FieldSmart® Fiber Distribution Point (FDP)
36, 96 & 144 Port Indoor Wall Box
Installation Manual

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FieldSmart® Fiber Distribution Point (FDP)
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### *Installation Manual*

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Application

The Fieldsmart Fiber Delivert Point (FDP) Indoor Wall Box has been optimized for MDU (Multi Dwelling Unit) applications. With the Clearview® Cassette at its heart, the FieldSmart FDP Wall Box gives service providers plug-and-play integration based upon the configuration requirements of their application. With the ability to house one to three 1 x 32 splitters and a compact footprint, indoor wall boxes are perfect for the deployment of PON-based FTTH networks in an MDU environment. Additional applications include fiber demarcations, entrance facilities and security systems (CCTV).
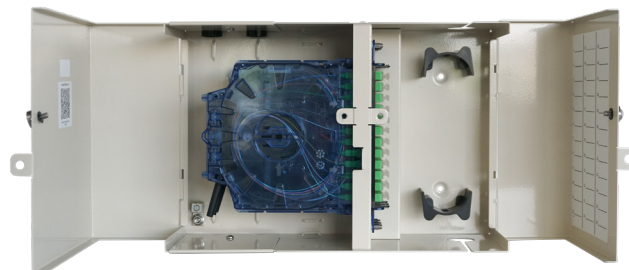
Description

The FieldSmart Fiber Delivery Point (FDP) Indoor Wall Box is Clearview optimized, allowing the user to easily scale from 12 to 36, 96, or 144 ports. Designed from conception to provide fast and easy fiber jumper routing with ease of access to all circuits, the FieldSmart FDP Wall Box system is craft-friendly, keeping the installer's needs for quick deployment, intuitive use and ease of maintenance as the top priorities. Utilizing Clearview Cassettes, the product is shipped loaded with the industry standard adapter of choice and can be configured for patch only, patch and splice and MPO plug-and-play applications, while supporting all cable constructions for the inside plant. It is ring cut or mid-span capable, allowing for the distribution cables to be daisy-chained and for fiber hand-off through the riser. The 96 and 144 port wall boxes have a swinging bulkhead for rear-access to the cassettes and protects sub-unit slack storage, security enabled doors for extra protection and a solid enclosure to protect fiber terminations from damage. Designed from conception to provide fast, easy fiber jumper routing and ease of access to all circuits, the wall box system is craft-friendly, keeping the installer's needs for quick deployment, intuitive use and ease of maintenance as the top priority.

Technical Specifications

	36 Indoor	96 Indoor	144 Indoor
Dimensions	10.34" H x 15.0" W x 5.2" D	15.0" H x 27.5" W x 11.5" D	24" H x 26" W x 8" D
Port Density	Up to 36 ports	Up to 96 distribution ports and 12 feeder ports	Up to distribution 144 ports and 24 feeder ports
Splitter Capacity	N/A	Up to 6 Ruggedized Splitters	Up to 9 Ruggedized Splitters
Splice Capacity	12 or 24 splice configurations in each Clearview Blue Cassette		
Storage Capacity	Up to 5 meters of 12-fiber IFC jacketed fiber		
Cassette Types Supported	Clearview® Blue		
Connector Types	SC/UPC, SC/APC, LC/UPC, LC/APC, FC/UPC, FC/APC, ST/UPC, MPO		
Cable Types	Indoor Riser, Indoor Plenum, Indoor/Outdoor		
Material	18 gauge cold rolled steel (almond powder coating)		

Indoor Wall Box Component Views

36 Port Indoor Wall Box
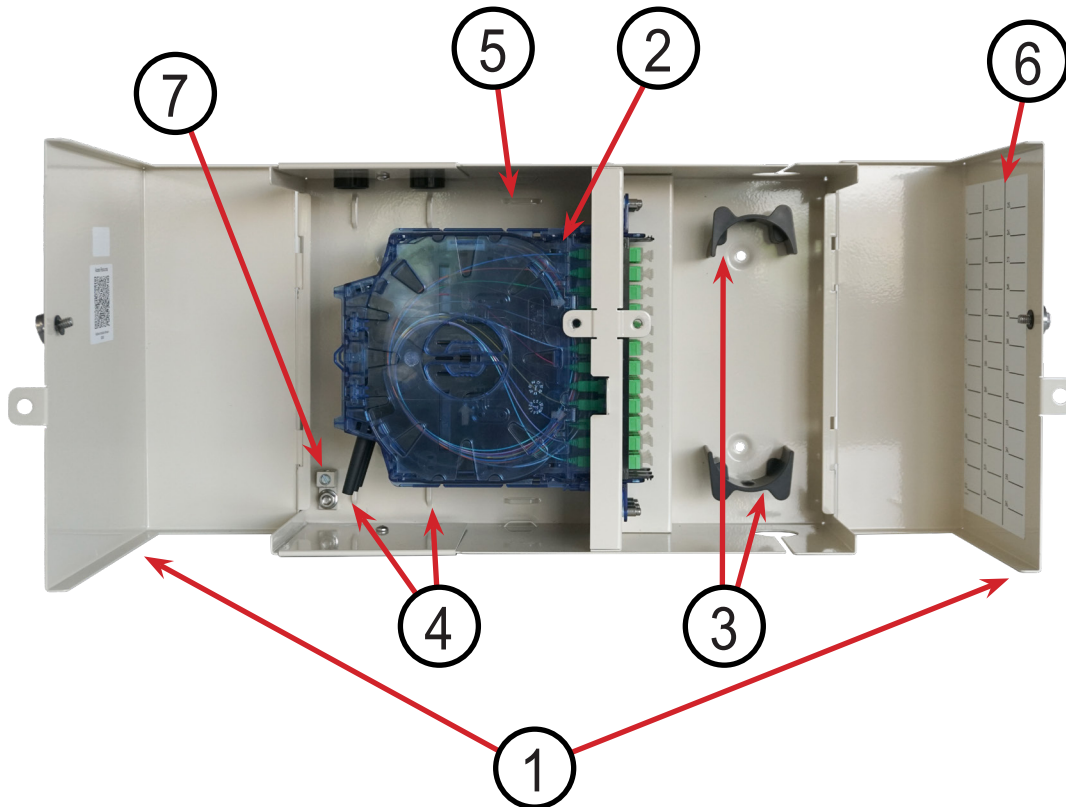
1. Security Access Doors
2. Clearview Blue Cassettes
   (Left Exit for Patch and Splice)
3. Slack Storage for Jumpers
4. Cable Tie Down Locations (Top and Bottom)
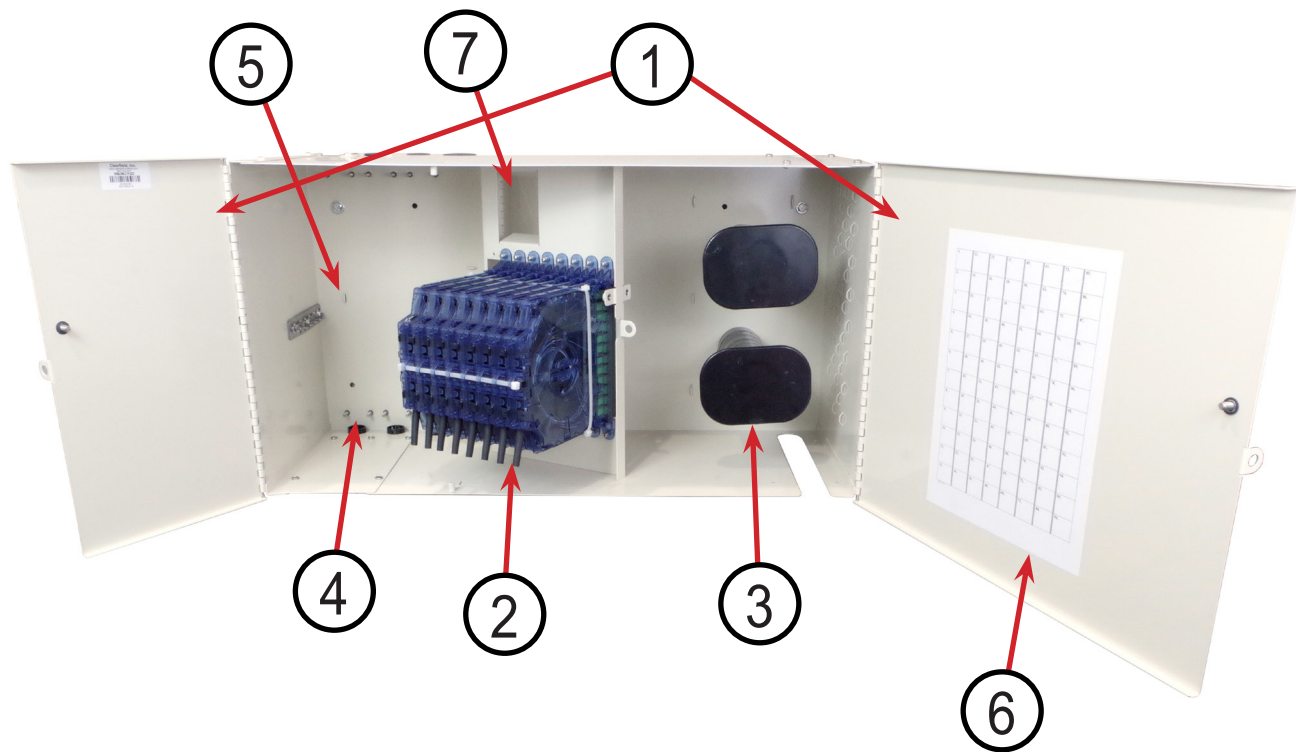5. Bridge Lances for Securing Buffer Tube Slack
6. Designation Card
7. Ground Lug

96 Port Indoor Wall Box

1. Security Access Doors
2. Clearview Blue Cassettes
   (Left Exit for Patch and Splice)
3. Slack Storage for Jumpers or Splitter Legs
4. Cable Clamp Locations (Top and Bottom)
5. Bridge Lance for Securing Buffer Tube Slack
6. Designation Card
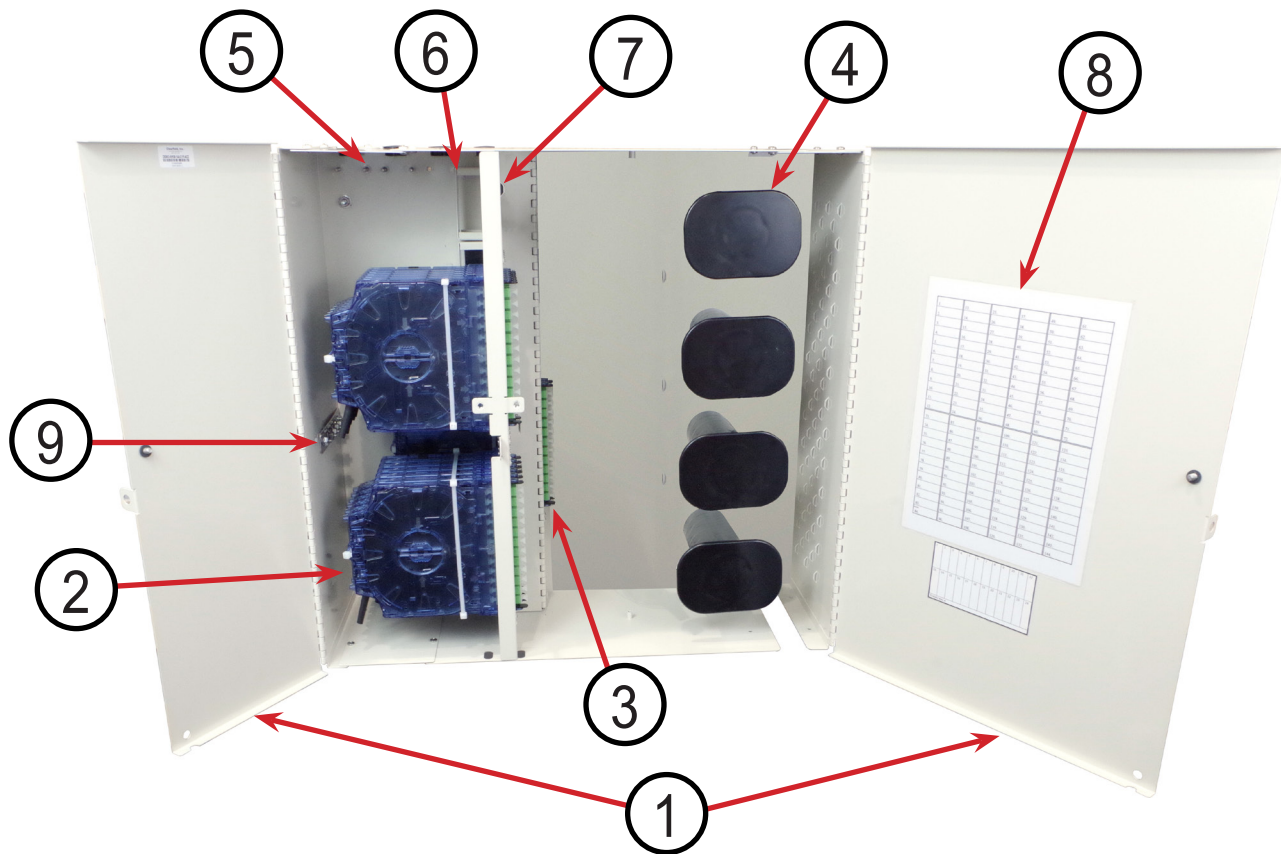7. Staging Plate Area
8. Ground Bar

144 Port Indoor Wall Box

1. Security Access Doors
2. Distribution Cassettes
3. Feeder Cassettes
4. Radius Limiting Spools
5. Cable Clamp Locations (Top and Bottom)
6. Splitter Cage
7. Staging Plate Area
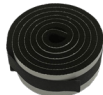8. Designation Card
9. Ground Bar

Ship-Along Parts

Note: Parts may vary based on configuration and port count of the wall box.

Part	Photo
Plug, Black Nylon	
Velcro, Black	
Grommet Tape	
Saddle Clamps, Green (Not included in 36 Port)	
Sealcon, 3/4" or 1" (Optional)	
Strength Member Clamp (Optional)	

Wall Box Mounting

FDP Indoor Wall Boxes are installed via the four holes located in the rear of the enclosure with customer supplied mounting hardware.

Mounting Holes

FieldSmart® Fiber Distribution Point (FDP)
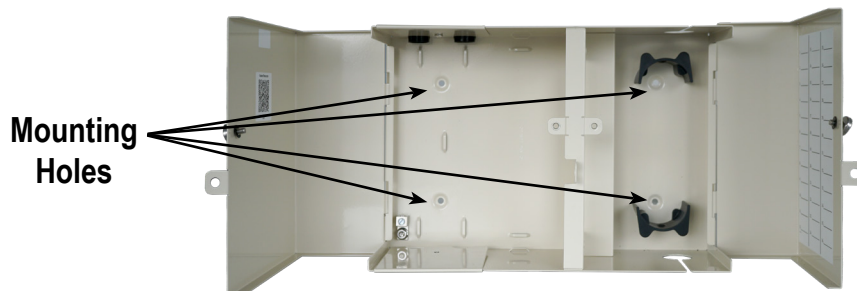## 36, 96 & 144 Port Indoor Wall Box
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Wall Box Access

1. The interior of the wall box can be accessed by loosening the security screws on each of the two doors using a 7/16" thin wall socket or a telecom-munications industry "can wrench".

Note: The door on the right provides access to the distribution ports and the jumper slack storage, while the door on the left is used to access the splicing compartment.

2. The doors on the 36 port wall box are removeable, after loosening the security screws lift the doors up off the hinges to release them and set them aside.

3. The cassette splicing area of the wall boxes can be locked by pressing in the tabs at both the top and bottom of the wall box, and can then be opened again by pressing the tabs back and swinging the bulkhead open.

Cable Preparation and Installation

1. The slack storage compartment of the wall box is large enough to accommodate 15 feet of buffer tube slack from a cable matching the wall box port count. However, it is recommended that you only prep as much cable as you will need to perform your work.

   Note: You will need approximately 3 feet of fiber inside the splice tray so add that to the total prep length.

2. The splicing side of the indoor wall box will accommodate a cable that is prepped in either a ring cut/mid-span opening fashion or at the end of the cable.

   Note: An OSP cable is shown in the picture, but an IFC tight buffer cable can be used as well. If a shielded cable is used, a bonding clamp 3M 4460-D or equivalent can be used.


Ring Cut/Mid-span

End of Cable Opening

3. To install cable in the splicing side of the wall box, cable can be inserted through one of the holes after removing the plug, or removing the entire feed through plate after unscrewing it (required for ring cut/mid-span).

36 Port Wall Box

1. Place a cable tie through the desired bridge lance and a single lap of grommet tape around the cable jacket

2. Secure the cable in place at the bridge lance with the cable tie over the grommet tape.
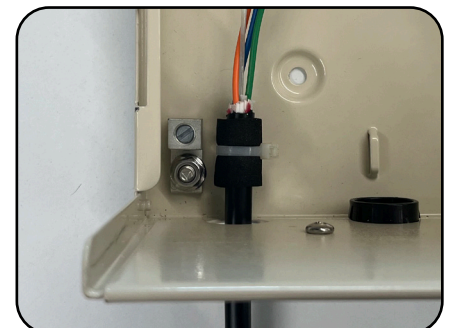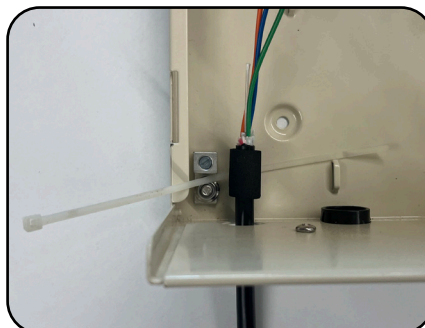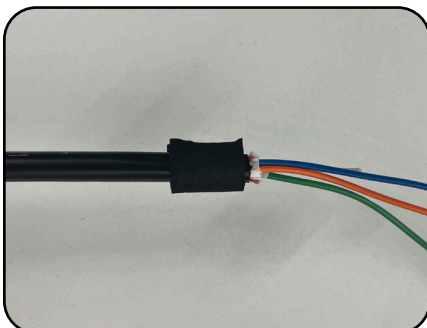
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## 36 Port Wall Box Strength Member Clamp Option

Optionally, if ordered, a sealcon and strength member clamp may be used to secure cables into the 36 Port Wall Box.

1. Remove the feed-through plate and place the strength member clamp over the threads of the sealcon

2. Install the strength member clamp inside the box, with only the threads of the sealcon inside the box. Reinstall the feed-through plate behind the strength member clamp.

3. Install the locking nut to secure both the strength member clamp and the sealcon. Bring in your cable, clamp the strength member, and tighten the sealcon.
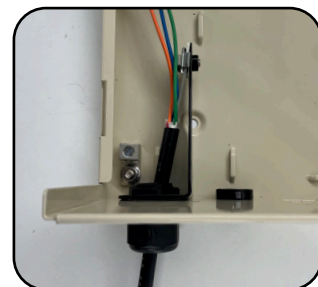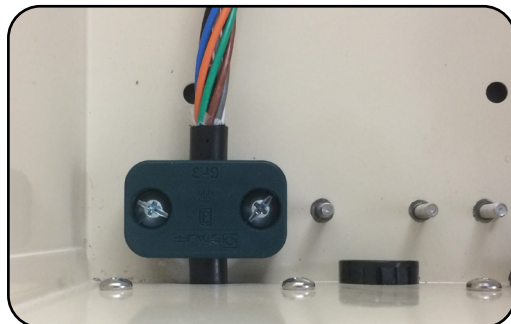

96 & 144 Port Wall Box

1. Locate the green cable clamp shells and corresponding barrel nuts from the ship-along hardware.

2. The cable clamp shells are used in same size pairs. Avoid using a clamp that is too small and does not easily close around the cable. Use the next larger clamp and grommet tape. The provided grommet tape should be applied to one or two of the clamp shells prior to installation, depending upon the size of the cable.
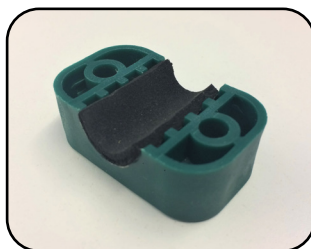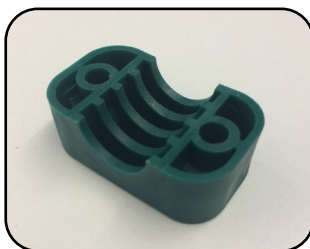
3. Use the included barrel nuts and cable clamp shells to fasten the cable to the wall box on the threaded studs inside the wall box. The cable should be mounted so that the breakout is slightly beyond the end of the clamp shell. After mounting the cable, replace the feed through plate with the same screws.
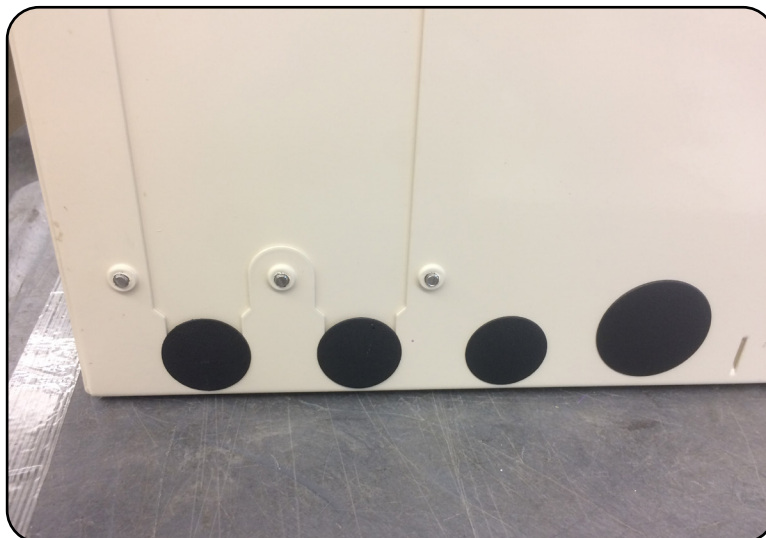
Grounding

The wall box and all associated cables can be grounded to the provided ground lug/ground bar. Ground according to your local practices.

Sealing the Wall Box

The unused holes in the housing of the wall box can be sealed using the included plugs.
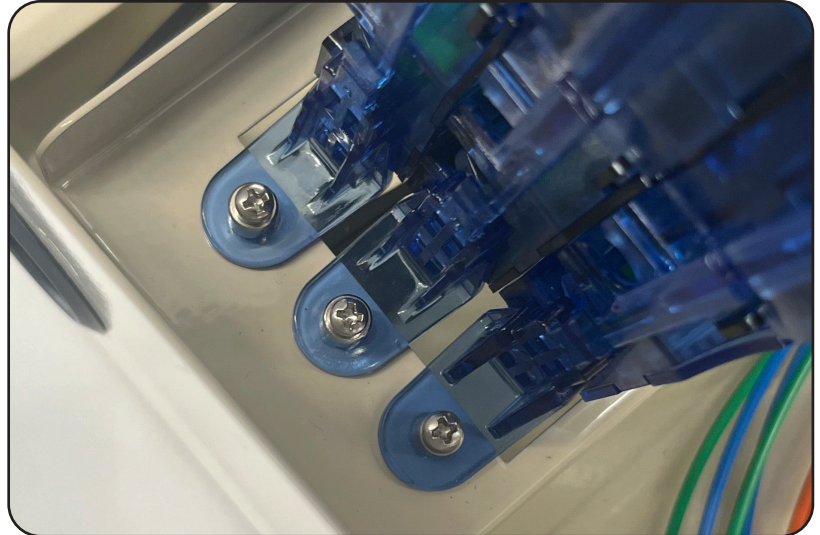
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Splicing Fiber

1. Route the buffer tube to be spliced in the slack storage area and up to the cassette to be spliced.

2. Mark the tie off point of the cassette with a marker. Make sure to leave around 3 feet of extra buffer tube after the mark to allow for slack in the cassette's splice tray.
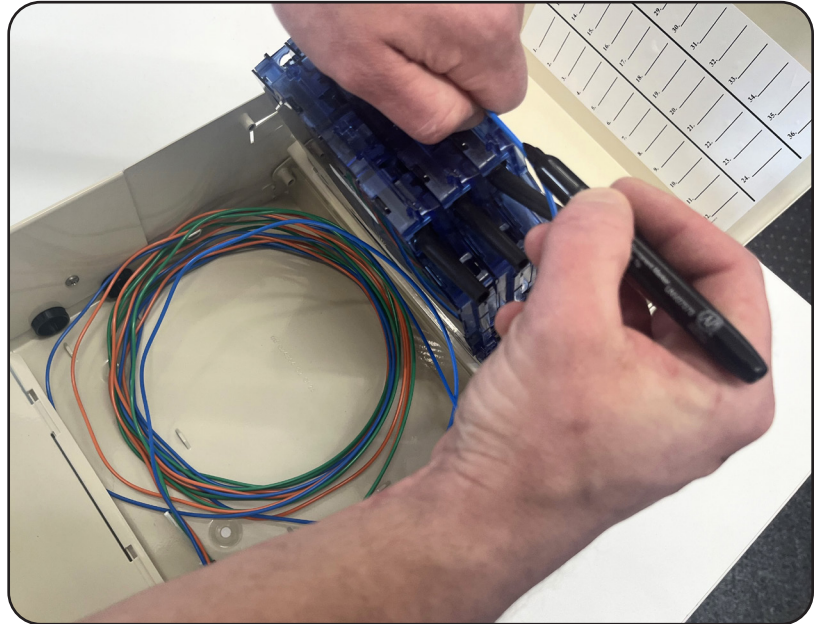
3. **Remove** all Clearview Blue Cassettes from the wall box that need to be spliced. This can be done by opening the bulkhead and loosening the captive screws on each side of the cassette which hold the cassette to the bulkhead.

4. Consult the Clearview Blue Cassette Installation Manual for splicing instructions, located under the Resources tab of the Clearfield website, www.seeclearfield.com.

    Viewable here:
    https://www.seeclearfield.com/assets/documents/installation-manuals/clearview-blue-cassette-install-manual.pdf

5. After splicing is complete, return the cassettes to the wall box and store the buffer tubes, securing them with the provided Velcro and bridge lances.

    Note: Secure the sweep of the buffer tubes up to the cassette by utilizing the bridge lances on the bulkhead (if present) as well as the floor of the wall box.
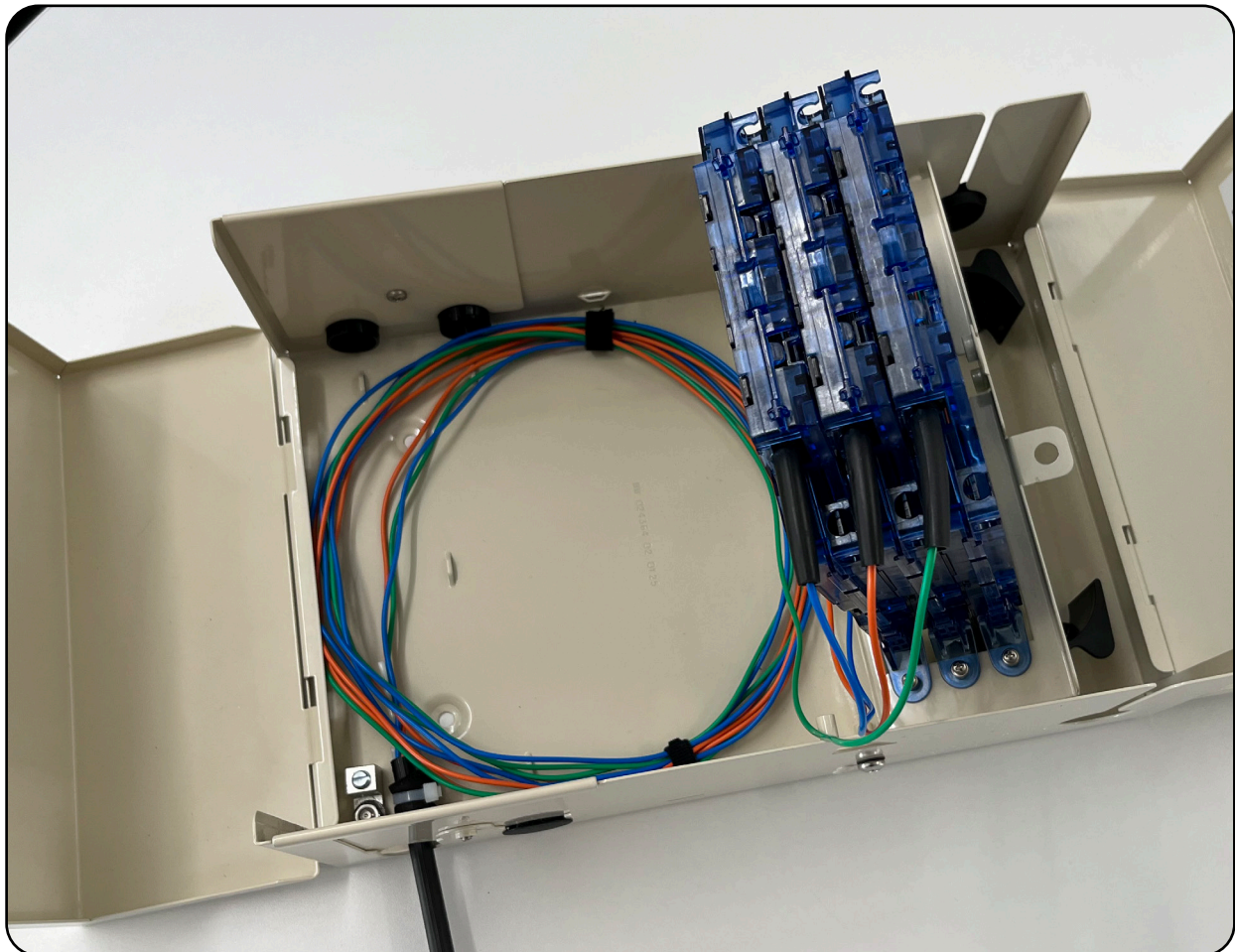
6. Close the bulkhead and use the 7/16" thin wall socket or can wrench to secure the doors closed.

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Jumper Installation

1. Access to the jumper side of the wall box is done via the security screw on the right hand side of the wall box.

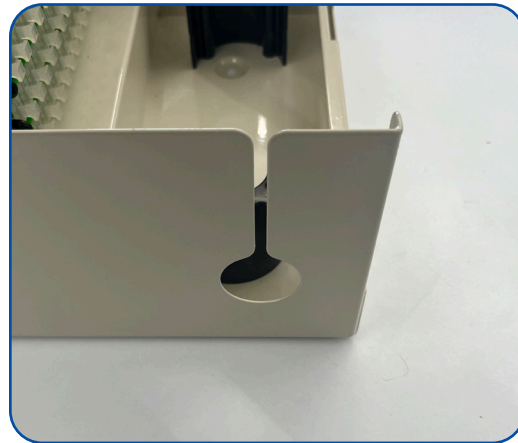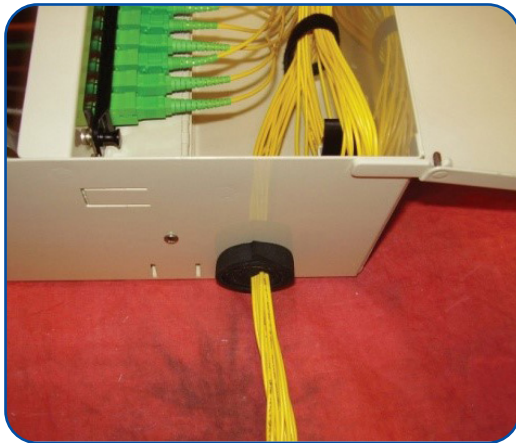2. Individual jumpers can be inserted through either the upper or lower hole in the enclosure. In the case of the 36 port wall box, jumpers can be layed into the box through the slotted hole.You may want to wrap the group of jumpers with some grommet tape to protect them from the edge of the sheet metal at the opening.

3. Store the slack from the jumpers on the slack management spools provided. In the case of the 96 and 144 wall boxes, it is recommended that the jumpers leave the radius spools toward the back wall opposite the cable entrance, and then transition forward to the adapters. This will allow for proper jumper swing if the bulkhead is opened. The slack can then be dressed up using the supplied Velcro strips.

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PON Splitter Installation

96 Port/Standard 144 Port Indoor Wall Box

1. Attach the provided 2" x 2" velcro square with adhesive backings to the splitter body and the inside of the wall box.
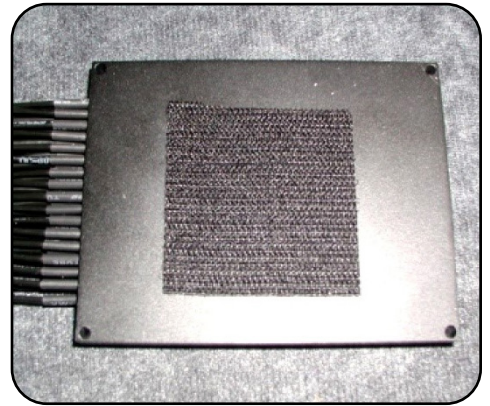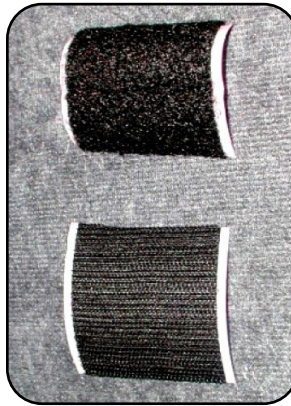
2. Secure the splitter body into place on the bottom of the wall box with the velcro.

PON 144 Port Indoor Wall Box

3. Place the splitter body in the splitter cage located on the bulkhead.
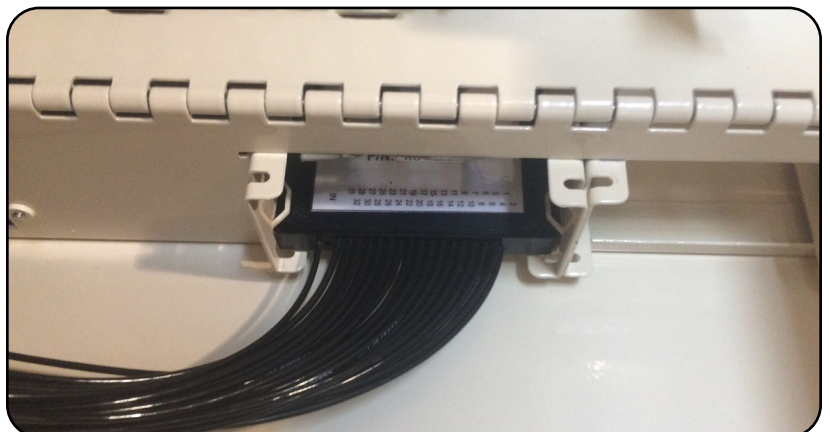
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4.   Place the staging plate with the foam cradle into the staging plate location at the top of the bulkhead.

96 Port Indoor Wall Box

144 Port Indoor Wall Box

5.   Once you have the splitter fully installed, proceed to connecting the feeder leg and distribution legs of the splitter as needed.
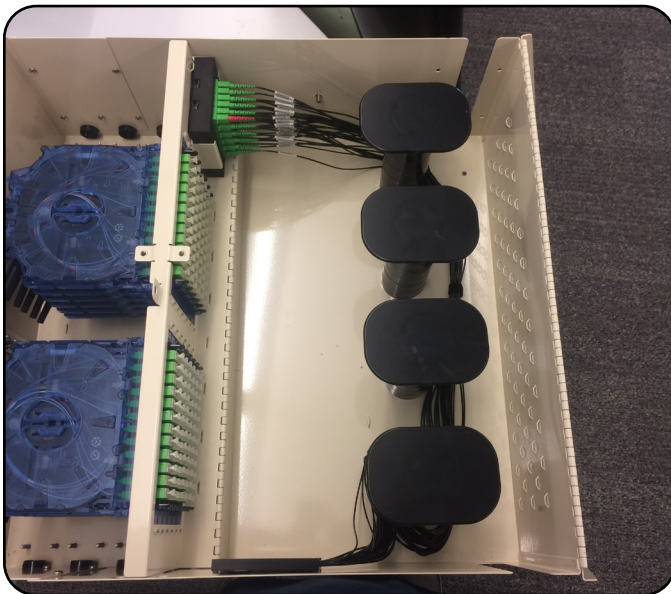
Connector Cleaning Procedure

Whether factory terminated or field spliced, clean connectors are essential for proper system operation. Even the smallest dust particle can cause transmission problems, so for optimal network performance inspect, and if necessary, clean connectors and adapters prior to mating.

Inspect Then Connect

These are Clearfield recommended products/applications. Use the product you feel will complete your cleaning procedures. Create a "best practice" for your company and follow those procedures.

The use of Chemtronics end face and bulkhead cleaning products and techniques ensures a clean end face, no matter the type of contamination.

Before cleaning any connector, be sure you know what type of contaminate you are cleaning (dry, fluidic, or combination). All the available products are good, it's the process that you need to be aware of. Using a dry cleaning method to clean "dirt" can lead to scratching of the end face. Learn the process of cleaning properly.

*Note: It is **NOT** recommended to use isopropyl alcohol to clean the end face.*

Figure 1

Cleaning an SC/LC Connector

Cleaning the End Face

• Place one wiping paper on QbE-2 FiberSafe™ Cleaning Platen. (**Figure 1**)

• Apply small amount of precision cleaner (about 1" in diameter) with Electro-Wash MX pen on to one end of the wipe. (**Figure 2**)

Figure 2

• Hold end face at a 90 degree angle. For APC connection, adjust by slightly tilting the container or end face. Angle is correct when no drag is felt on the end face. (**Figure 3**)

• Draw end face from wet to dry part of the wipe 3 times. Use just enough pressure to ensure complete contact between end face and the wipe.

*Note: **DO NOT** retrace previous step.*

Figure 3

Cleaning the Ferrule

• Lightly moisten the fiber optic swab (2.5mm/38542F or 1.25mm/38040) by spotting a small amount (about 1") of Electro-Wash PX or Electro-Wash MX pen onto the QbE. Hold the swab, 1 side down to the wetted area and hold for a count of 1-2-3-4-5. (**Figure 4**)
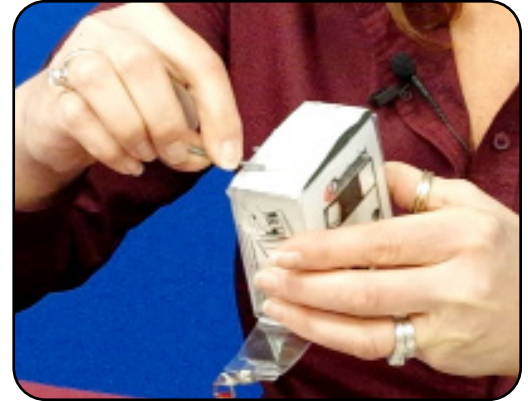

Figure 4

• Insert swab into side of ferrule, wet side to the ceramic ferrule and circle around 2-3 times and remove. Turn swab to dry side and repeat. (**Figure 5**)

Figure 5

Cleaning the Mate Through an Adapter AND the Adapter Itself

• Lightly moisten the fiber optic swab (2.5mm/38542F or 1.25mm/38040) by spotting a small amount (about 1") of Electro-Wash PX or Electro-Wash MX pen onto the QbE. Hold the tip of the swab onto the wetted area and hold for a count of 1-2-3-4-5.

• Insert the swab into the adapter to the connector, press lightly against the connector, twist 2-3 times, remove and discard.

• Dry with a second dry swab.

• Inspect, repeat cleaning if necessary, and test for signal strength.

• Use additional swabs to clean inside the actual adapter. Moisten swab, like above, and insert through hole and remove while twisting. (**Figure 6**)
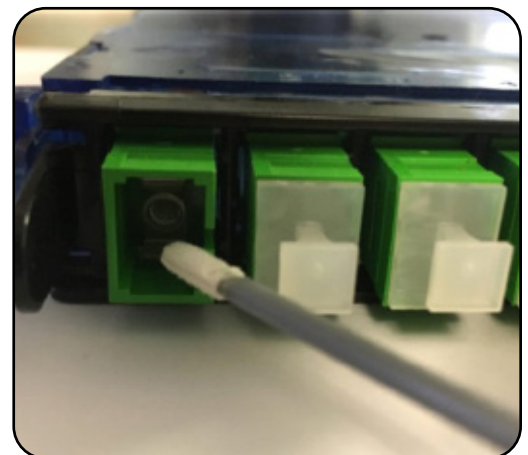

Figure 6

Cleaning an MPO/MTP Connector

Male Connector

- Use of Chemtronics MTP Connector Cleaning Swabs (CC505F) is recommended. Even after cleaning with a probe cleaner, you should always clean the pins with this (or an equivalent) type swab. Cleans ALL MTP/MPO connector end faces. This swab also cleans the "pins" of the male connector

- Lightly "spot" a QbE-2 wipe on the platen with Electro-Wash PX Fiber Optic Cleaner, the FiberWash or MX Pen.

- Lightly touch short side of the MTP/MPO Connector Swab to the wetted area (3-5 secs) to absorb some cleaning solution (DO NOT over saturate the swab).

- Wipe connector areas to be cleaned, sliding pad from bottom of pad across and forward to tip of swab, from 1 side to the other, turn over and use long side to dry in same movement.
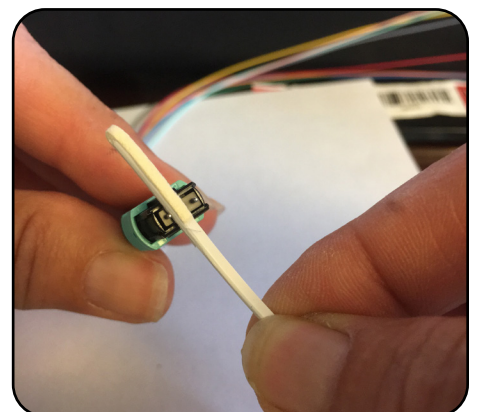
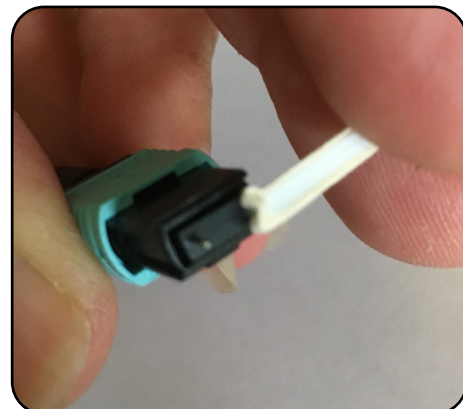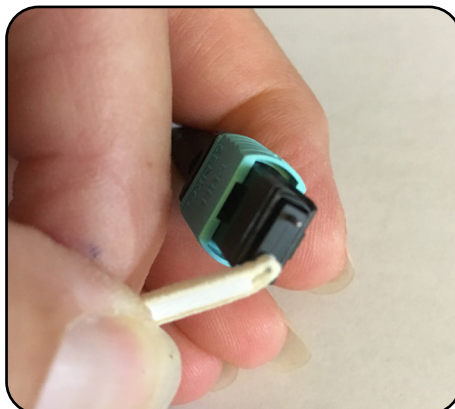• Use the hole on end of pad to clean one alignment pin, then press the end of the swab into the other pin to clean.

• Check your work with a fiber scope. This can take several attempts to get the endface clean.

Female Connector (without pins)

• Cleaned like a single fiber connector, using a cleaning platform. The receptacles will be cleaned as long as you are using a combination cleaning process as recommended.

• Again, using a platen, moisten the platen with cleaning solvent on one end to accommodate 3 swipes of the MPO female endface.

• Holding the connector (If APC, slightly at an angle to accommodate for 8° angle) swiping with medium pressure, from the wet area into the dry area 3 times, without wiping over previous area.

• Inspect, and if clean, make the connection. If NOT, repeat above steps until clean or if determined that the end face is damaged (based on standards of 5 cleanings per connection), replace.

Cleaning Using a Probe-Style Cleaning Tool

•   The probe style cleaning tools are capable of cleaning a connector end face separately or through the adapter.

•   Slightly engage probe by pulling back but do not allow to click. Lightly "spot" a QbE-2 wipe on the platen with Electro-Wash PX Fiber Optic Cleaner, this will help alleviate "over saturation" of the material.

•   Lightly touch the tip of probe and release.
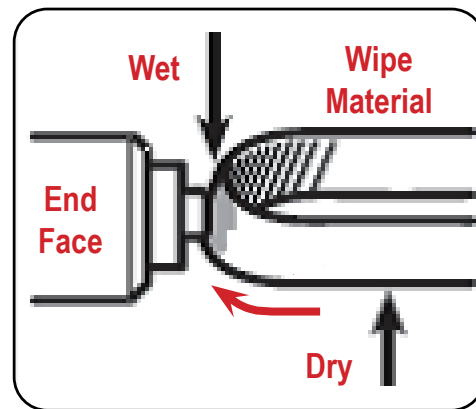
•   Insert connector or insert probe though adapter and click 2-3 times to move past the wet area and allow material to dry wipe.
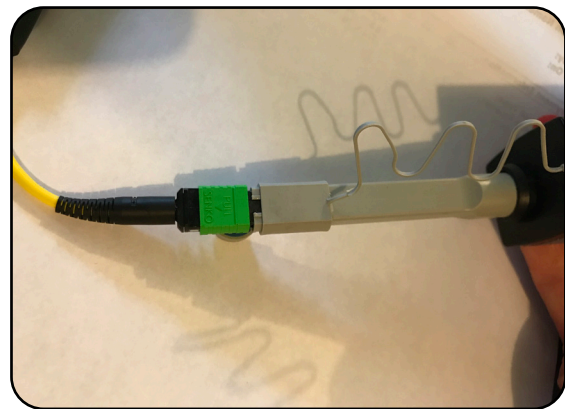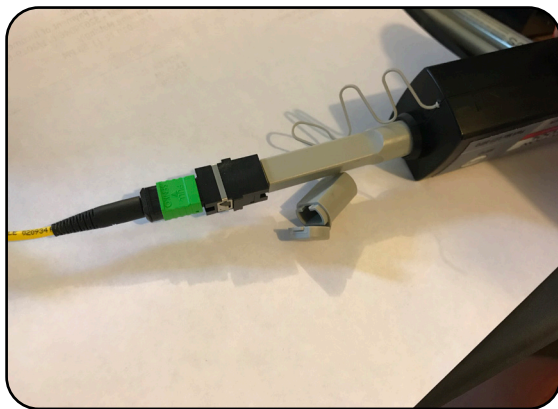
•   Inspect connector, repeat if necessary (following standards)

•   If cleaning a male connector, clean the pins (see above)

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

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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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