



FIBERLIGN® TRANSITION FURCATION TUBE KIT

FOR USE ON OPTICAL GROUND WIRE (OPGW)
WITH STAINLESS STEEL BUFFER TUBES

INSTALLATION INSTRUCTIONS



IMPORTANT SAFETY INFORMATION

READ AND COMPLETELY UNDERSTAND ALL INSTRUCTIONS BEFORE INSTALLING PRODUCT. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY OR DEATH.

This product is intended for use by trained technicians only. This product should not be used by anyone who is not familiar with and not trained to use it. When working in the area of energized lines, extra care should be taken to prevent accidental electrical contact. Be sure to wear proper safety equipment per your company protocol. These instructions are not intended to supersede any company construction or safety standards. These instructions are offered only to illustrate safe installation for the individual. PLP products are intended for the specified application only. Do not modify this product under any circumstances. Do not reuse or reinstall any PLP product unless that capability is expressly indicated in the product's Installation Instructions. For proper performance and personal safety, be sure to select the proper PLP product before installation. PLP products are precision devices. To ensure proper performance, they should be stored in cartons under cover and handled carefully.

PACKAGE COMPONENTS



1. Color Card
2. FPT - Fiber Protection Tube (Telfon™)
3. HST - Heat Shrink Tube (Black PVC)
4. COT - Clear Outer Tube (PVC)

INSTALLATION

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The FIBERLIGN® Transition Furcation Tube Kit for OPGW is designed to guide and protect the bare fiber from the end of the stainless steel buffer tube to a transition compartment or slack basket - a relatively short distance. COT lengths may be cut for this short transition distance leaving longer portions of the COT for routing to splice trays.

COYOTE® Dome and Splice Case kits that include Transition Furcation kits also include longer COT, also known as transport tubing to allow direct routing to the splice tray without interruption. This optional method can be used for applications that do not require FPT and have fibers per buffer tube that can be managed within a single splice tray.

Manufacturers of OPGW have various recommendations for proper cable preparation and furcation. If your OPGW manufacturer is not referenced in this procedure, contact the manufacturer to verify their recommendation for furcation. You may also contact PLP technical support for help.

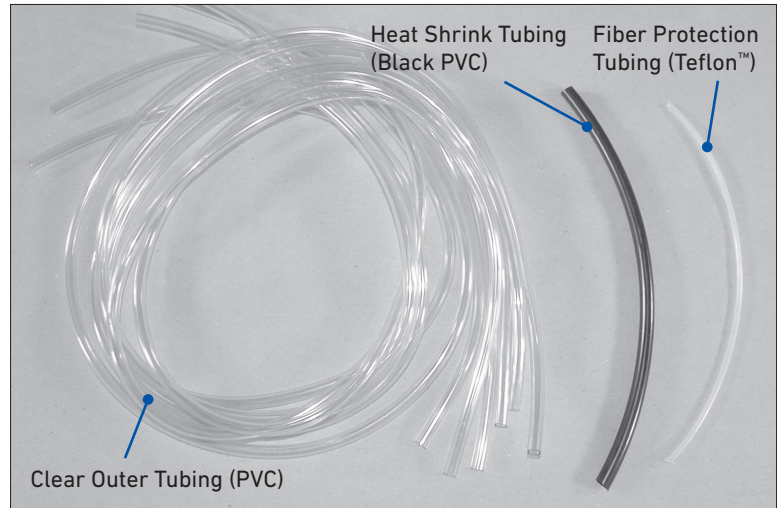


Figure 1 - Typical Components

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The Transition Furcation Tubing is applied during preparation of the OPGW cable. For COYOTE Splice Case products, cable preparation requires green sealant and lock tape to seal the end plate onto the cable. For COYOTE Dome products, cable preparation requires green sealant covered with black electrical tape that seals against the grommet within the endplate. Cable preparation instructions can be found within the respective COYOTE Splice Products. Preparation of the individual SS buffer tubes usually requires straightening, followed by careful removal of the buffer tube by scoring and flexing. Figure 2A shows straightening and 2B shows tube scoring. Contact respective OPGW cable manufacturer for their recommended preparation techniques and tools. Figure 2C shows an OPGW cable prepared for a COYOTE Splice Case installation. In this case each of three stainless steel buffer tubes has been scored and removed to expose the bare fiber.

NOTE: The SS buffer tubes may be left scored but not separated for applications without FPT. This option is explained in Step 5 and allows an easier method to install HST and COT.

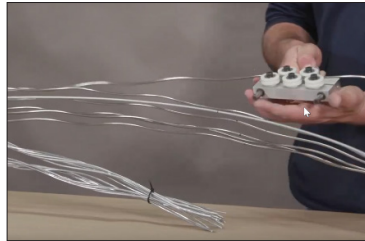


Figure 2A - Buffer Tube Straightening

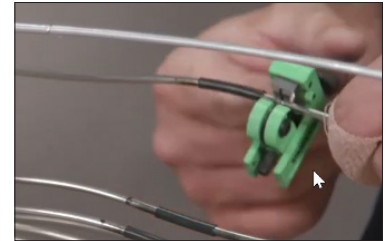


Figure 2B - Buffer Tube Scoring

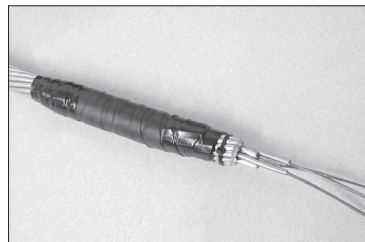


Figure 2C - OPGW Cable Preparation



Figure 2D - OPGW Cable Preparation with Buffer Tubes left scored, not separated

Table 1: Transition Furcation Kit Application Information and Component Description for each Stainless Steel Buffer Tube

Kit Information		Cable Information		Kit Component per OPGW Buffer Tube Details					
Kit Number	Stainless Steel Buffer Tube OD Range	Brand	Max Fiber Count	Fiber Protection Tube		Heat Shrink Tube		Clear Outer Tube	
	in (mm)			Cut Length in (mm)	Quantity per Tube	Cut Length in (mm)	Quantity per Tube	Max Length in (mm)	Quantity per Tube
800016686 ¹	.189 - .230 (4.80 - 6.10)	A	96	None	-	1 (25)	1	36 (900)	1
800016710 ¹	.155 - .160 (3.93 - 4.06)	A	72	None	-	1 (25)	1	40 (1000)	1
800011212	.133 - .154 (3.37 - 3.90)	A, S	54	2 (50)	1	1 (25)	1	24 (600)	1
		I, P	60	None	-	1 (25)	1	24 (600)	1
800011381	.118 - .126 (3.00 - 3.20)	A, S	36	2 (50)	1	1 (25)	2	24 (600)	1
		I, P	40	None	-	1 (25)	2	24 (600)	1
800011382	.102 - .110 (2.60 - 2.80)	A, S	18	2 (50)	1	1 (25)	2	24 (600)	1
		I, P	24	None	-	1 (25)	2	24 (600)	1
800011563	.087 - .098 (2.21 - 2.50)	I, P	20	None	-	1 (25)	1	24 (600)	1
	.063 - .078 (1.60 - 1.98)	I, P	12	None	-	1 (25)	2	24 (600)	1

Brands A = America Fujikura Limited., I = Incab America LLC., P = Prysmian Group, S = Suzhou Furukawa Power Optic Cable Co.

¹These kits do not come with the Fiber Protection Tube.

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Table 1 lists the PLP Transition Furcation Tube kit numbers along with the buffer tube outer diameter range that the kit is suited for. Knowing the brand of cable and the fiber count per buffer tube, use the table to determine what components are necessary. In some cases, manufacturers do not recommend the use of a Fiber Protection Tube (FPT). **For non-FPT applications, skip to step 5.**

Fiber Protection Tube: If the FPT is required, cut the tubing into 2" (50 mm) lengths (as listed in Table 1) - one piece for each stainless steel buffer tube. Angle cut the tubing as shown in Figure 3.

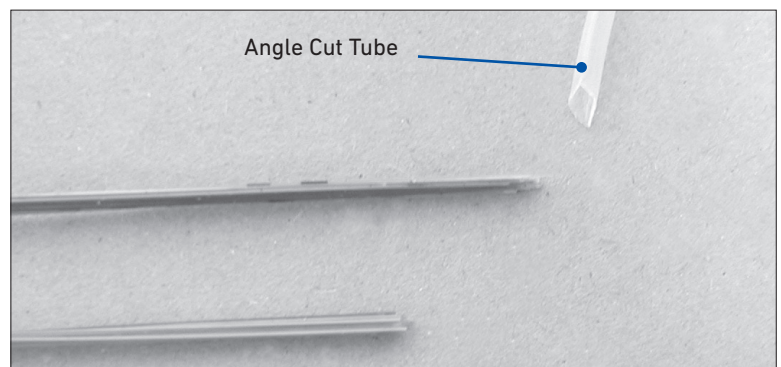


Figure 3 - Angle Cut FPT

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Insert the bare fibers into and through the FPT inner diameter. Carefully continue to slide the FPT over the bare fiber and into the inner diameter of the Stainless Steel Buffer Tube. (Figure 4A & B)

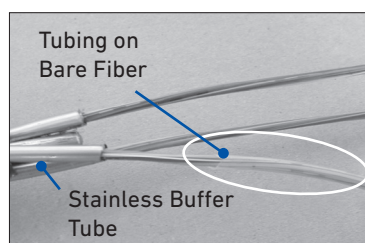


Figure 4A - Install FBT over Bare Fiber

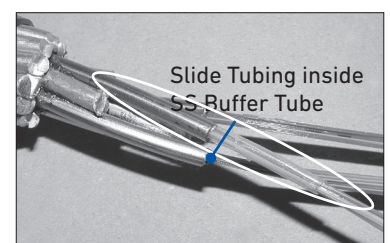


Figure 4B - Install FBT over Bare Fiber

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Heat Shrink Tube over FPT: Cut the tubing into 1" (25 mm) lengths (as listed in Table 1). The quantity for each buffer tube is noted in Table 1. In some cases more than one shrink tube layer is used to build up the overall diameter. Position the first heat shrink tube with half the length on the stainless buffer tube and the other half on the FPT. Carefully heat shrink the tube until it is in full contact with both surfaces (Figure 5A). If required, install the next layer and heat shrink.

Optional Heat Shrink Tube Application

without FPT: After each SS buffer tube has been marked, straightened, and scored for opening, slide the appropriate heat shrink tube and COT onto the SS buffer tube and nearly into final position. Carefully remove each SS buffer tube out from under the heat shrink and COT tubing (Figure 5B). Shrink the HST(s) in final position with half the length on the SS buffer tube and the other half on the bare fiber. Continue to install COT in its final position similar to that shown in Figure 6.

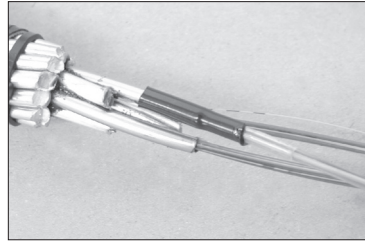


Figure 5A: Heat Shrink Installed over PFT

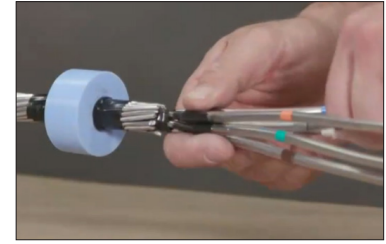


Figure 5B - SS Buffer Tube being removed from under heat shrink and COT

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Clear Outer Tube: The quantity and length of Clear Outer Tubing (COT) provided will vary per kit. These sections can be left alone or cut to suit the length desired for proper protection of the fiber. The COT can be angle cut as well to help feed easier onto the fiber and eventually onto the heat shrink tubing (Figure 6). Apply color code stickers to identify each buffer tube appropriately.

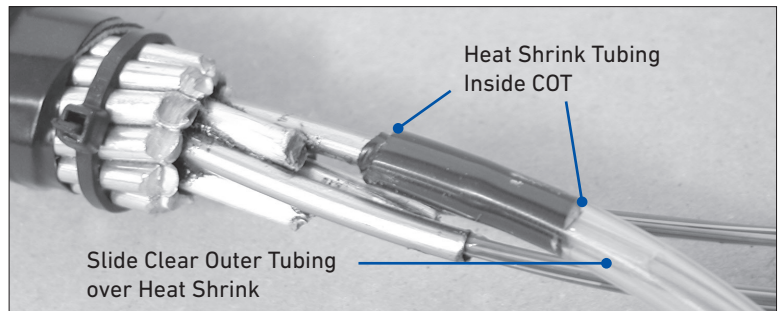


Figure 6: Clear Outer Tube Installed

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Repeat procedure for all stainless steel buffer tubes. Once complete, refer to the splice closure instructions and proceed with endplate installation.

NOTE: For easier installation, the end of the COT can be stretched with needle nose pliers before sliding over the fiber. Carefully insert the tip of the pliers into the end with moderate force and simultaneously spread the handle open to stretch the tubing.