Accelight Technologies, Inc.

- OPTICONN™ 500
- INSTALLATION INSTRUCTIONS

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1 General Information

Intended Use

The OPTICONN 500 fiber splice closure is a protective housing for outdoor fiber management designed to provide environmental and mechanical protection for single or multiple fiber splices between fiber optic cables in an uncontrolled environment, including aerial and underground or direct buried of up to 5 meters depth of fiber cable deployment. The OPTICONN 500 should not be installed in a manner not conforming to its intended use or outside the recommendations of this document. Be sure to check for and conform to any local or company requirements for the area were the closure will be installed.

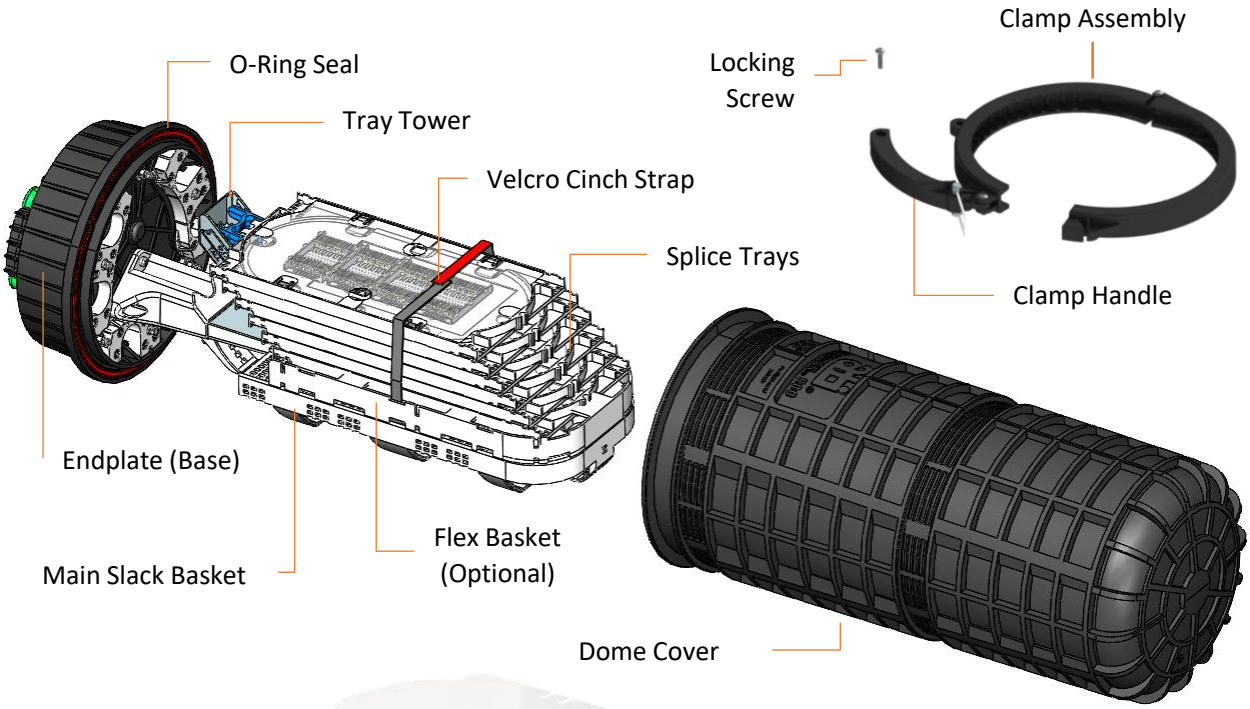
Tool Requirements

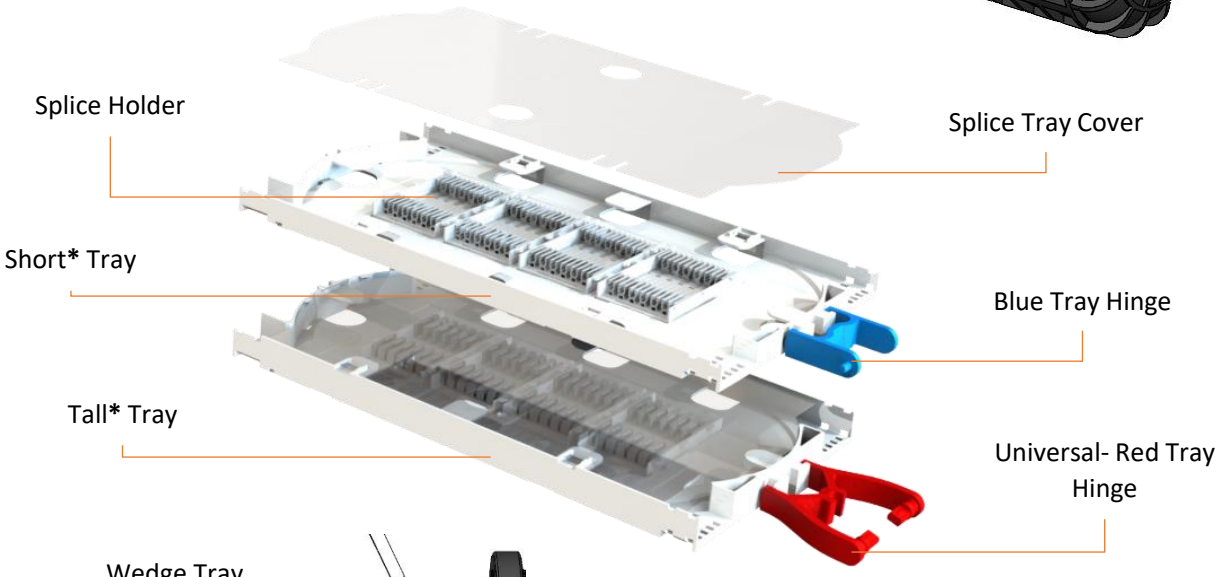
There are no specialty tools needed for installation of the OPTICONN 500. All the standard installation tools used by a fiber optic splicer technician should be sufficient for cable installation. Be sure to refer to the cable manufactures recommendations for any additional steps or specialty tools that may be required.

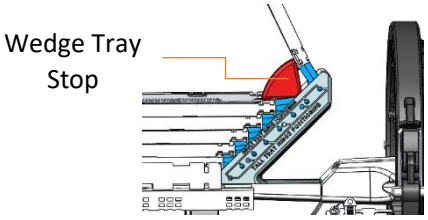
Additional Accessories

Please visit www.accelight.com for more information on accessories for the OPTICONN 500.

2 OPTICONN™ 500 Components

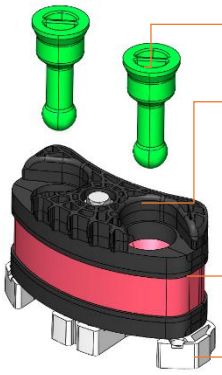


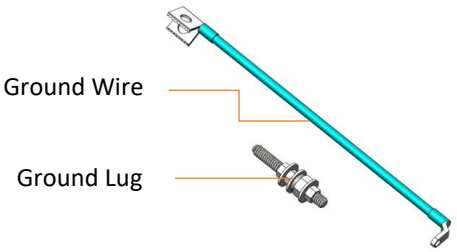


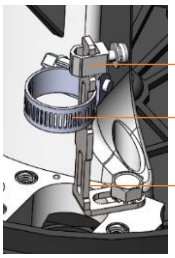


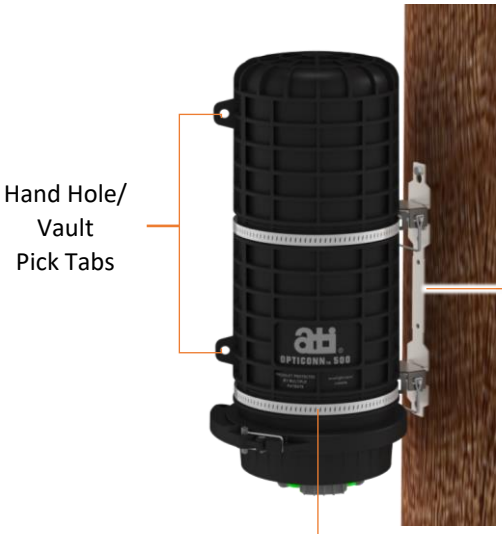
*Note: Short and Tall refers to the tray side height, not length.

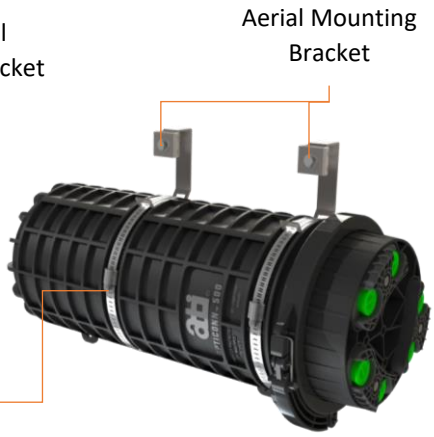
2 OPTICONN™ 500 Components

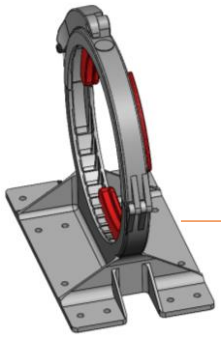


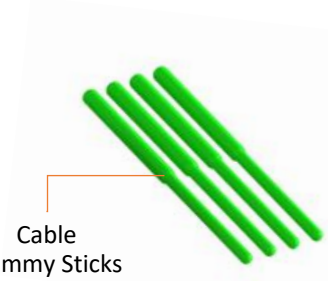


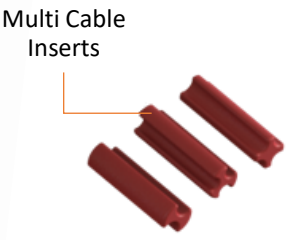






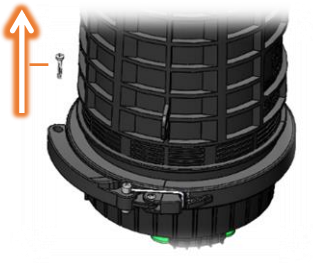




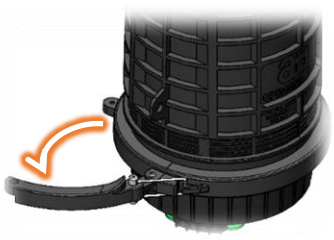


3 Dome Cover Removal

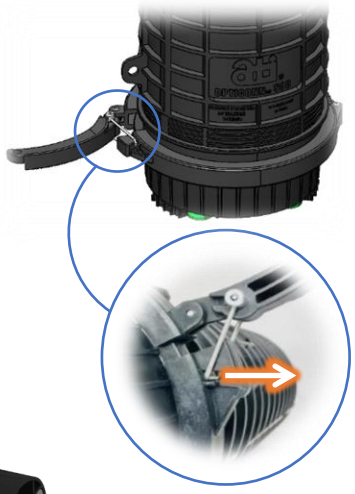
Step 1 Remove Phillips screw from clamp assembly



Step 2 Open the clamp using the Handle



Step 3 Release the clasp and finish clamp removal



Step 4 Clamp is now removed, and closure can be opened by sliding the dome cover away from the closure base

4 Cable Prep Length Chart

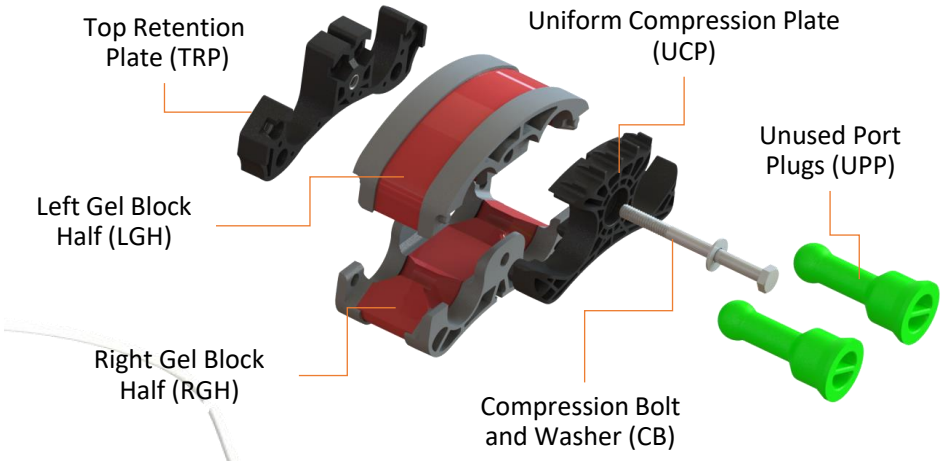
Tray Config.	**Loose Buffer Tube Cable & Rollable Ribbon Applications**	Slack in Basket	Fiber in Tray (Doubled for Mid Span)	**Total Opening**
S1 & R3	Cut End or Reel End	31" - 41"	30" - 37"	61" - 78"
	Mid Span Opening	62" - 82"	60" - 74"	122" - 156"

Tray Config.	**Central Tube & Traditional Ribbon Applications**	Slack in Basket	Fiber in Tray (Doubled for Mid Span)	**Total Opening**
R1	Cut End or Reel End	56" - 68"	5" - 10"	61" - 78"
	Mid Span Opening	112" -136"	10" - 20"	122" - 156"
R2	Cut End or Reel End	36" - 46"	18" - 20"	54" - 66"
	Mid Span Opening	72" - 92"	36" - 40"	108" - 132"

Note: Refer to section **11 Splice Tray(s), Tray Routing Options,** for more information regarding tray configuration options (S1, R1, R2, R3)

5 Cable Installation

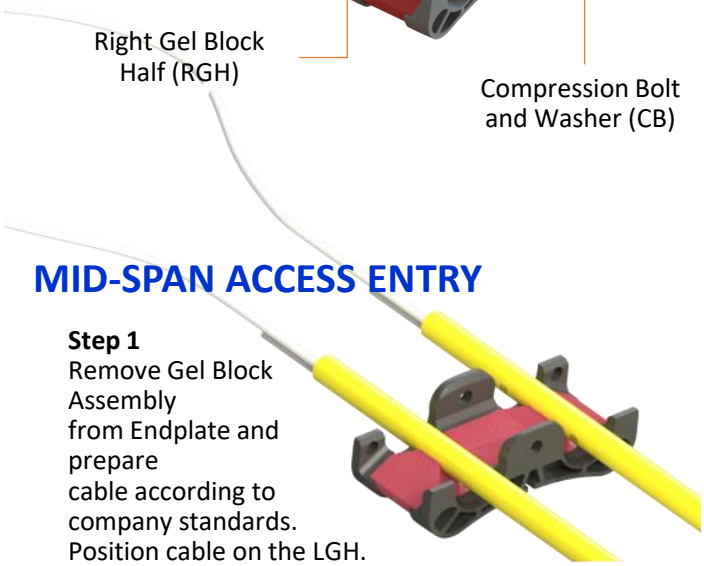
- Gel Block Assembly -



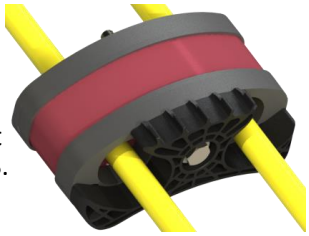
Loosen CB using a 7/16” can wrench until the bolt clears the TRP

MID-SPAN ACCESS ENTRY

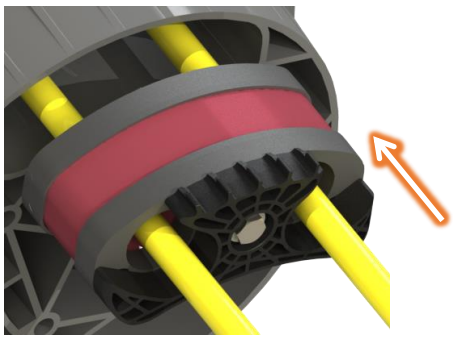
Step 1
Remove Gel Block Assembly from Endplate and prepare cable according to company standards. Position cable on the LGH.



Step 2
Snap the RGH over the cable, onto the LGH. Align and insert the UCP and CB.

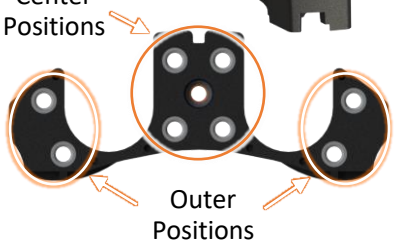


Step 3
Insert Gel Block and cable assembly into the Endplate Assembly pocket, as shown.

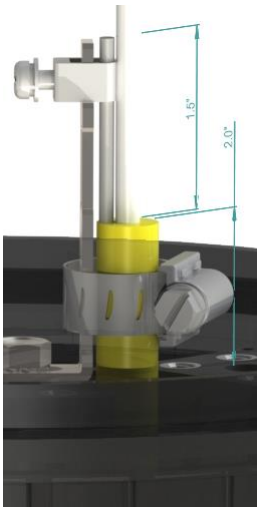


5 Cable Installation

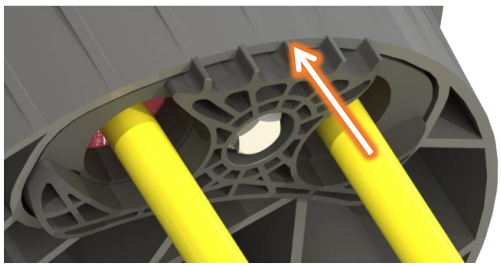
Step 4
Attach the provided Strength Member Bracket **(SMB)** to one of the desired positions.
Note: Use the 4 center positions for large diameter cables (>0.3" Dia.). Use the 4 outer positions for smaller diameter cables.



Step 5
Cut the strength member to 1.5" length above cable jacket and position the cable ~2.0" above the Gel Block's top surface. Insert strength member into SMB and secure the cable using the provided Hose Clamp. Tighten the SMB bolt into final position.

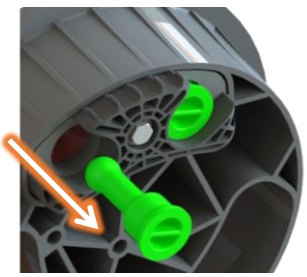


Step 6
Tighten CB until the UCP is fully seated onto the Endplate's bottom surface, as shown (~15-20 in-lbs.)
Note: For larger diameter cables the teeth of UCP may not contact the endplate surface. The Gel Block will seal, provided the proper torque has been achieved.

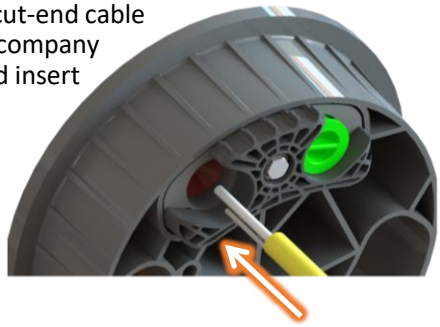


REEL/CUT-END AND DROP CABLES

Step 1
Loosen the Gel Block CB and remove the UPP.



Step 2
Prepare reel/cut-end cable (according to company standards) and insert into Gel Block assembly, as shown.



To finish installation follow Steps 4-6 as shown on Mid-Span access entry cable.
Insert Unused Port Plugs into all unused ports, before tightening the Compression Bolt.

6 Multi Cable Insert Usage

Small Diameter Cables Installation components

Cable Dummy Sticks

Multi Cable Insert – 4 positions **(MCI4)**

Gel Block Assembly

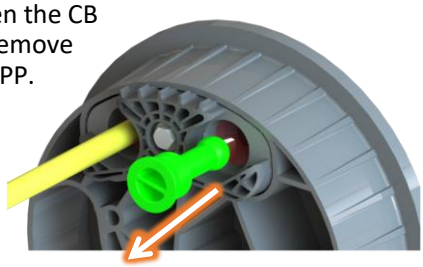
Multi Cable Insert – 3 positions **(MCI3)**

Multi Cable Insert – 2 positions **(MCI2)**

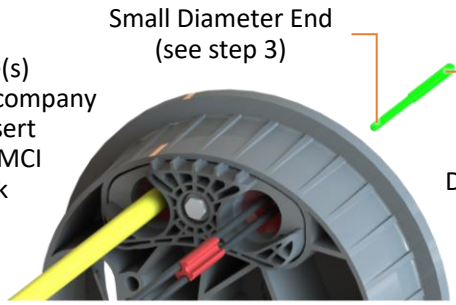
MCI 2		MCI 3		MCI 4	
Min	Max	Min	Max	Min	Max
0.2"	0.4"	0.15"	0.27"	0.12"	0.21"
5.5mm	10.2mm	3.8mm	6.9mm	3mm	5.3mm

SMALL DIAMETER AND DROP CABLES INSTALLATION

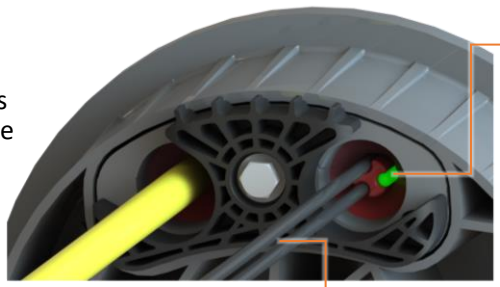
Step 1
Loosen the CB and remove the UPP.



Step 2
Prepare cable(s) according to company standards. Insert cable(s) with MCI into Gel Block assembly, as shown.



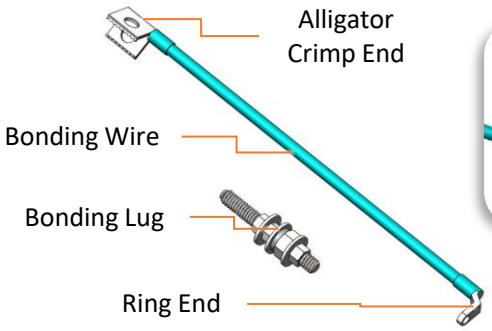
Step 3
Insert provided cable dummy sticks onto unused ports of MCIs from the inside, as follows:
Use large diameter end on MCI2 and MCI3, respectively small diameter end on MCI3 and MCI4.



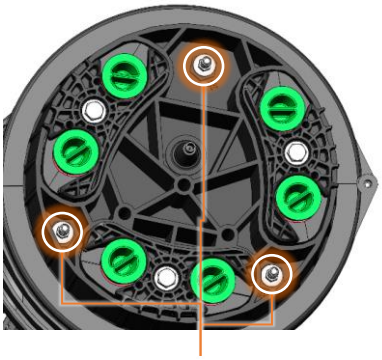
2x 0.25” Dia. Cable installation illustration, using MCI3 and single Dummy Stick

To finish installation follow Steps 4-6 as shown on Mid-Span access entry cable.
Insert Unused Port Plugs and/or Dummy Sticks into all unused ports, before tightening the CB.

7 Cable Bonding



Bonding Lug
Installed

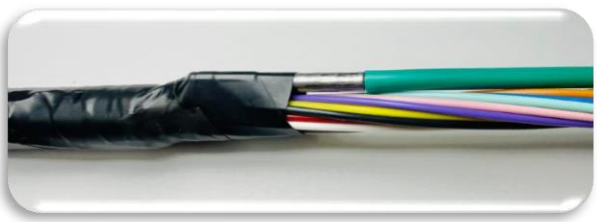


3x Grounding Lug Locations

The Grounding/Bonding wires are designed to work with a Shield Bond Connector or standalone. Use the method that best fits local grounding/bonding codes and/or company polices.

Using a Shield Bond Connector (NOT INCLUDED):
Expose approximately 1”-1.5” of armer on cable. Place the bolt side of Bond Connector under the armer. Place the remaining side of the Bond Connector over the bolt above the armer. Install and tighten nut provided. Using pliers, squeeze and flatten the Alligator Crimp End of the Bonding Wire. Place flattened Crimp End over bolt and add and tighten nut. Install Ring End of wire to the appropriate Bonding Lug.

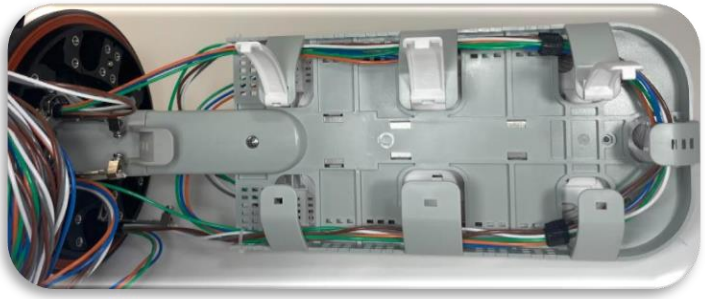
Using Bonding Wire as Standalone:
Expose approximately 1” of armer on cable. Place the Alligator Crimp End over the cable armer. Using pliers, squeeze and compress the Alligator Crimp End of the Bonding Wire over a portion of armer. Install Ring End of wire to the appropriate Bonding Lug.



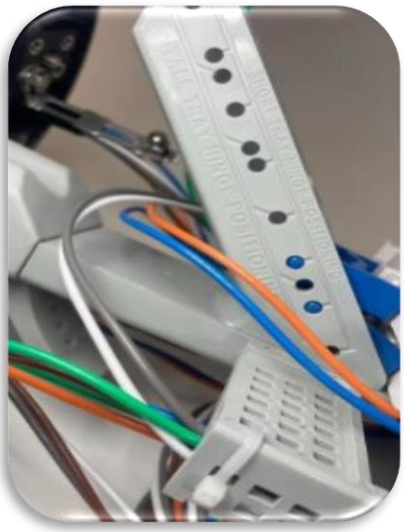
Note: For both methods, ensure buffer tubes are properly protected by applying tape over buffer tubes and over bond connector when bonding cables.

8 Buffer Routing

Step 1 Separate buffer tubes to be spliced from those that will remain unaltered. Best practice is to place slack from buffer tubes being spliced in first, then place remaining unaltered buffer tubes on top for future use. *Alternatively*, use the optional Flex basket to demarcate buffer tubes. See section *10 Flex Basket Usage* for more information.



Step 2 Ensure buffer tubes are routed behind tray tower and have plenty of flexibility for trays to open and close. Mark buffer tubes 1” from the edge of tray entry. Cut buffer tube at the mark and remove fibers from buffer cuttings.



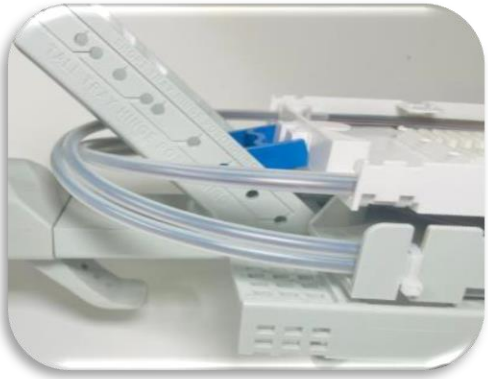
Step 3 Secure buffer tubes to tray using provide felt and tie wraps as pictured. Make sure to clean fibers before splicing.

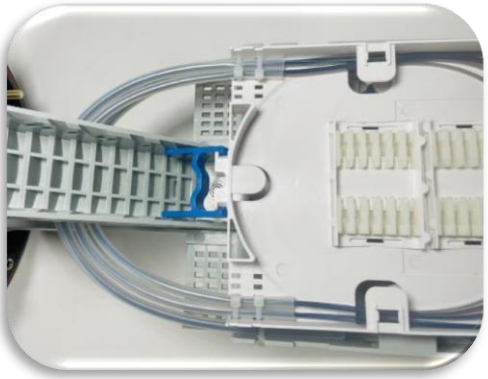
Step 4 After all fibers are spliced and secured in tray(s), rotate closure and secure and adjust all buffers tubes as needed.

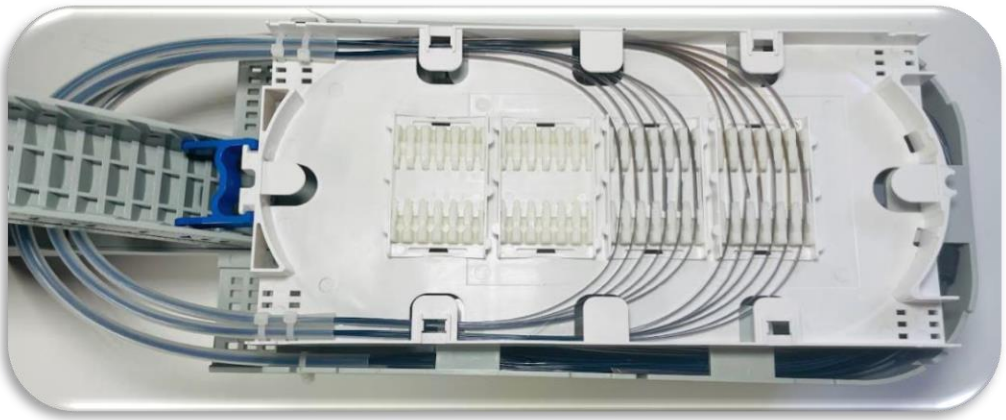
9 Ribbon Routing

Place transfer tubes slack basket (or Flex Basket if being used) to the tray selected for splicing. Use zip ties to secure transfer tubes at each side. Feeding from the slack basket or (Flex Basket) side, push ribbon fiber up through transfer tubes into tray. Adjust slack as needed back into the slack basket when splicing is complete.

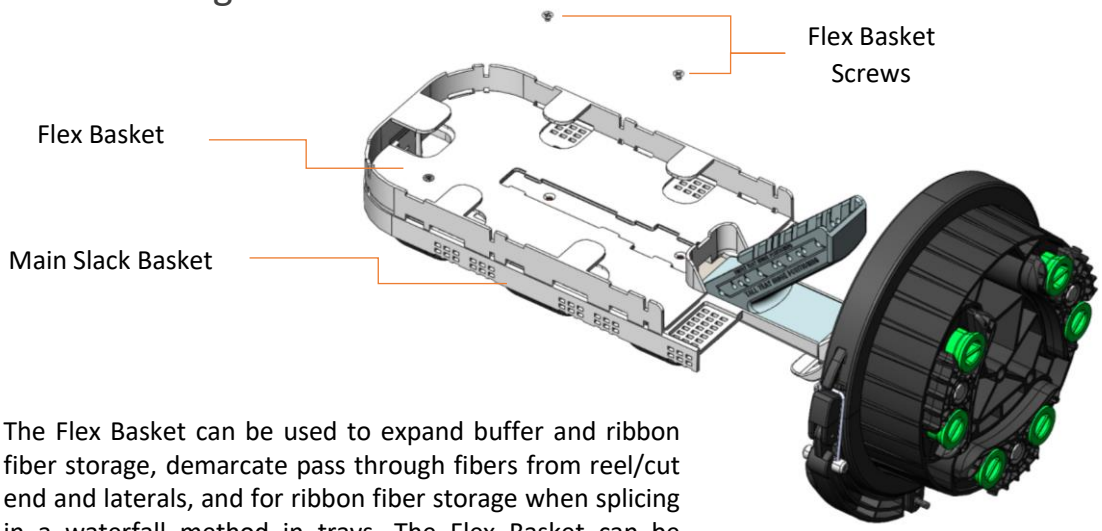
Note: Although it could hold more, 144-216 mass fusion splice is the **max** recommendation per tray. Max recommendation does depend on the type of ribbon being used and individual company policy.





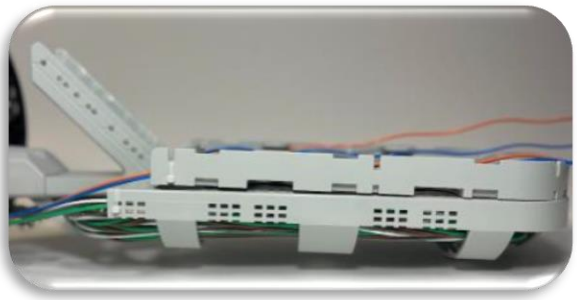


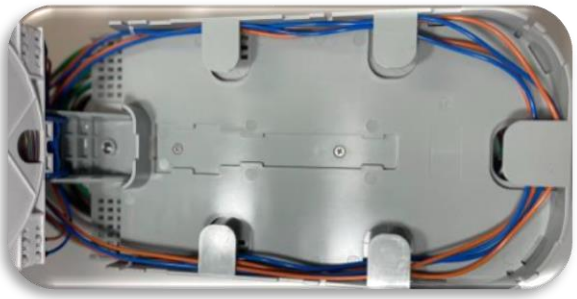
10 Flex Basket Usage



The Flex Basket can be used to expand buffer and ribbon fiber storage, demarcate pass through fibers from reel/cut end and laterals, and for ribbon fiber storage when splicing in a waterfall method in trays. The Flex Basket can be removed and replaced with two short trays in the event that more splicing than storage is needed.

Examples of buffer tube separation and demarcation.



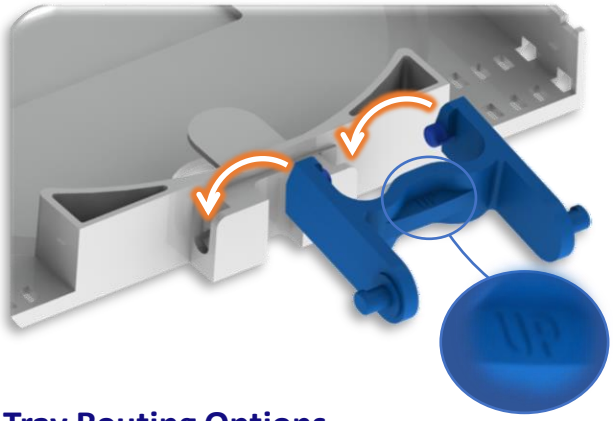


Examples of use for ribbon fiber slack storage using transfer tubes.

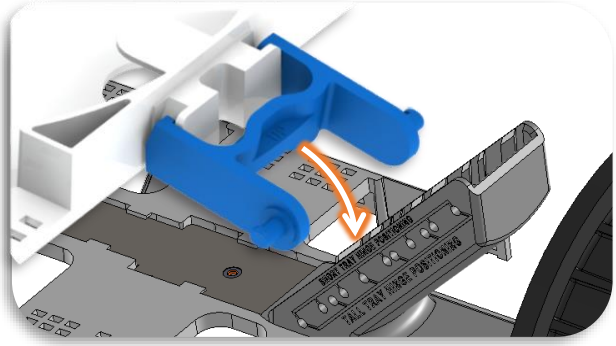
11 Splice Tray(s)

Attaching Hinges and Trays

Step 1 To attach the hinge to the splice tray, align hinge over the tray and press down firmly. Be sure to use the side that says **UP** for applicable hinge types.



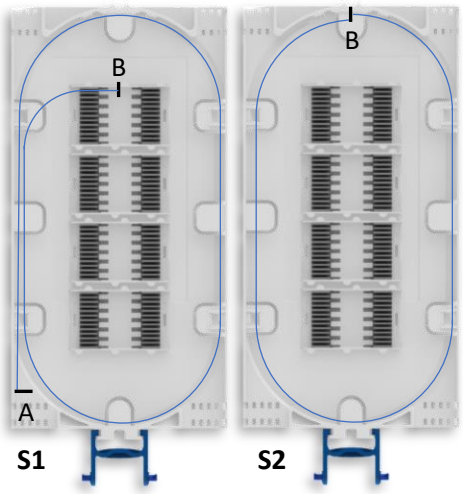
Step 2 With the hinge attached to the tray, select the next available opening on the tray tower and snap hinge pins into the desired holes. Use the grooves to help align hinge pins.



Tray Routing Options

Note: Options are for Cut-End applications unless otherwise specified. For Mid Tube applications simply double the length of selection.

For **Single Fiber Splicing**, Prep 30”-37” (S1:A-B) in the tray. For less fiber length, reduce as desired and use cross overs between Splice Holders as needed. For an additional tray wrap, add 20”-27” (S2:B-B).

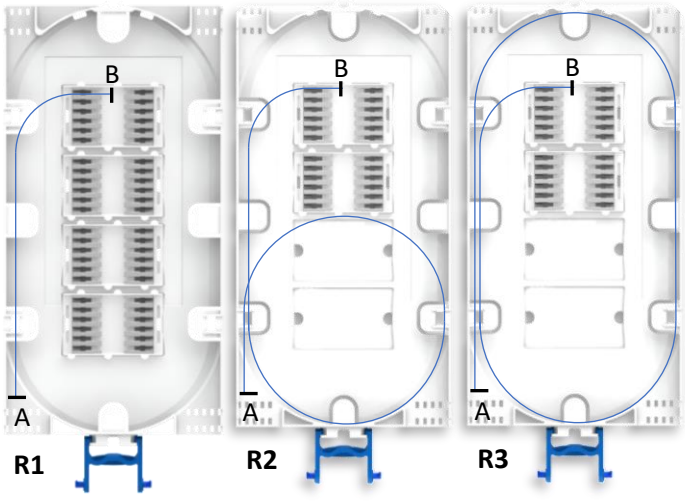


For **Ribbon Fiber (Mass Fusion) Splicing**, use one of the options below depending on the application.

Option 1: Prep 7”-9” (R1:A-B) in the tray with remaining slack (20”-28”) stored in the Main or Flex Basket.

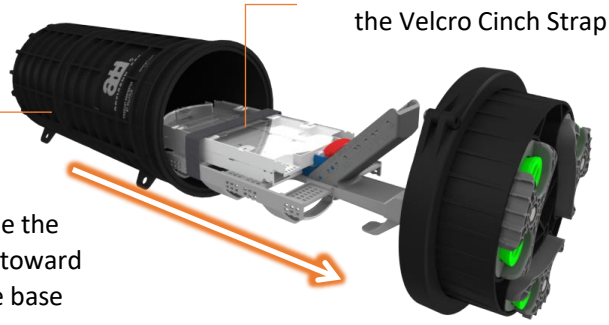
Option 2: Prep 18”-20” (R2:A-B) in the tray. This option will reduce the total cable opening prep length. See chart in section ***4*** *Cable Prep Length Chart.*

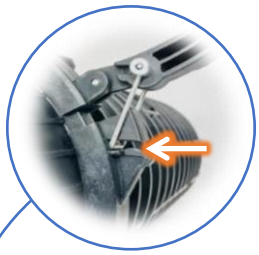
Option 3: Prep 30” to 37” (R3:A-B) in the tray. This option is not ideal for flat ribbon fiber cables. It is best suited for rollable type ribbon cables applications.



12 Closing and Securing Closure

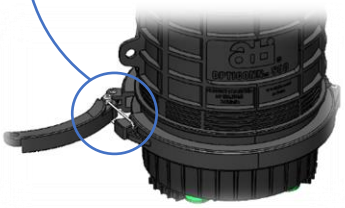
Step 1 Secure trays using the Velcro Cinch Strap



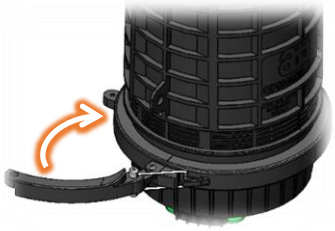


Step 2 Slide the dome cover toward the closure base

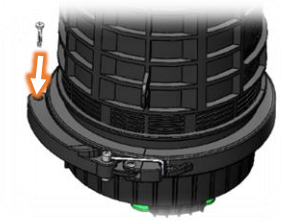
Step 3 Place clamp over dome and end plate groves. Slide the clasp into the groove on clamp



Step 4 Close the clamp using the Handle



Step 5 Install Phillips screw into clamp assembly to lock handle



Pressure Valve Location

Step 6 Flash test the closure by applying 5 psi using the pressure valve. Use soapy water to coat seals (Gel Block assemblies and O-ring). Check for any leaks indicated by the presence of soapy bubbles. If bubbles appear, ensure GelBlocks are properly secured (see step 6, in section *5 Cable Installation*) and repeat all steps of section *12 Closing and Securing Closure.* If no bubble appear, closure is seal and ready to be put away.

Note: Do Not Over Pressurize The Closure, Closure Damage or Injury Could Occur