

APPLICATION PROCEDURE & SAFETY CONSIDERATIONS **PREFORMED** LINE PRODUCTS



JUNE 1997

FIBERLIGN® Dielectric Support

For Use On All Dielectric Self-Supporting
(ADSS) Fiber Optic Cables

Be sure to read and completely understand this procedure before applying product. Be sure to select the proper PREFORMED™ product before application.

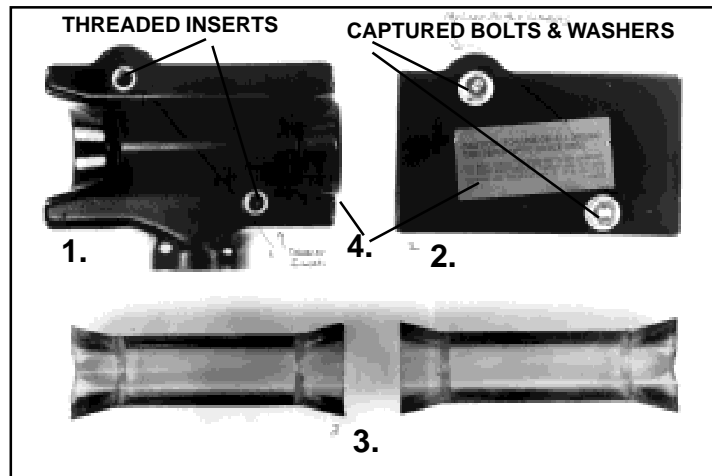


FIGURE 1

1.00 NOMENCLATURE

1. **Body** (bottom) with two threaded inserts molded into unit
2. **Keeper** (top) with two captured 5/16" galvanized steel bolts and Belleville washers
3. **Cushion Inserts**
4. **Identification and warning label**

2.00 DESCRIPTION

2.01 The FIBERLIGN Dielectric Support (FDS) system is designed to gently but firmly support many All Dielectric Self-Supporting (ADSS) fiber optic cables.

2.02 The FDS is designed for short span construction with correspondingly low loads. Consult PLP for the suitability of the FDS unit for each application to determine whether it meets structural loading requirements. NOTE: If loads are too high, PLP will make an alternative hardware recommendation.

2.03 The FDS is made from a high strength composite material that is extremely resistant to abrasion. It can be used as a replacement for a stringing traveler during stringing and sagging operations.

2.04 The standard cushion inserts are sized for the appropriate diameter circular ADSS cable. Custom-molded inserts are available for some Figure 8 cables. Consult PLP for specifics.

3.00 INSTALLATION ISSUES

3.01 The inserts of the FDS are molded for a specific cable OD range and should be used only on cables within that range.

3.02 Unbalanced Loading: The standard FDS inserts provide gentle gripping and moderate longitudinal holding strength depending upon the specific cable. CONSULT PLP FOR SPECIFICS.

Custom-designed inserts can be provided for slightly higher holding strengths. For significantly higher hold-

ing strength use FIBERLIGN® Suspension for ADSS cable.

3.03 IMPORTANT: Do not over-torque keeper attachment bolts: To avoid damaging the unit by over torquing the bolts, tighten them **ONLY UNTIL THE BELLEVILLE WASHERS ARE FLAT.** This will require only about 10 foot-pounds (120 inch-pounds or 13.5 Newton-meters) of force.

3.04 Double-Arm Bolt: For mounting the FDS, select a double-arm bolt of sufficient length and insert into the pole at a right angle to the line for tangent lines, and bisect the angle on angled structures. The FDS is threaded on the bolt. **Do not cut off any portion of the threads. This will create a sharp edge which could cut the body of the support.**

Do not apply a jam nut or other locking device on the bolt against the surface of the FDS that will restrain the FDS from moving. The FDS should be free to articulate on the end of the double-arm bolt.

3.05 Stringing Cable: Without the inserts, the FDS can be used as a stringing device because it is made out of smooth composite materials which cause little friction.

3.06 Maximum line angle: When used as a stringing device, in order to avoid excessive friction and the possibility of snagging the cable, the maximum recommended sag or line angle of the FDS is approximately 10° for most ADSS cables.

When used in a permanent installation, the maximum recommended sag or line angle is approximately 20° for most cables.

These recommended sag and angle limits can be affected by cable size, brand, stringing tension and loading conditions. CONSULT PLP FOR EXCEPTIONS WHEN GREATER ANGLES ARE REQUIRED.

4.00 APPLICATION

4.01 Install a 5/8" UNC double arming throughbolt through the pole or structure. Use a washer and jam nut on both sides as shown in Figure 2.

As alternative to a double arming bolt, it is permissible to use a threaded 5/8" stud of proper length, or a stand-off bracket or band system with this size.

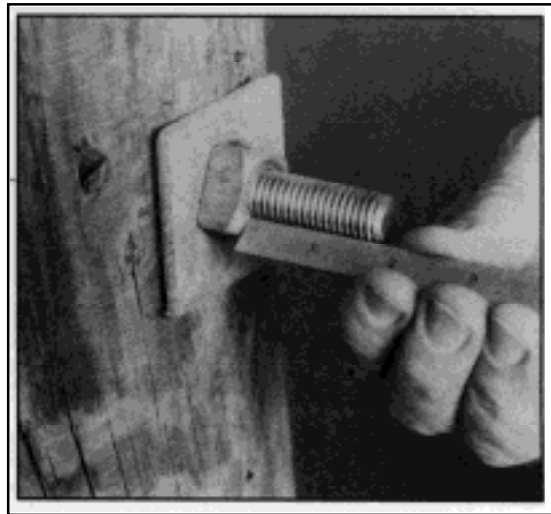


FIGURE 2

4.02 Extend the threads of the bolt 1-5/8" beyond the tightened jam nut. Use a tape measure or ruler to gauge bolt extension as shown in Figure 2. A longer bolt extension is permissible. However, cantilever loading on the bolt with excessive extension should be considered.

CAUTION: Do not cut off any portion of the bolt threads. This may create a sharp edge which may damage the body of the support.

4.03 Thread the body of the support, Figure 3, on the double-arm bolt until it bottoms out. Then, back it off until the body is situated in a horizontal position.

Do not apply a jam nut or other locking device on the bolt against the surface of the FDS that will restrain the FDS from moving. The FDS should be free to articulate on the end of the double-arm bolt.

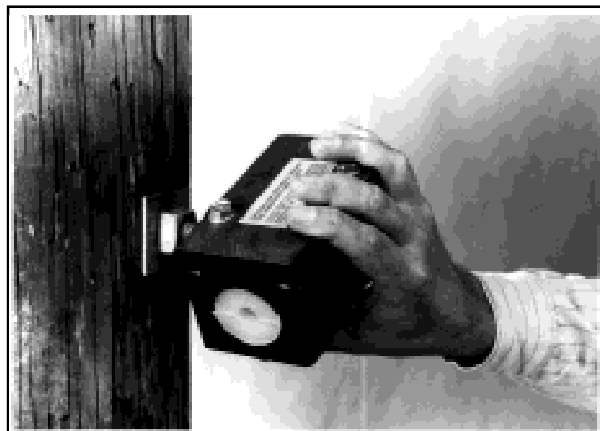


FIGURE 3

4.04 For permanent installations, lay the bottom insert into the body, and place the cable into the groove of the insert. (Figure 4)

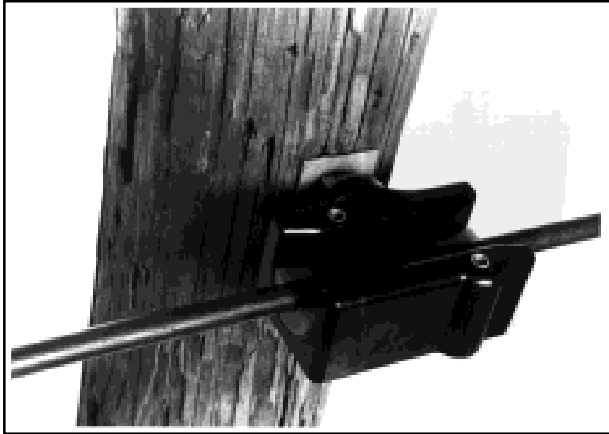


FIGURE 4

4.05 Place the second insert into the body cavity over the cable and install the keeper by aligning the captured bolts with the threaded inserts molded into the body. (Figure 5 and 6)

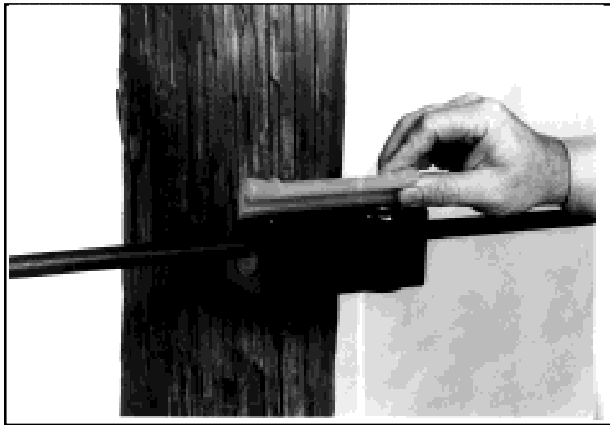


FIGURE 5

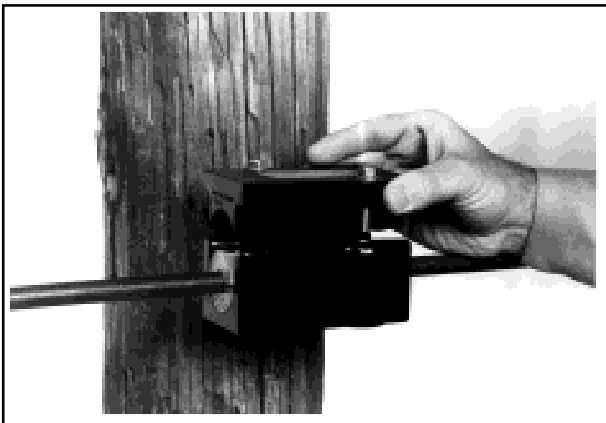


FIGURE 6

5.00 BOLT TIGHTENING PROCEDURE

5.01 After aligning the keeper, carefully begin to tighten the captured bolts by hand, one at a time, into the body. (Figure 7)

IMPORTANT: Make sure the bolt threads properly engage into the threaded inserts in the body and are not cross-threaded.

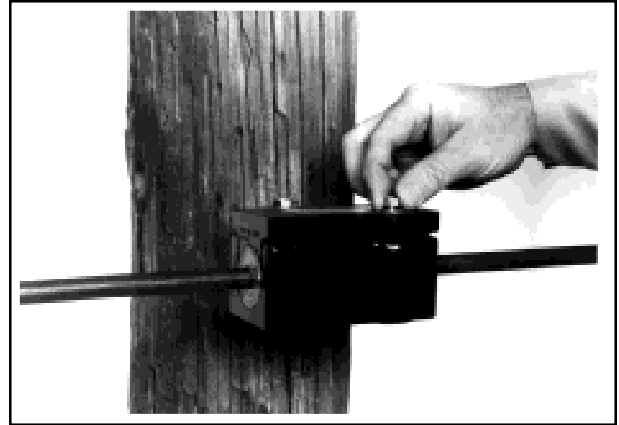


FIGURE 7

5.02 Complete the installation by alternating between each bolt and by carefully tightening the bolts with a wrench **ONLY UNTIL BELLEVILLE WASHERS ARE FLAT**. (Figure 8) This will require only about 10 foot-pounds (120 inch-pounds or 13.5 Newton-meters) of torque.

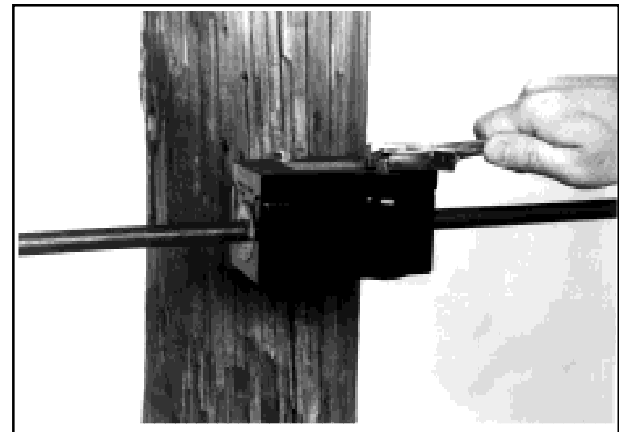


FIGURE 8

IMPORTANT: DO NOT OVER-TIGHTEN THE BOLTS OR DAMAGE TO THE UNIT MAY OCCUR.

5.03 The installation is now complete.

6.00 FDS USED AS A STRINGING DEVICE

NOTE: The maximum line or sag angle for stringing with the FDS is approximately 10° for most ADSS cables.

6.01 After installing the body on a bolt or stud, lay the cable or stringing rope into the empty body cavity without the inserts. The largest cable, rope or pulling-in grip that will move freely through the cavity is approximately 1-1/4" diameter.

6.02 Temporarily attach the keeper to the body by engaging only a few threads of the bolts into the threaded inserts in the body. This supports the keeper approximately an additional 1" above the body and allows enough room for the cable, stringing rope or pulling-in grip to travel through the body. (Figure 9)

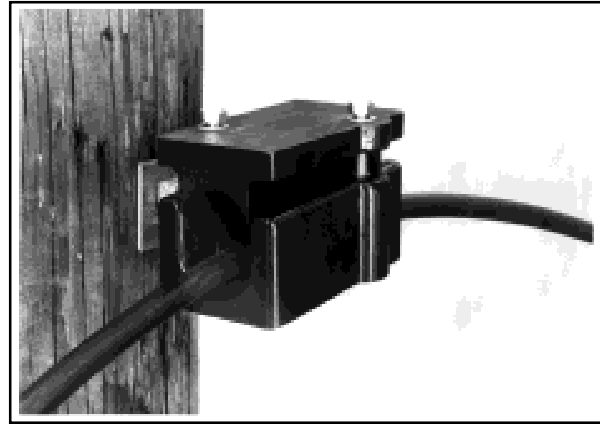


FIGURE 9

6.03 Once the cable stringing operation is completed, remove the keeper and reinstall the inserts and the keeper as previously described for a permanent installation.

SAFETY CONSIDERATIONS

1. This Application Procedure is not intended to supersede any company construction or safety standards. This procedure is offered only to illustrate safe application for the individual. **CAUTION: FAILURE TO FOLLOW THESE PROCEDURES AND RESTRICTIONS MAY RESULT IN PERSONAL INJURY OR DEATH.**
2. This product is intended for reuse, if in good condition, and for the specified application.
3. This product is intended for use by trained craftspeople only. This product **SHOULD NOT BE USED** by anyone who is not familiar with and trained in the use of it.
4. When working in the area of energized lines with this product, **EXTRA CARE** should be taken to prevent accidental electrical contact.
5. For **PROPER PERFORMANCE AND PERSONAL SAFETY** be sure to select the proper size FIBERLIGN® Dielectric Support before application.
6. FIBERLIGN Dielectric Supports are precision devices. To insure proper performance, they should be stored in cartons under cover and handled carefully.

PREFORMED LINE PRODUCTS 

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