



Orthodontic direct bonding protocol

Orthodontic direct bonding protocol

Step

1



Pre-bonding: Ensure good oral hygiene

Minimum requirements	Tips & considerations
For patients with good oral hygiene, start at Step 2.	Consider a thorough prophylaxis 2 to 3 days before bonding.

Step

2



Isolate the teeth

Minimum requirements	Tips & considerations
Isolate the teeth from moisture for the full duration of the bonding procedure.	Use a dry field system such as Nola.

Note: A key element in successful bonding is to minimize the potential for moisture contamination, which is aided by isolation, and reduction of the duration of the bonding process.

Step**3****Remove the pellicle****Mechanical prophylaxis method****Minimum requirements**

Prophy the teeth using the practice's preferred technique.

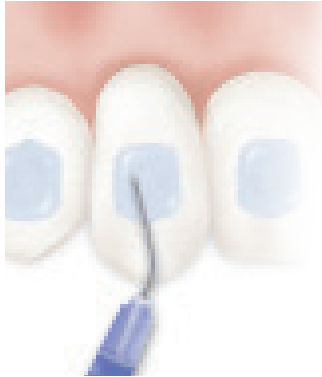
Use a prophy powder or an oil-free pumice or paste.

Rinse thoroughly with water.

Remove excess water.

Do not allow teeth to become recontaminated with saliva before applying primer.

OR

**Chemical etchant method**

Chemical pellicle removal method is an alternative means to remove the pellicle without opening the sulcus, reducing the probability of tooth surface contamination.

Minimum requirements

To apply a chemical method, use 3M™ Unitek™ Etching Gel (712-039 or 712-044), starting in the posterior and working to the centrals for approximately 15 seconds per tooth to remove the pellicle.

Etch all teeth to be bonded so that the entire area of the possible final bracket placement will be etched.

Tips & considerations

Use a quadrant approach to etching teeth.

Begin by only etching teeth with clear facial surfaces, saving teeth that would require brackets to be placed close to the gingiva or where access is difficult until you can work 4-handed.

Rinse etchant thoroughly with water for 15 seconds. Remove rinse water with suction. Do not allow patient to rinse.

Once the quadrant is complete, move to the contralateral molar and repeat.

Etched teeth should be bonded as soon as possible to minimize saliva contamination.

If saliva contacts an etched tooth surface, rinse the tooth and apply etchant for 5 seconds and rerinse. If using cotton rolls, re-isolate the area.

Step**4**

Etch and Prime the teeth

Minimum requirements

A hydrophilic primer system, such as 3M™ Transbond™ Plus Self Etching Primer (712-090 or 712-091), may increase success for avoiding possible moisture contamination. If your office is not using Transbond Plus SEP, consider using an additional acid etch step after Step 3.

Activate and mix the self-etching primer components, then agitate the mixture thoroughly for 5 seconds and ensure a slight yellow tint is present on the applicator.

Starting in the posterior, rub Transbond Plus SEP for 3-5 seconds per tooth in the middle third of the clinical crown. If bonding to aprismatic enamel, ie. molars, deciduous teeth, lingual surfaces, increase the rubbing time per tooth to achieve a desirable etch pattern.

Redip the applicator after each tooth to ensure the proper quantity of material is being applied.

When all teeth on one arch are primed, use a gentle 1-2 second oil- and moisture-free air burst on each tooth to dry, mesial-distal, directing the air away from the gingiva to uniformly distribute the Transbond Plus SEP. If ripples remain visible on the tooth, continue drying until ripples have disappeared.

If saliva contacts the teeth after applying Transbond Plus SEP or bonding is delayed, apply another layer of Transbond Plus SEP followed by a gentle air burst.

Use one foil pack per arch.

Do not use applicator on more than one patient.

Once teeth have been primed, proceed immediately with bonding.

Tips & considerations

Consider rubbing Transbond Plus SEP for 10 seconds on each molar in the middle third of the clinical crown.

Avoid contacting gingival tissue with the Transbond Plus SEP, where possible, as contact may stimulate weeping of the gingival crevicular fluid onto the bonding area.



Step

5



Place the bracket

Direct Bonding

3M™ APC™ Adhesive coated brackets

Minimum requirements

Position the bracket on the tooth as soon as possible after the priming step is complete.

Place bracket directly from packaging to teeth. Do not place bracket on any other surface before transferring to the teeth.

Tips & considerations

APC Flash-Free Adhesive: Place bracket, refine position, gently compress against tooth to seat. No need to clean flash.

Other APC Adhesives: Place bracket, gently compress, refine position, seat against tooth. Thoroughly clean flash from around bracket.

If the bracket is moved after final seating, the potential for bond failures may increase (applies to all adhesives).

OR

Uncoated brackets

Minimum requirements

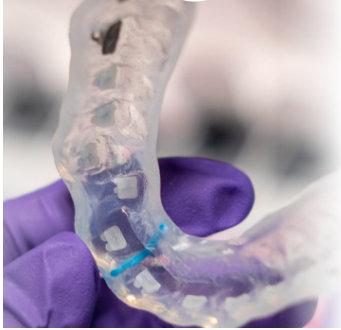
Uniformly apply adhesive, such as 3M™ Transbond™ Color Change Adhesive (712-103) or 3M™ Transbond™ XT Light Cure Adhesive (712-036) to the bracket pad, then position the bracket and apply pressure to ensure good contact.

Thoroughly clean flash around the bracket.

Tips & considerations

Uncoated brackets should be stored and handled properly to avoid contamination on bracket base.

3M recommends using the accessory of an 3M™ MBT™ Appliance System positioning gauges for accurate, efficient bracket placement (applies to all brackets).

Step**5**

Place the tray

3M™ Digital Bonding

3M™ APC™ Adhesive coated brackets

Minimum requirements

Load the precoated brackets into the bonding trays and store in a light-tight box until the bonding appointment.

Place tray into mouth evenly to ensure a complete fit. Do not press laterally on to the trays, and do not ask the patient to bite down.

Tips & considerations

Place both upper and lower trays, then remove the isolation equipment to better ensure good access for light curing.

OR

Uncoated brackets

Minimum requirements

Load the brackets into the bonding trays

Apply adhesive to the bracket bases, being careful to apply a uniform layer and minimize excess adhesive.

Place tray into mouth evenly to ensure a complete fit. Do not press laterally on to the trays, and do not ask the patient to bite down.

Tips & considerations

Place both upper and lower trays, then remove the isolation equipment to better ensure good access for light curing.

Step

6



Initiate adhesive cure

Minimum requirements

Verify that the intensity of 3M™ Ortholux™ Luminous Curing Light is at 80% or higher in the built-in light meter. If lower than 80%, clean necessary parts or check for damage.

For ideal curing when bonding metal brackets, ensure the light guide is adjacent to the base of the bracket. For ideal curing when bonding ceramic brackets, ensure the light guide is placed just above the labial surface of the bracket.

Curing time should be with light guide in place for full cure duration. Keep light steady for full cure duration, don't wave or move the light.

If less than 1,600 mW/cm² intensity is used, increase curing time.

If the positioning angle if the cure is not perpendicular or adjacent, at a minimum, the curing time should be doubled. If the light beam cannot be placed adjacent to the bracket, curing time should also be increased.

Metal brackets:

Cure the adhesive by positioning the light guide mesial and distal to each bracket.

Ceramic brackets:

Position the light guide to cure through the bracket.

Buccal tubes:

Cure by positioning mesially and occlusally to the tube.

Tips & considerations

Consider initiating adhesive cure by tacking each bracket on the gingival seam immediately after the bracket is positioned. This may provide protection from possible moisture wicking or crevicular fluid contamination from the gingiva. Make one pass with one 3-second beep per tooth, then a second pass again with one beep per tooth. Then cure mesially and distally per the Cure Time Instructions.

Recommended curing times for 3M orthodontic adhesives.*

Adhesive	Appliance	Ortholux™ Luminous Curing Light
APC™ Flash-Free Adhesive Coated Brackets	Metal brackets	6 seconds mesial × 6 seconds distal
	Ceramic brackets	3 seconds through the bracket
	Buccal tubes (direct bond)	6 seconds mesial × 6 seconds occlusal
APC™ II Adhesive Coated Brackets, APC™ PLUS Adhesive Coated Brackets, Transbond™ PLUS Color Change Adhesive, Transbond™ XT Adhesive	Metal brackets	3 seconds mesial × 3 seconds distal
	Ceramic brackets	3 seconds through the bracket
	Buccal tubes (direct bond)	6 seconds mesial × 6 seconds occlusal
Transbond™ XT Adhesive	Aligner attachments	6 seconds through the template
Transbond™ LR Adhesive	Lingual retainers	3 seconds mesial × 3 seconds distal
Transbond™ Plus Band Adhesive	Molar bands	12 seconds (3 seconds per cusp)
Unitek™ Multi-Cure Glass Ionomer Band Cement		
Transbond™ Supreme LV Low Viscosity Light Cure Adhesive	Indirect trays (metal brackets)	6 seconds mesial × 6 seconds distal through the trays
	Indirect trays (ceramic brackets)	6 seconds through the bracket and trays
	Aligner attachments	6 seconds through the template

*These curing times assume proper angle and distance of the curing light to the teeth. Also assumes intensity of 1,600 mW/cm². If less intensity is used, increase curing time..



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Always refer to the Instructions for Use (IFU)
for each product for additional details.

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