SUMITOMO RECOMMENDED PROCEDURE

SRP SP-F04-015

FutureFLEX® AIR-BLOWN FIBER® SOLUTIONS

SPLICE CASE KIT INSTALLATION PROCEDURES

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1.0 General

1.1 This procedure describes the Standard Techniques for installing FutureFLEX outdoor rated dielectric and metallic / armored tube cables in Splice Case Kits.

1.2 The key component of our Splice Case Kit is a Preformed Line Products (PLP) Armadillo Stainless Steel Shell Assembly and two (2) field-drillable 3-section End Plates. When properly assembled in accordance with this SRP and PLP standard recommended procedures, the kit provides a watertight, re-enterable tube distribution enclosure.

1.3 Splice Case Kits are used in any outside plant location (underground, buried, or aerial application) where tube interconnection is desired or required and the tube cables must be installed in wet or flooded environments. The finished Case is designed to remain watertight for water depth up to 10 feet. Each closure is also designed to meet or exceed the industry standards for fire retardant cables.

1.4 After the individual tubes are coupled, the tube spans should be pressure and obstruction tested before the Splice Case is closed and waterproofed.

2.0 Safety Precautions

2.1 The use of safety equipment is strongly recommended while cutting and stripping the tube cable ends and drilling end plates. This includes the use of cut-resistant Kevlar gloves and eye wear.

3.0 Reference Documents

3.1 Sumitomo Recommended Procedure, *FutureFlex Tube Pressure Testing Procedure*, SRP SP-F04-003.

3.2 Sumitomo Recommended Procedure, *FutureFlex Tube Obstruction Testing Procedure*, SRP SP-F04-004.

3.3 Sumitomo Recommended Procedure, *FutureFlex Tube Cable Installation Procedures,* SRP SP-F04-008.

3.4 Sumitomo Recommended Procedure, *FutureFlex Tube & Tube Cable Sealing Procedures,* SRP SP-F04-019.

3.5 Sumitomo Recommended Procedure, *FutureFlex Grounding & Bonding Metallic Tube Cable Procedures,* SRP SP-F04-030.

3.6 Sumitomo Recommended Procedure, *FutureFlex Tube Cable Splicing Procedure,* SRP SP-F04-031.

Note: The Following "Preformed Line Products" Documents Must be adhered to for the Splice Case and End Plate Assembly Process. *(Each of these Documents are included with SEL-Purchased Splice Cases. – P/N's: DE09SPC & DE12SPC)*

3.7 (PLP): SP 2918-2 Shell Assembly

3.8 (PLP): SP 2919-1 End Plate Assembly

3.9 (PLP): SP 2801 Cue Card

3.10 (PLP): C-CEMENT_MSDS

4.0 Equipment / Tools Required

The following equipment, tools, and materials, are required to complete this procedure:

4.1 Splice Case Kit (DE09SPC) (9.5" D x 28" L)

-or-

4.2 Splice Case Kit (DE12SPC) (12.5" D x 38" L)

4.3 Power End Plate Cutter Kit (includes Metal Carrying Case, Power End Plate Cutter, and Blade Kit (DEEPCK-RW available as a Weekly Rental from SEL)

4.4 3/8" Electric Drill Motor

4.5 Tube Cable Cutter (BETL03)

4.6 Hacksaw or equal

4.7 Tubing Cutter (BETC001).

4.8 Utility Knife with Hook Blade

4.9 Tube Couplings (DE08MC2)

4.10 Electricians Scissors

4.11 Vinyl Electricians Tape

4.12 Caulking Gun with Silicone sealant

4.13 Bonding Kit (DE09SBK) for DE09SPC Splice Case; required if installing armored tube cables.

4.14 Bonding Kit (DE12SBK) for DE12SPC Splice Case; required if installing armored tube cables

4.15 (DE02EPA) for installing 2-tube cables
(DE04EPA) for 4 tube cables
(DE12EPA) for 12 tube cables
(DE24EPA) for 24 tube cables

4.16 Water-based liquid cable lubricant; Polywater A or equal recommended

4.17 Wrench Set with Deep Well Sockets 7/16", 1/2", and 7/8"

4.18 Torque Wrench (Recommended: ½" with a torque range of 30-250 in/lbs. "typical")

4.19 Flash Test Kit. Optional - (See Section 16)

5.0 Equipment Layout

5.1 See **Fig. 1A through Fig. 1D** for DE09SPC (shown) and DE12SPC Splice Case Kits.

5.2 Key components of Armadillo Stainless Shell Kit:

- One (1) Top Shell Half with integral air flange and grounding lead
- One (1) Bottom Shell Half
- Two (2) Lockbar Assemblies
- Two (2) Torque Bars (See Fig. 1B)
- One (1) Plug to seal integral air flange and grounding lead threaded hole (not shown)
- Armadillo Stainless Shell Kit Assembly Instructions; PLP SP 2918-2

5.3 Key components of each End Plate Assembly (two provided):

- Three (3) Section Field Drillable End Plate
- LOCK-TAPE™ Sealant Strips
- LOCK-TAPE™ Sealant Roll
- Emery Cloth
- Cable Mea-Sure Tape™
- Armadillo Drillable End Plate Kit Assembly Instructions; PLP SP2919-1
- Material Safety Data Sheet (MSDS) – LOCK-TAPE™ Sealant

5.4 One (1) 4 fluid oz. can of C-Cement provided in each Kit along with Material Safety Data Sheet (MSDS)

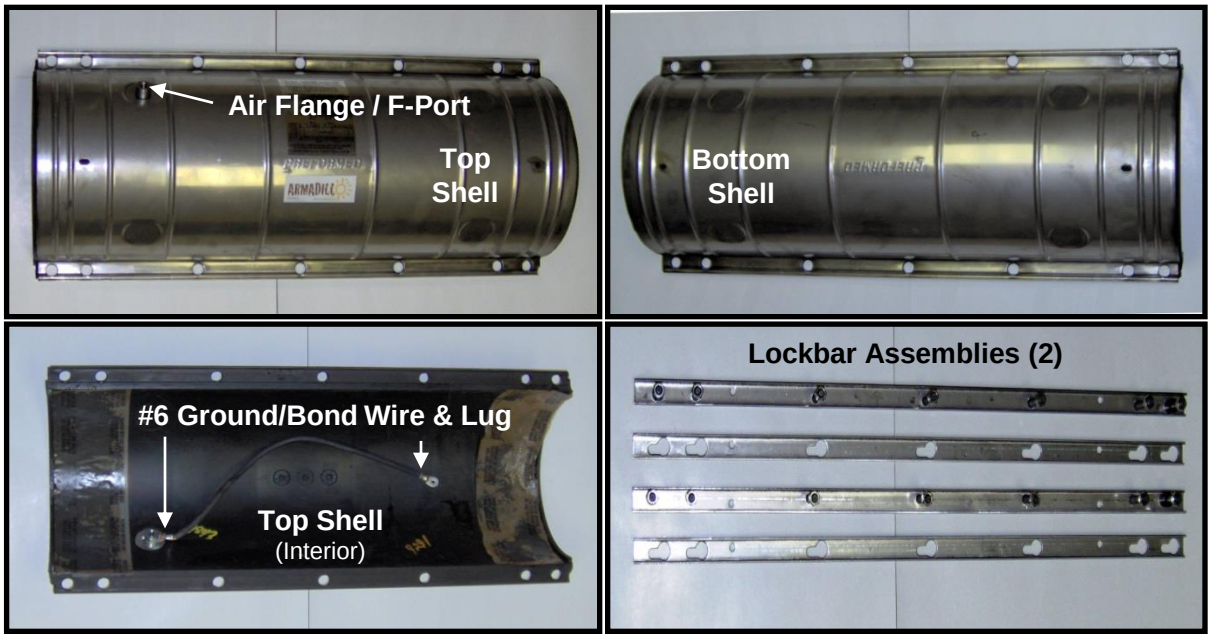
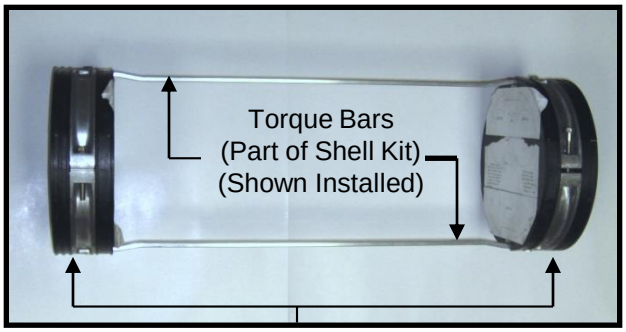


Figure 1A
Armadillo Stainless Shell Kit

DE09SPC Splice Case Kit
Shell Dimensions = 9.5" x 28" L
Tube Capacity = 52 tubes; 2 (19) plus 2 (7)

DE12SPC Splice Case Kit
Shell Dimensions = 12.5" x 38" L
Tube Capacity = 95 tubes; 5 (19)



LOCK-TAPE™ Sealant Strips

LOCK-TAPE™ Sealant Roll

Emery Cloth

Cable Mea-Sure™ Tape

Figure 1B
Three (3) Section End Plate Assembly
{Two (2) Assemblies Provided}

4 Fluid Oz. Can C-Cement

Figure 1C
C-Cement

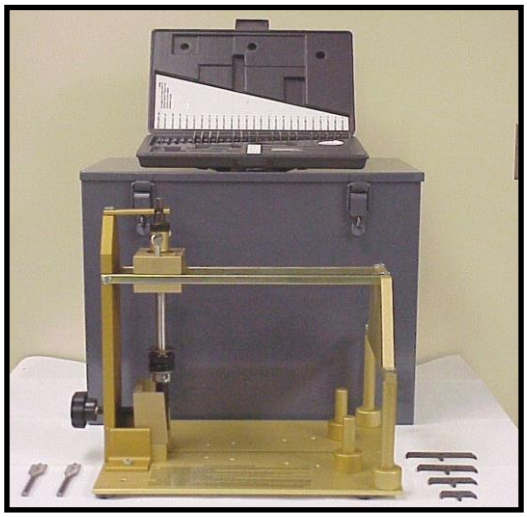


Figure 1D
Power End Plate Cutter Kit includes Metal Carrying Case, Power End Plate Cutter, and Blade Kit. (Blade Sizes A thru Z)

SEL P/N: DEEPCK-RW - Call SEL Customer Service for Weekly/Monthly Rental Options.

Reminder: *Important information regarding the Armadillo Stainless Splice Case is provided in the Kit and should be reviewed in its entirety.*

- ✓ *Armadillo Stainless Shell Kit (PLP SP2918-2) Assembly Instructions*
- ✓ *Armadillo Drillable End Plate Kit (PLP SP2919-1) Assembly Instructions*
- ✓ *Material Safety Data Sheet (MSDS) – **"C" Cement***
- ✓ *Material Safety Data Sheet (MSDS) – LOCK- TAPE Sealant*

6.0 Preparing the Tube Cables

6.1 Key Step. Before installing a Splice Case Kit, verify that both tube cable ends will mate properly so that their tubes will not be crossed or twisted when coupled. See Sumitomo Recommended Procedure SRP SP-F04-008.

6.2 Determine final installed location of Splice Case. Splice Cases should be installed in a straight section of the tube cable route; not in a bend / curve.

6.3 Position both tube cables and Splice Case side-by-side and hold in place. Ensure tube cables overlap each other.

6.4 Mark <u>both</u> tube cable jackets to coincide with left and right ends of Splice Case. **See Fig. 2.**

6.5 Use Tube Cable Cutter (BETL03) and cut each tube cable to length at its First Mark.

6.6 Measure in 3" from Second Mark to account for End Plate width on each tube cable and mark jacket.

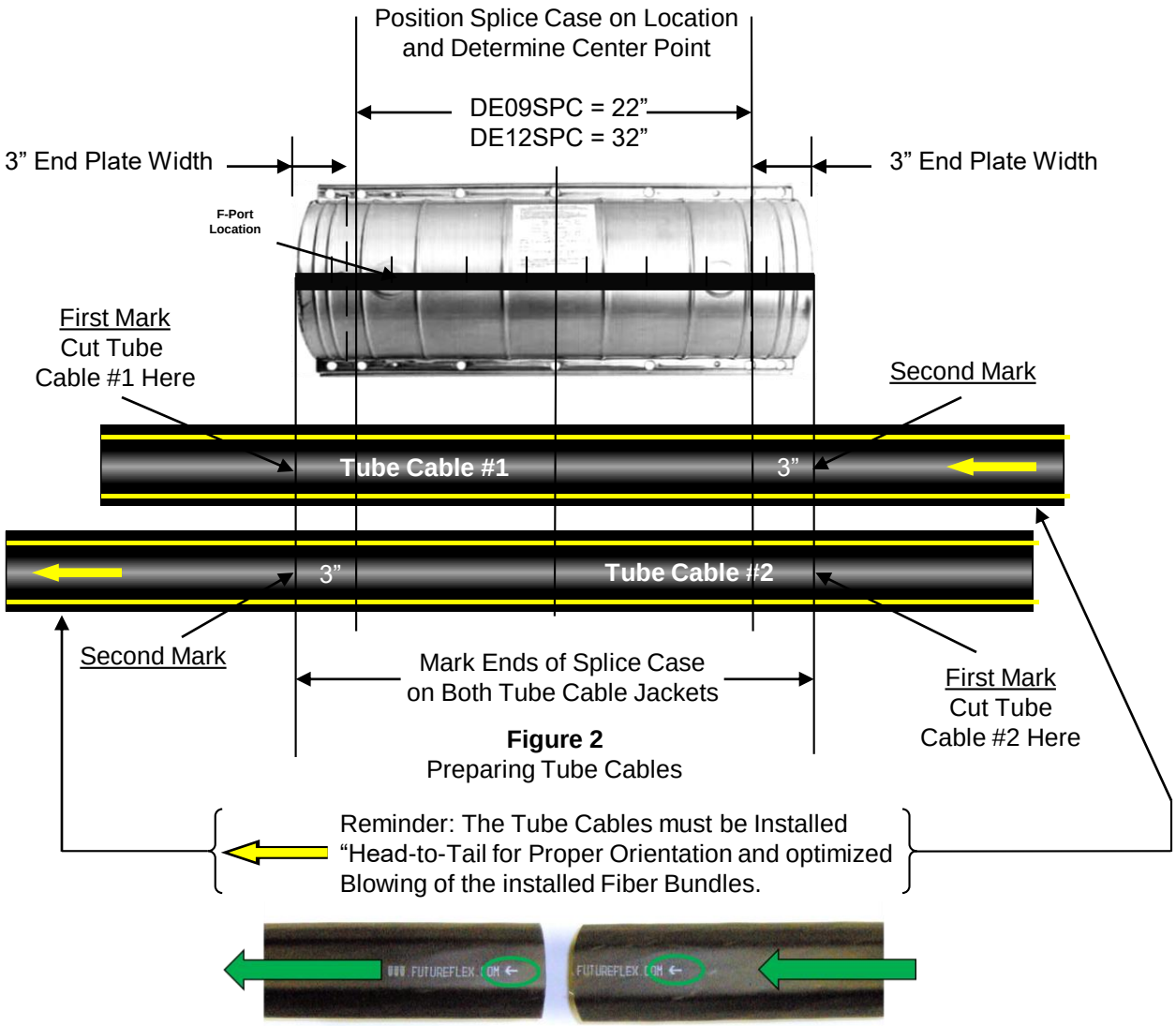


Figure 2
Preparing Tube Cables

6.6.1 If you are installing dielectric tube cables, refer to **Fig.3.** Allow for about 1”- 2” of outer jacket beyond the End Plate inside the Splice Case and mark jacket.

6.6.2 If installing metallic / armored tube cables, see **Fig. 4.** Allow for about 1” - 2” of outer jacket beyond the End Plate inside the Splice Case and mark jacket. Also allow additional jacketing material for attachment of Grounding & Bonding hardware. Mark inner and outer jackets accordingly. Also refer to Sumitomo Recommended Procedure SRP SP-F04-030.

6.7 Use Hook Blade Knife to lightly score each tube cable jacket at its jacket strip point / mark. Pull ripcord and strip jackets away to expose individual tubes. Refer to Sumitomo Recommended Procedure SRP SP-F04-031.

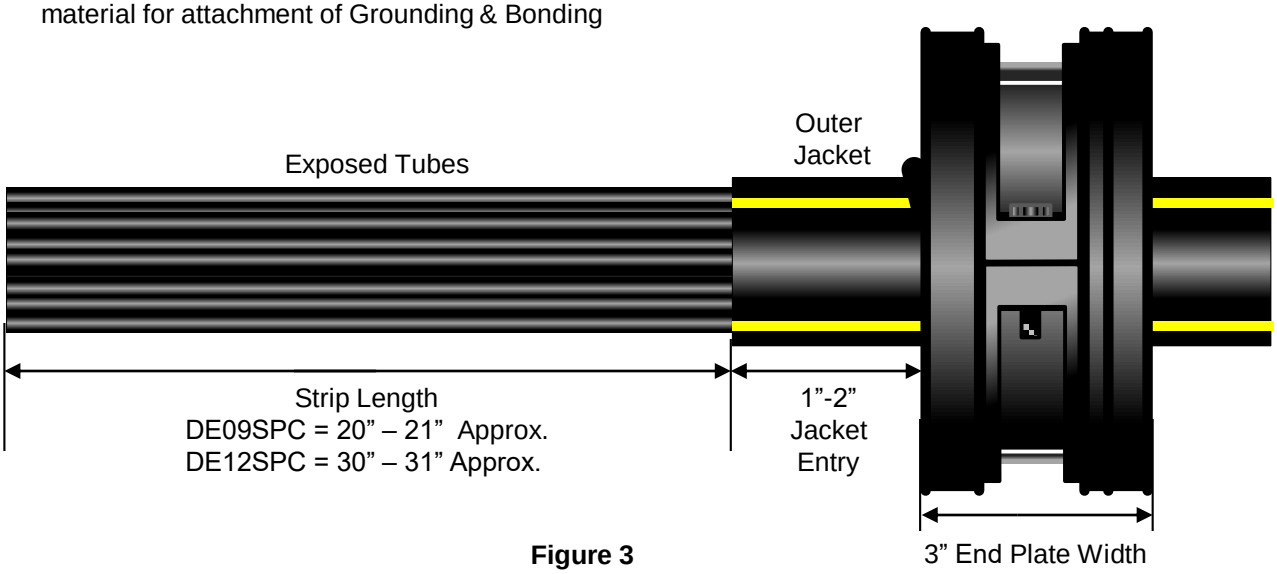
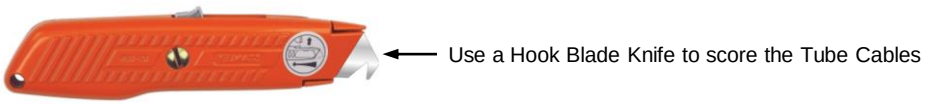


Figure 3
Jacket and Strip Lengths for Dielectric Tube Cable



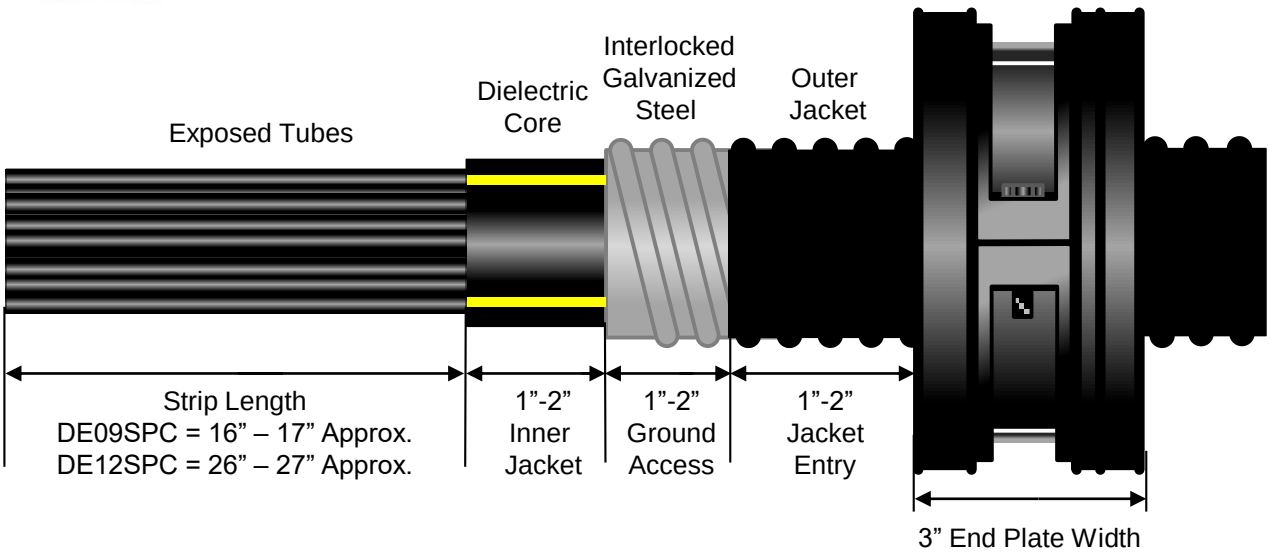


Figure 4
Jacket and Strip Lengths for Dielectric Core / Interlocked Galvanized Steel Tube Cable

7.0 Cutting the Tubes

7.1 Important Point: The recommended Tube Coupling pattern to use when making a tube cable splice within a Splice Case Kit is a "Unique" stagger arrangement that places the plastic shoulder of one Tube Coupling against the plastic shoulder of an adjacent Tube Coupling.

7.2 Important Point: Many times the available space within a Splice Case may be less than desired. On-site adjustments to tube cut lengths and Tube Coupling spacing will have to be made to suit installation conditions.

Note: *The following procedure assumes a 7-tube cable is being prepared.*

7.3 On first tube cable, locate Tube #1. Measure 4" in from stripped end of tube cable jacket and mark Tube #1. Use Tubing Cutter (BETC001) to cut Tube #1 at this mark. **See Fig. 5.**

7.4 Locate Tube #2. Measure 1-1/8" from the previous cut tube (Tube #1) and mark Tube #2. Use Tubing Cutter (BETC001) to cut Tube #2 at this mark. **Refer to Fig. 5.**

7.5 Repeat above step for remaining Tubes #3 through #7.

7.6 Important Step. The tubes of the first tube cable must be cut as described in **ascending numerical sequence** in order to correctly stagger individual Tube Couplings.

7.7 On second tube cable, locate Tube #7. Measure 4" in from stripped end of tube cable jacket and mark Tube #7. Use Tubing Cutter (BETC001) to cut Tube #7 at this mark. **Refer to Fig. 5.**

7.8 Locate Tube #6. Measure 1-1/8" from the previous cut tube (Tube #7) and mark Tube #6. Use Tubing Cutter (BETC001) to cut Tube #6 at this mark. **Refer to Fig. 5.**

7.9 Repeat above step for remaining Tubes #5 through #1.

7.10 Important Step. The tubes of the second tube cable must be cut as described in **descending numerical sequence** in order to correctly stagger individual Tube Couplings.

Note: *For a 19-tube cable splice, cut tubes of first tube cable starting with Tube #1 and, in ascending numerical sequence, end with Tube #19. Cut tubes of second tube cable starting with Tube #19 and, in descending numerical sequence, end with Tube #1.*

Tip: *Make a "Measuring Aid" to help measure 1-1/8" dimension. Wrap tape around end of scrap tubing and trim to 1-1/8" length to create an easy to use measuring aid.* ***See Fig. 6.***

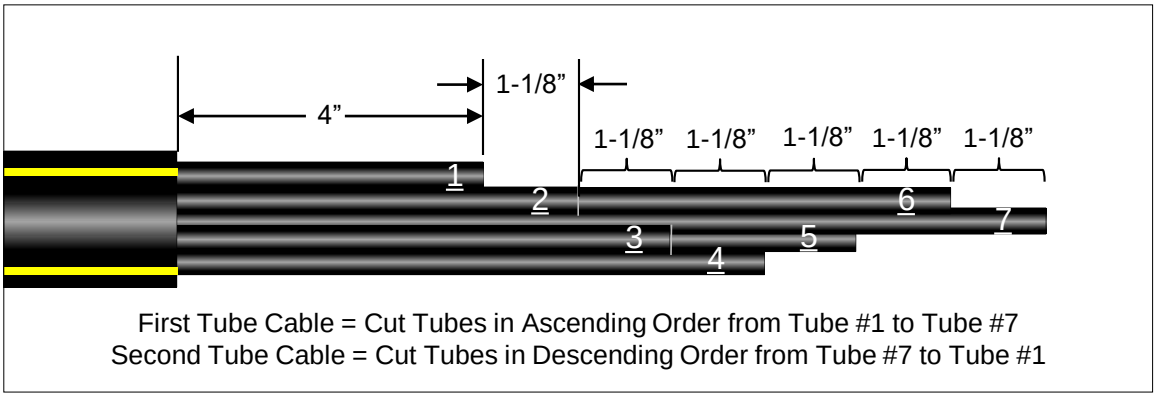


Figure 5
Correct Technique for Cutting Tubes

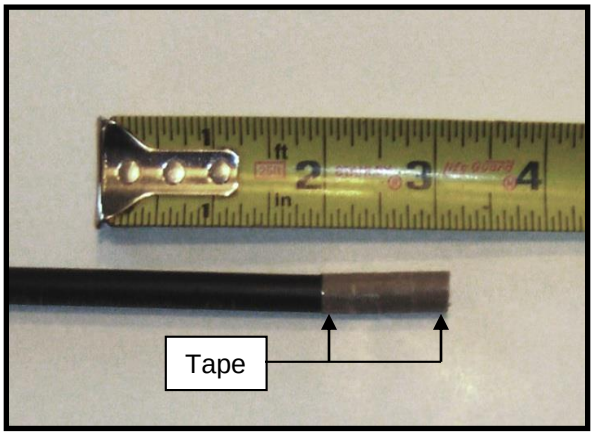


Figure 6
"Measuring Aid"

8.0 Installing the Tube Couplings

8.1 Choose either tube cable and install a Tube Coupling on each tube. Be sure each tube is pushed all the way into its coupling and fully and firmly seated. **See Fig. 7.**

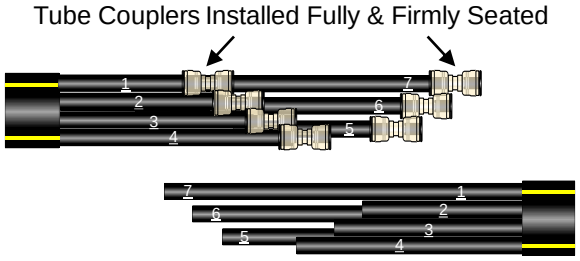


Figure 7
All Tube Couplings Installed
on One Tube Cable

8.2 Connect tube cable ends together by first coupling tube with highest number to its mate. Then continue coupling tubes in descending numerical sequence. Be sure each tube is pushed all the way into its coupling and fully and firmly seated. **See Fig. 8.**

8.3 Install the Grounding and Bonding hardware if using armored / metallic tube cables. See Sumitomo Recommended Procedure SRP SP-F04-030.

9.0 Splice Case Assembly

9.1 Very Important Note. The key to accomplishing a watertight PLP Splice Case installation is to drill clean, precise, and correct size holes for tube cable entry through the End Plates.

9.2 The correct tool to do this work is the **Power End Plate Cutter** with **Case** and **Blade Kit** which is available from SEL as a Weekly Rental.

9.3 Manually drilling cable entry holes i.e., with a Hole Saw is often not successful (not precise) and typically result in case leakage later.

9.4 With one exception, Splice Case installation procedures for all FutureFLEX outside plant tube cables follow PLP standard recommended procedures.

9.5 The "exception" applies to the unique shaped FutureFLEX 2- 4- 12- and 24-Tube Cables. Special steps must be followed during the End Plate Assembly process and they are explained separately in this SRP.

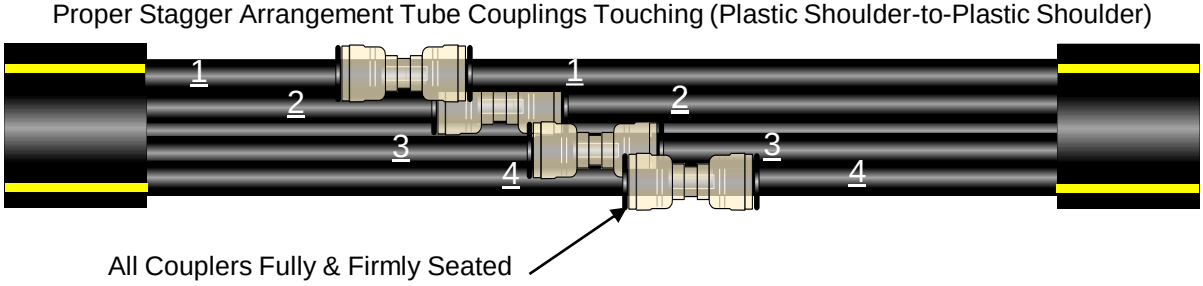


Figure 8
All Tubes Coupled in Proper Stagger Arrangement

10.0 End Plate Assembly – Std. Procedures

10.1 Use the provided Cable Mea-Sure Tape to measure each tube cables outside diameter. The readings obtained will determine correct blade size and the number of LOCK-TAPE Sealant tape layers to wrap around the cable jacket. Consult PLP End Plate Assembly instruction sheet *PLP-SP2919-1* on how to interpret Cable Mea-Sure Tape readings.

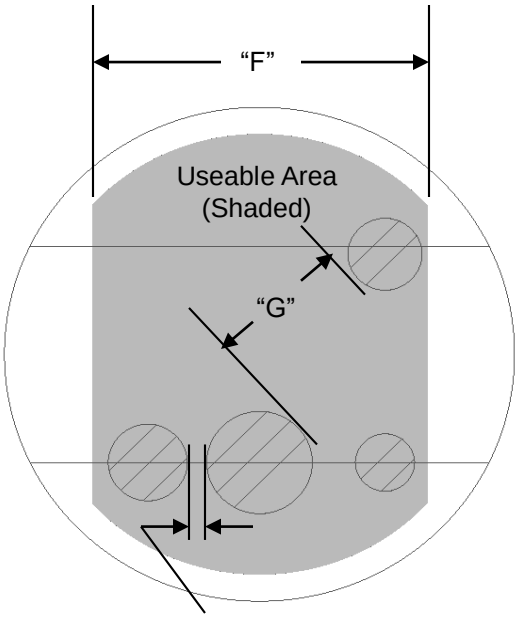
Note*: The following information should be used for guidance only. It is strongly recommended to* ***Always*** *perform field measurements with the Cable Mea-Sure Tape when determining blade size and number of LOCK-TAPE Sealant wraps to account for any minor differences in tube cable jacket diameters.*

Tube Cable	Blade Size	Layers of Lock-Tape Sealant Tape Required
TC02TOX	H	**Use DE02EPA**
TC02MSOS	H	**Use DE02EPA**
TC02TOX-2	H	1
TC02MSOS-2	H	1
TC04TOD	K	**Use DE04EPA**
TC04MSOS	K	**Use DE04EPA**
TC04TOD-2	I	2
TC04MSOS-2	I	2
TC07TOX	G	1
TC07MSOS	G	1
TC07TOX-2	J	1
TC07MSOS-2	J	1
TC12TOX	O	**Use DE12EPA**
TC12MSOS	O	**Use DE12EPA**
TC12TOX-2	K	1
TC12MSOS-2	K	1
TC19TOX	L	2
TC19MSOS	L	2
TC19TOX-2	P	2
TC19MSOS-2	P	2
TC24TOX	U	**Use DE24EPA**

10.2 Determine the tube cable entry points and hole locations on End Plate. **See Fig. 9** for PLP recommended hole clearance dimensions.

10.3 Drill cable entry holes using a Power End Plate Cutter and Blade Kit per standard recommended procedures. Consult PLP End Plate Assembly instruction sheet. *PLP SP2919-1*

10.4 Use Emery Cloth to lightly scuff edges of drilled hole and remove any burrs on edges and corners only. **See Fig. 10.**



1/4" Minimum Clearance
Between Holes on Each Seam

9.5" D End Plate	12.5" D End Plate
"F" = 7.1"	"F" = 9.3"
"G" = 1/2"	"G" = 3/4"

Figure 9
Three-Section End Plate
Hole Spacing Requirements

10.5 SEL - Replacement End-Plate Part-No's

DE09SPC-EP - Single 9.5" 3-section end plate for DE09SPC
DE12SPC-EP - Single 12.5" 3-section end plate for DE12SPC
Also Required: P/N: 80801566 - PLP Shell Lubricant

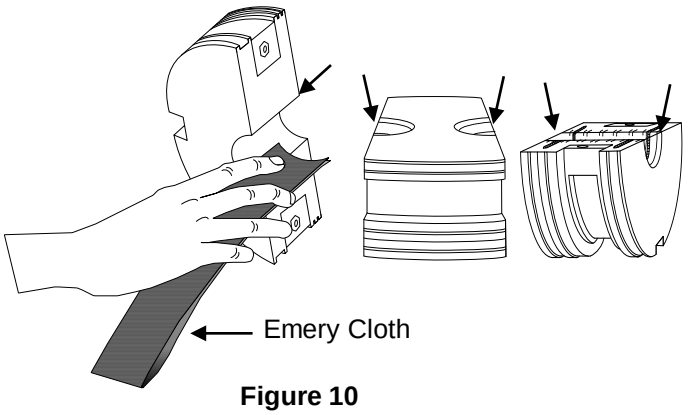


Figure 10
Lightly Scuff and Remove Burrs
from Drilled Hole Edges and Corners Only

10.6 Install Torque Bars, two (2), 1 on top and 1 on the bottom sections of the End Plates. Be sure that the offset of the bars face in towards the interior of the Splice Case (not outward).

10.7 Thoroughly clean all contamination from first 6" of tube cable jacket. Use Emery Cloth to lightly scuff this area.

10.8 Coat the cleaned / scuffed 6" of tube cable jacket with C-Cement and allow to dry to a tacky base.

10.9 Apply the Half-lap LOCK-TAPE Sealant tape around the 6" cleaned area of the Tube Cable Jacket. Apply the number of layers determined earlier when cable outside diameter was measured with Cable Mea-Sure Tape. **See Fig. 11.**

10.9.1 While applying LOCK-TAPE Sealant tape, pull and stretch tape to reduce its original width from 1-1/2" to finished width of 1-1/8".

10.9.2 Keep LOCK-TAPE Sealant tape dry and free from all contaminates, especially dirt and grease.

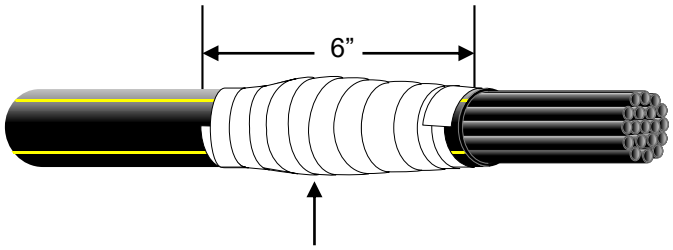


Figure 11
LOCK-TAPE Sealant Tape
Applied in Half-Laps

10.10 Apply a coat of C-Cement to End Plate mating surfaces.

10.11 Apply LOCK-TAPE Sealant Strips (about 3" W x 14" L) to End Plate mating surfaces. Apply strips without stretching. **See Fig. 12.**

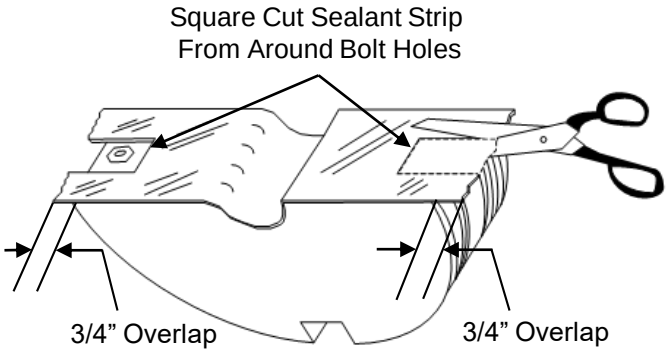


Figure 12
Applying LOCK-TAPE Sealant Strip
to End Plate Sections

10.11.1 Leave 3/4" of strip extending beyond End Plate on both sides.

10.11.2 Square cut strips away from bolt holes.

10.12 Paint a strip of C-Cement over LOCK-TAPE Sealant along edges of cable openings only. **See Fig. 13.**

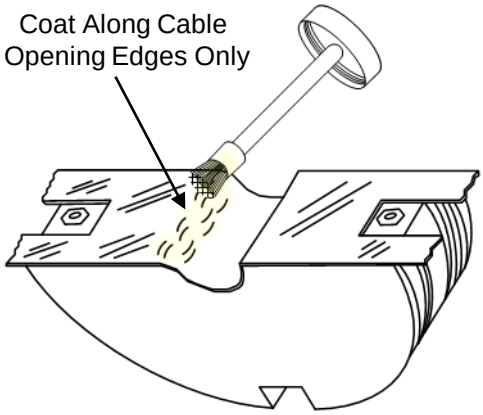


Figure 13
Applying C-Cement Over
LOCK-TAPE Sealant Strip

10.13 At this point, preparation work on the End Plate Sections is complete and ready for tube cable installation. **See Fig. 14.**

10.14 Install tube cables in End Plates. Do <u>not</u> compress / re-shape tube cables. Simply place into cable openings and carefully join End Plate sections together.

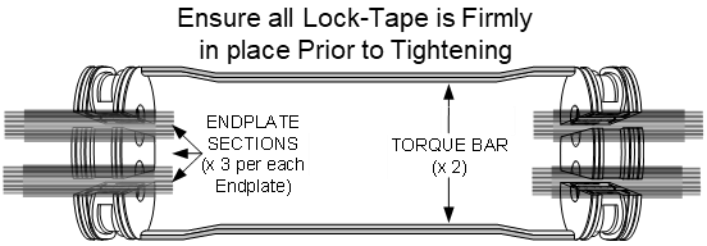


Figure 14
Completed Preparation of End Plate Halves

10.15 Use a socket wrench to draw End Plate sections together evenly while Continuing to tighten until the LOCK-TAPE Sealant Strips separate and lay back. **See Fig. 15.**

10.16 Trim the LOCK-TAPE Sealant end pieces flush with the End Plate. **Do Not Pull/Stretch** the Sealant Tape.

10.17 If you are using an SEL End Plate Adapter (required for the 2-,4-,12- and 24-Tube, Tube Cables - See Page 12) you will need to Apply C-Cement at both ends of the Adapter. (Ring both Ends with Cement)

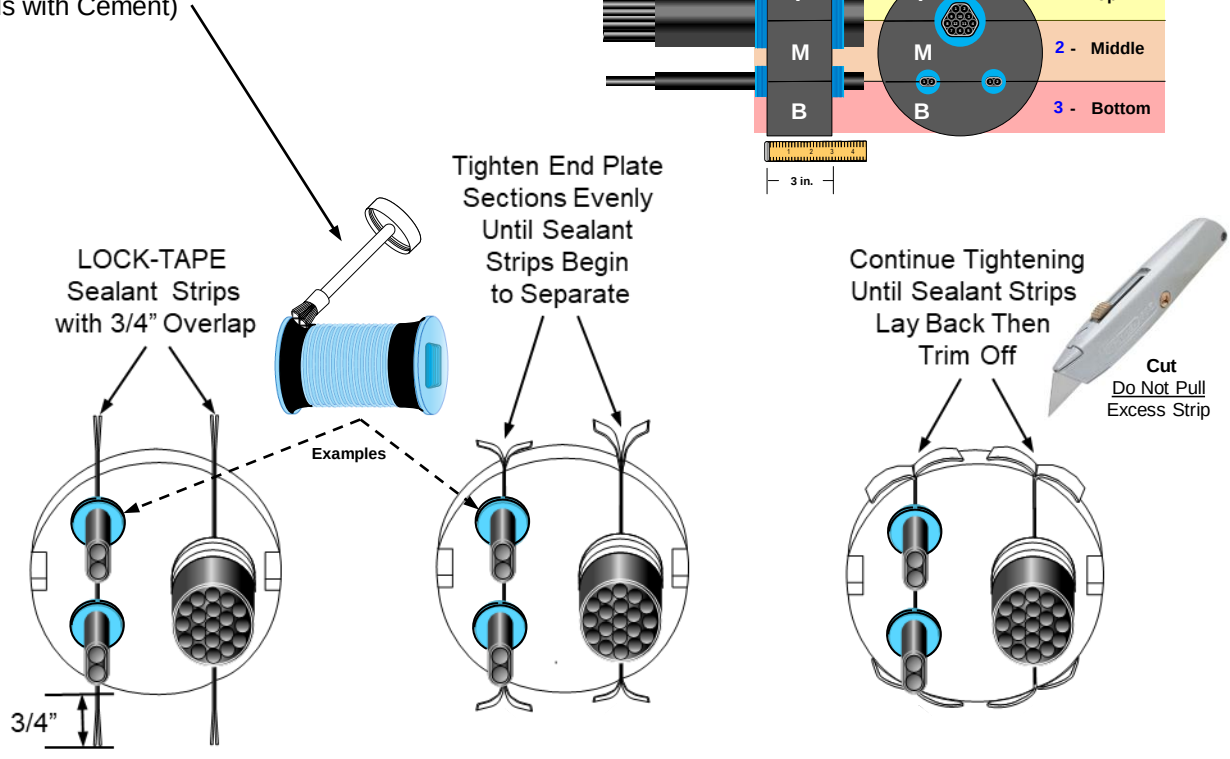


Figure 15

10.18 Apply Two (2) wraps of Vinyl Electricians Tape around "LOCK-TAPE" Sealant tape outside of the End Plates. **See Fig. 16.**

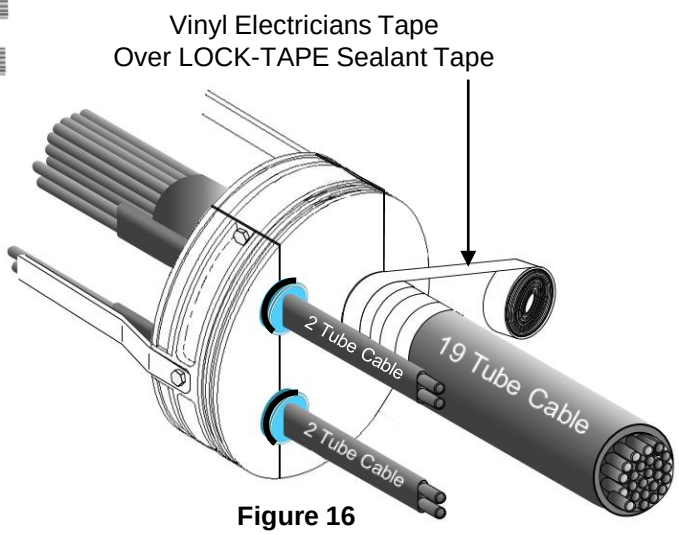
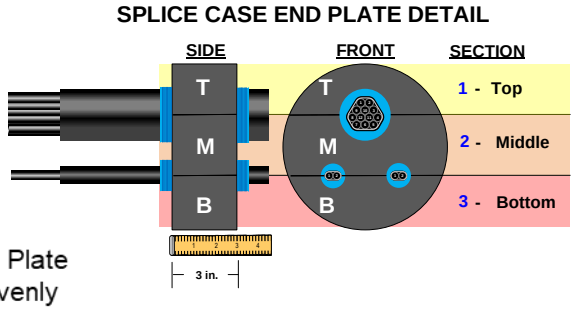


Figure 16
Completing End Plate Assembly



11.0 End Plate Assembly - Special 2, 4, 12, and 24-Tube Cable Procedures

11.1 Due to their unique shapes, installation of FutureFLEX; 2-tube, 4-tube, 12-tube and 24-tube cables through the Splice Case End Plate Assembly requires the use of special End Plate Adapters to establish an effective seal around the Oblong, Square, Triangular and Elliptical shaped Tube Cables.

11.2 Use 2-Tube End Plate Adapter DE02EPA for Oblong 2-Tube Cables, 4-Tube End Plate Adapter DE04EPA for Square 4-Tube Cables, DE12EPA for Triangular 12 Tube Cables and DE24EPA for our elliptical 24 Tube Cables. **See Fig's. 17-18**

Figure 17
2 / 4 / 12 / 24-Tube; **End Plate Adapters**

Part-No.	Description	HxW in.	Wt.	Mtl.	Clr.
DE02EPA	2-Tube End-Plate-Adapter-*(Oblong)*	3.3" X 1.3"	4 oz.	Silicone	Blue
DE04EPA	4-Tube End-Plate-Adapter-*(Square)*	3.3" X 1.8"	4 oz.	Silicone	Blue
DE12EPA	12-Tube End-Plate-Adapter-*(Triangular)*	3.3" X 2.24"	4.6 oz.	Silicone	Blue
DE24EPA	24-Tube End-Plate-Adapter-*(Eliptical)*	3.3" X 3"	6 oz.	Silicone	Blue

11.2.1 One End of the End Plate Adapter is open and goes inside the Splice Case End Plate. **See Fig. 18.**

11.2.2 The other end of the End Plate Adapter is closed (covered with a thin membrane of material) and goes outside the Splice Case End Plate. **See Fig. 19.** *(Excludes DE24EPA which does not have a Membrane).*
Note: *(The thin membrane prepares the Splice Case for future installed Tube Cables while keeping it Sealed in the Interim)*

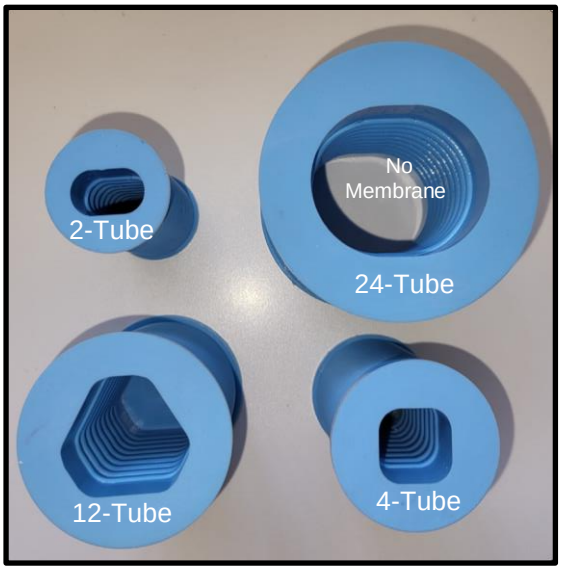


Figure 18
Open End of Adapter Faces to the Inside of the Splice Case

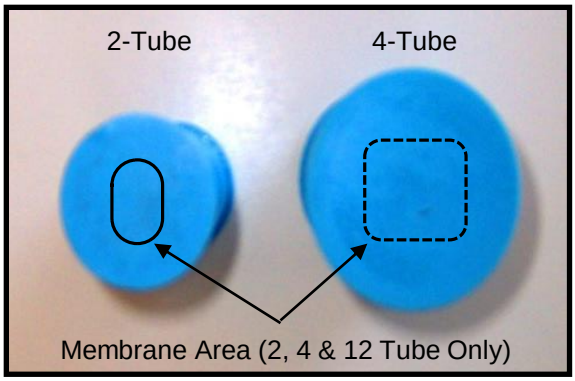


Figure 19
Membrane Placement Faces Towards the Outside of the Splice Case

11.3 Prepare tube cable to be installed by stripping the jacketing and exposing the tubes per standard techniques / steps described in this SRP. This must be done before installing cable through the End Plate Adapter.

11.4 Carefully cut a slit through the outer membrane of the Adapter. Do not remove or totally cut out the membrane. Be sure not to cut into body of the Adapter. **See Fig. 20.**

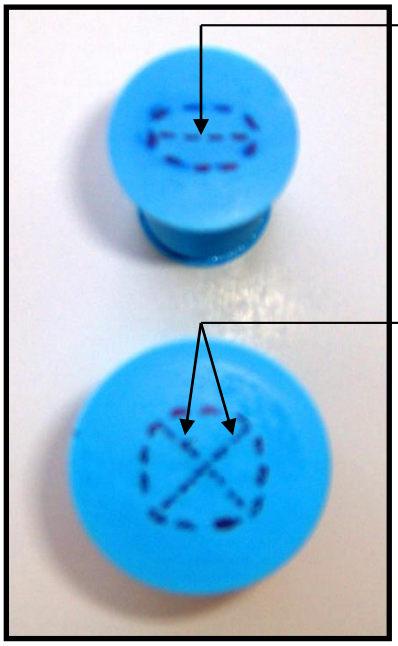


Figure 20
Cutting End Plate Adapter Membranes

Important Note*: All DExxEPA bushings come with a small packet of lubricant that should be used to help the Adapter slide onto the tube cable jacket. Always use a water-based liquid lubricant such Polywater "A" lubricant or equal. Water-based lubricants dry quickly and will not degrade the holding power of the Adapter / Tube Cable interface, and, future removal of the Adapter is easier.* ***Do Not*** *lubricate a tube cable jacket with silicone-based lubricants. Silicone lubricants remains "slippery" and can degrade the holding power of the Adapter to the tube cable, (the tube cable could pull out), and future removal of the Adapter will be extremely difficult.*

11.5 Push the exposed tubes and the tube cable through the End Plate Adapter (starting from outside / membrane end). Slide tube cable through the Adapter until about 1"- 2" of jacket material extends past the open end of the Adapter. **See Fig. 21.**

11.6 Continue preparing End Plate Assemblies per standard techniques / steps described in this SRP and PLP recommended procedures.

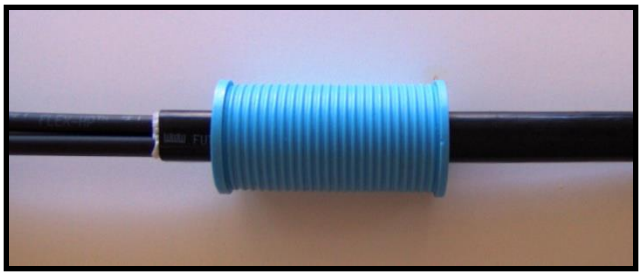


Figure 21
Tube Cable Installed through End Plate Adapter

12.0 Sealing Between Tubes

12.1 Since Splice Case Kits are often installed in harsh environments including Class I Division 1 & 2 areas. SEL recommends to our LFI's that they always consider sealing the Tube Cables/Tubes when the following condition applies: The installed Tube Cable(s) "Entire Span" interconnects a Classified Area / Building or Enclosure to a Non-Classified Area / Building or Enclosure.

12.2 Sealing Tube Cables/Tubes can be accomplished using SEL's approved epoxy LOCTITE® adhesive P/N: DEGBTC01. Procedures for the complete Tube Sealing process can be found in SEL Documents: SRP SP-F04-032 for Tube Cables & SP-F04-033 for the Tubes.

12.3 The Primary goal of Sealing Tube Cables and the Tubes is to prevent Toxic Fumes of any type to penetrate the cable and allow the Fumes from a "Classified Area" to enter into or pass-through any upstream Enclosure, Building or Area and most importantly to any Non-Classified Area.

Note: If you are installing Tube Cables in a Classified Area you should first visit the LFI Resource Portal and download and review both, SRP: SP-F04-032 and SP-F04-033.
https://sumitomoelectriclightwave.com/lfiportal/
If you still have questions or concerns please contact an SEL Application Engineer.

13.0 Testing Tubes

13.1 Once all the tubes are coupled and the End Plate Assemblies joined, each tube in the span should be tested before the Splice Case is waterproofed and closed.

13.2 Perform Pressure and Obstruction Test Procedures per Sumitomo Recommended Procedures SRP SP-F04-003 and SRP SP-F04-004.

13.2.1 If pressure test problems are detected, the Tube Couplings are still exposed and accessible for troubleshooting and repair.

13.2.2 If obstruction test problems are detected, one of the most logical places to look for a compressed tube is at the End Plate Assembly area.

14.0 Shell Kit Assembly

14.1 If installing dielectric tube cables, wrap Shell Kit's #6 bonding wire lug with vinyl Electricians tape; do not cut off or remove. Then install the Kit provided plug to seal the threaded port used as an air flange and, as the grounding lead located on outside of shell.

14.2 If installing metallic tube cables, attach the Shell Kit's #6 internal bonding wire lug to one of the tube cable shield connector assemblies. Then, using Installer provided hardware, connect a grounding wire from the Splice Case's integral air flange and grounding lead threaded port to a common earth ground.

14.3 Carefully bring the shell halves together and install the Lockbar Assemblies per PLP standard recommended procedures PLP Doc: SP 2918-2

14.4 Important Step - Follow the Lockbar tightening instructions carefully. Lockbar nuts must be tightened in a specific sequence and torqued to specific values.

14.5 When the Shell Kit assembly procedures have been completed, position the Splice Case in its pre-determined location and secure it in place. Exercise care in maneuvering the Splice Case and attached tube cables. Do not damage or force tube cables into tight bends.

15.0 Flash Test - (Testing the Enclosure)

15.1 Flash Testing the enclosure requires pressurizing the splice case followed by the application of soapy water sprayed onto all Sealed Surfaces of the fully assembled case. This process is done to check for escaping air by observing all sealed surfaces for the presence of bubbles (leaks). Repeat this Process until no leaks are identified. The following Procedure walks you through the steps required for performing this test. Also Refer to the PLP Video Demonstration of this Procedure. Link; https://www.youtube.com/watch/YO14hzi-u0Q

FLASH TEST PROCEDURE

Step #1 Remove the cap from the air valve of the End-Plate or Shell

Step #2 Pressurize Closure to a max of 10psi.

FLASH TEST PROCEDURE (Cont.)

Step #3 Spray all sealing surfaces of the Closure with a soap& water solution to determine if the end-plate and shells have been assembled properly (no leaks)
Shell Mating surfaces, End Plates and Tube Cable Seal surfaces.

Step #4 Release all pressure in the Closure by pressing on the valve stem then replace the cap. You may also remove the valve and install the kit supplied plug.

Note: Photos may not appear identical to your enclosure and should only be interpreted as a procedural overview. *(See PLP Video)*

15.2 Sumitomo requires the Original Test Data for the Flash Test of any installed Splice Case when applying for a Sumitomo Premium Warranty Certificate.

Important Note: This requirement applies specifically to Splice Cases that have been installed below grade or have the potential of becoming submerged under a limited height of water. A successful Flash Test increases the Ingress Protection (IP) rating of the installed closure and when assembled properly, a NEMA-6P protection is achievable.

15.3 The Flash Test process shall be performed according to accepted project/company practices, and, shall follow the manufacturer directions to achieve a water tight seal. Pressurization shall not exceed a maximum of 10 psi. Following a successful test, release all air pressure from the enclosure and replace the air valve cap or, replace the air valve with the Kit Supplied plug. *(The tested case should not remain pressurized)*

Note: Sumitomo recommends plugging the case and reusing The Schrader Air Valve for all installed and future installed Splice Cases.

15.4 Sumitomo's LFI Portal allows an ABF installer to download a Flash Test Data Sheet *(Printable copy also included on Page 17 of this document)* which must be filled out and submitted when an LFI applies for one of our Premium Warranty offerings.

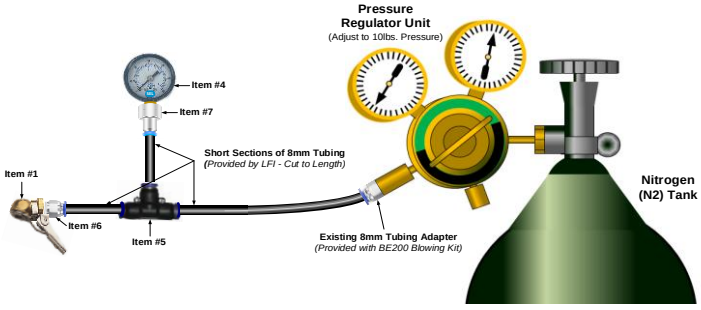
15.5 Sumitomo also sells a Flash Test Kit that provides the necessary items required to perform this test using an N2 Tank as the source for pressurization.

16.0 Flash Test Kit – (DEFTK01)

FLASH TEST KIT - (Kit Components)

ITEM	QTY.	DEFTK01 - Kit Contents and Itemized Description	SEL PART-NO.
1	1	Air Chuck with Lock-On Lever	DE01AC
2	1	3/8" O.D. Threaded Schrader Air Valve	DE01AV
3	1	End Plate Ground/Stainless Steel Plug - 5/16" x 18 x 3/4"	DE01GB
4	1	2" Pressure Gauge with 1/4" NPT Connector 0-60 Psi	DE01PG
5	1	T-Coupler - 8mm Push-to-Connect Adapter x3	DE08MT
6	1	8mm Push-to-Connect Adapter w/Male - 1/4" NPT	BEH006
7	1	8mm Push-to-Connect Adapter w/Female - 1/4" NPT	BE08CTB-01

Items as they Appear



N2 Tank Utilization Overview (Connectivity)

17.0 Encapsulating Splice Cases

17.1 Unless required by Contract Specifications, Sumitomo recommends that you Do Not encapsulate an installed Splice Case.

18.0 Re-Entering Splice Cases

18.1 The Armadillo Stainless Splice Case is designed for numerous re-entries. However, certain precautions must be taken prior to re-application.

18.2 Shells and End Plates must be cleaned thoroughly.

18.3 Any bent or stripped studs or nuts should be replaced.

18.4 After 2 or 3 re-entries, apply shell lubricant (PLP 80801566) to Lockbar threaded studs for continued ease of re-entry.

Note: *This Lubricant is Pre-Applied to the Shell from the Factory with each purchased Splice Case and is the reason why it is not a requirement to purchase for the initial assembly.*

18.5 Discard and replace any bent or distorted shell halves.

18.6 Inspect End Plate sections carefully. Replace if any cracks or other damage are noted.

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SPLICE CASE FLASH TEST DATA SHEET

Test Date:	* Remember to perform all tube and obstruction testing prior to sealing each Splice Case.
Test Event:	* Photos of the installed Splice Case are required in the Warranty Submission package.
Test Personnel:	* Sumitomo Flash Test Kit P/N: **DEFTK01** provides an Air Valve, Air Chuck, 8mm threaded adapter and a Pressure Gauge for testing.
LFI Name:	

Watch the Instructional Video "Flash Testing Procedure": https://www.youtube.com/watch/YO14hzi-u0Q

Refer Document - Sumitomo Recommended Procedures **SRP SP-F04-015**

Test Criteria - Pressurize Closure to 10 psi apply soapy water and verify no leaking occurs at any sealed surface.

Please Specify - (1) Tube Cable ID entering **(IN)** and (1) Tube Cable ID exiting **(OUT)** opposite ends of the Splice Case for ease of identification when referenced against the supporting As-Built Drawings

Note: SEL Does Not Recommend the use of encapsulate to fill the interior of the case (Leave Case Unfilled).

	Splice Case Man-Hole or Vault Number. Matches: (As-Built Drawing)	Splice Case Model Number Enter "09" for DE09SPC Enter "12" for DE12SPC			Tube Cable ID (IN)	Tube Cable ID (OUT)	PSI USED	PASS	FAIL
1		DE		SPC					
2		DE		SPC					
3		DE		SPC					
4		DE		SPC					
5		DE		SPC					
6		DE		SPC					
7		DE		SPC					
8		DE		SPC					
9		DE		SPC					
10		DE		SPC					
11		DE		SPC					
12		DE		SPC					

NOTES / COMMENTS