Ever - Stick Post: Esthetic Transparent Glass Fiber Post For Efficient Corono - Radicular Stabilization of Compromised Coronal Tooth Structure - Review

Dr. Mamta Kaushik[1], Dr. Roshni Sharma[2], Dr. Soujanya[3], Dr. Neha Mehra[4], Dr. Mohammad Aleemuddin[5]

HOD[1], Reader[2,3,4], Senior Lecturer[5], Department of Conservative Dentistry & Endodontics, Army College of Dental Sciences, Telangana

Abstract:

Patented IPN technology is at the heart of ever-Stick fibers. Ever-Stick fiber bundles have up to 4000 individually silanated E-glass fibers that are fully impregnated with resin. This fusion of fibres and resin forms the exceptionally strong, aesthetic and user-friendly Interpenetrating Polymer Network (IPN). Ever-stick transparent glass fiber post is one of the esthetic post where it can be flexed and can be incorporated in the compromised coronal tooth structure to stabilize Corono-Radicular assembly

Keywords: IPN technology, silanated E glass fibers

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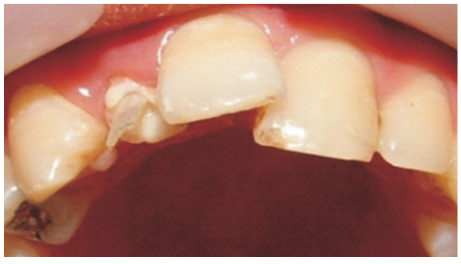
Introduction

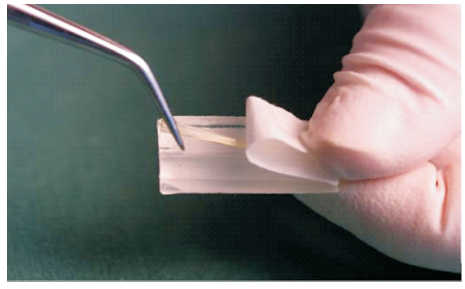
Truly anatomical, custom-made and individually shaped posts. Ever-Stick POST is an ideal solution for curved, oval and large root canals, offering the advantages of a cast post but with superior bonding ability. Adapts to the morphology of the canal to maximise the adhesive surface and the strength in the most critical part of the tooth. High flexural strength after light-curing. Elasticity very similar to the natural elasticity of dentine. Adhesive and micromechanical bonding to bothcomposite, cement and core composite. Tooth preserving because canal preparation is not needed to the same degree as with traditional prefabricated posts.

Ever-Stick glass fiber reinforcements have been developed to provide solutions for modern, patient-friendly dentistry. Ever-Stick fiber reinforcements are made of silanated glass fibers in thermoplastic polymer and light curing resin matrix. Ever-Stick products address the advantages of minimally invasive dentistry where the patient´s own healthy tooth tissue is saved for as long as clinically possible. This also means that other treatment options remain available should the patient ever need them in the future.



IPN-The Heart of Ever-Stick Fibers

Proper bonding between the fibers and composite is the key factor for a successful treatment. Only Ever-Stick products have a unique, patented interpenetrating polymer network structure (IPN). Clinically this leads to superior bonding enabling reliable surface retained applications and perfect handling properties. The significance of the IPN structure is that surfaces can be reactivated even after the final polymerisation. Reactivation is crucial for superior bonding when laboratory-manufactured restorations are cemented to teeth. Fiber reinforced composite (FRC) devices are remodelled or repaired.The IPN structure makes the Ever-Stick products fundamentally different from any other fiber or composite materials available.



Advantages of Ever-Stick fibers

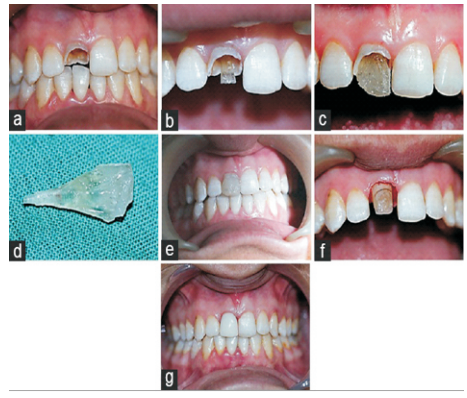
1. Minimally invasive and reversible;
2. Superior mechanical properties
3. Unique patented bonding
4. As strong as metal
5. Elasticity close to that of dentin

Instructions For Use Everstick Post - For Root Canal Posts

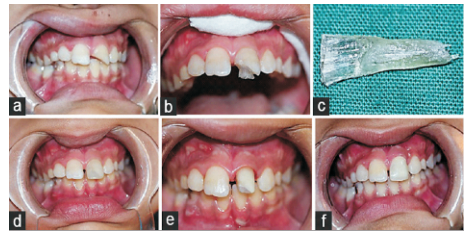
The Ever-Stick POST is an adaptable, polymer (PMMA) and resin-impregnated (bis-GMA) un-polymerized glass fibre post. Polymerizing this material produces a post with high flexural strength and elasticity very similar to the natural elasticity of dentine. Consequently, the stress of occlusion will be evenly distributed on the root structure.

Adhesive and micromechanical bonding to both resin cement and composite ensures a strong bond to the root canal and the composite core.

When Ever-Stick posts are used, preparation of the root canals is not needed to the same degree as with traditional posts. Thus, the dentine can be saved and the risk of perforation is reduced because the canal preparation is minimized. The pulp chamber of the root canal can be completely filled with fibers instead of cement. When the post is adapted to the morphology of the canal and the root canal is completely filled with fibers, the adhesive surface and the strength in the most critical part of the tooth are maximized.



The unique properties of Ever-Stick posts glass fiber posts also make it possible to use the posts in curved and oval root canals as well as in very large canals, where several posts of different lengths and diameters can be placed in the same canal. Ever-Stick posts can also be used in traditionally prepared and enlarged root canals.



Clinical Procedures

Prior to the use of Ever-Stick posts, the root canal of the tooth should be endodontically treated and filled using generally approved

methods. In order to make the best use of the properties of Ever-Stick posts, it is recommended to prepare the root canal using tissue saving principles

Selecting the Ever-stick posts

Ever-Stick posts are available with three different diameters: 0.9, 1.2 and 1.5 mm. The most suitable size can be selected for canals of different sizes and shapes. In large canals and root canal openings it is recommended to use two or more posts.

Root Canal Preparation

1. Remove 2/3 of the length of the root canal filling material or at least the height of the clinical crown from the canal. For example, Gutta Percha can be removed with a suitable size Gates Glidden bur without enlarging the canal. All the root canal filling material should be removed from the length of the preparation.
2. Leave a minimum of 3-5 mm of Gutta Percha at the apex of the root. Rinse the canal with water and dry carefully using paper points. The working area should be isolated from moisture as well as possible. Use of rubber dam is highly recommended.
3. Measure the depth of the prepared canal using, for example, an endodontic instrument or a periodontal probe. Estimate also the height of the coronal structure required.
4. Open the ever-Stick posts foil bag. Cut the required number of posts from the silicone strip using scissors. Close the foil bag with its sticker.

Ever-Stick posts Placement procedure

1. Mark the measured length of the post to the protective paper. With sharp scissors pre-cut the post to a suitable length together with the silicone.
2. Use tweezers to take the post out from the silicone. Check the length and suitability of the ever-Stick posts by inserting it into the root canal. Always use tweezers to handle the post.
3. If the post does not reach the necessary depth, taper the end of the post with sharp scissors.
4. Fit the post inside the root canal again. At this point, if needed, you can shorten the coronal section of the post to an appropriate length with sharp scissors.
5. In the upper portion of an oval or a very large canal, it is recommended use more than one post to strengthen the post in areas of greater load.
6. All additional posts are shaped and attached tightly to the main post both coronally and inside the root canal using lateral condensation.

Ever-Stick Posts Cementation:

Ever-Stick Posts Cementation

To cement the ever-Stick posts use low viscosity dual curing cement. Pay careful attention to the manufacturer's instructions. TIP: It is important to select a dual cure composite resin cement with low viscosity. Use of very high viscose cement may prevent the unpolymerized post from reaching full depth inside the canal.

1. Fill the canal with cement using an intraoral tip. It is important that you start filling the canal from the apical region and proceed slowly by moving the syringe steadily upwards until the canal is filled.

Note

Do not use lentulo to apply the cement – it accelerates the polymerization process of the composite cements. Covering the post with cement instead of filling the canal prior to inserting the post into the canal may cause air voids and shredding of the individual posts from the post bundle.

2. Slowly insert the post into the canal. You can shape and bend the coronal part of the post while it is still soft. Be careful not to lift the post at this point. You can remove any excess cement at this point.
3. Light cure the post and the cement from above of the post perpendicular to the fibrers for at least 40 seconds.

4. When the post and the cement are cured, you can continue building the coronal part of the tooth and the composite material best suited for the purpose.

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