

# **Bonding Protocols Step-by-Step Procedures**

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#### **Material Properties**

Indications

#### RelyX™ Unicem 2 Automix Self-Adhesive Resin Cement

#### Bonding of Incognito™ Appliance System Brackets to

- · Metal crowns, crowns with metal lingual surface, composite crowns
- · Etchable glass ceramic restorations, zirconia and aluminium oxide ceramic restorations

#### **Rebonding of Incognito System Brackets**

#### **Bonding Trays**

and Benefits

**Material Description** 

- Incognito<sup>™</sup> Clear Precision Tray
- · Thermoplastic tray

#### Self-Adhesive Universal Resin Cement

- Reduced bond failure
- Moisture tolerance
- Metal primer application not needed
- Automatic mixing
- Filled bonding material
- One adhesive for bonding and rebonding



#### Transbond™ IDB Pre-Mix Chemical Cure Adhesive

#### Bonding of Incognito™ Appliance System Brackets to

- Transbond™ IDB Pre-Mix Chemical Cure Adhesive uses a BisGMA/TEGDMA based
  - dental resin system, a chemical cure initiator system and 3% filler

Incognito<sup>™</sup> Clear Precision Tray

· 2-phase silicone tray

#### Metal primer application not needed

#### Storage

#### Do not store in refrigerator!

#### **Shelf Life** 18-months shelf life from manufacturing date, use within six months after opening the foil pouch

Use within six months after opening the foil pouch; used

Usage

mixing tip stays on the cartridge as cap, discard initial cap. The mixing tip facilitates dosing and mixing. Do not cross-contaminate the outlets of the syringe.







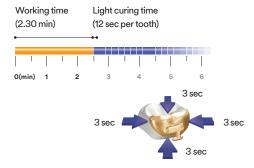
#### Store in refrigerator at 2°-8°C (36°-46°F)!

24-months shelf life from date of manufacture, when stored under refrigerated conditions at 2°-8°C (36°-46°F)

Resin A and B must be mixed well (10 seconds) before application

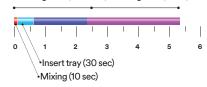
- Tray must be inserted within the required time
- Tray must be held (with pressure) for 3 minutes
- Tray must stay in mouth for 4 minutes before removal

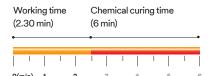
#### **Bonding Time**



#### Refrigerated

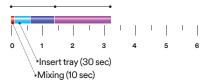
Working time (2.20 min) / Curing time (3 min)





#### Room temperature

Working time (1.20 min) / Curing time (1.50 min)



## **Dual Cure – RelyX™ Unicem 2 Automix Self-Adhesive Resin Cement**

- · Incognito™ Clear Precision Tray
- · Thermoplastic Tray

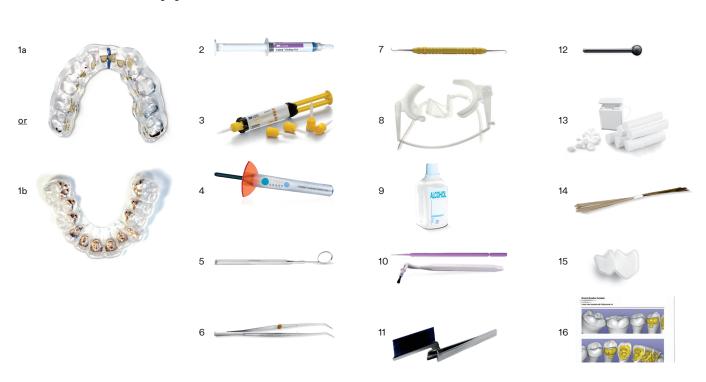
Checklis	t
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- Incognito™ Clear Precision Tray or
- П Thermoplastic Tray
- Unitek<sup>™</sup> Etching Gel П
- RelyX™ Unicem 2 Automix Self-Adhesive Resin Cement
- Ortholux™ Luminous Curing Light
- Dental Mirror
- 6 Tweezer
- Scaler Dry Field System
- Alcohol

 $\Box$ 

☐ 10 Brushes

- **Articulating Paper**
- 12 Ball Burr
- Cotton Balls and Dental Floss
- Serrated Strips
- Dry Tips
- ☐ 16 Screenshots







Verify the fit of the transfer tray.

Incognito™ Clear Precision Tray



Clean the bracket surface with alcohol using a cotton pellet.



Clean the lingual surfaces thoroughly with pumice slurry and rinse with a water spray.

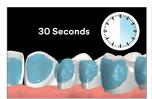
Make sure the surface is absolutely clean and free of dental pellicles.



Insert the dry tips in each cheek and place the dry field system.



Use screenshot to reference all surfaces that need to be phosphoric acid etched.



Etch the lingual surface of all bonded teeth with 35% phosphoric acid for 30 seconds. Use screenshot for reference and check visually.



Remove etching gel with suction.



Rinse with water.



Carefully dry using oil-free and moisture-free air. Check etching result with the mirror.



RelyX Unicem 2 Cement is a dual cure self-adhesive resin cement. The mixing tip facilitates dosing and mixing. Do not cross-contaminate the outlets of the syringe.

Please observe the working time of 2 min 30 sec and refer to manufacturer's instructions.

Incognito<sup>™</sup> Clear Precision Tray



Using either the mixing tip or a micro-brush, apply a thin layer of bonding material to the bracket bases in the transfer tray. Control the amount of bonding material used. Too small amounts may result in gaps under the bracket bases. Too large amounts will create excessive flash.



Insert the transfer tray and hold in position while the assistant positions the curing light.



Hold the light guide of the Ortholux Luminous Curing Light\* as close as possible and curing all four sides of the bracket for 3 seconds (total 12 sec. cure).

**Tip:** Start curing the anteriors followed by molars to ensure a good fixation.



Remove the dry field system first, then the Incognito Clear Precision Tray. Start with the outer rigid layer, work from posterior to anterior and from buccal to lingual. (use scaler if necessary)



Then remove the softer inner layer, again beginning in the posterior and working forward, and from the buccal to the lingual side.



Use the screenshots to check that all the brackets are positioned correctly.



Remove any excess bonding agent from the bracket's and the interproximal contacts using a scaler and dental floss. If necessary, use slow speed finishing burr.



Use dental floss to check that all the interproximal gaps are open.



Use serrated strips if neccessary. Don't forget to clean the occlusal and labial surfaces.



Check the bracket slots, tubes, wings and hooks for any remains of silicone from the bonding tray. This ensures proper wire fit and ligation.



Carefully check for premature contacts on the bracket bases in the lateral tooth area (premolars, molars) using Articulating paper. Premature contacts in the anterior region do not have to be corrected.



Remove premature contacts in the posterior tooth area using a ball burr.



Tip: Apply a sealant/ remineralization/ fluoridation agent to protect areas that were phosphoric acid etched but not covered with bonding material.

Please refer to the Ortholux<sup>™</sup> Luminous Curing Light, RelyX<sup>™</sup> Unicem 2 Automix Self-Adhesive Resin Cement, Unitek<sup>™</sup> Etching Gel, ESPE<sup>™</sup> Sil and CoJet<sup>™</sup> Sand Instructions for Use for complete instructions.

Please store and use RelyX<sup>™</sup> Unicem 2 Automix Self-Adhesive Resin Cement at room temperature!

\*Curing time depends on power of your curing light. With less power, the required curing time increases. Please refer to manufacturer's instructions.

Checklist

## **Chemical Cure – Transbond™ IDB Pre-Mix Chemical Cure Adhesive**

- Incognito™ Clear Precision Tray
  2-Phase Silicone Tray

#### 1a Incognito™ Clear Precision Tray or 1b 2-Phase Silicone Tray 2 Unitek™ Etching Gel П 3 Transbond™ IDB Pre-Mix Chemical Cure Adhesive

4	Mirror
5	Tweezer
6	Scaler
7	Serrated Strips
8	Dry Field System

Alcohol

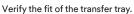


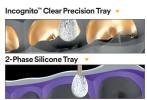












Clean the bracket surface with alcohol using a cotton pellet.



Clean the lingual surfaces thoroughly with pumice slurry and rinse with a water spray.

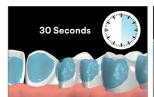
Make sure the surface is absolutely clean and free of dental pellicles.



Insert the dry tips in each cheek and place the dry field system.



Use screenshot to reference all surfaces that need to be phosphoric acid etched.



Etch the lingual surface of all bonded teeth with 35% phosphoric acid for 30 seconds. Use screenshot for reference and check visually.



Remove etching gel with suction.



Rinse with water.



Carefully dry using oil-free and moisture-free air. Check etching result with the mirror.



Dispense equal amounts, 4 drops each of Transbond IDB Adhesive Part A and Part B into a mixing well. Keep Transbond IDB Adhesive refrigerated until ready to mix (working with cold adhesive increases working time).



Mix thoroughly by stirring for 10 seconds.



For indirect bonding, apply a thin layer of the mixed adhesive to every bracket base in the tray (assistant) and ...



... apply a thin layer of the same adhesive to the surface of the tooth (orthodontist).

Control with the mirror.



Insert the transfer tray and hold in position for three minutes. Then leave in mouth for one additional minute.



Incognito™ Clear Precision Tray Remove the dry field system first, then the Incognito Clear Precision Tray. Start with the outer rigid layer, work from posterior to anterior and from buccal to lingual (use scaler if necessary).



Incognito™ Clear Precision Tray
Then remove the softer inner
layer, again beginning in the
posterior and working forward,
and from the buccal to the
lingual side (Incognito Clear
Precision Tray).



2-Phase Silicone Tray Remove the dry field system first, then the bonding tray. Work from posterior to anterior and from buccal to lingual (2-phase silicone tray).



Use the screenshots to check that all the brackets are positioned correctly.



Remove any excess bonding agent from the bracket's and the inter-proximal contacts using a scaler and dental floss. If necessary, use slow speed finishing burr.



Use dental floss to check that all the interproximal gaps are open.



Use serrated strips if neccessary. Don't forget to clean the occlusal and labial surfaces.



Check the bracket slots, tubes, wings and hooks for any remains of silicone from the bonding tray. This ensures proper wire fit and ligation.



Carefully check for premature contacts on the bracket bases in the lateral tooth area (premolars, molars) using Articulating paper. Premature contacts in the anterior region do not have to be corrected.



Remove premature contacts in the posterior tooth area using a ball burr.

Please refer to the Ortholux™ Luminous Curing Light, RelyX™ Unicem 2 Automix Self-Adhesive Resin Cement, Unitek™ Etching Gel, ESPE™ Sil and CoJet™ Sand Instructions for Use for complete instructions.

Please store **Transbond**™ **IDB Pre-Mix Adhesive** in refrigerator at 2°-8°C (36°-46°F)!

\*Curing time depends on power of your curing light. With less power, the required curing time increases. Please refer to manufacturer's instructions.

## Rebonding – RelyX™ Unicem 2 Automix Self-Adhesive Resin Cement

### · Incognito™ Clear Precision Tray

#### Checklist □ 1 Empty Incognito<sup>™</sup> Clear Precision Tray □ 6 ☐ 13 Brushes Ortholux™ Luminous Curing Light □ 2 □ 7 Tweezer ☐ 14 Sandblasting device to RelyX™ Unicem 2 Automix ☐ 8 Dental Mirror clean bracket surface Self-Adhesive Resin Cement ☐ 9 Articulating Paper ☐ 15 Ball Burr ☐ 4 Unitek™ Etching Gel ☐ 16 Screenshots □ 5 Debonded Incognito<sup>™</sup> Appliance ☐ 11 Cotton Rolls and Dental Floss ☐ 12 Alcohol System Bracket 5 1 15 16



Prepare the surface of the tooth. Remove all residual bonding agent using a tungsten carbide finishing burr.



Check visually ...



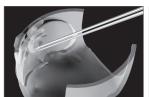
... and with probing to ensure that all bonding residue has been removed.



Separate the inner soft layer of the bonding tray from the rigid outer layer.



To prepare the repositioning jig, identify the correct tooth cavity in the silicone tray and cut along the interproximal areas mesial and distal of this tooth.



Check for, and remove, any loose silicone residue in the bracket cavity.



Without the bracket inserted, place the repositioning jig on the tooth and verify the fit.



Vertically sandblast the base of the bracket. Completely remove any remaining bonding material and roughen the metal surface.



Sandblasted bracket base.



Check bracket fit to ensure that surfaces are smooth and the bracket is correctly positioned in the mouth.



Insert the sandblasted bracket into the repositioning jig.



Incognito™ Clear Precision Tray With the bracket inserted, place the repositioning jig on the tooth and verify the fit again.



Clean the bracket base with alcohol using a cotton pellet.



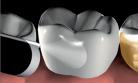
Apply etching gel (35% phosphoric acid) and etch for 30 seconds. Refer to screenshot for position, if needed.



Remove etchant with suction.



Rinse with water.



Carefully dry using oil- and moisture-free air and recheck the surface of the tooth.



RelyX Unicem 2 Automix Cement is a dual cure self-adhesive resin cement. The mixing tip facilitates dosing and mixing. Do not cross-contaminate the outlets of the syringe. Please observe the working time of 2 min 30 sec and refer to manufacturer's instructions.



Using the mixing tip or a microbrush, apply a thin, even layer of bonding material directly to the bracket base in the repositioning jig. Control the amount of bonding material used. Too small amounts may result in gaps under the bracket base. Too large amounts will create excessive flash.



Seat the repositioning jig with the bracket inserted.



Hold the light guide of the Ortholux Luminous Curing Light\* as close as possible and curing all four sides of the bracket for 3 seconds (total 12 sec. cure).



Remove the repositioning jig and carefully remove any excess bonding material using a scaler or a slow speed finishing burr if necessary.



Check occlusion.



Any premature contacts with the bracket base in the lateral tooth area must be removed with the ball burr.

Please refer to the Ortholux™ Luminous Curing Light, RelyX™ Unicem 2 Automix Self-Adhesive Resin Cement, Unitek™ Etching Gel, ESPE™ Sil and CoJet™ Sand Instructions for Use for complete instructions.

Please store RelyX<sup>™</sup> Unicem 2 Automix Self- Adhesive in refrigerator at 2°-8°C (36°-46°F)!

\*Curing time depends on power of your curing light. With less power, the required curing time increases. Please refer to manufacturer's instructions.

## Rebonding – RelyX™ Unicem 2 Automix Self-Adhesive Resin Cement

#### · Without Tray

#### Checklist

- ☐ 1 RelyX<sup>™</sup> Unicem 2 Automix Self-Adhesive Resin Cement
- $\ \square$  2 Ortholux<sup>™</sup> Luminous Curing Light
- □ 3 Unitek<sup>™</sup> Etching Gel
- ☐ 4 Dental Mirror

- □ 5 Articulating Paper
- ☐ 6 Scaler
- ☐ 7 Cotton Rolls and Dental Floss
- ☐ 8 Ball Burr
- □ 9 Alcohol

- ☐ 10 Brushes
- ☐ 11 Tweezer
- ☐ 12 Sandblasting Device to clean Bracket surface
- ☐ 13 Screenshots







Prepare the surface of the tooth. Remove all residual bonding agent using a tungsten carbide finishing burr.



Check visually ...



... and with probing to ensure that all bonding residue has been removed.



Vertically sandblast the base of the bracket. Completely remove the composite base and roughen the metal surface.



Sandblasted bracket base.



Check bracket fit to ensure that it is correctly positioned in the mouth using a pair of special lingual bracket tweezers.

Option: Isolate hooks, wings and bracket slot with wax to avoid contamination with resin cement.



After checking the fit, clean the bracket base with alcohol using a cotton pellet.



Apply etching gel (35% phosphoric acid) and etch for 30 seconds.



Remove etchant with suction.



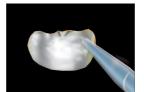
Rinse with water.



Carefully dry using oil- and moisture-free air and recheck the surface of the tooth.



RelyX Unicem 2 Automix Cement is a dual cure self-adhesive resin cement. The mixing tip facilitates dosing and mixing. Do not cross-contaminate the outlets of the syringe. Please observe the working time of 2 min 30 sec and refer to manufacturer's instructions.



Using the mixing tip or a microbrush, apply a thin, even layer of bonding material directly to the bracket base. Control the amount of bonding material used. Too little of the bonding material may result in gaps under the bracket base. Too much will create excessive flash.



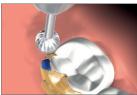
Seat the bracket and carefully remove excess resin.



Hold the light guide of the Ortholux Luminous Curing Light\* as close as possible and curing all four sides of the bracket for 3 seconds (total 12 sec. cure).



Check occlusion.



Any premature contacts with the bracket base in the lateral tooth area must be removed with the ball burr.

Please refer to the Ortholux<sup>™</sup> Luminous Curing Light, RelyX<sup>™</sup> Unicem 2 Automix Self-Adhesive Resin Cement, Unitek<sup>™</sup> Etching Gel, ESPE<sup>™</sup> Sil and CoJet<sup>™</sup> Sand Instructions for Use for complete instructions.

Please store and use RelyX™Unicem 2 Automix Self-Adhesive Resin Cement at room temperature!

\*Curing time depends on power of your curing light. With less power, the required curing time increases. Please refer to manufacturer's instructions.

## Bonding to Non-Enamel Surfaces – RelyX™ Unicem 2 Automix Self-Adhesive Resin Cement

#### Checklist □ 1 Incognito™ Clear Precision Tray □ 8 Dental Mirror □ 15 Aluminium Oxide ≤ 40 um □ 2 Ortholux™ Luminous Curing Light\* □ 9 **Articulating Paper** Dry Field System □ 3 RelyX™ Unicem 2 Automix □ 10 □ 17 **Ball Burr** Unitek<sup>™</sup> Etching Gel □ 11 □ 18 □ 4 Sandblasting Device Serrated Strips □ 5 ESPE™ Sil □ 12 Alcohol □ 19 Dry Tips CoJet<sup>™</sup> Sand □ 6 □ 13 Brushes ☐ 20 Screenshots Cotton Rolls and Dental Floss Tweezer

## **Preparation**



Verify the fit of the transfer tray.





Clean the bracket surface with alcohol using a cotton pellet.



Clean the lingual surfaces thoroughly with pumice slurry and rinse with a water spray.

Make sure the surface is absolutely clean and free of dental pellicles.



Insert the dry tips in each cheek and place the dry field system



Use screenshot to reference all surfaces that need to be phosphoric acid etched.

### **Pretreatment**

- Metal crowns
- · Crowns with metal lingual surface
- · Composite crowns



Blast the restoration surface with aluminium oxide ≤ 50µm. Cover the patient's face to protect it from the powder.



Clean the blasted surface with alcohol.



Carefully dry using oil- and moisture-free air. Check the treatment result with the

- Etchable glass ceramic restorations
- · Zirconia and aluminium oxide ceramic restorations



Coat (silicate) the restoration surface to be luted with the micro-blasting device CoJet Prep\*\* and the blast-coating agent CoJet Sand\*\* from a distance of 2 – 10 mm and vertically to the surface for 15 seconds.



See Instructions For Use for CoJet Prep and CoJet Sand!

Make sure that you don't hurt the gingiva while micro-etching. Cover the patient's face to protect it from the powder. Rinse well!



Blow away any residues of the blasting agent with waterfree and oil-free air. Check the treatment result with the mirror.



Apply ESPE Sil in accordance with the instructions for use. For each use, freshly dose ESPE Sil in a clean, greasefree dish.

Immediately after use, reseal the bottle containing the volatile solution.



Use a disposable brush to apply the silane solution to the surface(s) silicatized with CoJet Sand once. Allow the volatile silane solution (ESPE Sil) to dry for 30 seconds.

## Bonding with RelyX™ Unicem 2 Automix Self-Adhesive Resin Cement For Instructions continue on page 5 - step 10.

- \*\*CoJet Intraoral Adhesive Repair System
- CoJet Prep, the intraoral microblasting unit.
- CoJet Sand, the coating medium for cold silicatisation of the restoration surface.
- · ESPE Sil, the silane coupling agent (for silicated surfaces)



Please refer to the Ortholux™
Luminous Curing Light,
RelyX™ Unicem 2 Automix
Self-Adhesive Resin
Cement, Unitek™ Etching
Gel, ESPE™ Sil and CoJet™
Sand Instructions for Use for complete instructions.

Please store RelyX<sup>™</sup> Unicem 2 Automix Self- Adhesive in refrigerator at 2°-8°C (36°-46°F)!

\*Curing time depends on power of your curing light. With less power, the required curing time increases. Please refer to manufacturer's instructions.

Notes			

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