



IMPORTANT:
Read pages 7 through 12
for Technique first.



Flexi-Flange[®] Fiber

*Instruction Book for Flexi-Flange
Fiber Posts*



Caution: Federal law restricts this device to sale by or on the order of a licensed dentist.

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Since the introduction of the revolutionary split shank Flexi-Post® & Flexi-Flange® Essential Dental Systems has developed an innovative family of products that meet the challenges of restorative dentistry.

In keeping with their tradition of superior, clinically tested products that are proven safe and reliable under function, Essential Dental Systems has created two additional remarkable products: Flexi-Post® Fiber & Flexi-Flange® Fiber.

These are the only fiber posts to provide superior retention and stability without requiring the use of a bonding agent!

Important Storage Note:

Keep posts out of sunlight. Prolonged direct exposure to sunlight will cause the Flexi-Post Fiber and Flexi-Flange Fiber to turn brown.

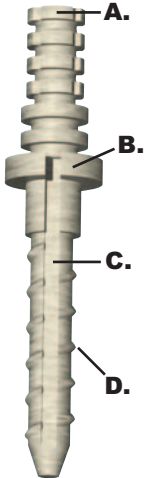
Flexi-Flange Fiber

A. Serrated Head permits greater retention of core material.

B. The Second Tier and Flange increases the intimacy of fit between the post and the natural point at which the canal widens, thereby reducing destructive long lever arms.

C. The Flexi-Flange Fiber Vent releases internal hydrostatic pressure upon cementation.

D. Threaded design for greater retention than passive fiber posts without the need for a bonding agent.



The Patented split-shank design of the Flexi-Fiber Tap.

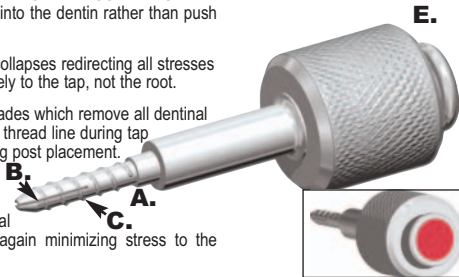
A. PARALLEL-SIDED SUPER SHARP THREADS cut into the dentin rather than push it aside.

B. The split collapses redirecting all stresses of insertion safely to the tap, not the root.

C. Vertical blades which remove all dentinal debris from the thread line during tap insertion, easing post placement.

D. Creates a threaded post-hole in a gradual fashion, once again minimizing stress to the root.

E. The groove around the color-coded handle allows the dentist to attach dental floss to aid in patient safety (We also recommend the use of a dental dam).

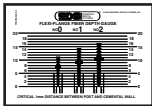


color-coded to match post size.

Important:

Please use appropriate autoclave sterilization method such as heat or steam prior to each use. Additionally, periodic ultrasonic cleaning to remove debris from the split-shank is recommended.

Components and Their Uses



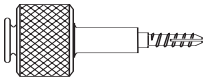
Depth Gauge - used in conjunction with conventional radiograph, it facilitates the proper choice of post size placed within the root.



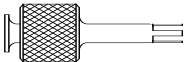
Primary Reamer - used to create the primary post-hole after use of the Peeso or Gates Glidden reamer. The Primary Reamer is self limiting within each size. color-coded to match the post size.



Countersink Drill/Root Facer - used to create the preparation for the second tier and flange of Flexi-Flange Fiber, in one operation. The flange allows the post better adaptation and stability in cases with minimal coronal dentin. color-coded to match the post size.



Flexi-Fiber Split Tap - used to create a threaded post-hole in a gradual fashion, minimizing stress to the root. color-coded to match the post size.



External Wrench - fits snugly over the post and drives the post into place; one wrench fits all Flexi-Post Fiber and Flexi-Flange Fiber sizes.

Flexi-Flange Fiber Facts

Flexi-Flange Fiber is part of a color-coded system containing posts of three sizes to optimally accommodate the vast majority of your requirements. All three sizes come with a serrated head which the dentist may use with composite core build up materials.

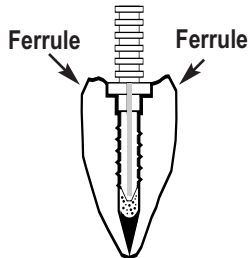
Post Number	0	1	2
Color Code	YELLOW	RED	BLUE
Length of Head	4.0mm	5.0mm	6.0mm
Length of Shaft	8.0mm	9.5mm	10.4mm
Total Length of Post	12.0mm	14.50mm	16.4mm
Diameter of Shaft (Without Threads)	0.88mm	1.09mm	1.22mm
Diameter of Shaft (With Threads)	1.17mm	1.45mm	1.65mm
Diameter of Primary Reamer	0.90mm	1.20mm	1.45mm
Length of Primary Reamer (Cutting Portion of Shank)	9.00mm	11.00mm	12.00mm
Modulus of Elasticity	41 GPa	41 GPa	41 GPa

Made from a proprietary, reinforced epoxy, high strength S-glass fiber.

Recommended uses for Flexi-Flange Fiber

Post Number	0	1	2
Color Code	Yellow	Red	Blue
	thin to average buccal or mesial roots of molars	average to large buccal or mesial roots of molars	average roots of all maxillary anteriors
	thin to average roots of maxillary first premolars	normal to large roots of maxillary premolars	average to large roots of premolars
	average roots of mandibular incisors	average roots of maxillary laterals	large roots of mandibular anteriors
		average distal and palatal roots of molars	average to large distal and palatal roots of molars
			average maxillary centrals
			average maxillary canines

Note: In all Flexi-Flange Fiber restorations, a minimum of a 1.5mm ferrule around the tooth is needed for the final restoration.

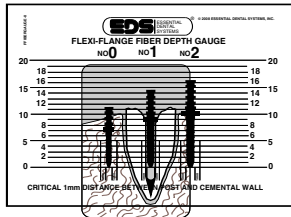


Technique: Use of the Depth Gauge in Post Selection

Research shows that parallel, solid shanked posts should have at least 1 mm of tooth structure lateral to the most apical placement of the post. To aid in this placement, Flexi-Flange Fiber uses a transparent plastic depth gauge with silhouettes of the different sizes of the posts. Lateral and parallel to each silhouette are vertical lines spaced 1 mm from the threads. By placing the gauge over an accurate radiograph of a tooth, the dentist may easily determine if the 1 mm of lateral clearance exists. If the lines fall outside the root on the x-ray there is potentially not enough lateral tooth structure for safe placement. In the latter case, the dentist should either go to a smaller post or remove enough apical post length for the post to fit at least 1 mm within the external borders of the root. Most importantly, the flange of the post must always be fully seated. The dentist should never allow the flange of the post not to seat. This would allow a loose coronal fit that would increase the chances of the post loosening over time!

If the dentist chooses to remove apical length of the post, either because the full length of the placed post would thin out the lateral tooth structure too much or because the post-hole is too short for placement of the complete post length, he should follow the steps listed below:

- 1) Identify which post size to place by using the depth gauge placed over an xray.
- 2) Choose the correct tap size that corresponds to the post size
- 3) Thread the tap into the post-hole thus creating the internal thread in the root for the post. Do not force the tap. If it does not fully seat back up a 1/4 turn and then proceed forward.
- 4) Unthread the tap from the root.
- 5) Trial seat the post
- 6) Cut off the necessary apical post length (Do not cut tap), allowing the flange to seat fully.
- 7) Cement the post.



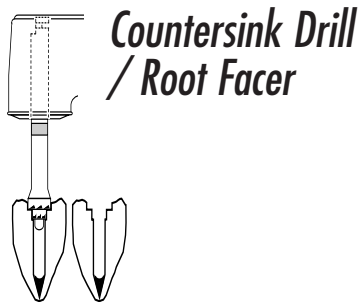
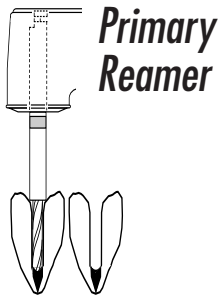
Post-Hole Preparation

The post-hole preparation begins with the removal of the root filling material using either a Peeso or Gates Glidden reamer. Then, in sequence, a non-end cutting drill (Peeso or Gates Glidden reamer) is used until 100% of the post-hole length and 90% of the post-hole width have been established. The following chart indicates which non-end cutting drill will produce 90% of the post-hole width for the various Flexi-Flange Fiber sizes.

Peeso		Gates Glidden		EDS Gates Glidden		Flexi-Flange Fiber Primary Reamer
1	or	2	or	yellow	then ↘	0 (yellow)
3	or	4	or	red	then ↘	1 (red)
4	or	5	or	blue	then ↘	2 (blue)

When 100% of the post-hole length and 90% of the width have been achieved, the primary reamer is used. Since the Flexi-Flange Fiber will fit optimally if a more concentric hole is maintained, **the number of entries into the post-hole with the primary reamer should be limited**. It is much easier to prepare the post-hole when the canal is lubricated with either water or an anesthetic solution, or with any suitable wetting agent.

The countersink drill cuts two preparation in one operation. It prepares the seat for the second tier, as well as the seat for the flange of the post. The post must always fully seat. You can determine full seating of the post by the flush fit of the flange within its preparation. If the coronal flat surface of the root is slanted to the buccal, the flange may be seated lingually, but not buccally. In this case, deepen the countersink preparation enough to assure the flush seating of the buccal portion of the post. There is no danger in countersinking the post too much. If on the other hand, the dentist does not seat the post completely, he is reducing Flexi-Flange Fiber's retention and increasing the chances of the post loosening or fracturing under function. To achieve a complete seating, in post-hole preparations shorter than the length of the shank of the post to be placed, the dentist must remove enough apical post length to allow full seating of the post's second tier and flange. The countersink drill is now used to prepare the post-hole for the second tier and flange portions of the Flexi-Flange Fiber. The smooth extension on the drill is simply a lead to facilitate parallelism between the primary post-hole, second tier and flange.



Tap Insertion

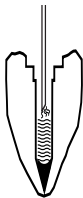
Note: For optimum retention it is recommended that you flush the canal with 17% EDTA for 1 minute before and during tapping the canal. (EDS recommends the use of its EDTA Plus, Cat. No. 770-16). This will remove debris and open the dentinal tubules, thereby increasing post retention.

After choosing the correct size post with the depth gauge, the correct size tap that corresponds with that post is inserted. It is important to note that the tap is designed to be seated with light pressure. During the tap-seating, if moderate resistance is felt, the tap may be backed off 1/4 to 1/2 turn and then advanced again. Advancing while backing off 1/4 turn when moderate resistance occurs is repeated until the tap is fully inserted and the thread is created inside the root canal for the post. This procedure will remove debris from the thread line and facilitate insertion. NOTE: Please use appropriate autoclave sterilization methods such as heat or steam prior to each use. Additionally, periodic ultrasonic cleaning to remove debris from the split-shank is recommended.

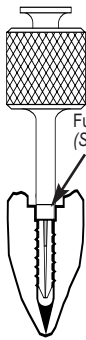
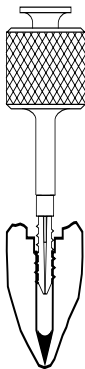
***Important Note:** If the primary reamer did not reach its' full depth the tap will not seat fully. Tap the root to the length of the primary reamer and shorten the post apically so that the flange of the post is fully seated.

9.

Flush the canal with 17% EDTA



for 1 min.



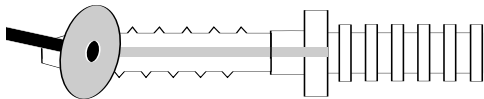
Fully Seat Tap
(See Important Note)

Tap Insertion while wet with 17% EDTA

Post Insertion

The tap creates the thread pattern inside the root canal for the post. The correct size post is now ready to be trial seated. Using the Flexi-Flange Fiber wrench thread post with light pressure until it is fully seated.

The post is now unthreaded out of the root. At this point, alterations to the post may be made. It is extremely important to note that the flange must always fully seat. Therefore, alteration should be made to the apical end of the post. If needed, cut the apical end with a diamond disk until the flange is fully seated.



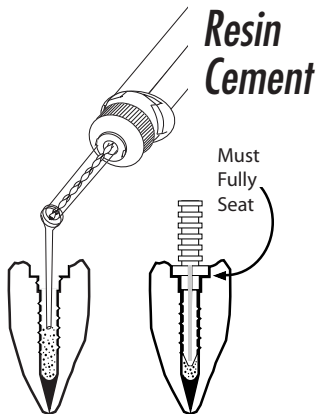
*Post Adjustment
(If necessary)*

Cementation

Dry the canal

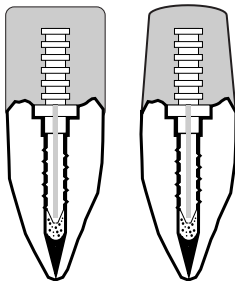
Place composite resin cement in the canal - **No Bonding Agent is Required**. Place post on wrench and thread until fully seated. Remove the wrench and follow with core build-up and preparation. Please note: For the greatest post retention we recommend the use of Flexi-Flow Cem® (Cat. No. 850-00) or, Flexi-Flow Natural® (Cat. No. 860-00) or, Flexi-Flow Auto® (Cat. No. 870-00) or, Flexi-Flow Auto® E (Cat. No. 880-00) fluoridated composite cements. **Due to the threads of the Flexi-Flange Fiber post, post retention is greater than passive posts cemented with a bonding agent. Therefore, a bonding agent is not needed.**

The post is inserted into the post-hole and threaded in with light pressure. The post will seat completely with minimal resistance. Excess cement is now removed. The Flexi-Flange Fiber has now been inserted and cemented with minimal stress being transmitted to the root.



Core Formation

Composite Cores - EDS recommends the use of clear core forms (Cat. No. 890-00) to be used with composite materials. The composite should be placed in the core form and seated over the post, using moderate pressure to ensure close adaptation of the composite to the core. For best results Essential Dental Systems recommends the use of Ti-Core® (Chemical Cured, Cat. No. 800-00) or, Ti-Core® Natural (Chemical Cured, Cat. No. 810-00), Ti-Core® Auto E (Dual Cured, Cat. No. 830-00) or, Ti-Core® Auto White (Dual Cured, Cat. No. 840-00) fluoridated composite core materials.



For more information and the latest instructions please visit
www.edsdental.com



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U.S. Patent No. Re. 5,669,772 and foreign patents.

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