB transfer tray
Requirements for Stone Model

1. Take a perfect alginate impressions
2. Pour models in stone (NOT PLASTER). Use colored stone for bracket adhesive contrast... lets the clinician clearly see the white tooth colored bracket adhesive against blue teeth. The stone can be purchased from Patterson: Whipmix, quickstone – blue.
3. DO NOT PICK OFF BUBBLES and DO NOT SOAP!!!!
4. DO fill in voids on teeth/or soft tissue (you can use bleach block out material)
5. Trim the models and let dry overnight
6. After they have dried overnight: two coats of separating medium.
7. After separating medium is dry (20- 30 minutes) or overnight,
8. Butter adhesive very thoroughly into mesh pad and apply brackets to models.
10. Cure. If curing in a Triad 10 minutes. If using a light gun, cure twice as long as usual because you are curing through stone (opaque) not enamel (translucent). Triad Procure light curing table can be purchased from www.archerwhite.com.
Careful trimming in the anterior region
Use colored stone
RM bond Separating Medium:

- Proper viscosity: no need to dilute
- apply 2 coats, buccal and lingual
- let dry overnight for best results
Assistant will place the bracket and remove excess composite.

Brackets are placed using standard composite.

This creates a customized bracket pad.
Doctor places models in light oven

Avoids brackets bumping or moving in transfer to Lab
wax at the edges of the hooks
Wax Defines Border of Inner Tray

1-2mm occlusal to most gingival extension of the bracket
Use Rope Wax to Gauge Thickness
RM bond TURBO
Indirect Bonding System Flow

- Records
  - Models Dry Overnight
- Treatment Plan From Records
  - Lab slip filled out, return to lab
- Lab Procedure
  - 24hrs
- Bonding Day
Applying the RMbond Inner Tray Material
Inner Tray Material
RM bond INNER TRAY MATERIAL
RM bond INNER TRAY MATERIAL

- Does not require block-out or undercuts
- Material is clear poly vinyl siloxane; allows the curing light to penetrate
- Elastic enough to remove from undercuts and hooks without dislodging the bracket
  *** Low tear strength so that the material is easy to remove (breaks away) keeping the brackets attached to the tooth
Sectioning the Inner Tray
Sectioning the inner tray
Cut occlusal to junction of hard tray and soft tray

Cut very lightly into the soft inner tray material
V-CUT on heels of model
Trimming the Outer Tray
Soak in warm water for 15 minutes
Blow Water From Tray
50 micron etch-Short 1 second blast
50 Micron Aluminum Oxide

- Do not remove custom pad
- Only roughens/ cleans pad
- ½ to 1 second blast
Blow Aluminum Oxide from Tray

Cleans particles from pad - no need for acetone cleaner
NOLA Insertion: Start with the frame first, and let the patient adjust before placing the tongue cup.

Push the tongue cup as far back as the patient can tolerate, have them SLOWLY bite down. Warn the patient that they may feel some pressure under their tongue.
Cementing bands prior to IDB may interfere with tray seating.
Etch upper and lower

Do not etch interproximally.

Make sure teeth are completely dry.

Apply LC resin and air thin
LC BONDING RESIN

- Prevents penetration of dentine tubes, eliminating sensitivity
- Low film thickness with highest bond strength
RM Bond Primer – prior to prep

NO POOLING!!! Pad should look shiny
Bonding preparation

Apply LC resin to custom bracket pads
Dispense small amount of LC flowable to the pad

During the lab setup, the composite used on the bracket base creates the CUSTOM BRACKET PAD
Applying Resin & Inserting Lower Tray
Applying Resin & Inserting Lower Tray
Insert Lower Tray

Use midline to guide

Cure

Use the curing light to place light pressure against the tray.

Apply LC Resin to upper

Keep the lower in while you work on the upper arch.
Insert Upper Tray  Cure  Remove hard outer tray
Remove outer tray  Remove Inner tray

**Always lift lingual to labial**
Due to the low tear strength, the inner tray material breaks away easily without adhering to the brackets.
When lifting the inner tray from the lingual, place gentle pressure against the bracket pad.
Removal of Trays
Use a Scaler to Lift Outer Tray
Peel lingual to buccal
Removing Soft Inner Tray Material
Frequently Asked Questions

- Learn by mistakes / constantly examine
  1. Where did the bond failure occur?
  2. Bracket / Adhesive?
  3. Tooth / Adhesive?
  4. Adhesive / Adhesive
Adhesive / Pad

- Bracket adhesive not being worked into mesh
- Too much repositioning on the model
- Micro-etching too much
- Indirect is the only technique to examine this prior to bonding
Tooth Adhesive

- Contamination
- Tray not seated
- Hung up on nola
Adhesive / Adhesive

- Not micro-etched
- Not primed
- Not seated
- Pressure or lack thereof
Summary of IDB advantages

- **Accuracy**: Precise bracket placement with full visual access to teeth on a model.
- **Comfort**: Patient is more comfortable due to minimum time spent with mouth open. Clinician is ergonomically and physically more comfortable; no need to contort for direct access.
- **Reduced Doctor Time**: Procedure time and required doctor time are significantly reduced.
- **Reduced Treatment Time**: Less time in the finishing stages.
Questions