

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

	Post cementation						Core build-up					
	Apply etching gel	Apply primer	Mix adhesive	Apply adhesive	Condition post	Apply cement	Place post and cure	Apply etching gel	Apply primer	Mix adhesive	Apply adhesive	Core build-up
3M	-	-	-	-	-			-	-	-		
Pentron	-	-	-	-	-			-	-	-		

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)

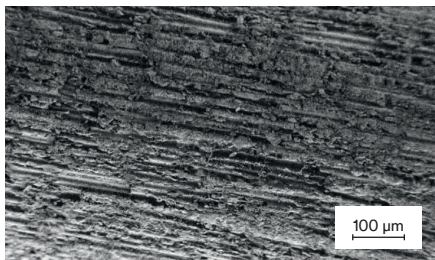


Fig. 2: Surface (SEM, 200x magnification) of 3M™ RelyX™ Fiber Post 3D.

Source: R. Peez, R. Hampe, S. Hader, E. Popp, J. Edgington: Evaluation of a New Cement Post and Core Procedure System, J Dent Res 94 (Spec Iss A): 0105, 2015, (www.dentalresearch.org)

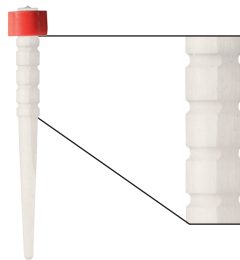


Fig. 3: The coronal macro retention of 3M™ RelyX™ Fiber Post 3D give a high and secure mechanical retention to the core build-up material, immediate depth control and guidance for post shortening.

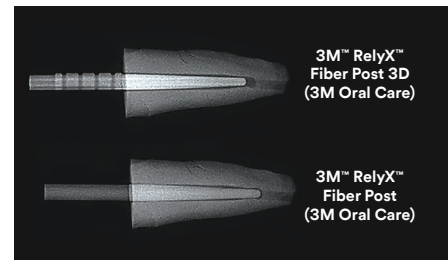


Fig. 4: Comparative radiography of both posts. Source: THE DENTAL ADVISOR, Research Report Number 70 – June 2015

RelyX™ Fiber Post 3D Glass Fiber Post

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FibreKleer™ 4X™ Tapered Glass Fiber Post

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Product description and benefits:

(As stated by the manufacturer)

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



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

Breeze™ Cement

- Self-adhesive resin cement
- Procedure time is reduced, due to eliminating the etching, priming and bonding steps
- Exceptional bond strength
- Contains fluoride

Post



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 tweezers

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

Adhesive



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

Bond-1® Primer/Adhesive

- Dual-curing
- High bond strengths
- Bonds to virtually all direct and indirect restorations
- Film thickness of only 8 microns

Core build-up



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

Build-It™ FR Fiber Reinforced Core Material

- Fiber reinforced dual-cure resin composite
- Radiopaque
- Available in 5 shades: A2, A3 and Opaque White for cosmetic restorations and Gold and Blue for margin definition

How it works

- 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

- 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



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

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