





Radiopaque Translucent Fiber Post System

# **Instructions for Use**

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# D.T. LIGHT-POST\*\* Radiopaque Translucent Fiber Post System

## **GENERAL INFORMATION**

BISCO's patented **D.T. LIGHT-POSTS** are constructed from unidirectional, pretensed, quartz fibers bound in a resin matrix. This design produces a post with flexural strength exceeding that of metal posts but with a modulus of elasticity very close to that of dentin. The low modulus dissipates stress rather than transferring and concentrating stress in the residual root structures as seen with cast or prefabricated metal posts.

Due to its translucency, BISCO's D.T. LIGHT-POST will transmit light and can be used with light-cured or dual-cured cements and adhesives. This post will intimately bond to the tooth structure and core build-up composite while its passive taper respects morphology and conserves tooth structure.

# These instructions must be followed for validation of the optional 6 year limited warranty<sup>4</sup> on D.T. LIGHT-POST.

# CLINICAL PROCEDURE

With the tooth endodontically treated and filled with gutta-percha, the remaining tooth structure is prepared according to conventional principles.

PLEASE NOTE: D.T. LIGHT-POSTS must not be handled with bare hands/fingers, as the oils on the skin may affect the bond strength of the post. Gloves should be worn or forceps used when handling the D.T. LIGHT-POSTS.

## 1. SELECTION OF POST SIZE

Posts are available in four different sizes to accommodate a variety of teeth and canal sizes. Drills and posts are color-coded for ease in determining which drill is to be used with each post. It also aids in size identification.



- Size #0.5 Post: Black Pre-Shaping Drill: Black
- Size #1 Post and Drill: Red
- Size #2 Post and Drill: Yellow
- Size #3 Post and Drill: Blue
- A. Size and direction of canal is determined by radiographic examination. A mylar radiographic guide showing the various sizes of the posts is included with each system kit.
- B. A general recommendation can be followed for post size selection:
  - Post #0.5 Central and lateral mandibular incisors
    Anywhere else deemed appropriate for this size
  - Post #1 Central and lateral mandibular incisors
    Mesial and distal canals of maxillary molars
    Maxillary and mandibular premolars
    Mesial canals of mandibular molars
  - Post #2 Lateral maxillary incisors
    Distal canals of mandibular molars

Palatal canals of maxillary molars Maxillary and mandibular canines

 Post #3 Maxillary centrals and canines Palatal canals of maxillary molars Distal canals of mandibular molars Large/wide canals

#### 2. CANAL PREPARATION

- A. General recommendations to follow for post space preparation:
  - · A minimum of 3-5mm of gutta-percha should remain at the apex.
  - · Proper isolation must be used.
- B. Remove gutta-percha with a #1 or #2 Peeso Reamer, #3 Gates Glidden or a heated endodontic plugger.
- C. Shaping the canal:
  - (1) Use the D.T. Pre-Shaping Drill (black) to complete the preliminary preparation. Sodium hypochlorite may be used in the canal as a lubricant, coolant and cleanser with the drill. This instrument determines the final depth to which the post will be placed and serves to guide the final preparation with the subsequent drills.
  - (2) An endodontic rubber stopper on the shaft of the drill should be used as a guide for determining the length of preparation with radiographic verification. In order to ensure against root perforation while drilling, make sure the drill is always positioned within the canal.
  - (3) Remove debris from canal with a water spray, followed by drying with paper points.
- D. Final canal preparation:
  - (1) Use the D.T. Drills in order, starting with the smallest, until the desired final size is accomplished.

PLEASE NOTE: Posts require the sequential use of the drills as follows:

- Size #0.5: Use only the Pre-Shaping Drill (black), no additional use of other drills needed.
- Size #1: Use the Pre-Shaping Drill (black), followed by the size #1 Drill (red).
- Size #2: Use the Pre-Shaping Drill (black), followed by the size #1 Drill (red), followed by the size #2 Drill (yellow).
- Size #3: Use the Pre-Shaping Drill (black), followed by the size #1 Drill (red), followed by the size #2 Drill (yellow), then the size #3 Drill (blue).
- (2) Ideally, the final canal preparation allows sufficient space for the post and 30 microns around the post for bonding materials.

#### 3. DETERMINING POST LENGTH

A. To determine the total length of the post:

Try-in the post and slide the rubber ring to mark the desired position.

B. Remove the post from the canal and cut with a diamond bur or diamond disc.

WARNING: Never use pliers to cut the post since the pressure can destroy the structure of the post. In addition, surface alteration of the post (sandblasting or roughening with a bur) is contraindicated.

When removing the color-coded rubber ring, do so outside the mouth to prevent accidental aspiration or swallowing of the ring by the patient.

#### 4. POST CEMENTATION

#### A. Post Space Preparation:

- (1) To the canal, apply UNI-ETCH®\* w/ BAC (32% phosphoric acid) for 15 seconds and rinse with water.
- (2) Blot the canal with a paper point to remove excess moisture.
- (3) Apply adhesive (ONE-STEP®\*/ONE-STEP PLUS OR ALL-BOND 2®\*):



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#### **ONE-STEP/ONE-STEP PLUS**

- a. Apply 2 coats of ONE-STEP/ONE-STEP PLUS.
- b. Blot the canal dry with a paper point; repeat with a new paper point until the paper point returns dry from the canal.
- c. Light cure ONE-STEP/ONE-STEP PLUS for 10 seconds. Position the light as close as possible to the canal opening. Light access is necessary for curing ONE-STEP/ONE-STEP PLUS in the canal.

NOTE: Using a halogen curing unit, such as VIP<sup>™</sup> junior, with a minimum output of 500mW/cm<sup>2</sup>, light cure for 10 seconds at close range (0-2mm). If the light intensity is lower and/or curing occurs at a distance (10mm), light cure for greater than 10 seconds.

#### ALL-BOND 2

- a. Apply 2 consecutive coats of PRIMERS A & B to root canal surface with endo brush.
- b. Air dry for 5-6 seconds. Blot the canal dry with a paper point; repeat with a new paper point until the paper point returns dry from the canal. PLEASE NOTE: The paper point step is important for removal of any pooled adhesive or primers so that there is no interference in complete seating of the post.
- c. Apply a thin layer of PRE-BOND™\* Resin into the canal with endo brush. DO NOT LIGHT CURE.

#### B. Post Cementation:

- (1) Coat the post with ONE-STEP/ONE-STEP PLUS and light cure for 10 seconds <u>OR</u> place 2 coats of ALL-BOND 2 Primer B on the post and lightly air dry.
- (2) Apply cement (DUCOLINK™\* Base and Catalyst Paste OR Dual-Syringe):

#### DUCOLINK Base and Catalyst Paste

- a. Mix equal amounts of DUCOLINK base and catalyst into a uniform paste (10-15 seconds).
- b. Fill a UNIT-DOSE NEEDLE-TIP with the cement, insert the plug and place in the unit-dose syringe.
- c. Inject the cement into the canal. Start at the apical end of the canal and withdraw the tip towards the pulp chamber. (As an alternative, a lentulo spiral or paste filler may be used to carry the cement into the canal.)

#### DUCOLINK Dual-Syringe

- a. Remove the Dual-Syringe cap and express some material from the Dual-Syringe cartridge to confirm that it is free of voids.
- b. Attach intraoral tip to mixing tip and then attach mixing tip to Dual-Syringe cartridge.
- c. Express DUCOLINK directly into the canal. Use of a lentulo spiral or endodontic file will aid in coating the canal walls.
- (3) Place some cement on the post and seat it into the canal gently. Maintain firm pressure for 5-10 seconds once the post is seated.
- (4) Remove excess cement and light cure for 40 seconds by placing the light tip on the post.
- (5) Once the cement has set, proceed with the core build-up.

#### 5. CORE BUILD-UP

- (1) Clean all surfaces that will receive the core material (including the post) with a slurry of purice and CAVITY CLEANSER<sup>11/2</sup> (disinfectant) or purice and water. Rinse and dry.
- (2) Etch the tooth structure using an etchant, such as UNI-ETCH or ETCH-37™\*, according to the manufacturer's instructions.
- (3) Apply an adhesive, such as ALL-BOND 2, ONE-STEP or ONE-STEP PLUS, according to the manufacturer's instructions.
- (4) If using Unit-Dose Tips, LIGHT-CORE<sup>™</sup> may be injected directly into preparation, otherwise, dispense desired amount of core material onto a light-protected mixing pad by turning the syringe handle clockwise.

NOTE: To prevent excessive material from extruding from syringe, turn handle counterclockwise immediately after the desired amount is dispensed.

- (5) Place core material into preparation (and around post) in increments (not to exceed 5mm).
- (6) Light cure each increment: TRANSLUCENT for a minimum of 20 seconds at 500mW/cm<sup>2</sup>; BLUE for a minimum of 30 seconds at 500mW/cm<sup>2</sup>.

#### 6. FINAL PREPARATION

Conventional principles of tooth preparation (Ferrule Effect) must be followed for optimal results.

- Preparation for final restoration must end on sound tooth structure.
- There must be 1.5mm of sound tooth structure beyond the core material.
- Positive horizontal and vertical walls should exist.

### 7. POST REMOVAL

A D.T. LIGHT-POST REMOVAL KIT is available through BISCO. See POST REMOVAL TECHNIQUE description and instructions available with the D.T. LIGHT-POST REMOVAL KIT. (X-80692P)

PRODUCT: D.T. LIGHT-POST	RECOMMENDED	NOT RECOMMENDED
DISINFECTION All chemical disinfection solutions		x
CLEANING Alcohol eg. ethanol: 1-5 minutes Boiling Ultrasonic cleaning	x	x x
STERILIZATION Hot air sterilization 120°C Posts must be packed in a sterilization pouch/bag	x	
Gas sterilization/Chemiclave Steam sterilization/Autoclave Posts must be packed in a sterilization pouch/bag	x	x

# INFECTION CONTROL

\*Unapproved sterilization may render the post unusable.

STORAGE: Store at room temperature (22°C/72°F). See individual component labels for specific expiration dates.

PRECAUTION: Unpolymerized resins may cause skin sensitization in susceptible persons. In case of contact with the skin, wash thoroughly with soap and water. Phosphoric acid of UNI-ETCH is a severe eye irritant and tissue irritant. If accidentally instilled into the eye, flush with copious amounts of water and seek medical attention immediately. In case of contact with other tissues, rinse immediately with plenty of water for several minutes. Injury may result if UNI-ETCH is allowed to remain on the skin or mucosa for extended periods of time.

WARRANTY: BISCO, Inc. recognizes its responsibility to replace products if proven to be defective. BISCO, Inc. does not accept liability for any damage or loss, either direct or consequential, stemming from the use of or inability to use the products as described. Before using, it is the responsibility of the user to determine the suitability of the product for its intended use. The user assumes all risk and liability in connection therewith. Optional 6 year limited warranty is available.

CAUTION: U.S. Federal law restricts this device to sale by or on the order of a dental professional.

- \* D.T. LIGHT-POST is a registered trademark of RTD France.
- U.S. only.
- \* UNI-ETCH, ONE-STEP, and ALL-BOND 2 are registered trademarks of BISCO, Inc.
- \* VIP, PRE-BOND, DU CLINK, CAVITY CLEANSER, ETCH-37 and LIGHT-CORE are trademarks of BISCO, Inc.

BISCO, INC. 1100 W. Irving Park Road Schaumburg, IL 60193 847-534-6000 1-800-BIS-DENT www.bisco.com CE ADMINISTRATOR Bisico France -Mr. Fred Picavet L'Opera - BP. 60 13680 Lançon De Provence France Phone: 33-490-42-9292 Fax: 33-490-42-9261