



everStick® ORTHO

# The metal-free alternative to conventional retainers

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# everStick®ORTHO fibres

## A metal-free alternative to conventional retainers

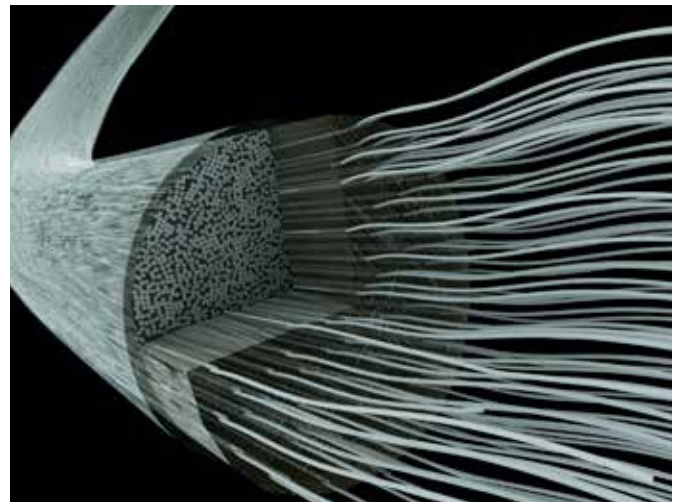
everStick®ORTHO fibres introduce the beauty of composite with the strength of steel, to provide strong yet aesthetic technology that allows quick and simple placement of orthodontic retainers.

- Blends with the tooth shade – highly aesthetic
- Quick application – no need to pre-bend before placement
- Easy to adapt – no study models or second appointment needed
- Metal-free
- Reliable composite bonding
- Comfortable
- As strong as metal with outstanding aesthetics



everStick®ORTHO fibre is an incredibly strong composite material made of individually silanated E-glass fibres that are enclosed in a polymer/resin gel matrix. This fusion of fibres and resin forms an Interpenetrating Polymer Network (IPN).

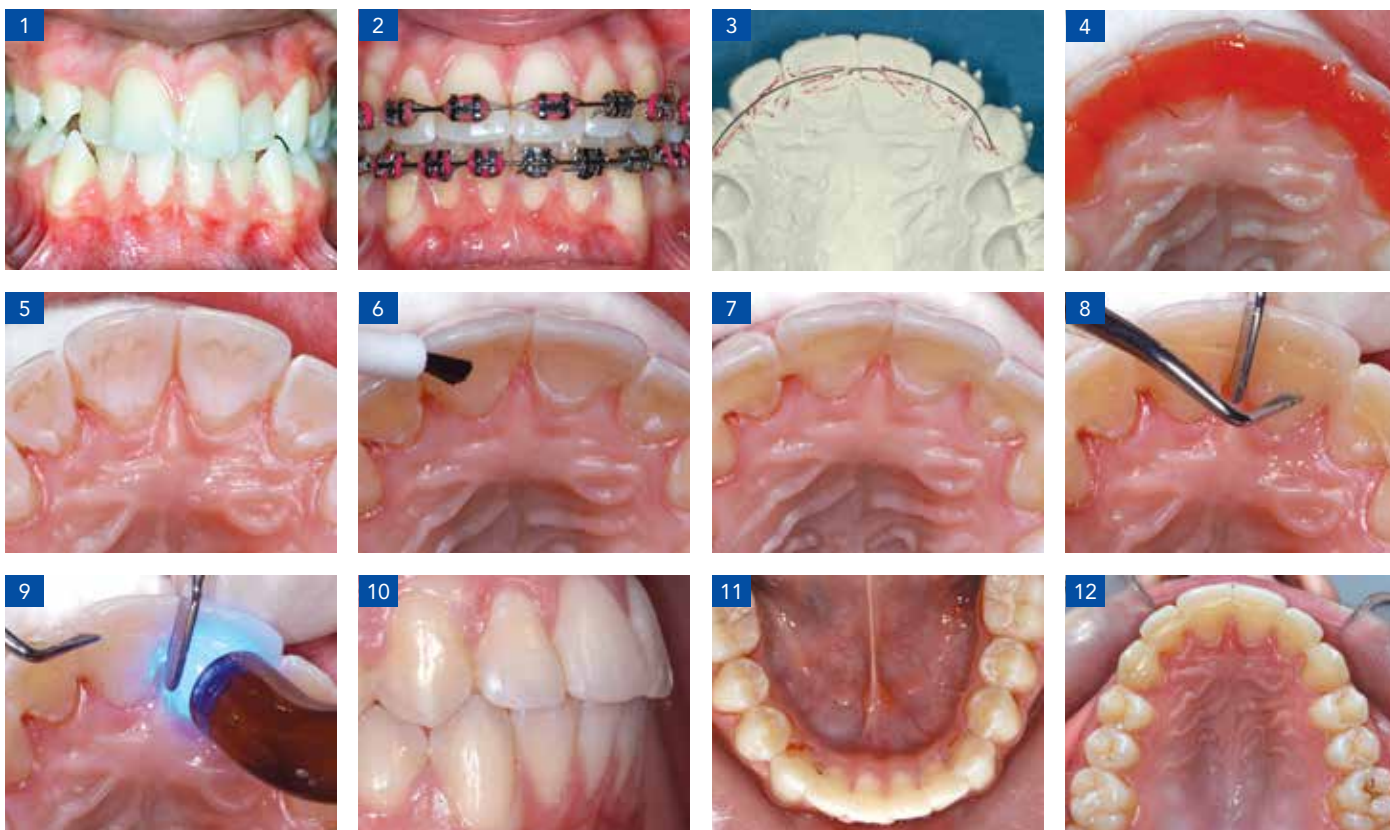
The IPN structure is the reason for the exceptional performance characteristics of these fibres; they are very strong, very aesthetic and user-friendly. The un-cured polymer/resin gel holds the individual glass fibres in a flexible bundle which facilitates easy handling and manipulation. The fibre bundle has no memory, so when polymerised it is fixed passively onto the teeth.



Cross-sectional view of everStick® fibres. Silanated E-glass fibres are impregnated with resin to form the strong and durable IPN structure.

# Maxillary and mandibular bonded retainers after orthodontic therapy using everStick®ORTHO

Case Report by Vittorio Cacciafesta, DDS, MSc, PhD, Assistant Clinical Professor, University of Insubria, Italy & Francesca Sfondrini, MD, DDS, Assistant Clinical Professor, University of Pavia, Italy.



## Figs. 1-2

The patient was a 13-year-old female, who was referred to our clinic for maxillary and mandibular crowding and increased overjet. After treatment, it was planned to place maxillary and mandibular bonded retainers made of everStick®ORTHO to prevent any possibility of crowding relapse.

## Figs. 3-4

The desired length of fibre splanter was measured and cut with scissors directly from the package. The lingual surfaces of the teeth were sandblasted with a micro-etcher for 3 seconds on each tooth. After sandblasting, the tooth surfaces were etched with 37% phosphoric acid for 30 seconds. Note that etching was performed on a wide enamel area, to optimise bond strength.

## Figs. 5-6

After proper rinsing and drying, the enamel surface should have a white chalky appearance. After etching, the bonding agent was applied with a brush and cured.

## Fig. 7

A thin layer of flowable composite was applied onto the lingual surfaces.

## Fig. 8

The fibre bundle was then placed onto the flowable composite and pressed down with a hand instrument.

## Fig. 9

Each tooth was light cured for 5 seconds, protecting the rest of the fibre bundle with a wide instrument. Then, the whole retainer was covered with a layer of flowable composite and light-cured for 40 seconds per tooth. Note that the flowable composite must cover the entire length of the fibre bundle, including the interproximal areas.

## Fig. 10

The retainer was polished, and the occlusion was checked. The same procedure was carried out in the lower arch for fabricating a bonded 3-3 mandibular retainer.

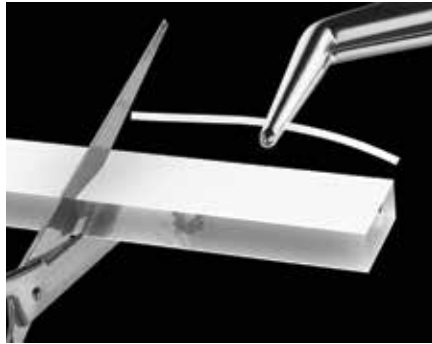
## Figs. 11-12

Final post treatment result.

# Clinical placement instructions



1. Measuring the fibre



2. Cutting the fibre



3. Cleaning the tooth surfaces



6. Placing composite



7. Positioning and light-curing the fibre



8. Curing

## 1. Measuring the fibre

Using a piece of dental floss (or similar) measure the length of fibre required to make the everStick®ORTHO retainer. Talc-free gloves are recommended when handling everStick®ORTHO fibres.

## 2. Cutting the fibre

Open the foil pouch and draw the silicone wrapped fibre bundle partly out. Using sharp scissors, cut the desired length. Shield the cut piece of fibre from light, by placing it under a cover during preparation of the tooth surfaces. Close the foil pouch with its sticker.

## 3. Cleaning the tooth surfaces

The entire length of the retainer must be bonded to the tooth surfaces. After placing rubber dam, clean the tooth surfaces with pumice and water, and air-dry the area. Alternatively, you can sandblast the surfaces with a micro-etcher for approx. 5 seconds per tooth, rinse with water and air-dry.

(If possible, position wedges in the interproximal spaces to avoid these being occluded with composite. If you are working without wedges, note that the interproximal spaces must remain free of composite).

## 4. Etching the tooth surfaces

In the area where the retainer and composite is to be placed, etch the tooth surfaces and interproximal spaces with ortho-phosphoric acid for 45-60 seconds. Rinse and dry.

## 5. Applying bonding agent

Apply a thin layer of bonding agent (eg G-æniel Bond) to the etched and dried tooth surfaces. Air-dry the bonding agent to a thin layer. Light-cure the bonding agent as described by the manufacturer.

## 6. Placing composite

Apply a thin layer (0.5mm) of flowable composite (GC G-æniel Universal Flo JE) onto the tooth surfaces, including interproximal spaces, in the area of the retainer, two teeth at a time.

Leave enough room for cleaning the interproximal spaces. DO NOT cure the composite at this stage.

## 7. Positioning and light-curing the fibre

Remove the white cover paper and use tweezers to pick the everStick®ORTHO fibre bundle up from the silicone groove.



4. Etching the tooth surfaces



5. Applying bonding agent



9. Coating and finishing the retainer



10. Finished retainer

Press the fibre bundle into the flowable composite on the tooth using a suitable instrument (eg Stick Stepper). Note that you can coat the fibre bundle at this point with an additional thin layer (0.5 mm) of composite if necessary. The fibre bundle should be placed on the lingual surface as close to the incisal edge of the teeth as possible, without obstructing occlusion.

## 8. Curing

Tack-cure the fibre in place one tooth at a time, using a light-curing time of 5-10 seconds. Use the Stick Stepper instrument to shield the uncured fibre from the curing light which should be directed away from the uncured fibre bundle.

## 9. Coating and finishing the retainer

Following pre-curing, cover the whole everStick®ORTHO fibre retainer with a final thin layer of composite. Then, light-cure the whole retainer for 40 seconds per tooth. Finish and polish the composite, ensuring the fibre is not exposed or cut during the finishing procedures.

## 10. Finished retainer

## Important tips to ensure clinical success

- The fibre retainer should be positioned as incisally as possible, to minimise the forces that might otherwise loosen it. Ensure that the retainer is not in occlusal contact.
- everStick®ORTHO fibres can't be contaminated with saliva during placement, hence effective isolation is important.
- everStick®ORTHO fibres should always be coated with a thin (0.5 mm) layer of composite. This includes the area of fibre positioned in the interproximal spaces.
- Care should be taken by clinicians and patients to avoid any activities that could expose fibres, as this may be a future source of irritation to the patient.
- everStick®ORTHO fibres require bonding across the full width of palatal or lingual, as well as proximal surfaces. The use of a spot bonding technique DOES NOT provide sufficient bonding between the fibre retainer and surface of the tooth.
- The choice of composite used to retain everStick®ORTHO fibres is important. It should have a flowable consistency, a lower modulus of elasticity (increased flexibility), high strength and ideally be highly polishable. For these reasons, GC G-ænial Universal Flo, a high strength injectable composite, is the recommended composite for this bonding procedure.



## everStick®ORTHO

ø0.75mm (1600 fibres)

Refill 12cm x 2



StickRESIN 5ml



Stick Stepper



Stick Carrier



## G-ænial Universal Flo

Standard:

A1, A2, A3, A3.5, A4,  
BW, B1, B2, B3, C3, CV

Inside (Opaque): A02, A03

Outside (Enamel): AE, JE



## G-ænial Bond

Refill Package contains:

1 x 5ml bottle of G-ænial Bond



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