

Charles Fiber Distribution Point (CFDP) Series Fiber OSP Pedestals

CFDP206, CFDP208, CFDP210, CFDP308, CFDP310

Including ELS, EPS & EL (Interconnect) Versions

General Description and Installation

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1. GENERAL INTRODUCTION

1.1. Document Purpose

This document provides instructions for the fiber cable technician to properly perform fiber cable preparations, routing, splicing, terminations, and connections within the Charles Industries’ Fiber Distribution Point (CFDP) ELS, EPS and EL Pedlock® pedestals with a 6”, 8” or 10” dome. These models, shown in Figure 1, Figure 2 and Figure 3, offer an interior fiber organizer for use at a fiber distribution point. Contact Charles Industries (see Part 4.) to request more information or literature on this or other models.

-NOTE-

Hereafter the CFDP206-ELS, CFDP206-EPS, CFDP208-ELS, CFDP208-EPS, CFDP210-ELS, CFDP210-EPS, CFDP206-EL08, CFDP208-EL12, CFDP210-EL24, CFDP308-ELS, CFDP308-EPS, CFDP310-ELS, and CFDP310-EPS will be referred to as the “CFDP,” “CFDP2,” “CFDP3,” or “pedestal.”

1.2. Product Purpose

The CFDP is an above-grade double-protected pedestal that offers excellent OSP protection against floods, fire, dirt, weather, insects, and impact for fiber-optic cable splices and customer service drops in FTTP deployments.

1.3. Product Mounting and Location

The CFDP pedestal base is typically installed at the FTTP distribution point in a trench with the base’s ground line indicator at or slightly below grade. The pedestal’s fiber organizer mounts onto the base. Once all cable connections are complete, the inner doors are secured (or the inner dome is installed) to protect all cabling and connections, then the outer dome is placed over and attached to the base for further protection. The base contains holes or knockouts at the rear and both sides that accept an optional metallic mounting stake or a pole-mount bracket. If desired, vault mount bases can be ordered and used in place of the standard-height expanded base.

2. PRODUCT DESCRIPTION

Charles' CFDP pedestals are designed for use in new or replacement installations, to accommodate various soil and mounting applications, cable types in loop-through, branch, and stub-in cable deployments, for drop or feed cables. The pedestal can accept various sized splice trays, splitters, and specified fiber slack lengths, and it exceeds Telcordia GR-13-CORE and GR-771-CORE specifications.

The protection offered by the CFDP is achieved with a weather-resistant yet free-breathing interior enclosure that is within the confines of a protective, exterior, buried-distribution-cable pedestal. The first layer of protection, the non-metallic outer dome, covers the: a) inner double-door enclosure (on the ELS and EL Series), or the b) inner dome (on the EPS series). The dual locking doors (one on the CO/feed side and one on the drop/customer side) or the inner dome (that snaps firmly into place) provide the inner layer of protection for the heart of the pedestal: the non-metallic, fiber organizer. The ELS series provides a fiber basket on both sides of the fiber organizer to keep drop cable tubes and splices separate from feed cable tubes and splices. For either series, the feed cable may be either a loop-through or stub-end cable requiring splicing in the provided splice tray. Customer drop cables are typically a stub-end type also requiring splicing. CFDP-style cable attachment units with cable retention teeth and strength member clamps facilitate cable attachment on both sides of the organizer. The square pedestal base, an expanded-capacity, non-metallic, 2-piece device is designed to both support the fiber organizer and open and install around conduit-fed or direct buried cable bundles. For easy line maintenance and testing purposes, grounding and bonding connections are made to a bonding bar or bonding plate below the fiber organizer.

3. SAFETY PRECAUTIONS



Risk of serious eye damage! Never look into the end of a fiber optic line or use a magnifier in the presence of laser light or radiation. Exercise caution when installing, testing or maintaining live circuits. If eyes are exposed to laser light or radiation occurs, immediately seek treatment by a medical professional.



Cable and fiber cleaning solvents may contain hazardous or harmful materials. Maintain good housekeeping practices and refer to the SDS when working with cleaning solvents or similar products.

Shards and cleaved glass fibers are very sharp and can easily pierce the skin. Use tweezers to pick up cut glass fibers and place them in a specifically designated container. Do not consume any food products near the cable installation site.

Corrugated metal or armor in feed cables is very sharp when cut or exposed. Exercise extreme caution to prevent personal injury. Use protective work gloves when handling armored cable.



Perform all bonding and grounding prior to making any electrical and communications connections.

Be careful not to damage any buried cables or service wires while digging either to expose cables or to prepare a hole or trench, or while driving stakes. Buffer tubes and fibers are sensitive to excessive bending, pulling, and crushing forces. To avoid kinking of buffer tubes and fiber damage or breakage, exercise great care when working with fiber, and do not exceed or violate minimum bend radius requirements for fibers, buffer tubes, and cables.

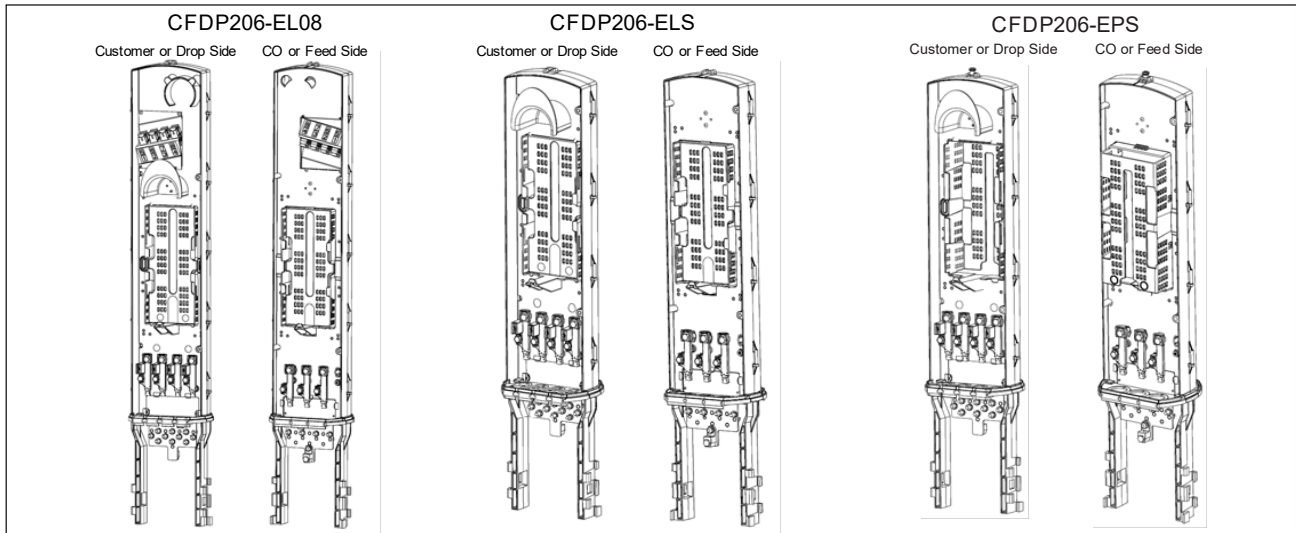


Figure 1 CFDP206 Fiber OSP Pedestals

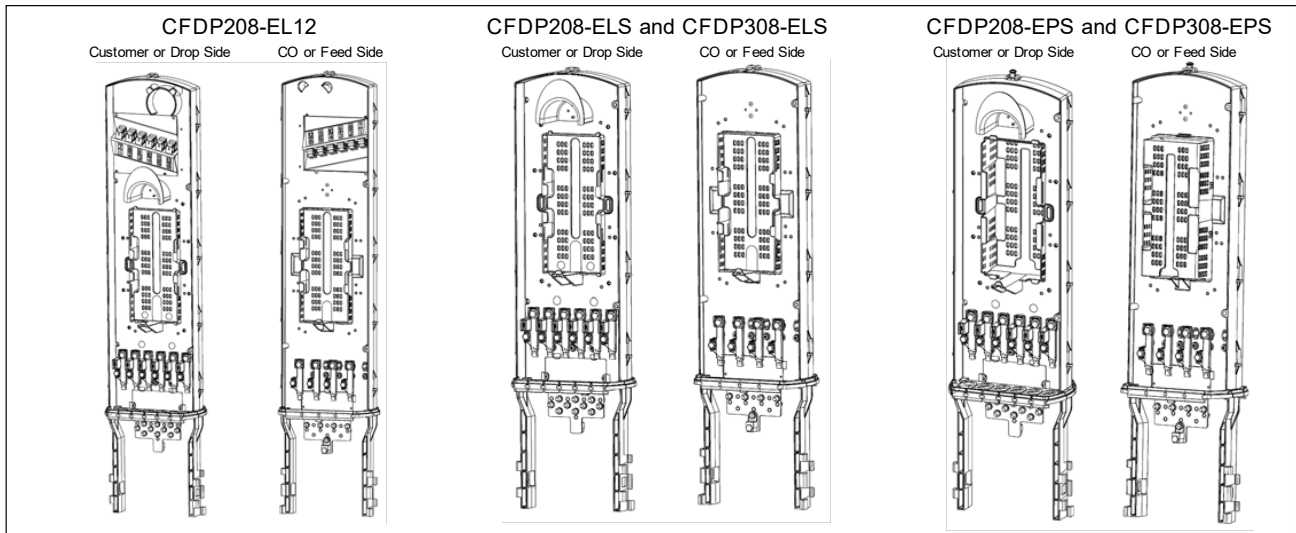


Figure 2 CFDP208 and CFDP308 Fiber OSP Pedestals

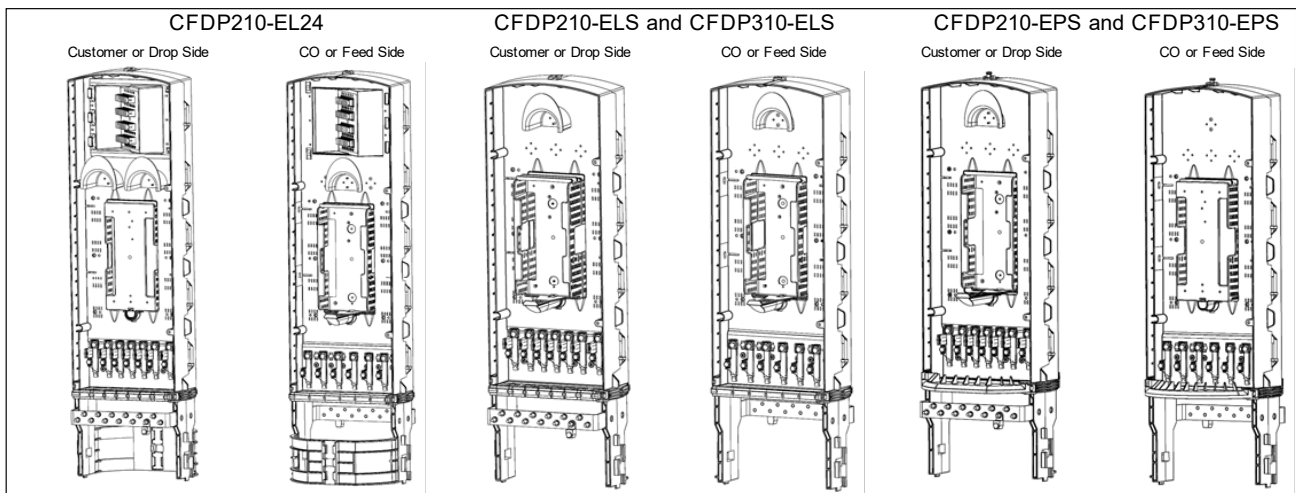


Figure 3 CFDP210 and CFDP310 Fiber OSP Pedestals

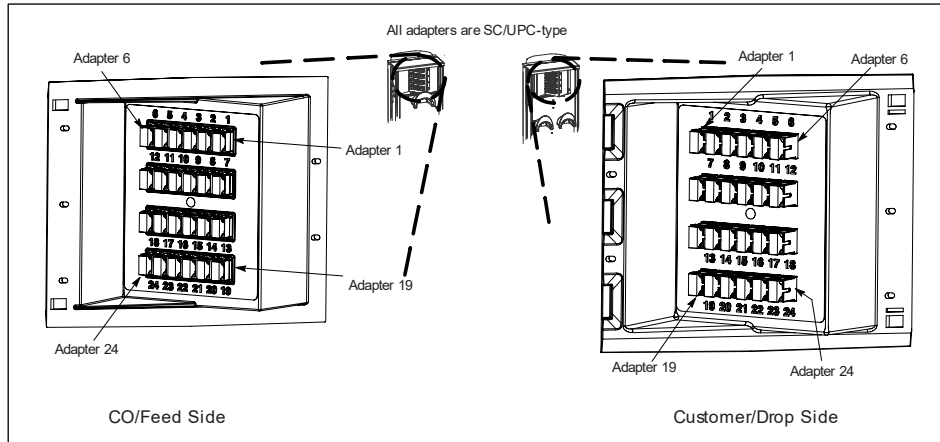


Figure 4 24-Adapter Bulkhead for CFDP210-EL24

4. CABLE INSTALLATION AND SPLICING

4.1. Obtain Tools for Pedestal Set-Up

Step #	Action																
1	<p>Assemble the following tools and equipment to perform fiber feed/drop cable connections in the installed CFDP pedestal</p> <table border="0"> <tr> <td>216 tool/ can wrench</td> <td>Wrenches or socket set</td> </tr> <tr> <td>Tape measure</td> <td>Extra splice trays/labels</td> </tr> <tr> <td>Grounding equipment and tools</td> <td>Dome and fiber organizer (provided)</td> </tr> <tr> <td>Labels for cables (optional)</td> <td>Bag of parts (provided)</td> </tr> <tr> <td>Cable bond clamps (optional)</td> <td>Fiber splicing tools and equipment</td> </tr> <tr> <td>Proper length drop cables</td> <td>Cable entry tools</td> </tr> <tr> <td></td> <td>Buffer tube stripper tool</td> </tr> <tr> <td></td> <td>Safety glasses and work gloves</td> </tr> </table>	216 tool/ can wrench	Wrenches or socket set	Tape measure	Extra splice trays/labels	Grounding equipment and tools	Dome and fiber organizer (provided)	Labels for cables (optional)	Bag of parts (provided)	Cable bond clamps (optional)	Fiber splicing tools and equipment	Proper length drop cables	Cable entry tools		Buffer tube stripper tool		Safety glasses and work gloves
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	Buffer tube stripper tool																
	Safety glasses and work gloves																
2	Locate pedestal installation site and inspect the pedestal for damage that may have occurred during installation. Inspect new pedestals thoroughly upon delivery. If the equipment was damaged in transit, immediately report the damage to the transportation company.																
3	<p>Using a 216 tool or can wrench, turn the snap lock hex nut 1/4 turn CCW. Hold the can wrench in that position and lift the dome. Set the dome aside until needed.</p>																
4	<p>ELS models: To open the internal doors, loosen the two cup-washer screws on each door with a 216 tool.</p>																

Step #	Action
5	<p>EPS models: To remove the inner dome, grasp the dome with both hands (at the bottom edge or around the perimeter) and pull it up sharply to release it from the snap fastener. Set the inner dome aside until needed.</p>
6	<p>Check parts bag. Verify that the bag contains the materials for the particular pedestal assembly.</p>
7	<p>Remove the fiber organizer, if needed or desired, to facilitate the earth ground installation, per local practices. Remove the fiber organizer by first pressing one finger push tab (located inside the base collar at the support leg), pulling up the support, and then secondly, pressing the other leg's push tab and pulling up on the second support leg. After both tabs have been disengaged, lift the fiber organizer from the base and temporarily set it aside.</p>
8	<p>Prepare earth ground. Always follow local codes and company practice when grounding cables/equipment. If an earth ground is not present at the pedestal site and local practice requires an earth ground, prepare one at this time. Do not connect earth ground until the fiber organizer is reattached to the base.</p>

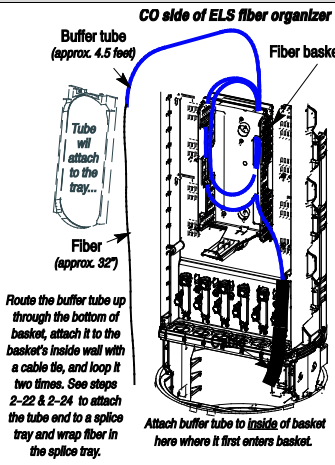
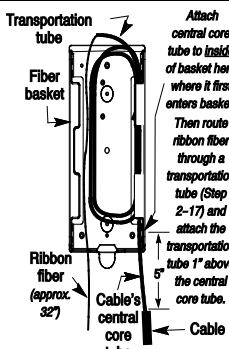
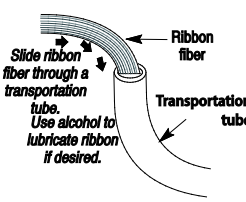
4.2. Preparing the Feed Cable

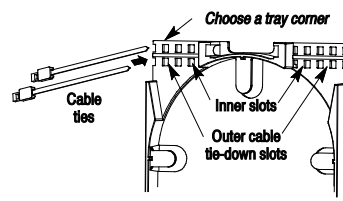
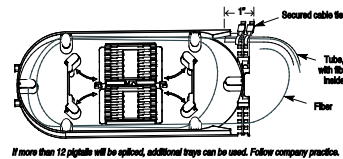
Step #	Action
1a	<p>For Stubbed Cable Applications. Verify 9 feet (approx.) of cable, from the ground line to the cable's stub end, extend up through the pedestal base. Position the cable toward the rear, or CO side, of the base (the CO side of the fiber organizer has fewer, but larger grommets than the Drop side). See the base installation document for instructions on installing the base and routing cables into the base.</p>
1b	<p>For Looped Cable Applications. Verify 15 feet minimum (17" max.) of looped feed cable, ground line to ground line. Bring it up and out of the base. Position the cable toward the rear of the base (Charles logo is on the front). See the base installation document for instructions on installing the base and routing cables into the base.</p>
2	<p>Attach the fiber organizer (skip this step if already attached). First, position the feed cable so it will be at the CO or feed side of the fiber organizer, then install the fiber organizer to facilitate marking the cable for the proper cable sheath removal length. Align the fiber organizer legs with the leg guides in the collar of the base and press down. Once aligned, press down on the fiber organizer until the tab locks are engaged (audible clicks indicate proper leg insertion).</p>
3	<p>Per local codes and/or company practice, install an earth ground wire to the ground lug located on the bond bar (10" model) or the bond plate (6&8" models). Always perform grounding prior to cable attachment.</p>
4	<p>The CO/feed side grommets on the organizer accept one feed cable each (drop cable grommets can accept one or two drop cables). For cable stub applications, remove one of the CO-side grommets from the bottom of the organizer. For expressed cable applications, the two outermost are used.</p>
5	<p>CFDP210-EPS and CFDP310-EPS double dome models: Locate and remove the single port feed grommet. Grommets on the CO or feed cable side of the fiber organizer accept one feed cable each. First, open the swing-out bottom plate, as shown below. For stubbed cables, remove one of the feed side grommets from the bottom of the organizer.</p>

Step #	Action
6a	<p>For Stubbed Cable Applications. Cable sheathing must be removed to expose the buffer tubes or fiber for splicing. Sufficient sheathing is retained to attach the cable to the fiber organizer. Before marking the location of the sheathing cut, first push or backfeed the cable into the conduit or trench (to provide slack for any additional or future sheathing cuts). On the feed side of the fiber organizer, locate the cable attachment unit that is directly above the chosen grommet, press the cable up against the cable attachment unit, and mark a cut line on the cable midway up the cable attachment unit, approx. 7" above the top of the base collar.</p> <p>Note: If desired, see Section 4.1, Step 1-7 to remove the fiber organizer</p>
6b	<p>For Looped Cable Applications. Press and hold one cable leg against the lower part of the fiber organizer. At the outermost cable attachment unit, directly above the selected grommet, make a mark on the cable halfway up the 3" high cable attachment unit.</p>
7a	<p>For Stubbed Cable Applications. Prior to removing the cable sheathing, poke a small hole in the center of the grommet, forcing the stubbed cable end through the hole. Slide the grommet down the cable until it is below the sheathing cut line, or below the grommet plate.</p>
7b	<p>For Looped Cable Applications. As shown in the previous step, each grommet has a notch at the rounded end (tip). Using snips, cut into the grommet at the notch to the center of the grommet. A looped cable has two "legs," a feed side leg from the CO and a field side leg to the customer.</p>

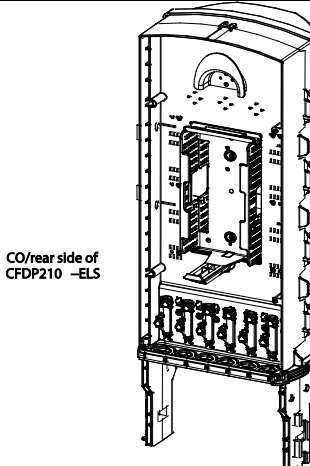
Step #	Action
8	<p>Remove the sheathing, per manufacturer's instructions or local practice, from the mark to the cable end (approx. 7.5 feet) to expose the buffer tube and strength members (for Loose Tube Cable) or the central core tube, ribbon fibers, and strength members (for Central Core Cable). Trim the strength members to 4" (they will be trimmed further in Step 12). Do not cut the buffer tube.</p> <p>For Looped Cable, remove the sheathing between the two marks made in Step 6b. Trim strength members to 4".</p>
9	<p>Per company practice and cable type, remove all protective wrap and binder string to expose the buffer tube(s).</p>
10	<p>To prepare the cable for bonding to the pedestal ground bar, attach a company-approved cable bond clamp to the cable shield or armor, at the sheath cut. Always follow clamp manufacturer instructions or company practice to attach bond clamps, as clamps used to bond cables may vary per location, application, and cable type and size.</p>
11	<p>If not yet installed, attach the fiber organizer (see Step 2). Reinstall the grommet (with the cable running through it). Rotate the grommet so the round end faces the center of the fiber organizer, slide it up or down as needed and press it into its slot on the grommet plate. Make sure the sheathing cut is aligned properly with the cable attachment unit. For Looped Cable, repeat for the other cable leg.</p>
12	<p>Secure cable to the cable attachment unit. First, if the cable has strength members (and they are not terminated in an optional bond clamp), trim the strength members to fit under the cable attachment return. Prior to installing the hose clamp (shown below), press both cable legs into the center of the sliced grommets. Loosen the uppermost hex head bolt of the cable attachment unit, and slide the strength members between the two washers, under the bolt. Tighten the bolt. Press the cable against the attachment unit, making sure enough cable sheath remains for good contact with the teeth at the bottom of the cable attachment unit. Install and tighten a hose clamp around both the cable and the cable attachment unit.</p>
13	<p>Attach a bond strap from the cable bond clamp (shown in Step 10) to one of the bond posts (see Step 3 for bond post locations).</p>
14a	<p>For ELS Looped Ribbon and Loose Buffer Tube Cable Applications:</p> <p>Separate working ribbon/tube from the express bundle and secure the bundle. Locate and separate the ribbon/buffer tube containing the specific fiber to be spliced through (express) bundle. Loop and wrap the express bundle around the outside of the fiber basket on the rear of the</p>

Step #	Action
	<p>organizer. Create as many loops as needed (3 or 4) and secure the express bundle to the rear of the organizer using the supplied D-clips (ribbon) or cable ties (loose buffer tubes).</p> <p>To prepare for splicing service drops, route the working feed ribbon/tube through the top or center of the basket to the drop/front side of the organizer. Avoiding macrobends, bring both legs of the working fiber loop together and install a short piece (approx. 1") of slit-style tubing onto both legs of the ribbon loop. Secure this working fiber assembly to the inside of the basket with a cable tie (see Note 2 in this step). Store the slack ribbon/tube inside the basket of splicing operations are to be performed at a later time (Step 18).</p> <p>Note 1: Per company practice when working with a ribbon cable loop, remove the central tube but leave 3" of it above the sheathing cut on both sides of the loop. Insert the supplied D-clips, used to manage ribbon fiber, into the counter-bored holes on the rear of the organizer.</p> <p>Note 2: In the ELS model pedestal, splicing can be performed on both sides of the organizer, with drop cables on the front and a branch cable at the rear. For either ribbon or buffer tubes, route the fiber so that both legs of the loop can be positioned on the same side of the basket, for mend-free fiber management. Secure ribbon to the inside of the basket using a short length of slit tubing and a cable tie; buffer tubes using only a cable tie.</p>
14b	<p>EPS Models.</p> <p>Follow the procedure described in Step 13 for separating the working ribbon/tube from the bundle and securing it to the inside of the basket, drop side. The grommet plate at the base of the organizer is different in shape but its function is the same as that of the ELS pedestal. Working ribbon and buffer tubes are routed using the same methods.</p>

Step #	Action
15	<p>For stubbed cables in ELS models (loose buffer tube type): Route the tube/fiber into fiber basket and coil inside the basket (about 2-3 loops) until needed for splicing. Secure the buffer tube to the inside wall of the basket with cable ties where it first enters the basket. Note: After the ribbon/tube is attached to the basket, there will be sufficient slack to the tray, as well as inside the tray, to perform fiber splicing procedures.</p>  <p>CO side of ELS fiber organizer</p> <p>Buffer tube (approx. 4.5 feet)</p> <p>Fiber basket</p> <p>Tube will attach to the tray...</p> <p>Fiber (approx. 32')</p> <p>Route the buffer tube up through the bottom of basket, attach it to the basket's inside wall with a cable tie, and loop it two times. See steps 2-22 & 2-24 to attach the tube end to a splice tray and wrap fiber in the splice tray.</p> <p>Attach buffer tube to inside of basket here where it first enters basket.</p>
16	<p>Stub-in ribbon fiber, central core tube cable only: Measure, mark, cut, and attach central core tube to fiber basket. Route the central core tube up into the bottom opening of the fiber basket. Mark the tube 2 inches above the bottom of the basket, then score and remove the central tube. There should be approximately 7-1/2 to 8 inches of central tube above the sheathing opening. Secure the central tube with two cable ties where it enters the basket.</p>  <p>Transportation tube</p> <p>Fiber basket</p> <p>Ribbon fiber (approx. 32')</p> <p>Cable's central core tube</p> <p>Cable</p> <p>Attach central core tube to inside of basket here where it first enters basket. Then route ribbon fiber through a transportation tube (Step 2-17) and attach the transportation tube 1" above the central core tube.</p>
17	<p>Ribbon fiber, stub-in cable only: Route the ribbon fiber through a transportation tube. 3-foot lengths of plastic transportation tubing are provided to protect the ribbon fiber as it transitions from the fiber basket to the splice tray. Slide the ribbon through the tube, then attach the bottom end of the transportation tube to the inner wall of the basket immediately above the attached central core tube, using 2-3 cable ties. Coil the transportation tube within the basket (see step 16).</p> <p>If splicing is not performed at this time, the transport tube(s) need not be cut/removed until the drop cables are prepared and the fibers are spliced. Proceed to the next step to continue with the installation and removal of the buffer tube, or skip to Section 4.7, steps 26-28 to close the pedestal, according to local practice.</p>  <p>Slide ribbon fiber through a transportation tube. Use alcohol to lubricate ribbon if desired.</p> <p>Ribbon fiber</p> <p>Transportation tube</p>
18	<p>One or two buffer tube loops can be stored in the basket as fiber slack to the tray. Any excess fiber can be trimmed as the fiber is being placed in the tray.</p> <p>Loose buffer tube, stubbed cable: Determine the length of transport tube slack needed to the tray and the amount of fiber to be stored in the tray. Using company practices, mark, score, and remove excess buffer tube.</p> <p>Ribbon/central core tube, stubbed cable: Determine the length of transport tube slack needed to the tray and the amount of fiber to be stored in the tray. Using company practices, mark, score, and remove excess tube.</p> <p>Loose buffer tube, looped cable working tubes: Prior to cutting the working tube, determine the length of each leg so that adequate looped slack storage is provided in the splice tray (in its final secured position). Wrap or loop the tube 1-2 times inside the basket, route the last loop to the opposite side of the basket, and make a mark on both tube legs where they</p>

Step #	Action
	<p>overlap the splice tray (when the tray is secured with Velcro straps). Leave or measure enough tube slack length to facilitate future splice tray access, and remove enough tube to expose the proper amount of fiber for splicing and storage purposes inside the splice tray. After marking the tubes, use company procedures/tools to score, slit, and remove the tube.</p>
19	<p>Per company practice, carefully clean the exposed fibers. In looped applications, cut only the desired working fibers midway between the tube ends. Do not cut any express fibers.</p>
20	<p>Ribbon fiber, express/looped cable only: Follow step 14, note 1 (above) for removal of expressed central core tube.</p>
21	<p>Prepare a splice tray (provided) by removing the cover and placing two cable ties at a top tray corner, using any tie-down locations.</p>  <p>Choose a tray corner</p> <p>Cable ties</p> <p>Inner slots</p> <p>Outer cable tie-down slots</p>
22	<p>Stubbed cable: Overlap the buffer tube onto the tray corner about 1" (see step 24, below), then secure the tube to the tray with the two cable ties.</p> <p>Looped cable: Attach both sides of the feed/express tube to the same corner of the tray. Coil all fiber in tray per step 24 (below). Manage/label dead fibers per company practice. Store uncut express fibers in the splice tray.</p>
23	<p>Label all tube ends, per company practice.</p>
24	<p>Per company practice, carefully wrap and store fibers in the splice tray for later splicing, then attach tray cover.</p>  <p>Secured cable tie</p> <p>Tube, with fiber inside</p> <p>Fiber</p> <p>If more than 12 pigtail will be spliced, additional trays can be used. Follow company practice.</p>
25	<p>If splicing or drop cable installation will be performed at a later time, perform steps 9-10 (this section) and Section 4.7, steps 1-4 now to secure the splice tray(s) and to close the pedestal. Go to Section 4.4 step 1 to perform splicing. Go to Section 4.7 step 1 to install drop cables.</p>

4.3. Preparing the Branch Cable

Step #	Action
1	<p>The ELS models provide a fiber basket on both sides of the fiber organizer, enabling use of a separate splice tray for slicing CO feed and branch fibers. Use the rear/CO side of the ELS fiber organizer to prepare and house these splices.</p>  <p>CO/rear side of CFPD210 -ELS</p>
2	<p>Follow applicable steps in Section 4.2 for stubbed cable installation and fiber management. Steps 3-5 of this section review installation of the cable.</p>

3	<p>Grommets on the CO or feed cable side of the fiber organizer accept one feed cable each. For the stubbed branch cable entering the pedestal, remove one of the middle feed-side grommets.</p>
4	<p>Prepare branch cable fibers. If splicing is to be performed at this time, proceed to Section 4.4, step 1. If splicing is not performed at this time, proceed to an appropriate installation step.</p>
5	<p>Installation of a branch cable stub is similar to that of stubbed feed cable, so refer to Section 4.2, steps 13-25. If splicing is to be performed at this time, proceed to Section 4.4, step 1. If splicing is not performed at this time, proceed to Section 4.7 step 26 to close the pedestal.</p>

4.4. Splicing Fibers at the CFDP Pedestal

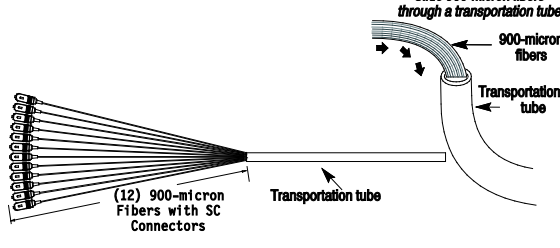
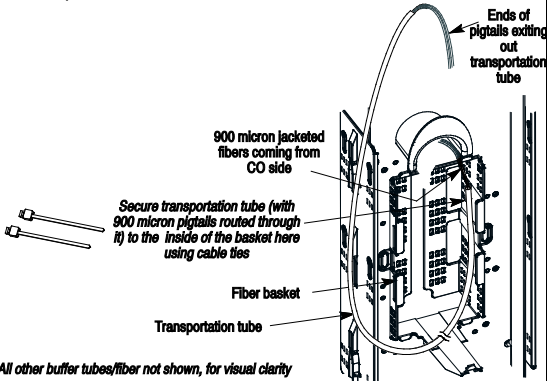
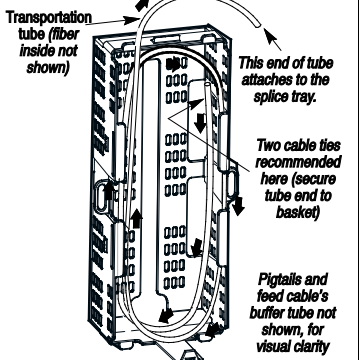
Step #	Action
1	Remove the outer dome and inner dome (EPS) or the CO side door (ELS).
2	Loosen the Velcro straps that secure the splice tray and pull out the tray(s), unwinding and rotating it and the tubes attached to it. Detach the clear plastic cover from the splice tray by lifting up on the two holes in the cover.
3	Perform assigned splicing and wrap completed splices into the tray per tray manufacturer's recommended procedures.
4	Per company practice, label/identify the splices.
5	Re-attach the cover to the splice tray
6	Secure the splice tray to the fiber organizer by coiling the tubes (CW or CCW) inside the basket, allowing the tray to rotate freely as needed. Manage the last tube loop within the basket such that the attached splice tray may easily rest on and be secured to the tabs at the front of the fiber basket using the provided Velcro straps.
7	Re-check the drop channel foam plug placement and cable management. Close the pedestal following steps 7-26 of Section 4.7.

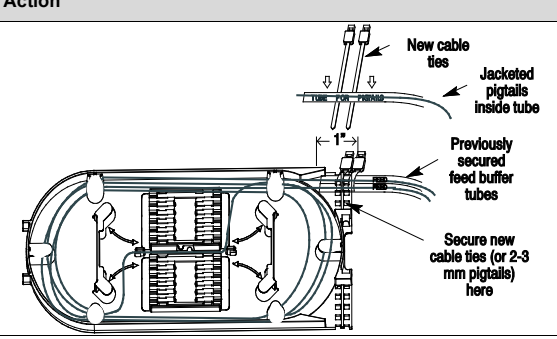
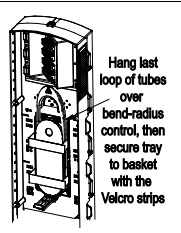
4.5. Installing CO Fiber Pigtails on Bulkhead Models

Step #	Action
1	Use connectorized fiber assemblies, either fiber pigtails or fiber fanouts, in bulkhead equipped pedestals. Extend pigtails/fanouts from the splice tray to the bulkhead adapters. Fiber pigtails are individual fibers connectorized on one end, available with many jacket options, from 900µm to 3mm. Fanouts are connectorized multi-fiber assemblies with a loose-tube or ribbon stubbed end. If using 900µm fiber pigtails or ribbon fiber fanout, proceed to Section 6, step 1.

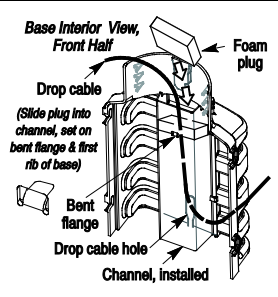
Step #	Action
2	<p>To ensure efficient fiber management when using 2-3mm pigtails, connect one pigtail to the CO side of the bulkhead adapter panel and route it into the basket. Depending on desired slack, coil the pigtail inside the basket 2-3 times. Allow for the proper bend radius inside the basket.</p>
3	<p>Route the pigtails to the tray and cut them to length. Use the first pigtail as a guide to determine that there are 24-30 inches of jacketed fiber to the tray and that an equivalent amount will be in the tray. Mark the remainder of the pigtails.</p>
4	<p>2-3mm pigtails only: Route and loop pigtail group to determine desired pigtail length. The 2-3mm pigtails that were connected and routed previously in this section (steps 2-3) are next looped inside the basket 1-2 times, routed over the upper bend radius and attached to the tray. The slack pigtail length to the tray and length of fiber to be placed in the tray can be determined using this procedure.</p>
5	2-3mm pigtails only: Bundle the pigtails using cable ties or company approved devices.
6	2-3mm pigtails only: Verify that enough pigtail length exists to allow the tray (with pigtails attached) to reach the splicing equipment. Then secure the pigtail bundle to the splice tray corner, per company practice.

4.6. Installing 900µm Pigtailed in Transportation Tube

Step #	Action
1	<p>900µm pigtailed cannot be secured with cable ties. Use the provided transportation tube to route the pigtailed in the tray. Insert the 900µm pigtailed into the transportation tube. Note: Securing the tube to both the basket and splice tray prevents the pigtailed from being pulled from the bulkhead adapters.</p>  <p>Slide 900-micron fibers through a transportation tube</p> <p>900-micron fibers</p> <p>Transportation tube</p> <p>(12) 900-micron Fibers with SC Connectors</p>
2	<p>Attach one end of the transportation tube (closest to connectors) to the top inside wall of the fiber basket with two cable ties.</p>  <p>Ends of pigtailed exiting out transportation tube</p> <p>900 micron jacketed fibers coming from CO side</p> <p>Secure transportation tube (with 900 micron pigtailed routed through it) to the inside of the basket here using cable ties</p> <p>Fiber basket</p> <p>Transportation tube</p> <p>All other buffer tubes/fiber not shown, for visual clarity</p>
3	<p>Coil the transportation tube in the basket. The transport tube runs in the same direction as the CO fiber tube. Note: It may be necessary to trim the transport tube so that only one loop is stored inside the basket. The other end of the tube should protrude approximately 6 inches out of the top of the basket.</p>  <p>Transportation tube (fiber inside not shown)</p> <p>This end of tube attaches to the splice tray.</p> <p>Two cable ties recommended here (secure tube end to basket)</p> <p>Pigtailed and feed cable's buffer tube not shown, for visual clarity</p>
4	<p>Prepare the splice tray for tube attachment. Start two new cable ties in the tray corner, at the tie-down slots. Overlap the transportation tube onto the tray corner about 1" (alongside the feed tubes), then secure the cable to the tray with the two cable ties.</p> <p>If splicing is not performed at this time, wrap the jacketed fiber in the tray per company and tray manufacturer instructions and proceed to the next step.</p> <p>For splicing at this time, go to Section 4.</p>

Step #	Action
	 <p>New cable ties</p> <p>Jacketed pigtailed inside tube</p> <p>Previously secured feed buffer tubes</p> <p>Secure new cable ties (or 2-3 mm pigtailed) here</p>
5	Trim fibers to allow for 34-32" of fiber in the splice tray.
6	Per company practice, label all tubes and pigtailed. Complete any splice tray labels.
7	<p>Keep tubes neat and free of kinks. Per company practice, tie or bundle tubes together at short intervals. Loop and store the tube bundle (or any 2-3mm pigtailed) inside the fiber basket, rotating the tray to avoid kinking of the buffer tubes.</p>  <p>Hang last loop of tubes over bend-radius control, then secure tray to basket with the Velcro strips</p>

4.7. Installing Fiber Drop Cables

Step #	Action
1	Per company practice, prepare a trench to run drop cable to the pedestal. Clear the soil from the bottom front of the base, where the cable enters at the drop cable access port.
2	Route the drop cable through the trench to the pedestal base.
3	<p>Bring cable into base through drop channel, innerduct, or conduit. Note: The channel can be removed if innerduct or conduit is used. Per company practice, route the drop cable up into the base through the innerduct, conduit, or drop cable channel via the drop cable hole. If the drop channel is used, remove the foam plug (rodent and insect deterrent) at the top of the channel and replace it after all drop cables are secured to the fiber organizer. Note: To ensure that the foam plug provides a tight seal around each drop cable, use snips to first cut a slit(s) in the plug so that it can be guided over each installed cable.</p> <p>To re-install the foam plug at the top of the channel, insert the plug so it is in front of the cables (cables at the back of the channel), rest/press the plug's front edge on top of the base's first rib, then press down on the plug's back edge until it rests on the bent flange at the rear of the channel.</p>  <p>Base Interior View, Front Half</p> <p>Foam plug</p> <p>Drop cable</p> <p>(Slide plug into channel, set on bent flange & first rib of base)</p> <p>Bent flange</p> <p>Drop cable hole</p> <p>Channel, installed</p> <p>Note that the CFP308 and CFP310 models do not have drop channels or the split base design.</p>
4	Per company practice, verify 9 feet (minimum) of drop cable extends up past the base's ground line mark. Mark and cut the cable to the desired length.

Step #	Action
5	<p>At the grommet plate on the drip cable side of the fiber organizer, remove one of the double-port grommets. Poke a small hole in the center of the grommet and push the drop cable through the hole. Continue feeding the cable through the grommet until it is even with the grommet plate, then slide it into position. For best access, populate the rear-most ports first.</p>
6	Repeat steps 1-5 above for all drops ready to be routed or placed in service at this time.
7	Check that the foam plug is still properly installed. If it has been dislodged during drop cable installation, re-install per step 3.
8	Backfill the trench and restore the area around the pedestal per company practice.
9	The drop cable sheathing must be removed to expose the fiber to be spliced, but enough cable sheathing must remain to allow it to be firmly secured to the cable attachment unit. Locate the cable attachment unit directly above the drop cable's grommet, hold the drop cable in its proposed final position up against the unit, and mark the cable midway up the unit (approx. 2.5" above the grommet).
10	If a tracer wire is attached to the drop cable, per company practice, separate and pull it down the cable to the marked location. Coil and store the tracer wire. Flat drop cable tracer wire is generally intended for locating, not grounding, purposes.
11	Cut and remove the drop cable sheathing from the end of the cable to the cut mark, per company practice. Trim any Kevlar and rip cord at the sheath cut line. Trim the strength member so that 4 inches remain. See step 13.
12	To facilitate future cable identification during splicing, troubleshooting, or re-work, label the drop tube per company practice.
13	<p>Loosen the hex head bolt in the clamp at the top of the cable attachment unit and trim the strength members to fit beneath the clamp. Tighten the hex bolt to secure the strength members to the unit. Ensure that the cable sheathing makes good contact with the 'teeth' of the cable attachment unit. For flat cables and round unshielded drop cables, double-wrap a cable tie. <i>Caution: Use hose clamps only on armored or shielded cables.</i></p>
14	<p>If the drop cable requires bonding, follow the procedure explained in Section 4.2, step 10 to attach a bond clamp to the cable. Next, using company practice and local codes, ground the cable to the bond bar on the organizer using a bond strap or company approved method.</p>

Step #	Action
	<p>Connect a #6 earth ground wire to the ground lug on the bonding plate at the bottom of the backboard. Loosen the ground lug screw, insert the ground wire into the hole at the lug base, hold the wire in place, then firmly tighten the screw. After earth ground is connected to the ground lug, the bond posts can be used to bond cables.</p>
15	Label all drop cables, per company practice.
16	Repeat steps 7-9 above for all available drops.
17	Remove the Velcro strap(s) and lift the tray away from the organizer. Prepare the tray by inserting two cable ties at the same corner where the feed cable
18	<p>After all drop cables are secured to their cable attachment units, separately tie each drop tube to a tie-down slot on the inside wall near the bottom of the fiber slack storage basket. After each tube is secured, tie them together with cable ties (as a bundle) at short intervals. If the pedestal serves more than 6 drops, and company practice allows only 6 drops per splice tray, a second tray must be prepared.</p> <p>Note: For optimum buffer tube management and where local practice permits, it is recommended that both feed and drop buffer tubes be bundled with cable ties and attached to the same corner of the tray. Then all tubes can be grouped together and routed/coiled into the basket as a single group. See step 21 below.</p>
19	Allow the drop tube bundle to overlap the splice tray at the same tray corner where the feed tube is tied. Mark a cut-line on each drop tube at the same length or location as the feed tube cut-line (overlap the tray corner approx. 1"), so all tubes will be the same length. Verify that a minimum of 32" of fiber will be available for splicing purposes. Ring cut and remove the drop buffer tubes per company practice.
20	Per company practice, clean the exposed drop cable fibers.
21	<p>Per company practice or per splice tray manufacturer instructions, secure the drop buffer tubes to the splice tray. It is recommended that the installer use the same tray corner as the attached feed tubes. Attach the feed tube group and drop tube group at adjacent tray tie-down slots. Using two cable ties, attach the drop tube to the tray. As more drops are added, secure them to the tray as a group and maintain the drop group integrity or unity by replacing the existing drop group's two cable ties one at a time so at least one tie affixes the group to the tray during this procedure.</p>
22	If splicing is not performed at this time, wrap the fibers in the tray, per company practice. Attach the tray cover.
23	Label the tubes/fibers per company practice.
24	If splicing will be performed at this time, go to Section 4, step 1. If splicing is not performed now, continue to the next step.
25	If splicing is not performed at this time, loop all feed/drop tubes that are attached to the splice tray and coil them into the fiber slack storage basket. Secure the splice tray in place against the front of the fiber basket using the Velcro strap(s) provided.
26	ELS model: Verify all tubing is properly stored and not kinked, and that no cables, ties, wires, or tubes protrude beyond the fiber organizer walls. Close and lock the inner doors and tighten all cup-washer screws.

Step #	Action
27	<p>EPS models: Verify all tubing is properly stored and not kinked, and that no cables, ties, wires, or tubes protrude beyond the fiber organizer walls. Orient the inner dome so the flat side faces the front of the base, then slide the inner dome down over the fiber organizer. Guide it past the splice</p>

Step #	Action
	<p>tray tab(s) to the grommet plate. Align the dome's top hole with the fiber organizer's top snap. Push down on the dome until the snap goes through the dome hole.</p>
28	<p>Locate the outer dome and orient it so the snap lock faces the front (the Charles logo is on the base front). Lower the dome onto the base, aligning lock with latch. Lft the dome to ensure that the lock has engaged the base latch.</p>

5. TECHNICAL ASSISTANCE AND CUSTOMER SERVICE

For questions on product repair or if technical assistance is required, contact Charles Technical Support.

847-806-8500
techserv@charlesindustries.com (email)
<http://www.charlesindustries.com/techserv.htm>

For questions on warranty or other customer service assistance, contact your Charles Customer Service Representative.

847-806-6300
mktserv@charlesindustries.com (email)
http://www.charlesindustries.com/main/telecom_sales_support.htm

6. SPECIFICATIONS

Feature	UOM	6" EPS	6" ELS	6" EL08	8" EPS	8" ELS	8" EL12	10" EPS	10" ELS	10" EL24
Height, overall	in.	42.8		50.1	42.8		50.1	46	47	49
Height, base only, incl. collar	in.	18.0								
Height, outer dome only	in.	28.5		35	28.5		35	30	31	34
Height, base bottom to ground line	in.	8.5								
Height, dome top to ground line	in.	34.3		41.8	34.3		41.8	37.5	38.5	40.5
Depth, base, front to back	in.	9.8			10.8			12.8		
Width, base, side to side	in.	10.3			11.8			12.8		
Diameter, base collar, I.D.	in.	6.2			7.7			10.3		
Diameter, dome, O.D. (not the cap)	in.	7.1			8.6			11.3		
Weight	lbs.	18.0			21.5			32.0		

Table 1 Physical Specifications (all dimensions and weights are approximate)

Model Numbers and Ordering Information

Common Features: CFDP Interconnect Pedlock OSP Pedestal, flood-proof exterior dome with 7/16" hex head self-latching lock, square, 2-piece, expanded capacity, split base, weather-tight interior enclosure with doors or dome, removable fiber organizer for fiber cable attachment, routing, storage, and splicing, one (1) 12/24 fiber capacity splice tray, multiple entry ports with grommets, bond bar with ground lug.



Model #	Description
6" Pedestals	
CFDP206-ELS	6" pedestal with fiber splicing organizer, two interior doors, direct bury base
CFDP206-EPS	6" pedestal with fiber splicing organizer, one interior dome, direct bury base
CFDP206-EVLS	CFDP206-ELS with vault mount base
CFDP206-EVPS	CFDP206-EPS with vault mount base
CFDP206-EL08	6" pedestal with fiber interconnect organizer, eight (8) position SC bulkhead panel (green SC/UPC adapters), two interior doors, direct bury base
CFDP206-EL08C	6" pedestal with fiber interconnect organizer, eight (8) position SC bulkhead panel (blue SC/UPC adapters), two interior doors, direct bury base
CFDP206-EVL08	CFDP206-EL08 with vault mount base
CFDP206-EVL08C	CFDP206-EVL08C with vault mount base
8" Pedestals	
CFDP208-ELS	8" pedestal with fiber splicing organizer, two interior doors, direct bury base
CFDP208-EPS	8" pedestal with fiber splicing organizer, one interior dome, direct bury base
CFDP208-EVLS	CFDP208-ELS with vault mount base
CFDP208-EVPS	CFDP208-EPS with vault mount base
CFDP208-EL12	8" pedestal with fiber interconnect organizer,

Model #	Description
	twelve (12) position SC bulkhead panel (green SC/UPC adapters), two interior doors, direct bury base
CFDP208-EL12C	8" pedestal with fiber interconnect organizer, twelve (12) position SC bulkhead panel (blue SC/UPC adapters), two interior doors, direct bury base
CFDP208-EVL12	CFDP208-EL12 with vault mount base
CFDP208-EVL12C	CFDP208-EVL12C with vault mount base
CFDP308-ELS	8" pedestal with fiber splicing organizer, two interior doors, direct bury base
CFDP308-EPS	8" pedestal with fiber splicing organizer, one interior dome, direct bury base
10" Pedestals	
CFDP210-ELS	10" pedestal with fiber splicing organizer, two interior doors, direct bury base
CFDP210-EPS	10" pedestal with fiber splicing organizer, one interior dome, direct bury base
CFDP210-EVLS	CFDP210-ELS with vault mount base
CFDP210-EVPS	CFDP210-EPS with vault mount base
CFDP210-EL24A	10" pedestal with fiber interconnect organizer, 24 position SC bulkhead panel (green SC/UPC adapters), two interior doors, direct bury base

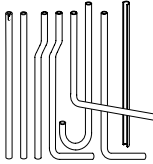
Model #	Description
CFDP210-EL24	10" pedestal with fiber interconnect organizer, 24 position SC bulkhead panel (blue SC/UPC adapters), two interior doors, direct bury base
CFDP210-EL24F	Same as CFDP210-EL24 with two fanout kits
CFDP210-EVL24A	CFDP210-EL24A with vault mount base
CFDP-210EVL24	CFDP210-EL24 with vault mount base

Model #	Description
CFDP210-EVL24F	CFDP-210EVL24 with two fanout kits
CFDP310-ELS	8" pedestal with fiber splicing organizer, two interior doors, direct bury base
CFDP310-EPS	8" pedestal with fiber splicing organizer, one interior dome, direct bury base

Optional Equipment for Use with this CFDP

97-FIBR24TRAY	Splice tray kit, with one 12/24F tray	
97-001911-A	Grommets, feed-side type, one 1" port per grommet, 50-piece kit	
97-001753-A	Grommets, drop side, middle type, two 0.625" ports per grommet, 50-piece kit	
97-001910-A	Grommets, drop side, end type, two 0.625" ports per grommet, 50-piece kit	
97-PKOR06-A	Dome cap, high visibility, orange, 6", 50-piece kit	
97-PKOR08-A	Dome cap, high visibility, orange, 8", 50-piece kit	
97-PKOR10-A	Dome cap, high visibility, orange, 10", 50-piece kit	
97-DRPHOL-CVRKIT	Drop Hole Cover, 25-piece kit	
97-001912-A	Top Snap Fastener, 25-piece kit	
97-CFDP210-BSKT	CFDP210 Drop Side Cell Basket Add-on Kit	
97-SCU12RF3M	Ribbon fiber Fanout with 12 SC/UPC connectors, 3 meters long	
97-SCU12LF3M	Loose tube fiber Fanout with 12 SC/UPC connectors, 3 meters long	
80-002665-F	<p>Ring application kit, includes a bulkhead plate with 8 adapters and labels, used to interface/connect up to 5 MUXes in Ring applications, field installs into a CFDP210-EL24/EL24F</p> <p>Labels: Complete and affix these labels to the inside of the Customer door when using the optional Ring Application Kit.</p> <p>Adapters: The Ring Bulkhead Kit adapters support 5 MUXes on a ring and 12 pass-thru connections.</p>	
		

Riser Pipes and U-Guards

<p>119 series (Ø 7/8" risers) 122 series (Ø 7/8" U-guards) 219 series (Ø 1.25" risers) 222 series (Ø 1.25" U-guards)</p>		<ul style="list-style-type: none"> • Durable solution for protecting wires that are mounted to buildings and utility poles. • Various bends, lengths, offsets, and notches available. • PVC construction: lightweight and easy to cut
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