Competitive Product and Procedure Comparison

3M™ RelyX™ Fiber Post 3D
Glass Fiber Post
Offered by 3M

FibreKleer™ 4X™ Tapered
Glass Fiber Post
Offered by Pentron Clinical

Summary – Advantages of 3M Solution over Pentron Clinical

- Faster and simpler 3M post and core solution with proven products (Fig. 1)
- Reliable post and core build-up procedure with fewer clinical steps and fewer products (Fig. 1)
- Easier cementation with 3M™ RelyX™ Unicem 2 Automix Cement: no post silanating, no root canal conditioning, no application of cement to post, no lentulo usage (endo tip application of RelyX Unicem 2 Automix enables a virtually void-free cementation (Fig 1.))
- Easier bonding with 3M™ Scotchbond™ Universal Adhesive for the core build-up: No etching or priming (Fig. 1)

3M post and core solution compared to Pentron Clinical

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Fig. 1: Less components and steps compared to Pentron System Solution. Source: Steps according to instructions for use of FibreKleer™ 4X™ Tapered and 3M™ RelyX™ Fiber Post 3D.

RelyX Fiber Post 3D – Major features

- No pre-treatment of the post needed due to the micro-porosity at the surface (Fig. 2)
- Integrated 3D macro retention in the coronal part for a high bond strength to the core build-up (Fig. 3)
- Excellent radiopacity for better post position control (Fig. 4)

Fig. 2: Surface (SEM, 200x magnification) of 3M™ RelyX™ Fiber Post 3D.

Fig. 3: The coronal macro retention of 3M™ RelyX™ Fiber Post 3D give a high and secure mechanical retention to the core build-up material, immediate depth control and guidance for post shortening.

Fig. 4: Comparative radiography of both posts.
**Product description and benefits:**

*(As stated by the manufacturer)*

| **RelyX™ Fiber Post 3D** Glass Fiber Post | **FibreKleer™ 4X™ Tapered Glass Fiber Post** Offered by 3M

- Glass fiber reinforced composite post with uniquely designed coronal macro-retention. Embedded in a fast and simple 3M post and core solution for a secure bond from root to core.

- FibreKleer 4X Fiber Posts feature outstanding radiopacity of up to 400% of aluminum to help ensure that they are instantaneously identified on a radiograph at placement as well as at follow up appointments.

| **Cement** | **Breeze™ Cement**

- **3M™ RelyX™ Unicem 2 Automix Cement**
  - Self-adhesive universal resin cement, no need for etching, priming and bonding
  - Reduces significant number of steps
  - Endo tip allows easy and virtually void-free application
  - Delivers reliable and strong bond of post to root canal

- **FibreKleer™ 4X™ Tapered**
  - Radiopacity up to 400% of Al – post is clearly identified on a radiograph
  - Mimics properties of the root – ideal flexural modulus properties help minimize root fractures
  - Translucent glass fibers

| **Post** | **Bond-1® Primer/Adhesive**

- **3M™ RelyX™ Fiber Post 3D**
  - High mechanical retention to core due to coronal macro retention
  - Secure bond in the root canal due to superficial micro-porosity
  - High radiopacity
  - Dentin-like elasticity to avoid root fracture
  - Esthetic alternative to metal posts
  - The flattened coronal macro retention offer a safe grip with the tweezer

- **Build-It™ FR Fiber Reinforced Core Material**
  - Fiber reinforced dual-cure resin composite
  - Radiopaque
  - Available in 5 shades: A2, A3 and Opacuous White for cosmetic restorations and Gold and Blue for margin definition

| **Adhesive** | **Core build-up**

- **3M™ Scotchbond™ Universal Adhesive**
  - Light-curing, self-adhesive
  - Reliable and strong bond to root and core
  - Bonds to all surfaces including enamel, dentin, glass ceramic, zirconia, noble and non-precious alloys, and composites – without additional primer
  - One application of adhesive sufficient (no etching or priming)
  - Combined total-etch, self-etch and selective-etch adhesive

- **3M™ Filtek™ One Bulk Fill Restorative**
  - Improved opacity and esthetics
  - Excellent cavity adaptation
  - One-step placement up to 5 mm
  - Excellent handling and sculptability
  - Excellent wear resistance and polish retention
  - High radiopacity

| **How it works** | **How it works**

- **3M Oral Care**
  - Clean RelyX Fiber Post 3D with alcohol
  - Apply RelyX Unicem 2 Automix Cement into root canal
  - Insert post into root canal
  - Apply Scotchbond Universal Adhesive to the coronal part of post and tooth
  - Build-up core with Filtek One Bulk Fill Restorative

- **3M.com/dental**
  - Clean post with alcohol
  - Apply Bond-1® Primer/Adhesive into root canal
  - Coat the post with cement
  - Apply cement into root canal
  - Insert post into root canal
  - Apply etch gel to tooth
  - Apply Bond-1® Primer/Adhesive to tooth
  - Build-up core with Build-It FR Fiber Reinforced Core Material

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*Information obtained from http://www.pentron.com/index.php/products*