

supraCXN Stick

Adhesive Tip Applicator Scientific document



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01 Introduction



1.1 Adhesive Tip Applicator

During the process of dental treatment, it is difficult for clinicians to treat or place the tiny and fragile restorations or components with hands. Thus, it is necessary to develop a placement instrument to help to securely pick up, hold, carry and place the dental restorations or components.

1.2 supraCXN Stick

supraCXN Stick is designed with a flexible adhesive tip to securely place and hold fragile restorations and components, such as veneers, onlays, inlay, crowns, brackets and more. After placement, the applicator can be removed with a simple twist with no residual. This innovative tool is ideal for quickly and easily placing delicate or small restorations, giving clinicians the confidence to handle fragile items, limiting the risk of shifting or detachment from the instrument, and avoiding the risk of swallowing by the patients.



02 Technical data and Indications



2.1 Components

supraCXN Stick is composed of ABS plastic and bonding materials (ethylene vinyl acetate polymer-EVA, tackifier, viscosity modifier, and antioxidant).

2.2 Bond mechanism

The surface of the non-hardening adhesive tip interacts with molecules on the surface of other materials to form an adsorption force, thus achieving an adhesion with the dental restorations or components.

2.3 Characteristics and performance

supraCXN Stick is simple-just pick, place and twist. With a unique, non-hardening adhesive tip, supraCXN Stick enables dentists to securely hold restorations or components until placed securely in their proper place. The innovative adhesive formula ensures no residue remains on adhered surfaces. The position of the tip can be bent easily at any point on the 360° axis to place the restoration or component to the target location. Specially designed dispenser for easy handling and to protect the adhesive tip to reach and access to difficult places. The product is disposable to avoid cross infection.

2.4 Indications

- (1) Ideal for veneers, inlays, onlays and crowns holding and placement during the cementation procedure.
- (2) Ideal for band, brackets, and clasps holding and placement.



03 Scientific investigations



In vitro research is the foundation for all dental products testing during the development. Although it cannot fully predict clinical results, it provides some reference for clinical application.

To estimate the application properties of supraCXN Stick, such as neck bending, holding stability, adhesive stability etc., it was used to pick up variety restorations and components during the different dental treatments.

The following section details the most important investigations carried out with the supraCXN Stick. And, the adhesive stabilities were compared with similar product, such as Opra Stick (Ivoclar), and Cotisen (Promisee Dental).

3.1 Application of supraCXN Stick: picking, holding and placing dental restorations or components

supraCXN Stick can be used to pick up, hold, carry and place various prosthesis and small objects of all kinds quickly, as showed in Fig. 1. And, the neck of adhesive tip applicator can be bended, which helps to place the dental prosthesis easily and accurately.



Fig. 1 Dental prosthesis picked up with supraCXN Stick

3.2 Application of supraCXN Stick: holding the restorations during the surface treatment and cementation procedure

The adhesive tip applicator can be used to pick up and handle the small restorations. With the help of the instrument, the restoration can be treated easily.

Fig. 2 shows the procedure of dental ceramic veneer surface treatment and cementation procedure, including etching, brushing, rinsing, drying, silanizing, and cementing.

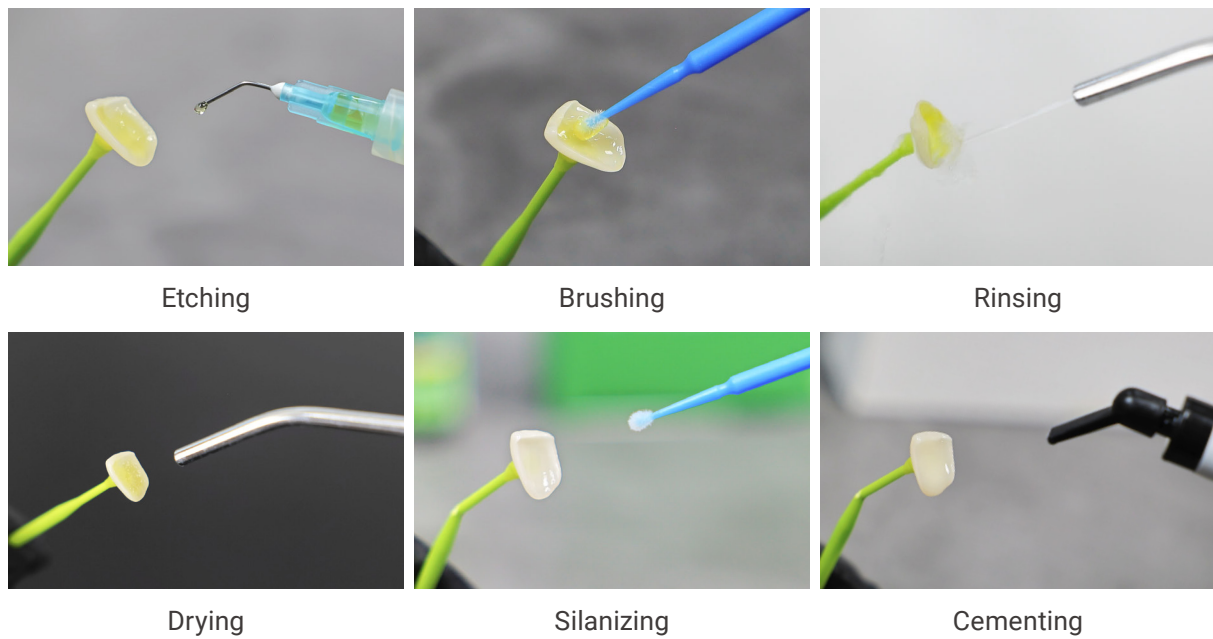


Fig. 2 Dental ceramic veneer cementation procedure with supraCXN Stick

3.3 Application of supraCXN Stick: adhesive stability

To evaluate the adhesive stability between adhesive tip applicator and dental prosthesis. Adhesive stability test was proceeded with mentioned 2 brands adhesive tip applicator. A dental ceramic veneer was picked with the adhesive tip applicator and held stationary for 1 minute, to see if the dental ceramic veneer would drop.

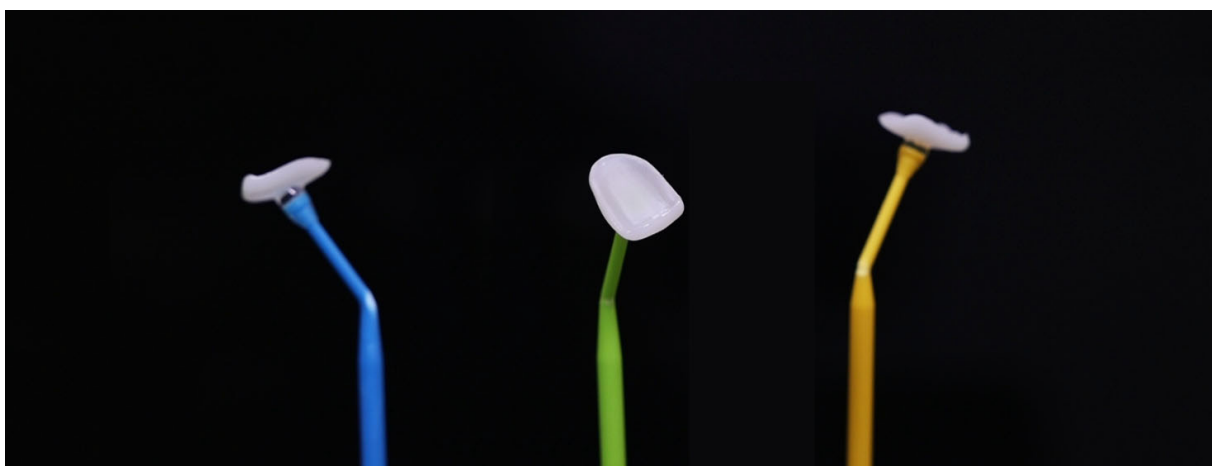


Fig. 3 Adhesive stability of Adhesive Tip Applicator

The test results shown in Fig. 3, that all the Adhesive Tip Applicator from Upcera, Ivoclar and Promisee Dental have good adhesive stability.

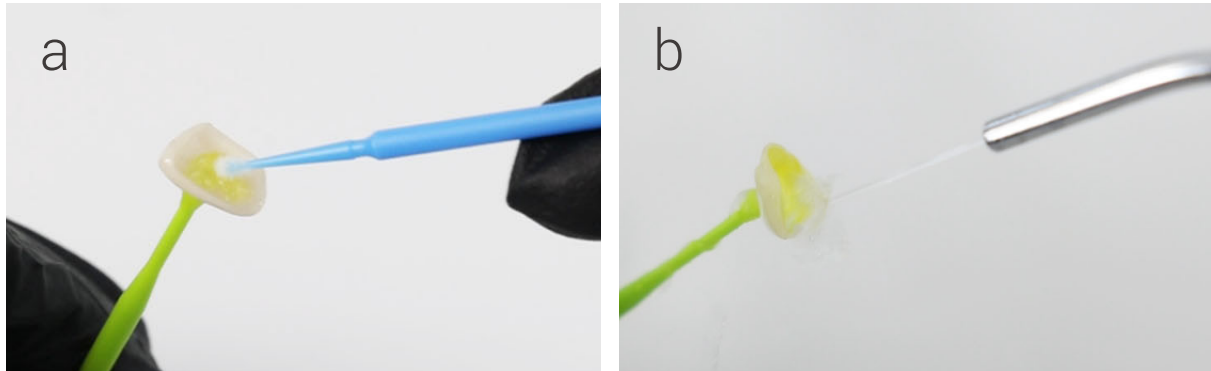


Fig. 4 Adhesive stability of supraCXN Stick, brushing(a) and rinsing(b)

Fig. 4 shows the adhesive between supraCXN Stick and dental veneer is stable during brushing and rinsing, which can hold the restorations stationarily and satisfy the clinical application.

3.4 Application of supraCXN Stick: easy to remove with no residual

Adhesive property of adhesive tip applicator is important, which can provide operational stability. But, after the dental prosthesis is placed at the tooth position, the adhesive tip applicator is required to debond with no residual viscose. The debonding test was performed and test result was shown in Fig. 5.



Fig. 5. Debonding test of supraCXN Stick

The test result shows that the supraCXN Stick can be debonded from the dental ceramic veneer with no obvious residual viscose.

It can be concluded that with the assistance of the supraCXN Stick, the tiny and fragile restorations or components can be picked up, held, and carried more securely. The surface treatment and cementation procedures for restorations are simple to carry out, and provide clinicians with a convenient operating experience.