

DETAILED **CLINICAL** **BONDING PROTOCOLS**

BONDING SUPPLIES

- Pumice & Applicator
- Primer
- Etch
- Adhesive
- Schure scaler & Band pusher
- Cotton-Tip pliers
- Micro-brushes
- Cotton Rolls
- Driangles
- Cheek Retractors
- High-Volume Suction
- Curing Light



USEFUL PRODUCTS

REQUIRED

- **CURING LIGHT**
 - *Curing Light Setting:*
Minimum of 1800 mW/cm² to the **RECOMMENDED 2400 mW/cm²**
 - The light intensity is typically reduced by at least half when curing through IDB trays
 - **RADIOMETERS**, To test light intensity, are typically built into the curing light base, but can also purchased separately.

RECOMMENDED

- **CHEEK RETRACTORS**
 - Nola
- **ETCH**
 - Phosphoric acid 35% - 37%
- **PRIMER**
 - Assure Plus (Reliance)
- **ADHESIVE**
 - Brace Paste (AO)
 - Transbond XT (3M)
 - Connect (GC)
 - LCR (Reliance)
 - GoTo (Reliance)

PRIOR TO BONDING APPOINTMENTS

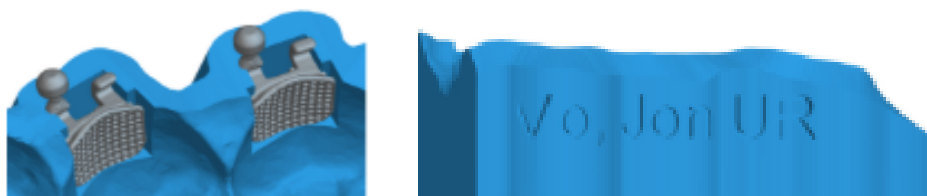
INSPECT DIBS AI TRAYS UPON ARRIVAL

OPEN THE PATIENT'S IDB TRAY IMAGE

- Do the physical tray & brackets match the IDB tray image?

BRACKETS

- Are there any **loose brackets**?
- Does the **bottom of the bracket line up** with the **bracket box**?
- Does the box **hold the bracket completely**?



TRAYS

- Are the patient's name and location present on the lingual portion of the tray?

Contact DIBS AI Customer Success Immediately with any concerns!

PASTE BRACKETS UP TO 24 HOURS BEFORE BONDING

- Butter adhesive horizontally, pressing it into the bracket pad, in all four corners.
 - **Note:** Placing vertically may dislodge the bracket.
- For thicker adhesives, use a micro-brush dipped in primer to spread.
- Avoid getting adhesive on the tray. Wipe the tray immediately if this occurs.
- To avoid flash, do not use an excessive amount of adhesive.
- Molars may require more adhesive due to their anatomy.
- Store pasted brackets immediately back into the DIBS AI box to avoid premature curing.



BONDING APPOINTMENT

SUMMARY

1. Prepare for patients arrival
2. Inform patient & parent
3. Inspect patients mouth
4. Clean Enamel (pumice)
5. Place cheek retractors (e.g. Nola)
6. Mechanical Bond (Etch)
7. If applicable: Place tray on warming disk
8. Chemical Bond (Primer)
9. Place/Seat DIBS AI Tray
10. Press the bracket lightly to the tooth
11. Light cure
12. Tray section removal
13. Check for flash
14. Ensure brackets are bonded

PLEASE NOTE

DIBS AI TRAYS ARE TEMPERATURE-SENSITIVE!

Cold temperatures cause the trays to become more rigid, causing them to be more difficult to remove. Temperatures may fluctuate with seasonal changes, during shipping, office temperatures, as well as the office storage location. The trays become warmer, more flexible, and easier to remove during the routine light-curing process during bonding. However, If additional heat is needed, utilize the warming disk provided in your Clinical Training Kit. You will not cause any harm to the tray by utilizing these additional warming techniques.

PROTOCOLS



PREPARE FOR PATIENT'S ARRIVAL

- OPEN PATIENT'S IDB IMAGES ON OPERATORY COMPUTER

This helps to visualize & understand the bracket location on your patient for each step in the DIBS AI bonding process.

- CHECK LIGHT CURE SETTINGS

Example: Ledex on turbo for 4 seconds

- SET-UP BONDING SUPPLIES

Listed above

- WARMING DISK INSTRUCTIONS (OPTIONAL)
 - Use **ONLY** a 1 amp charging cube to avoid overheating the trays (the charging cube provided is a 1 amp cube).
 - Touch the circle on the warming disc to turn on. Use only “green” option. This is the desired lowest setting.
 - Once the disk is warm, place the IDB tray sections directly in the center of the disk for 30 seconds.
 - Bond immediately after the 30 seconds of warming.
 - Unplug warming disk immediately after use.

UPON PATIENT’S ARRIVAL

INFORM PATIENT & PARENT

- “Dr. _____ has already determined digitally where your braces go. I’ll be using these trays to place them exactly where (he/she) placed them digitally!”

INSPECT PATIENT’S MOUTH

- Does the anatomy or the presence of a custom base indicate additional adhesive is needed?
- Prep adjustments? Crowns, fillings, etc.
- Poor oral hygiene? Calculus removal may be needed.

CLEAN ENAMEL - ENTIRE MOUTH

- Pumice the entire facial aspect of each tooth receiving a bracket.
- Rinse well
- 6's & 7's may require facial calculus removal.



PLACE CHEEK RETRACTORS

- Ensure lips & cheeks are not touching the teeth.
- Use driangles for posterior cheek retraction and/or cotton roll(s) in the vestibule if additional lip retraction is needed.
- Nola: See page below for instructions.

MECHANICAL BOND - ONE ENTIRE ARCH AT A TIME

ETCH

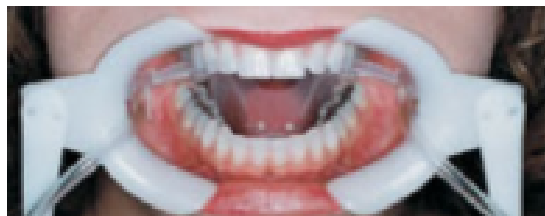
- No specific brand is recommended.



- A minimum of 35% - 37% phosphoric acid.
- Bonding with crowns, composite & metal? See “pg. 9 Additional Information” below.

PROCESS

- Place etch in the general area where the bracket pad will be located as referenced in IDB tray image.
- Dry facials of all upper & lower teeth completely, suction saliva.
- Etch an entire arch: Lower 1st, rinse, then upper arch, and rinse.
 - Apply in the mandibular furthest, most posterior region first
 - Place the etch in sequential order
 - Do **NOT** touch the etch applicator tip directly on the tooth - this causes damage to enamel rods
- Suction & Rinse
 - Rinse in the same order the etch was placed
 - Use high-speed suction to remove the etch
 - Rinse each tooth for 5 seconds to fully remove the etch and expose the enamel rods
 - An entire arch will take 80 seconds if 14 teeth are present
- The etch remains on the tooth for a minimum of **30 SECONDS** but **NO LONGER THAN 60 SECONDS**
 - Etch that remains on a tooth longer than 60 seconds will destroy enamel rods, resulting in loss of mechanical bond & the increased likelihood of a debond.



NOLA (IF APPLICABLE)

- During the etch process, use the low-volume Nola attachment.
- After etch is completed, change the suction attachment from low-volume suction to high-volume for the remainder of the bonding process.

- Moisture contamination is a significant contributing factor for debonds (especially on 7's).
 - To prevent this: use low-volume suction with saliva ejector, especially in the mandibular distal buccal region.
- Use cotton rolls under the tongue and/or driangles for cheek areas.
- **Pro Tip:** DIBS AI trays are altered in the mandibular 6-7 and allow for Nola tongue guard use (see photo).



CHEMICAL BOND - ONE SEXTANT AT A TIME

- PRIMER
 - Recommended brand: Assure Plus
- PROCESS
 - Ensure your curing light is at the appropriate setting: minimum of 1800 mW/cm² to the **RECOMMENDED 2400 mW/cm²**.
 - ONE SEXTANT AT A TIME
 - Begin in the mandibular posterior region because of the potential for moisture contamination resulting in a debond.
 - (If Applicable) Place single DIBS AI tray of 1st location on warming disk.
 - Dry entire mouth until teeth are “frosty white”, suction saliva.
 - Apply thin layer of primer to the approximate location where the etch was placed (will be “frosty white”).
 - **Lightly** dry primed teeth to remove ethanol layer so proper chemical reaction can occur.
 - **Pro tip:** Too much air during the drying process will result in loss of primer from the tooth.
 - LIGHT CURE
 - 5 Passes; **Slowly** proceed back and forth over teeth where the primer was placed.
 - Over-cure rather than under-cure for increased bond strength.

PLACE/SEAT DIBS AI TRAY - ONE SEXTANT AT A TIME

- Ensure you have the appropriate tray for the location you are working in.
 - Look at the DIBS AI tray for the location marker.
- Fully seat tray
 - Press lightly on the occlusal surface of the tray to ensure it is fully seated.
- There is no need to apply continuous pressure to hold the tray in place.
- **Pro Tip: Any bracket in the gingiva will require additional pressure** to fully seat the brackets in their appropriate location
 - For situations where direct bonding is required, use the IDB tray image: from the patients “details” page to view bracket positioning.
- Press the facial portion of the bracket lightly to the tooth once the tray is fully seated.
 - **Do not skip** this step!
 - This will eliminate any gaps that exist between the tooth and the bracket.
 - Press the facial aspect of the bracket lightly to the tooth with either the tip of an instrument, such as a band pusher, or your finger.
 - **Pro Tip:** Pressing too firmly will cause the adhesive to be compressed out of the bracket pad area to the surrounding teeth resulting in a debond.
- EXCESSIVE ADHESIVE?
 - Remove excessive adhesive with a micro brush before light curing.
 - Adjust the quantity of adhesive on the remaining IDB trays if excess flash is present.

LIGHT CURE - ONE SEXTANT AT A TIME

- Ensure the light is on the appropriate setting (see above)
- Process:
 - Ensure the DIBS AI tray is fully seated.
 - Cure the facial of each tooth in the individual tray section for 4-5 seconds each.

- **Pro Tip:** Be careful not to cure the gingival of every tooth at the same time as the heat may be too uncomfortable for the patient.
- Each tooth receives a total of 12-15 seconds of curing time.
- Remember to over-cure rather than under-sure.

IMMEDIATELY REMOVE THE TRAY AFTER LIGHT CURING - ONE SEXTANT AT A TIME

- Use an instrument such as a schure scaler to remove the IDB tray.
- Process
 - **Pro Tip:** Remove each sextant immediately after light curing and before moving to the next section.
 - Separate the tray from the teeth
 - Begin separating the tray from the teeth on the mesial buccal portion of the tray. Use a scaler (see photo) to separate the tray from the interproximals and brackets of each tooth.
 - Use your fingers to peel away the tray from the teeth.



REPEAT STEPS 4-7 FOR EACH REMAINING SEXTANTS CHECK FOR FLASH - ENTIRE MOUTH

- Excess Flash
 - Use a black light to view excess flash.
 - Remove excess with white stone.

ENSURE EACH BRACKET IS FULLY BONDED TO THE TOOTH - ENTIRE MOUTH

- Check bond strength
 - With either cotton-tip pliers or your fingers; hold the mesial and distal portion of the bracket and move back and forth to ensure complete adherence.

CHECK BITE

- Are there any collisions?
 - Determine the necessity of a bite turbo.
 - See the “bite turbos” section for bonding bite turbos using DIBS AI trays.

ADDITIONAL INFORMATION

- **DEBONDS OR DIFFICULTY BONDING 7'S**

- Section the tray for a specific tooth
 - Tray removal section process:
 - Option 1: Pin Cutter
 - Section the tray using the pin cutter.
 - Option 2: Warm trays
 - Warm the DIBS AI trays using the tray warmer or warming disk.
 - Use an exacto knife or scalpel to cut the tray.
 - Remove cement from the bracket and tooth.
 - Insert the bracket into the tray.
 - Self ligating brackets? Ensure the bracket gate is closed prior to insertion.
 - Bond - Follow processes above
- **Pro -Tip:** Are bite turbos present? This may require altering the occlusal surface of the tray so it can fully seat.



BITE TURBOS INCLUDED IN DIBS AI TRAYS

- Inspect trays for tears
 - After bonding brackets, check that there are no tears in the tray where the bite turbo is present.
 - *If applicable:* The DIBS AI tray can be sectioned to create a jig just for the turbo (see above for the process).
- Process
 - Apply a thin layer of Vaseline or mineral oil to the area of the tray with the bite turbos. This will keep the resin from adhering to the tray.
 - Prepare the tooth for bite turbos with your standard protocols.
 - Add Resin / Composite to the turbo location of the DIBS AI tray.
 - Depending on location, slightly overfill the turbo account for the tooth anatomy.

- Seat tray on the teeth, and light cure resin to the tooth through the tray.
 - Make sure to cure long enough (12-15 seconds) total per turbo.
- Carefully remove the tray.
- Check for any holes where the turbo meets the occlusal/lingual surface.
 - Small gaps or holes may be present after turbo is bonded. Use a flowbale composite to fill in these gaps
 - Light cure again.
- Check the bite and make sure the turbos are the proper size to avoid bracket collisions.

Thank you!

As always, please feel free to reach out to our the DIBS AI customer success team if you need any further help or assistance!



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