CraftSmart Splice Closure 250

Installation Manual

CLEARFIELD

Manual 025150 REV A - Dec 2025

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CLEARFIELD

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General Information

Intended Use

The CraftSmart Splice Closure 250 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 CSC 250 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 where the closure will be installed.

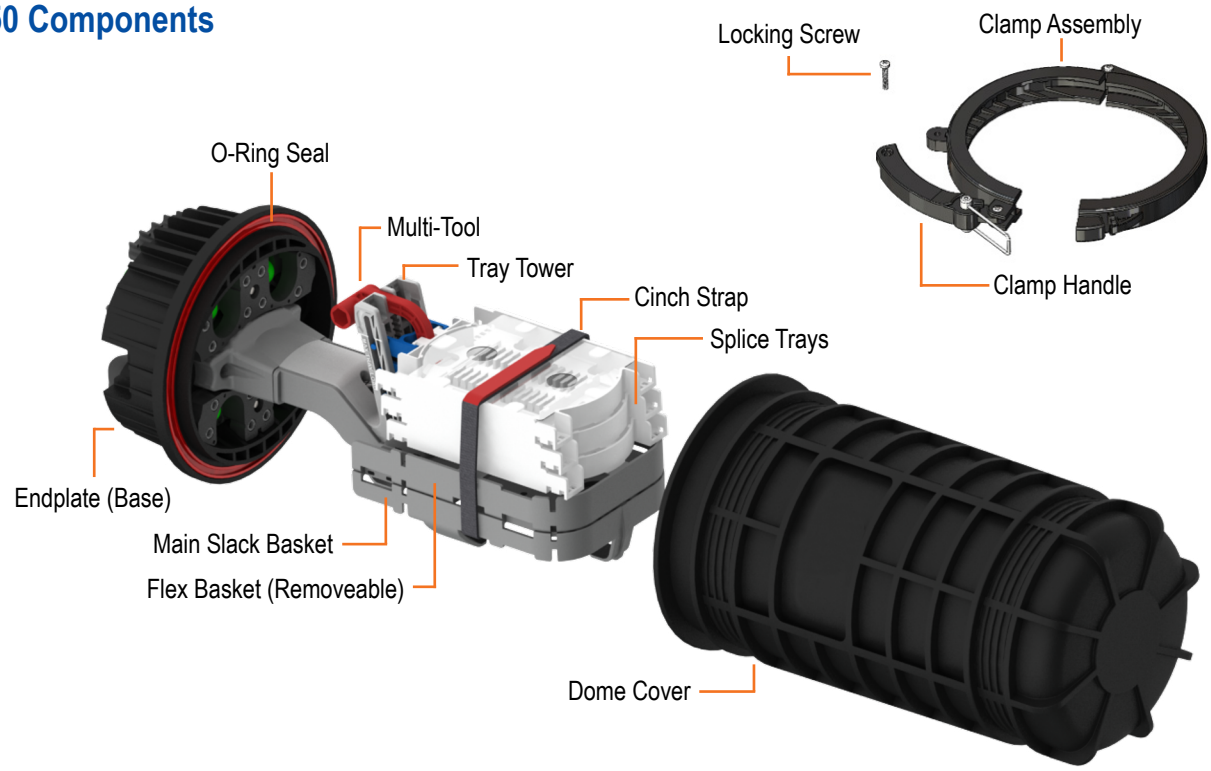
Tool Requirements

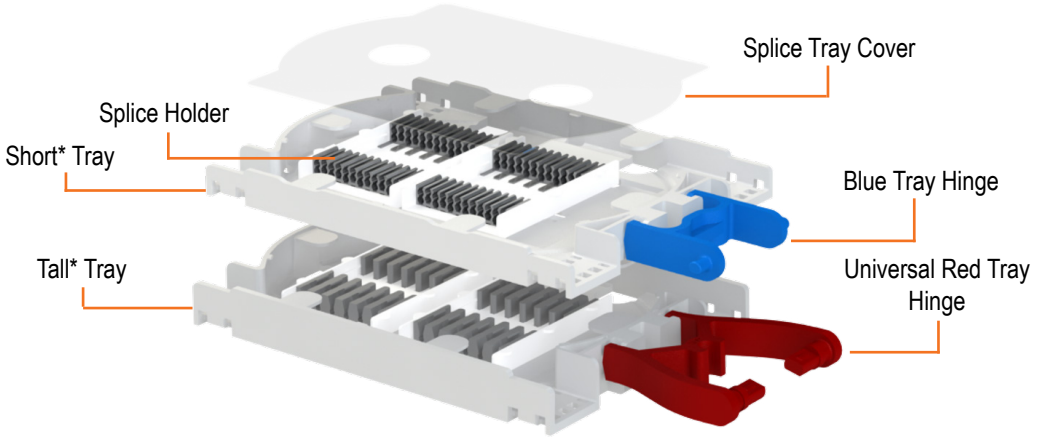
There are no specialty tools needed for installation of the CSC 250. All the standard installation tools used by a fiber optic splicer technician should be sufficient for cable installation. Be sure to refer to the cable manufactures recommendations for any additional steps or specialty tools that may be required.

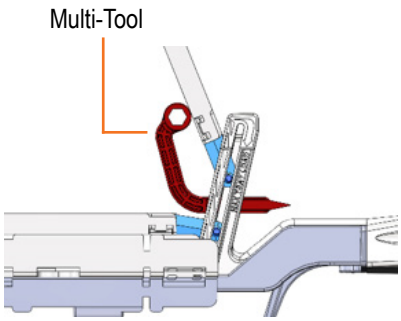
Additional Accessories

Please visit www.seeclearfield.com for more information on accessories for the CSC 250.

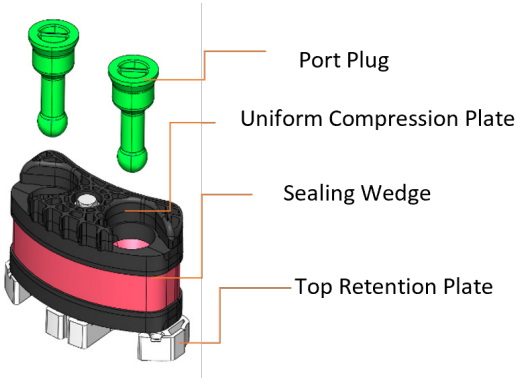
CSC 250 Components

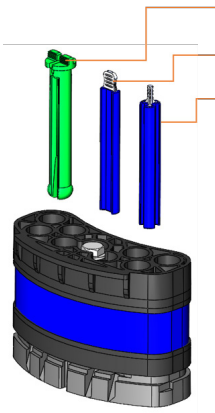


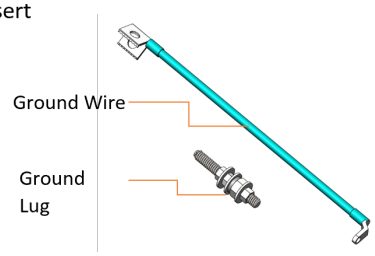


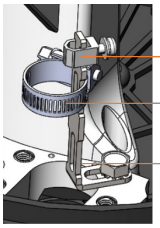


***Note:** Short and Tall refers to the tray side height, not length.*


Port Plug
Uniform Compression Plate
Sealing Wedge
Top Retention Plate

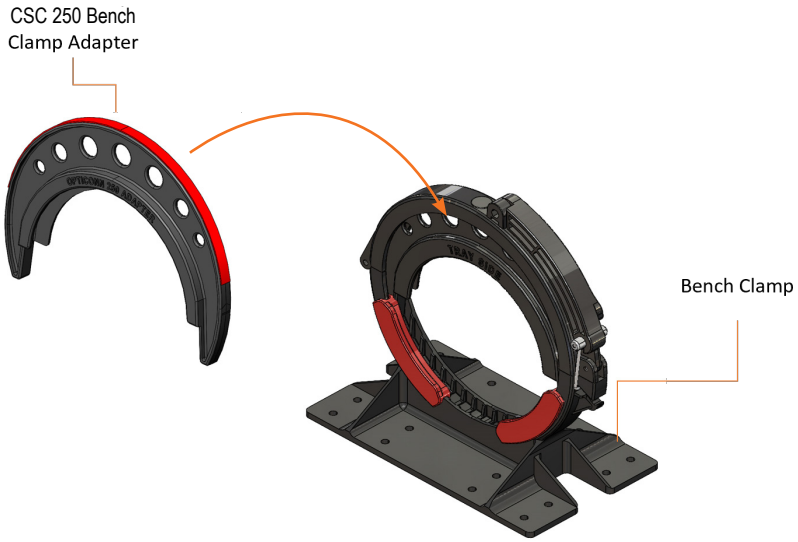

Flat Drop Port Plug
Flat drop Insert
Round drop Insert

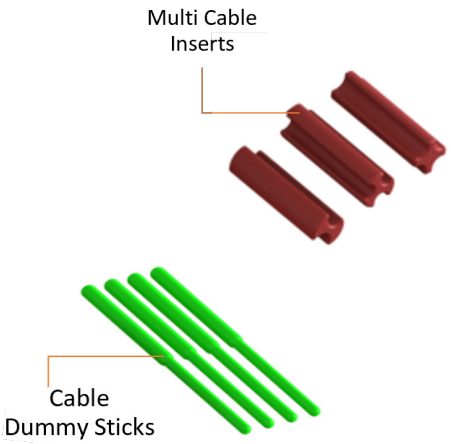

Ground Wire
Ground Lug


Strength Member Clamp
Hose Clamp
Strength Member Bracket


Pole/Wall Mounting Bracket
Mounting Bracket Straps

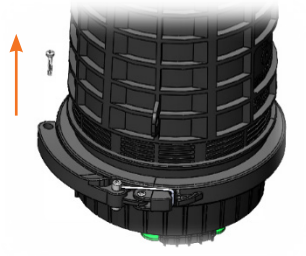

Aerial Mounting Bracket


CSC 250 Bench Clamp Adapter
Bench Clamp

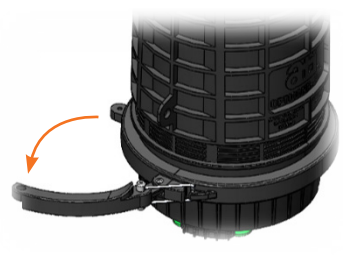

Multi Cable Inserts
Cable Dummy Sticks

Dome Cover Removal

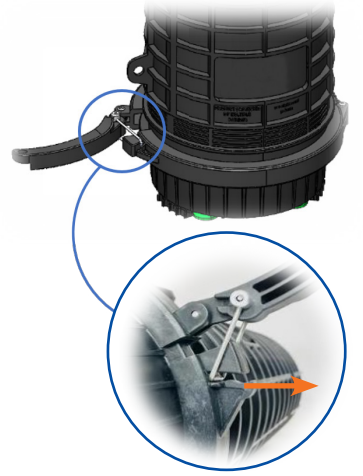
1. Remove Phillips screw from clamp assembly.



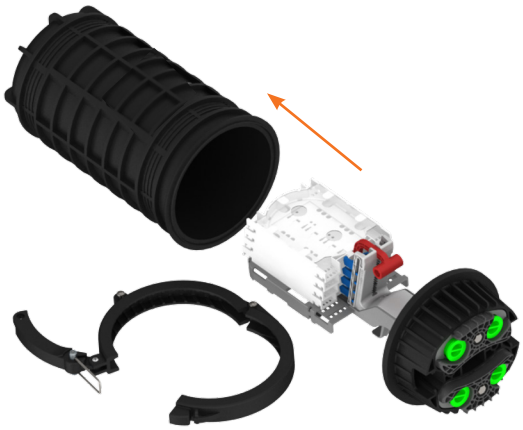
2. Open the clamp using the handle.



3. Release the clasp and finish clamp removal.



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



Cable Prep Length Tables

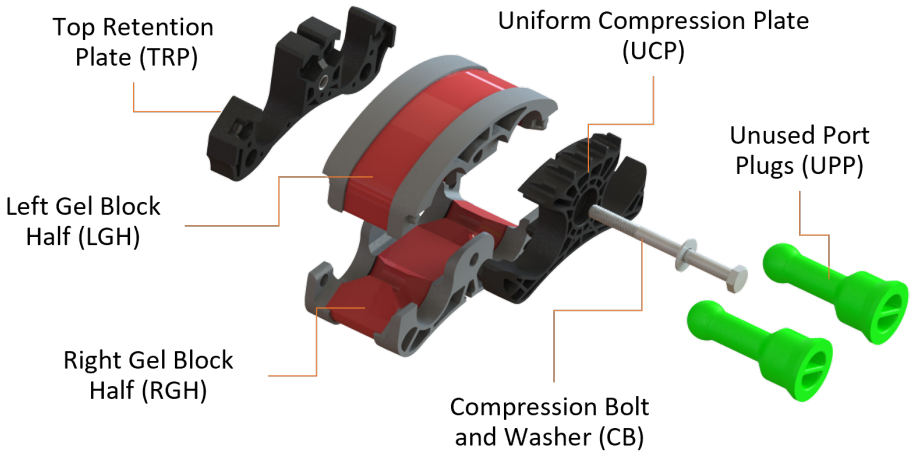
Tray Config	Loose Buffer Tube Cable & Rollable Ribbon Applications	Slack in Basket	Fiber in Tray (Doubled for Mid Span)	Total Opening
S1 & R3	Cut End or Reel End	23” - 30”	17” - 20”	40” - 50”
	Mid Span Opening	46” - 60”	34” - 40”	80” - 100”

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	35” - 44”	5” - 6”	40” - 50”
	Mid Span Opening	70” - 88”	10” - 12”	80” - 100”
R2	Cut End or Reel End	23” - 30”	15.5” - 17”	38.5” - 47”
	Mid Span Opening	46” - 60”	31” - 34”	77” - 94”

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

Cable Installation

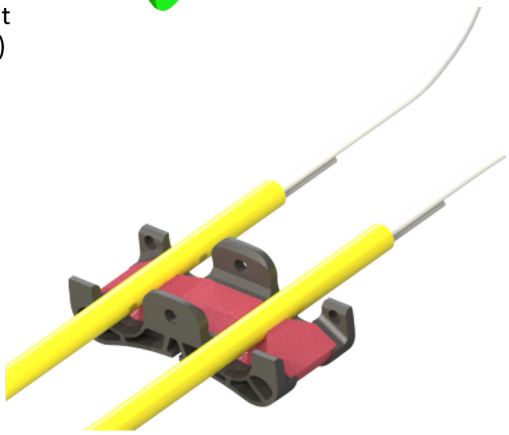
- Gel Block Assembly -



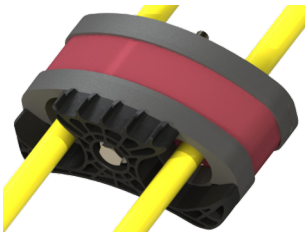
Mid-Span Access Entry

1. Loosen CB using a 7/16" can wrench until the bolt clears the TRP

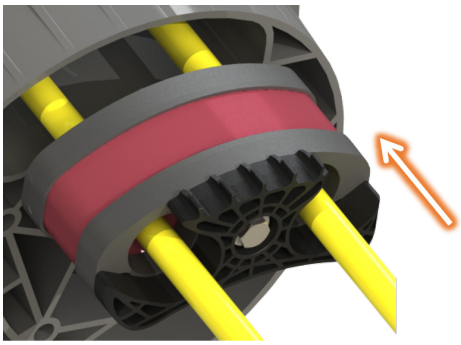
2. Remove Gel Block Assembly from Endplate and prepare cable according to company standards. Position cable on the RGH.



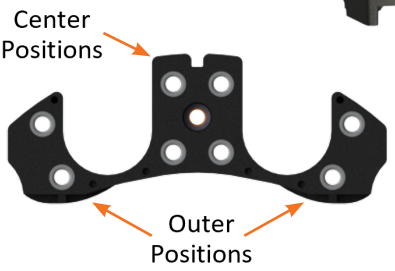
3. Snap the LGH over the cable, onto the RGH. Align and insert the UCP and CB.



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

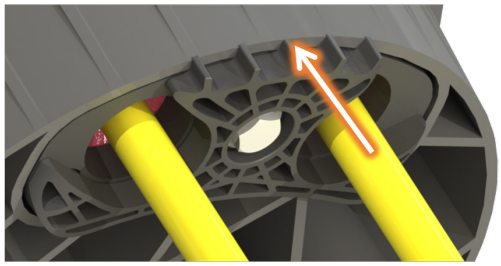


5. Attach the provided Strength Member Bracket (SMB) to one of the desired positions.
Note: *Use the 4 center positions for large diameter cables (>0.3" Dia.). Use the 4 outer positions for smaller diameter cables.*



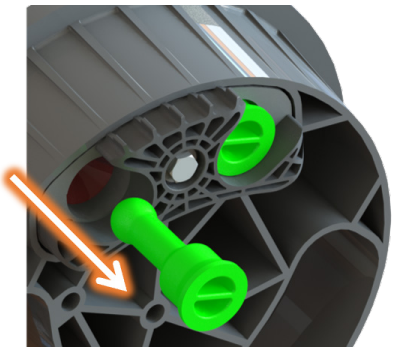
6. Cut the strength member to 1.5" length above cable jacket and position the cable ~2.0" above the Gel Block's top surface. Insert strength member into SMB and secure the cable using the provided Hose Clamp. Tighten the SMB bolt into final position.

7. Tighten Compression Bolt (CB) until the Uniform Compression Plate (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.*

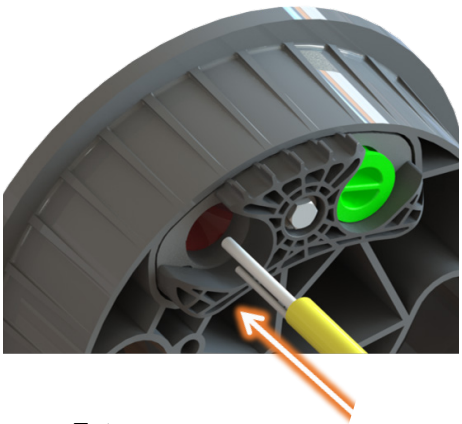


Reel/Cut-End and Drop Cables

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



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



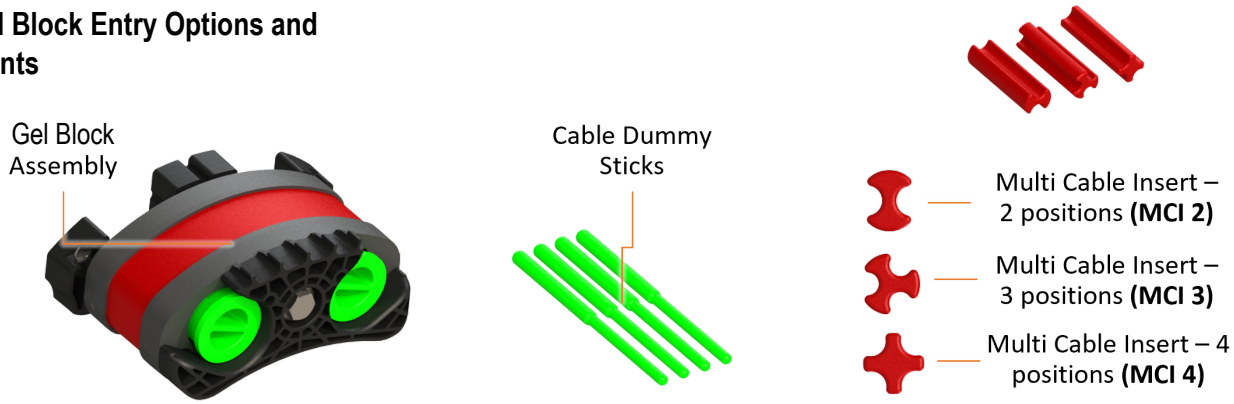
To finish the installation follow Steps 5-7 as shown in Cable Installation - Mid-Span Access Entry.

Note: Insert Unused Port Plugs into all unused ports, before tightening the Compression Bolt.

Multi Cable Insert Usage

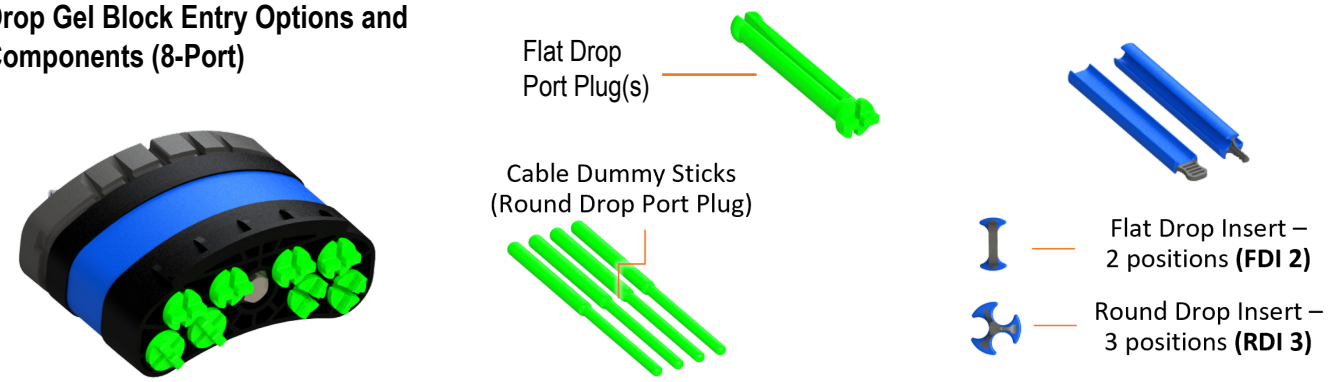
Small Diameter and Drop Cables Installation

2-Port Gel Block Entry Options and Components



Cable Config	Insert	Cable Count	Min Dia. in (mm)	Max Dia. in (mm)
Single	N/A	1	0.3 (7.6)	0.9 (22.9)
Multi	MCI 2	1-2	0.2 (5.5)	0.4 (10.2)
Multi	MCI 3	1-3	0.15 (3.8)	0.27 (6.9)
Multi	MCI 4	1-4	0.12 (3.0)	0.21 (5.3)
Multi	MCI 4	1-4 (Flat)	0.12x0.22 (3.0x5.5)	0.2x0.32 (5.1x8.1)

Drop Gel Block Entry Options and Components (8-Port)

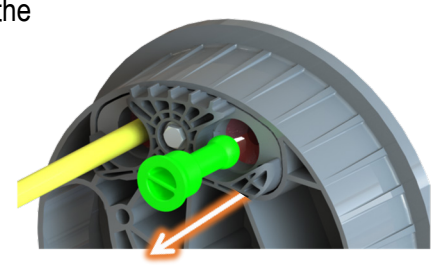


Cable Config	Insert	Cable Count	Min Dia. in (mm)	Max Dia. in (mm)
Single	N/A	1	0.3 (7.6)	0.5 (12.8)
Multi Flat	FDI 2	1-2	0.12x0.22 (3.0x5.5)	0.2x0.32 (5.1x8.1)
Multi Round	RDI 3	1-3	0.12 (3.0)	0.21 (5.5)

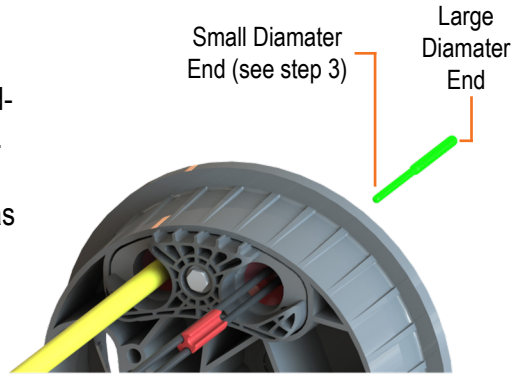
Small Diameter and Drop Cables Installation

2-Port Gel Block

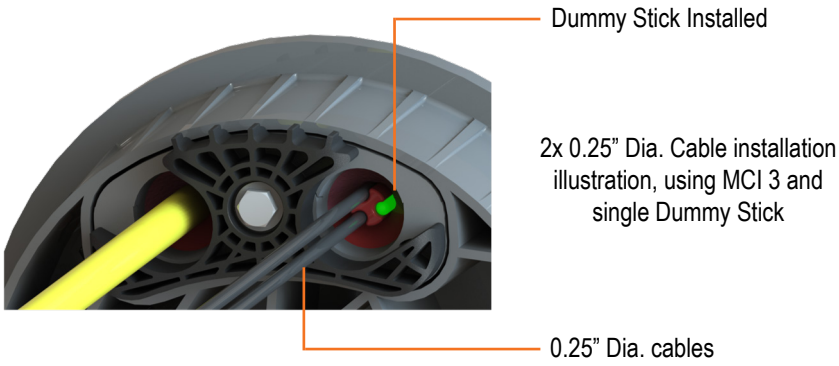
1. Loosen the CB and remove the UPP.



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



3. Insert provided cable dummy sticks onto unused ports of MCIs from the inside, as follows:
Use large diameter end on MCI 2 and MCI 3, respectively small diameter end on MCI 3 and MCI 4.



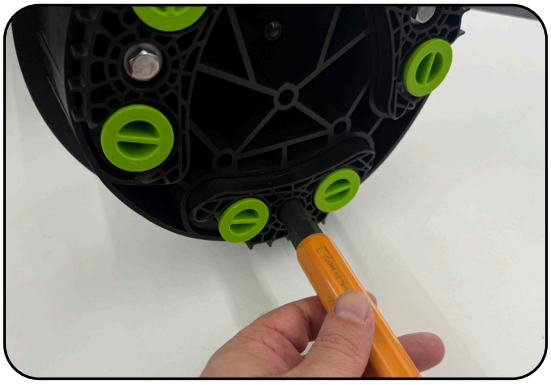
To finish the installation, follow Steps 5-7 as shown in Cable Installation - Mid-Span Access Entry.

Note: Insert Unused Port Plugs and/or Dummy Sticks into all unused ports, before tightening the CB.

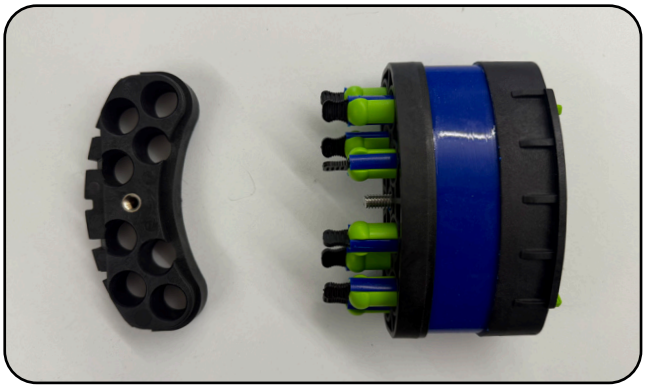
Drop (8-Port) Gel Block

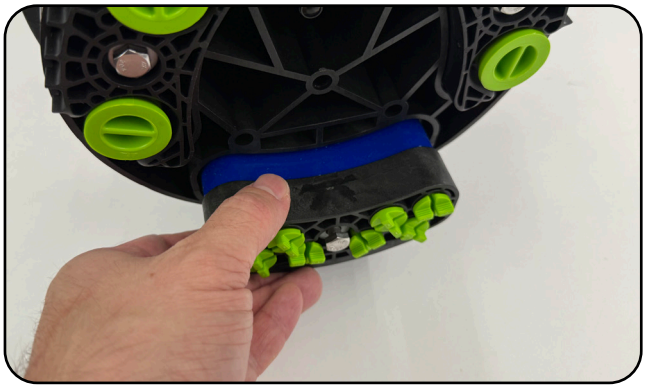
8-Port Drop Gel Block are sold separately and installed by the customer. Note that the Drop Gel Block does not split like the 2-Port, and therefore lay-in midspan cable installations are not possible.

1. Loosen the Compression Bolt (CB) until the Top Retention Plate (TRP) can be removed. Slide the 2-Port Gel Block out of the Endplate.

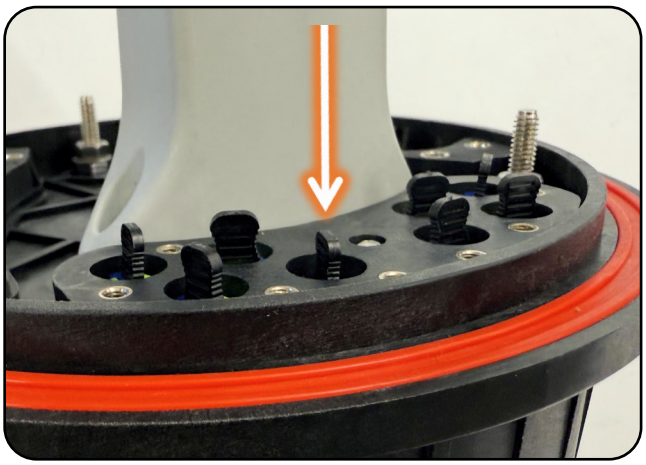


2. Install the Drop Gel Block into the closure, gently threading the CB into the TRP inside the Endplate.





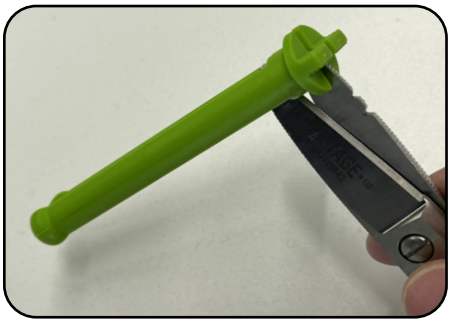
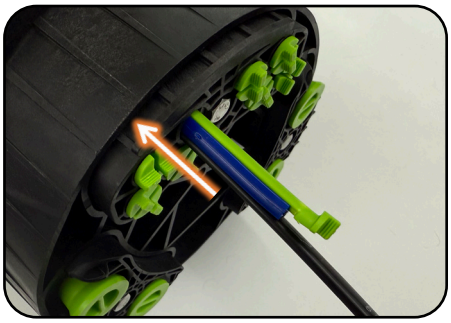
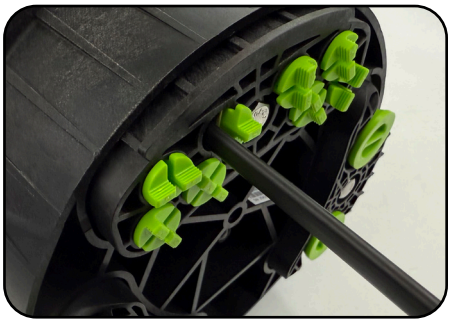
3. To remove one of the Flat Drop Port Plugs, ensure the CB is loosened and push the plug in the desired port from the inside, then pull from the outside.



Flat Drops

1. For single Flat Drop installations in a port, cut the Flat Drop Port Plug in half, using one half in the unused FDI 2 port.

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

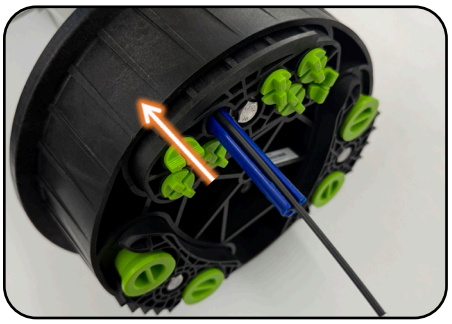
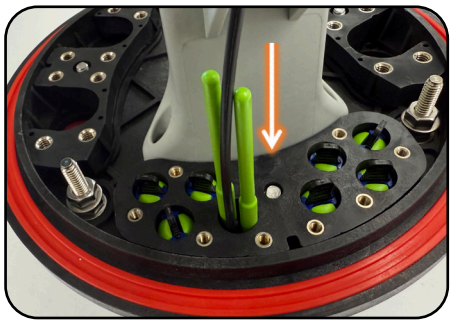
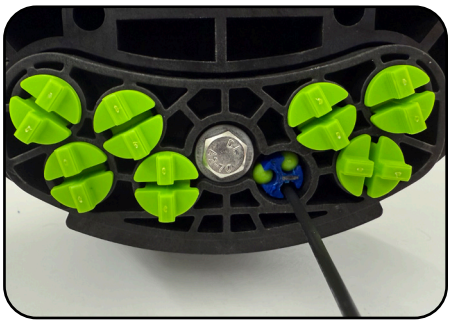
To finish the installation, follow Steps 5-7 as shown in Cable Installation - Mid-Span Access Entry.

Note: Insert Unused Port Plugs and/or Dummy Sticks into all unused ports, before tightening the CB.

Round Drops

1. Prepare cable(s) according to company standards. Insert cable(s) with RDI into Gel Block assembly, as shown.

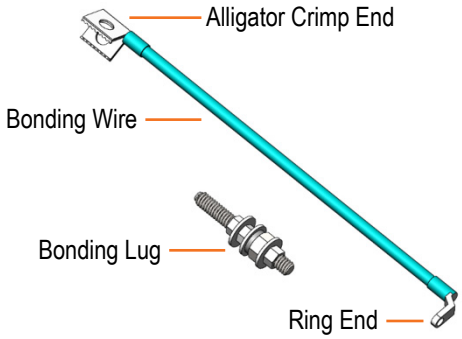
2. Insert provided cable dummy sticks into unused ports of RDI 3 from the inside, as follows:
Use large diameter end in conjunction with cables of diameter ≤ 4.75mm, and the small diameter end with cables ≥ 4.75mm.

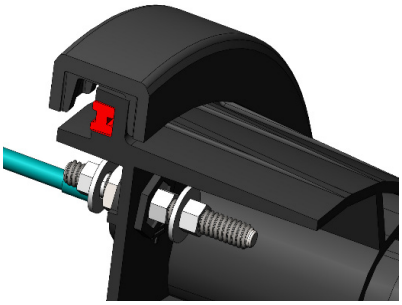




To finish the installation, follow Step 7 as shown in Cable Installation - Mid-Span Access Entry.

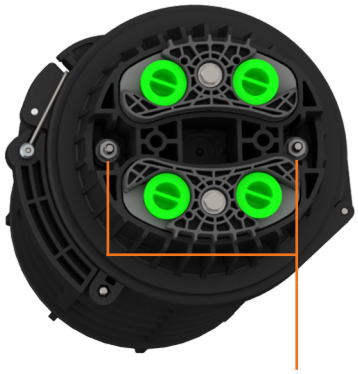
Note: Insert Unused Port Plugs and/or Dummy Sticks into all unused ports, before tightening the CB.

Cable Bonding



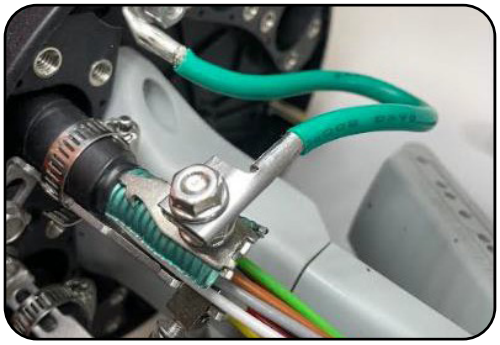


Bonding Lug Installed



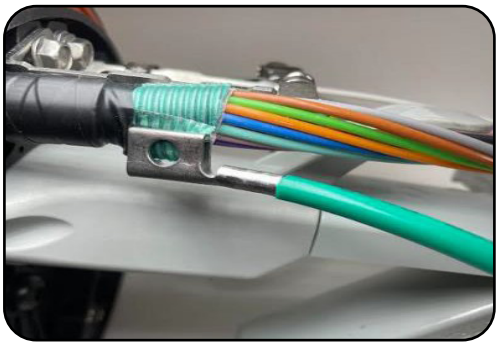
2x Grounding Lug Locations

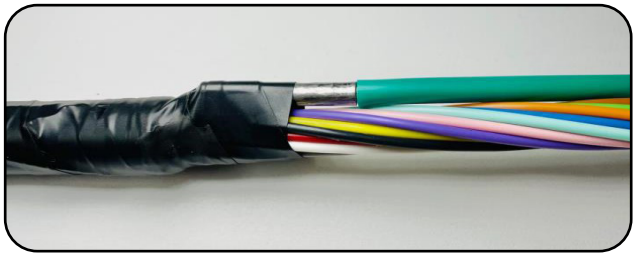
The Grounding/Bonding wires are designed to work with a Shield Bond Connector or standalone. Use the method that best fits local grounding/bonding codes and/or company polices.



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

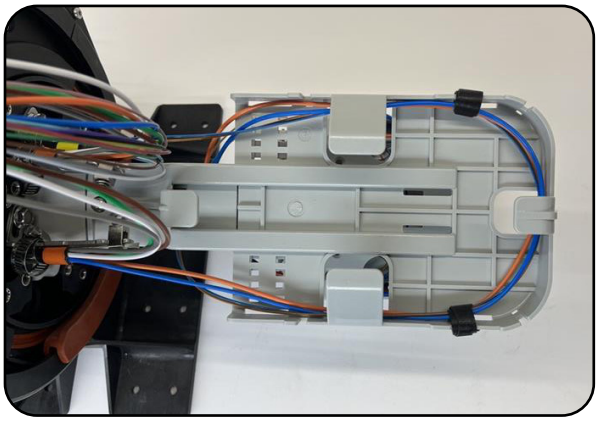




Note: *For both methods, ensure buffer tubes are properly protected by applying tape over buffer tubes and over bond connector when bonding cables.*

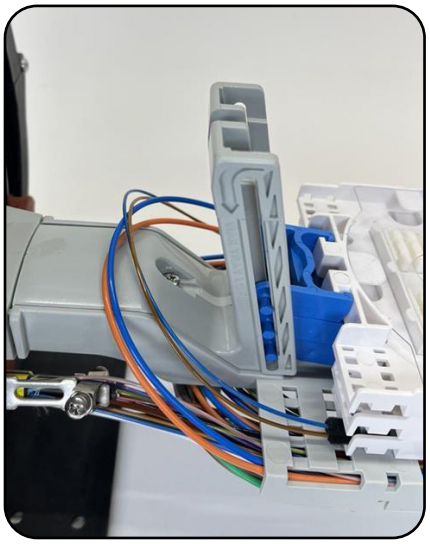
Buffer Routing

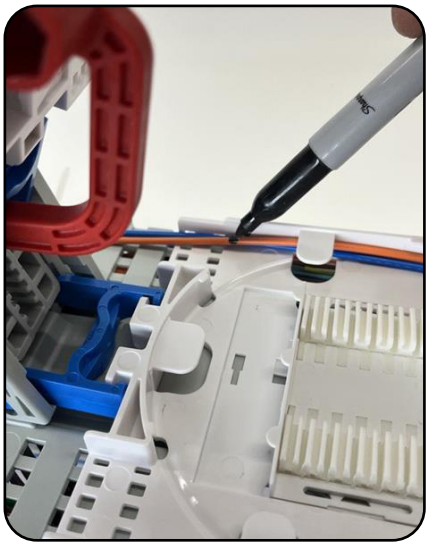
1. Separate buffer tubes to be spliced from those that will remain unaltered. Best practice is to place slack from buffer tubes being spliced in first, then place remaining unaltered buffer tubes on top for future use. Alternatively, use the optional Flex basket to demarcate buffer tubes. See the section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

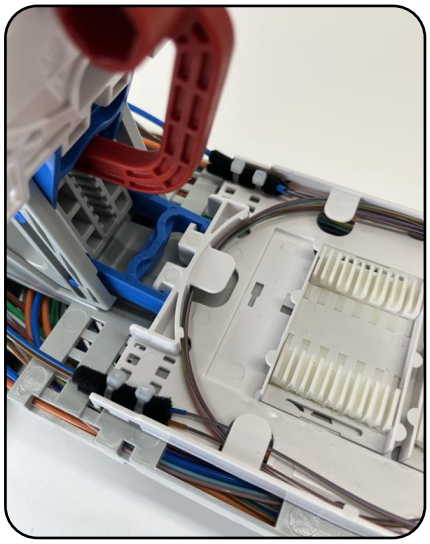


2. Ensure buffer tubes are routed behind tray tower and have plenty of flexibility for trays to open and close. Mark buffer tubes 1” from the edge of tray entry. Open buffer tube at the mark to expose the fibers for splicing.

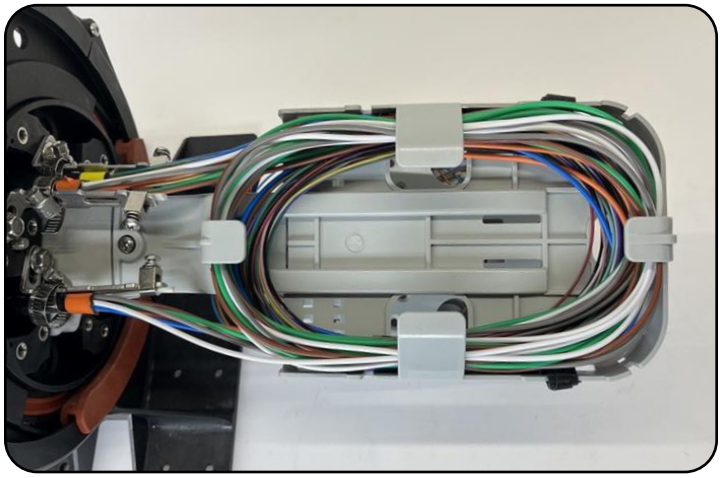
3. Secure buffer tubes to tray using provided felt and tie wraps as pictured. Prep fibers for splicing.







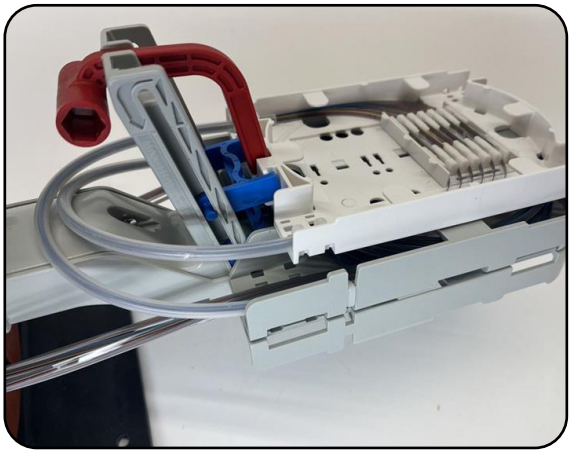
4. After all fibers are spliced and secured in tray(s), rotate closure and secure and adjust all buffer tubes as needed.

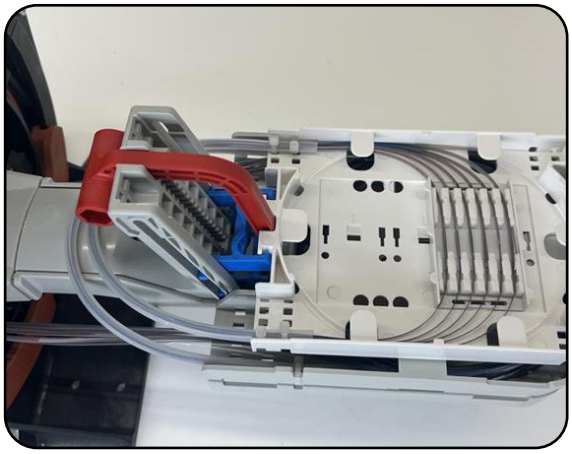


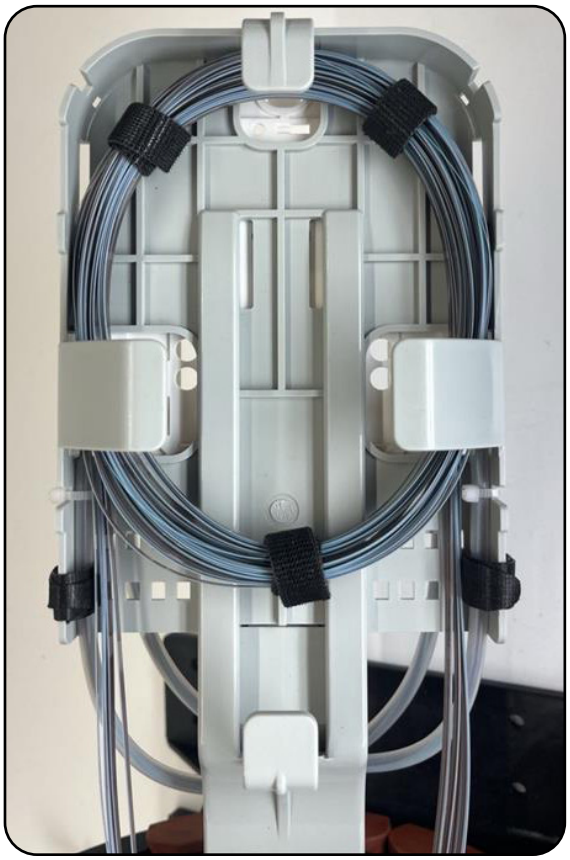
Ribbon Routing

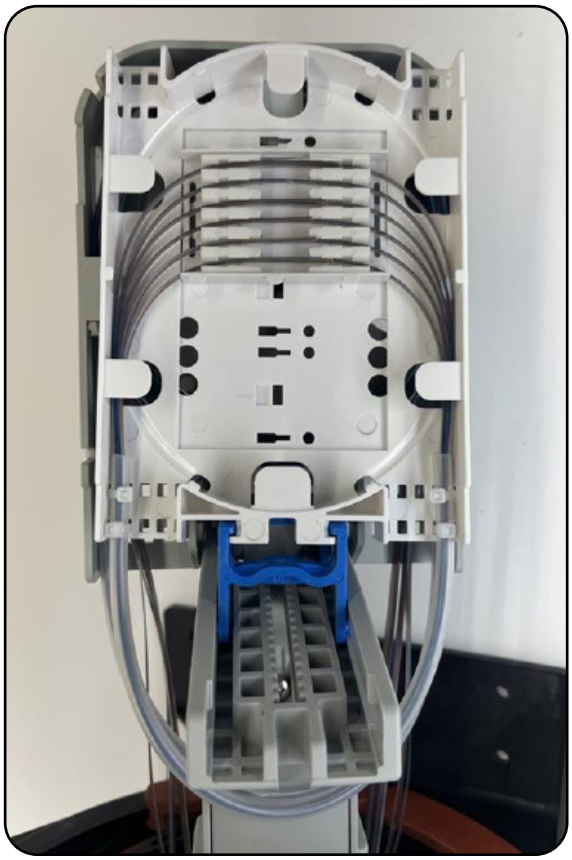
Place transfer tubes from slack basket (or Flex Basket if being used) to the tray selected for splicing. Use zip ties to secure transfer tubes at each side. Feeding from the slack basket or (Flex Basket) side, push ribbon fiber up through transfer tubes into tray. Adjust slack as needed back into the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

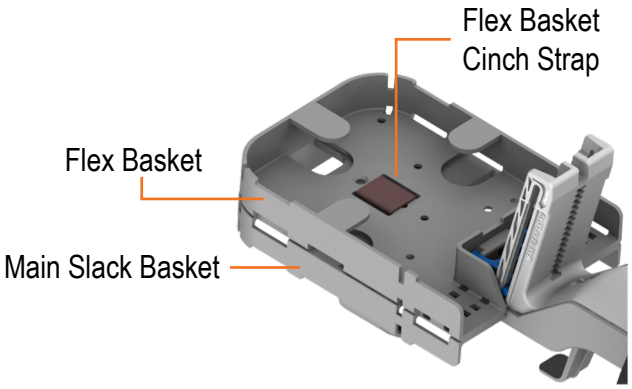






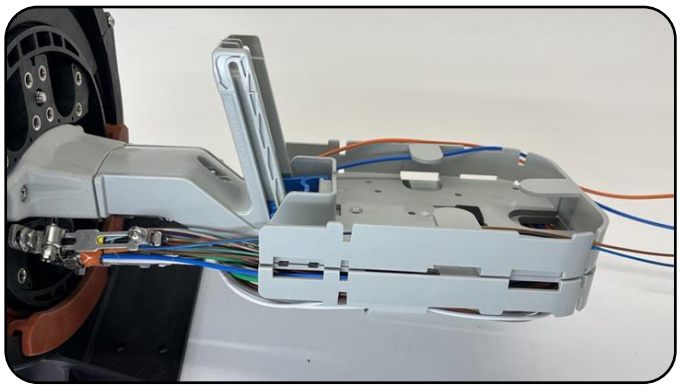


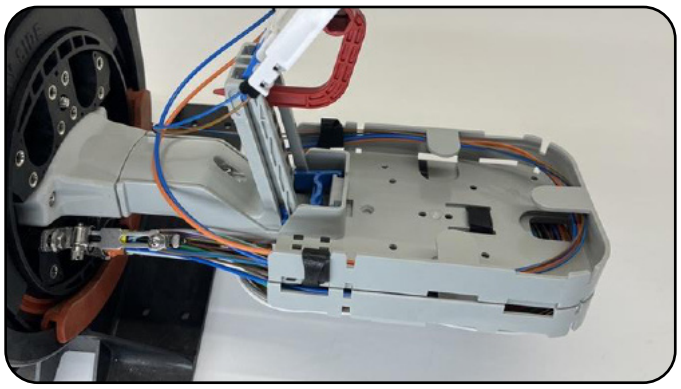
Flex Basket Usage



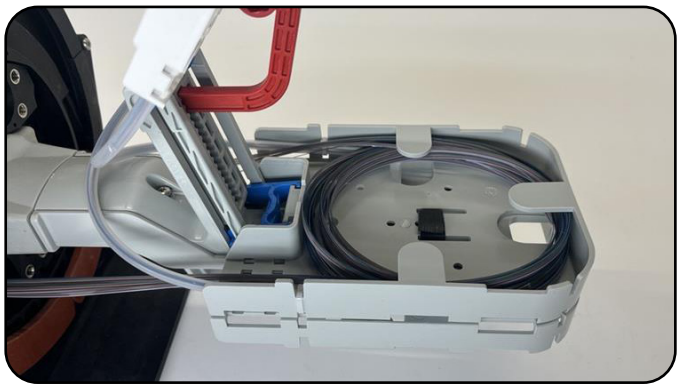
The Flex Basket can be used to expand buffer and ribbon fiber storage, demarcate pass through fibers from reel/cut end and laterals, and for ribbon fiber storage when splicing in a waterfall method in trays. The Flex Basket can be removed by removing the cinch strap, and replaced with two short trays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

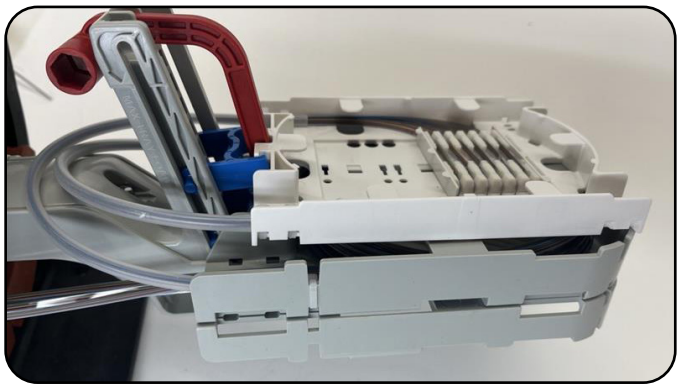
Examples of buffer tube separation and demarcation.





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

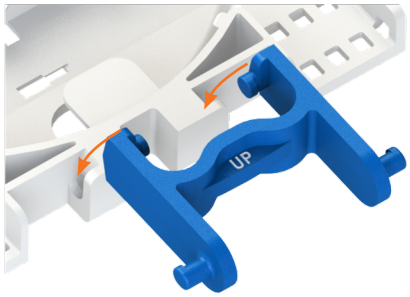




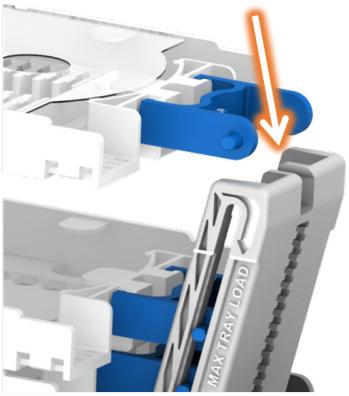
Splice Tray(s)

Attaching Hinges and Trays

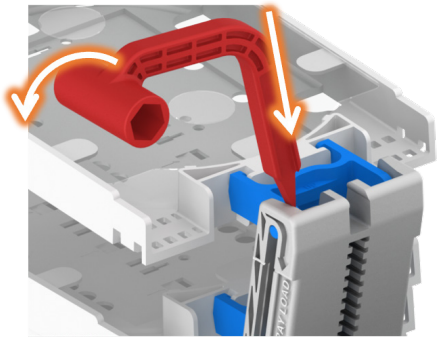
Installing the Hinge to the tray: To attach the hinge to the splice tray, align hinge over the tray and press down firmly. Be sure to use the side that says UP for applicable hinge types.



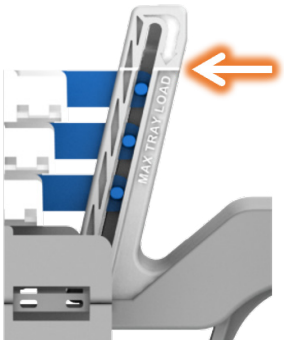
Installing Trays: With the hinge attached to the tray, load the hinge into the tray tower by pushing it down from the top.



Removing Trays: Push the Multi-Tool down between the hinge and the Tray Tower and pry the hinge out.



Max Tray Load: Do not Load Trays beyond the Max Tray Load Line.



Tray Hinge Adapters

These adapters will allow for CSC 250 and CSC 500 splice trays to be installed into competitve products.

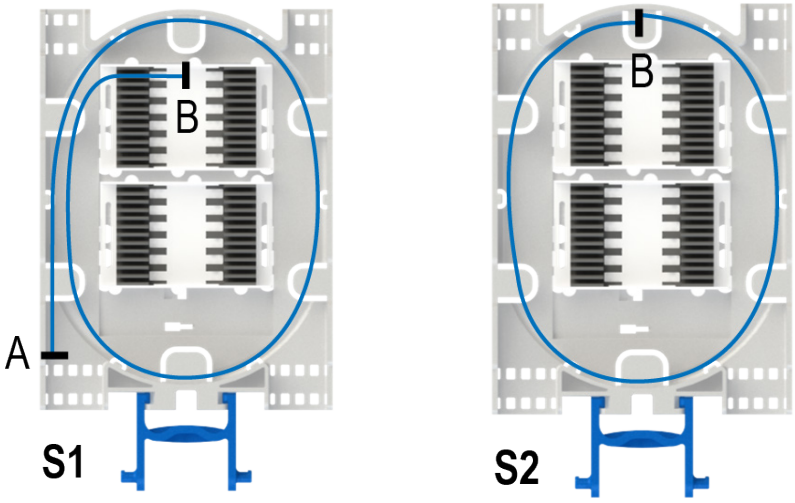
1. Red Tray Hinge Adapter (P/N 024997)
    a. 250 Trays in FOSC C, all tray tower positions
    b. 500 Trays
        i) in COYOTE (standard tray length) domes, all positions
        ii) FOSC D Closure. Short Tray works in all positions when mixed with FOSC D splice trays. Tall Tray works in many positions, limited when mixed with FOSC D trays, Tall Trays must be on top of stack.

2. Orange Tray Hinge Adapter (P/N 024998)
    a. 250 Trays in FOSC A or B, all positions
    b. 500 Trays in FOSC B, only in the bottom (lowest) 5 positions of the tray tower

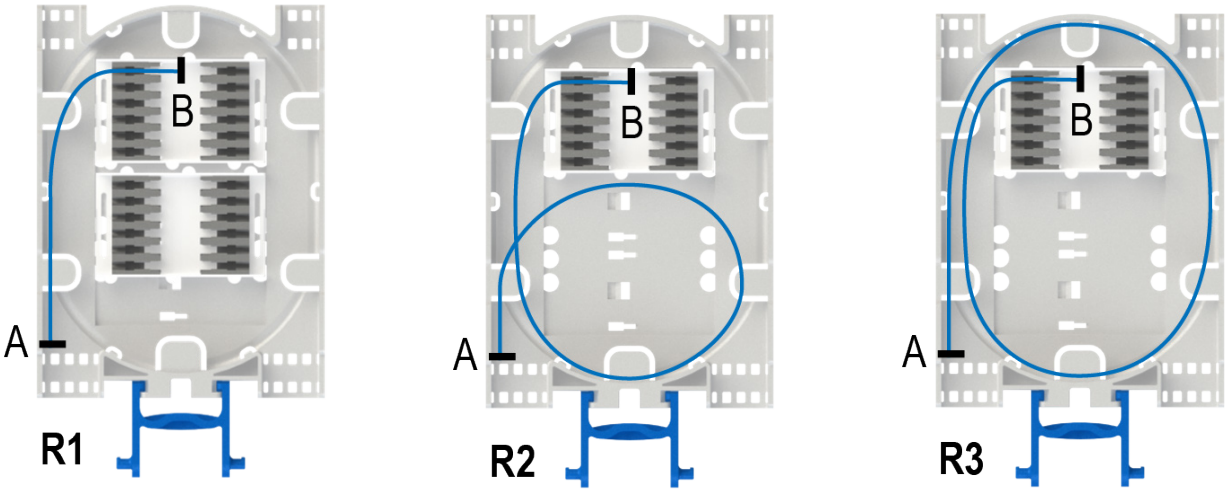
Tray Routing Options

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 17”-20” (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 13”-14.5” (S2:B-B).

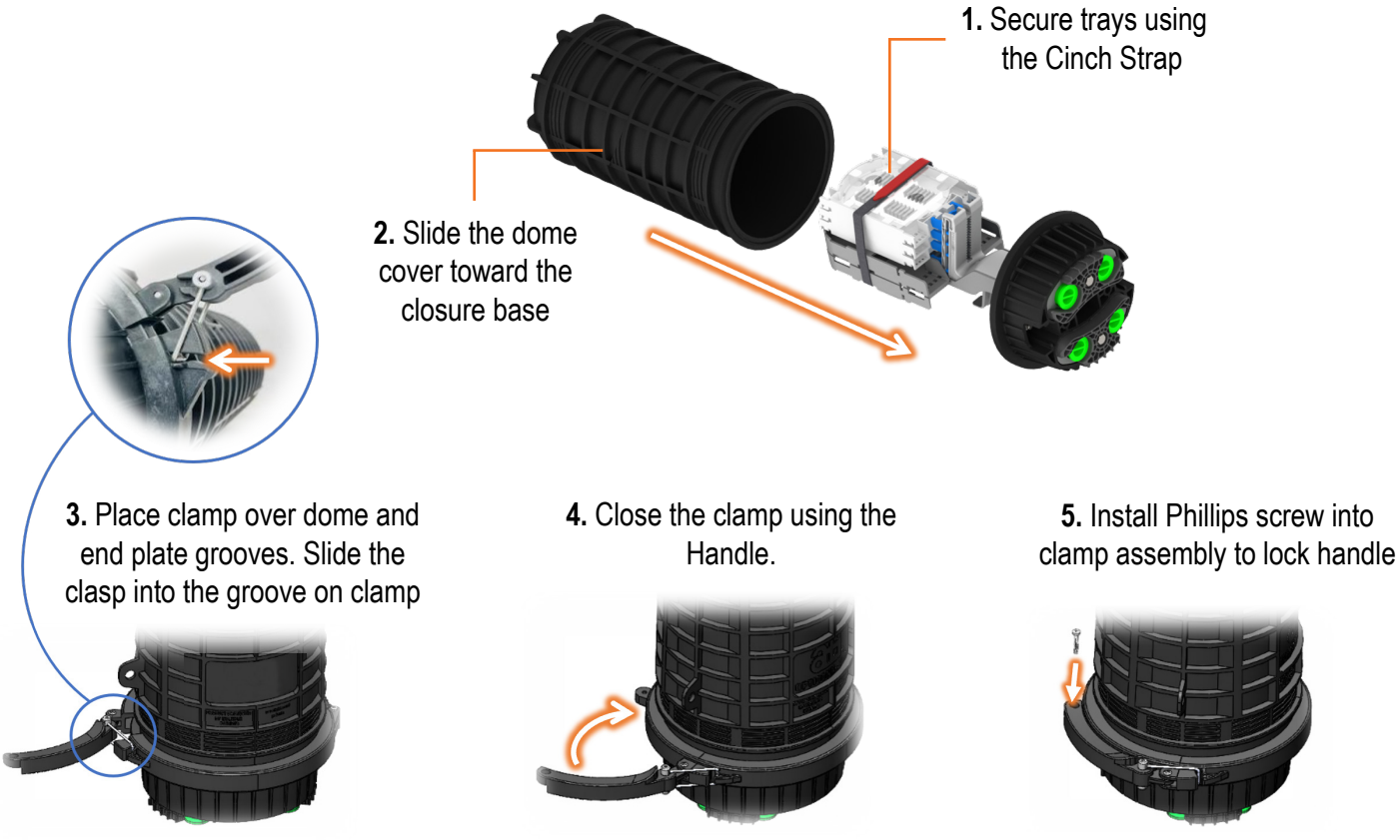


For **Ribbon Fiber (Mass Fusion) Splicing**, use one of the options below depending on the application.
Option R1: Prep 5”-6” (R1:A-B) in the tray with remaining slack (12”-14”) stored in the Main or Flex Basket.
Option R2: Prep 15.5”-17” (R2:A-B) in the tray. This option will reduce the total cable opening prep length. See table in the Cable Prep Length Table section.
Option R3: Prep 17” to 20” (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.

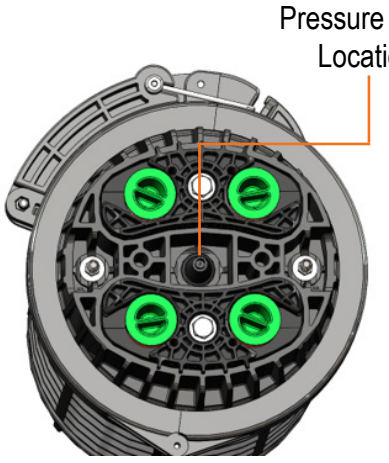


Closing and Securing Closure

Note: *Ensure O-ring is clean, undamaged, and properly seated prior to closing and securing the closure.*



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 Gel Blocks are properly secured (see step 6, in Cable Installation section) and repeat all steps of the Closing and Securing Closure section. If no bubbles appear, closure is sealed and ready to be put away.

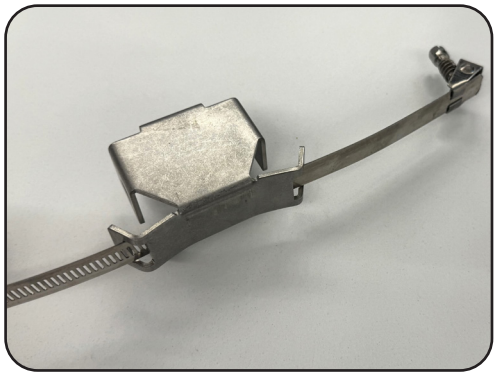


Note: Do Not Over Pressurize The Closure, Closure Damage or Injury Could Occur.

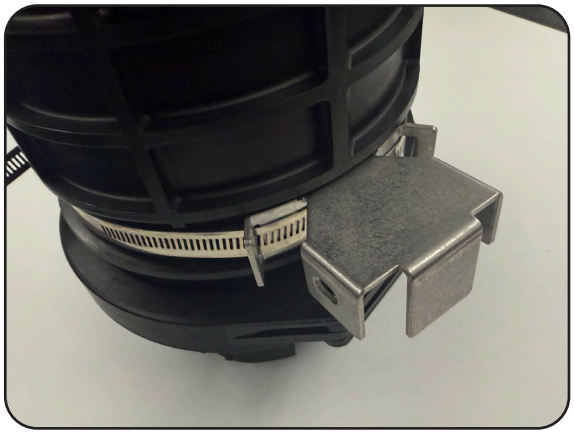
Mounting

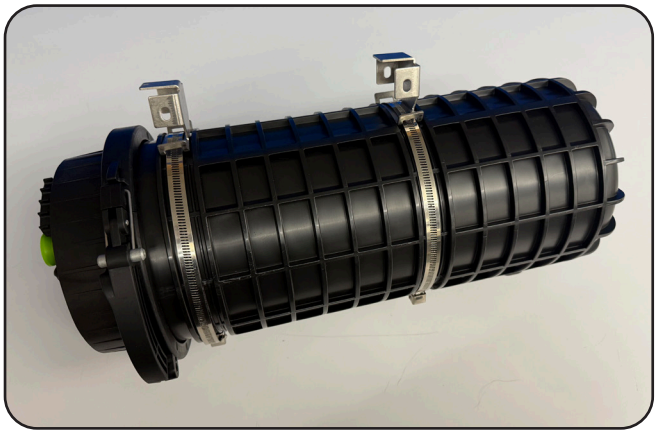
Pole Mount

1. Feed mounting bracket straps through the mounting brackets, worm drive facing out.



2. Secure mounting brackets to the dome cover, flange side down, at the strap locations.



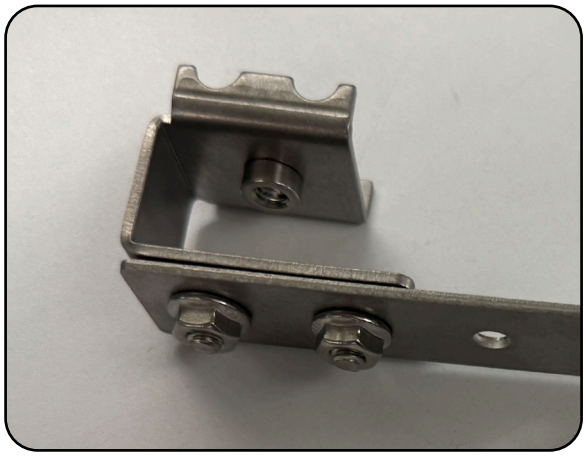


3. Mount the pole mounting bracket to the pole at the desired height.

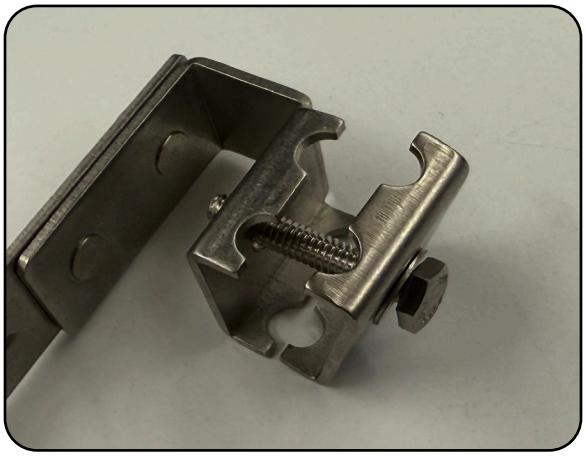
4. Hang the closure on the pole mounting bracket and feed safety pins through holes in mounting brackets to secure.

Aerial Mount

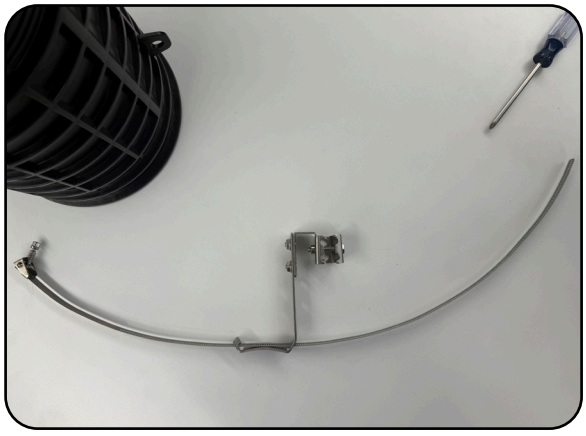
1. Join the two halves of the aerial mounting bracket with the hardware provided.



2. Loosely thread the bug nut together with the hardware provided.



3. Feed mounting bracket straps through the aerial mounting brackets, worm drive facing out.



4. Secure aerial mounting brackets to the dome cover.

Standard Warranty

Clearfield warrants to the original purchaser of the Product sold hereunder is free from defects in material and workmanship under normal use and service, subject to exceptions stated herein. Product purchased is warranted as follows: Clearfield designed and branded Products are warranted for three (3) years: Products manufactured by Clearfield to customer prints and/or specifications are warranted for one (1) year; and any Product Clearfield acquires from or through a third-party manufacturer or distributor and resells to Customer as the original customer will carry the manufacturer's pass-through warranty, if any. In all cases, the warranty period commences on the date of shipment to the original purchaser.

Warranty Claim Procedure

If any Product purchased from Clearfield is found defective under the above warranty, the following basic procedure must be followed:

1. Customer must contact Clearfield and obtain a Return Materials Authorization
2. Following authorization, the Customer ships the product-freight collect-to Clearfield's manufacturing facility
3. Clearfield shall repair or replace the defective Product at its sole option and discretion, and return the repaired or replacement Product to Customer's site, freight prepaid

Note: If the Product is not found to be defective by Clearfield, the product will be returned to the Customer and the customer billed for freight in both directions.

View our warranty policy here: https://www.seeclearfield.com/warranty.html

Limitations of Warranty

Correction of defects by repair or replacement, at the option of Clearfield Inc, shall constitute the exclusive sole remedy for a breach of this limited warranty. Clearfield shall not be liable under any circumstances for any special, consequential, incidental, punitive, or exemplary damages arising out of or in any way connected with the product or with agreement to sell product to buyer, including, but not limited to damages for lost profits, loss of use, or for any damages or sums paid by buyer to third parties. The foregoing limitation of liability shall apply whether the claim is based upon principles of contract, warranty, negligence or other tort, breach of statutory duty, principles of indemnity or contribution, the failure of any limited or exclusive remedy to achieve its essential purpose, or otherwise.

Clearfield will not be responsible for any labor or materials costs associated with installation or incorporation of Clearfield products at customer sites, including any costs of alteration, replacement or defective product, or any field repairs.

Other Limitations

Clearfield assumes no warranty liability regarding defects caused by:

1. Customer's modification of Product, excepting installation activities described in Clearfield documentation
2. Customer re-packaging of Product for shipment to third parties or destinations other than those originally shipped to by Clearfield, or any defects suffered during shipping where the Product has been re-packaged
3. Customer's installation or maintenance, excepting activities described in and performed in accordance with Clearfield documentation
4. Customer's improper or negligent use or application of Product
5. Other causes external to the Product, including but not limited to accidents, catastrophe, acts of God, government action, war, riot, strikes, civil commotion, sovereign conduct, or the acts or conduct of any person or persons not party to or associated with Clearfield
6. Environmental factors and weathering resulting in aging and damage not necessary or applicable to the function of the product

Proprietary Notice

Its purpose is to provide the user with adequately detailed documentation to efficiently install the equipment supplied. Every effort has been made to keep the information contained in this document current and accurate as of the date of publication or revision.

However, no guarantee is given or implied that the document is error free or that it is accurate with regard to any specification.

Technical Support

Clearfield, Inc. can be contacted for any issues that arise with the supplied product.

If you need to return the supplied product, you must contact the Clearfield, Inc. Customer Service Department to request a Returned Materials Authorization (RMA) number.

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