

Charles Fiber Flexibility Pedestals (CFFP), Patch and Splice Series Fiber Organizer and Fiber Splitter Installation Instruction

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1. GENERAL INTRODUCTION

1.1 Document Purpose

This document provides installation instructions for the Charles Fiber Flexibility Pedestals (CFFP) pedestal enclosures. See Figure 1 for typical CFFP models.

-NOTE-

Hereafter the Charles Fiber Flexibility Pedestals Series will be referred to as the "CFFP" or "enclosure."

1.2 Product Purpose

The CFFP is used in high-capacity fiber splitting applications where pre-connectorized SC connections are desired, such as at cell sites to service multiple wireless operators. The double protected (dome within a dome) structure protects fiber cables and connections against damage from floods, fire, dirt, weather, insects, and impact.

1.3 Product Mounting and Location

The CFFP is an above-grade enclosure. The base is typically installed in a trench or hole, up to the ground line indicator, at the FTTP or FTTH distribution point. Mount using poles or stakes. THE CFFP is also available with a vault mount base for below-grade distribution points.

The pedestal backboard mounts on the base at the pedestal installation site. This is where all cable preparations, splicings, and terminations are performed. All splitter module installations and pigtail connections are performed at the backboard. Field-provided splitters are typically installed when the first customer is provisioned. Subsequent splitters can be added as needed as subscribers are activated.

After splicing operations are complete, all splitter modules are installed. Then the inner and outer domes are placed over the backboard and attached to the base.

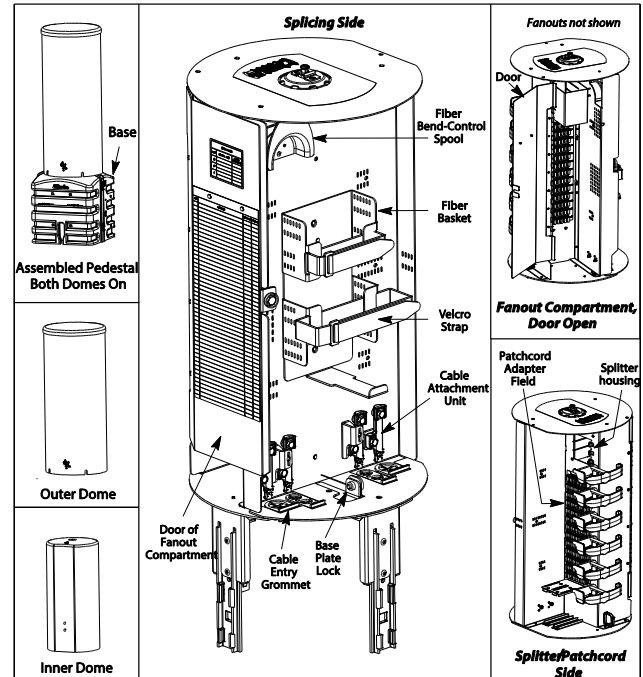


Figure 1 Typical CFFP12E Series Pedestals

2. PRODUCT DESCRIPTION

The CFFP bottom section is a square, 2-piece split base designed to open and easily install around stub-end or loop-through feed and distribution cables. The top section is covered by inner and outer domes that protect the interior backboard. This backboard holds high-capacity fiber splitters and is equipped with a large-capacity bulkhead containing SC adapters for up to 96 subscribers.

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 MSDS 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.

4. INSTALLATION

Section 4.1 describes the pedestal installation, as well as fiber feed and drop (distribution) cable preparations, routings, attachments and splicing. Section 4.2 describes the fiber splitter installation. Charles pedestals accept most cable types and configurations. Always follow local practice and local safety codes when installing.

These instructions assume the following conditions and cable types are used.

- **Cable Architecture/Deployment:** The fiber cable deployment is a CO or feed cable in a stub-in configuration; however, these pedestals also accommodate loop-through configurations.
- **Trench and Base Setup:** The trench is either dug and open or backfilled with the feed cable already placed. The base is properly installed at the site. For base installation information, see the pedestal base installation document attached to the base. The cable has been brought into (or looped through) the base bottom. Note: For loop-through configurations, use a cable opening of 15 feet \pm 2 feet from the ground line. For stub-in configurations, use a stub length of at least 9 feet.
- **Cable Type and Design:** Feed and distribution cables are either loose tube or central core ribbon, and may be fully dielectric or an armored type.
- **Splitter Modules:** The patch and splice pedestal will fit up to three splitters. Splitter modules are available with a 1x32 splitter or with two 1x16 splitters.
- **Transportation Tubing:** Clear, protective, and flexible transportation tubing is provided and used to replace any kink-sensitive or inflexible cable tubes, and to protect any bare fibers.

4.1 Preparing and Opening the Pre-Installed CFFP Pedestal

Step Number	Instruction	
1	Gather the following equipment to perform the CFFP installation. <ul style="list-style-type: none"> • 216 tool or can wrench • Measuring tape • Cable grounding materials and tools • CO/feed splice tray (not provided) • Distribution splice tray (min. 1 req.) • Labels for splice trays • Cable bond clamps (optional) • Hose clamps (2 provided) • Cable marking tool • Assorted cable ties • Proper length drop cables • Trenching and digging equipment and tools • Properly installed base • Domes and backboard (provided) • Bag of parts (provided with the pedestal) • Knife or snips (to cut grommets) • Cable entry tool • Buffer tube stripper tool (score/cut buffer tubes) • Fiber optic stripper tool • Fiber splicing tools and equipment • Labels for cables • Safety glasses and work gloves 	
4.1.1 Preparing and Opening the Pre-Installed CFFP Pedestal		
2	Find the CFFP pedestal installation site, inspect it, and verify the pedestal is properly installed in the ground. Inspect new pedestals thoroughly upon delivery. If the equipment was damaged in transit, immediately report the damage to the transit company.	
3	If not already off, remove the outer dome with a 216 tool or can wrench. Turn the snap lock hex nut $\frac{1}{4}$ turn counter clockwise, hold that position, and lift the dome upward. Set the outer dome aside until needed.	
4	Remove the inner dome by grasping it with both hands and pulling up sharply to drive the dome top past the round snap fastener on the top of the interior backboard. Set the inner dome aside until needed.	
5	Locate the clear plastic bag and verify the following contents: <ul style="list-style-type: none"> • 2 transportation tubes • 2 bond straps • 2 hose clamps • Document • 1 splice tray and label 	
6	Remove the backboard, if needed, to facilitate the earth ground installation, per local company practice. To remove the backboard, first press one finger push tab (located in the support leg, inside the base collar). Pull up on that leg. Repeat with the other legs. When all tabs are released, pull the backboard out of the base and set it aside.	
7	Prepare earth ground. Always follow local codes and company practice when grounding cables and equipment. Do not connect the earth ground to the backboard until it is re-attached to the base.	

4.1.2 Positioning and Opening the Feed Cable

<p>8</p>	<p>Verify sufficient feed cable length. For stub-end cable applications, verify that 9 feet (approx.) of cable (from the ground line to the cable's stub-end) extends up through the pedestal base. For loop-through cable applications, verify that 15 feet (approx.) of looped feed cable (ground line to ground line) is available at the pedestal base, and bring it up through the base collar. For either application, verify the cable will be located near the "splice side" of the backboard when it is installed in the base. As the cable exits the base top, lean the cable toward the splice side.</p>	
<p>9</p>	<p>Open baseplate and remove feed cable grommet(s). Using a can wrench or 216 tool, loosen the cup-washer screw that secures the 2-piece baseplate, then pull or slide out the loose piece of the baseplate. Next, pull out one of the single-port rubber grommets and pierce a hole in the center of it (or cut a slice to the center of both large single-port grommets if a loop-through cable configuration is used).</p>	
<p>10</p>	<p>Position the feed cable so it leans toward the splice tray side of the backboard, then install the backboard to facilitate marking the cable for the proper cable sheath removal length (to expose the buffer tube containing the working fibers for this installation). Align the backboard's support legs with the leg guides in the base collar, then press down on the backboard until it stops and the tab locks are engaged (audible clicks indicate proper leg insertion).</p>	
<p>11</p>	<p>Push cable through grommet and re-install grommet. Place the bottom center of the pierced grommet at the stub end of the feed cable and push the grommet down over the cable end. Slide the grommet down the cable and re-insert the grommet in the plate. Pull or push the cable until the appropriate amount of slack in the base is achieved. For loop-through applications, slit both single-port grommets at the notch, then place the cable inside each grommet.</p>	
<p>12</p>	<p>Mark cable for sheathing removal. The cable sheathing must be removed from the cable stub to expose the fiber to be spliced, but enough cable length with sheathing must remain to attach it to the backboard. On the splice side of the backboard (the side with the fiber basket), locate the cable attachment unit that is located directly above the chosen grommet. Hold the cable up to the cable attachment unit and mark a cut line approximately 1.25" below the top of the attachment unit.</p>	

13	Remove cable sheathing and cut strength members. Use the tool and method of choice to remove the outer cable sheath from the mark to the cable end to expose the buffer tube and strength members. Discard the removed sheathing. Per company practice, trim the cable strength member(s) approximately 1.5" longer than the cable sheath cut (so 1.5" remains). Do not cut the buffer tube.	
14	Per company practice and cable type, find, unwrap, expose, and clean the assigned buffer tube, as needed.	
4.1.3 Bonding and Securing the Feed Cable		
15	(Optional) Attach bond clamp to cable. If company practice calls for termination of cable strength members in a cable bond clamp (not in the strength member clamp at the top of the cable attachment unit on the pedestal backboard), then attach an approved bond clamp (3M type shown only for reference) to the cable at the sheath cut. Route, bend, trim and terminate the strength members to the length needed to fit into the bond clamp (per bond clamp's installation procedure).	
16	Per local codes and/or company practice, install an earth ground wire of proper gauge from the earth ground to the pedestal at the ground plate's ground lug. Always perform grounding prior to cable attachment.	
17	Connect a bond strap (provided) from the cable bond clamp (shown in Step 15) to one of the bond posts on the ground plate, routing it through the grommet.	
18	Secure cable to backboard's cable attachment unit. If the cable has strength members (and they were not terminated in an optional cable bond clamp as described in Step 15), loosen the hex screw of the strength member clamp which is located at the top of the cable attachment unit that is above the chosen cable grommet, and slide the cable's strength members under the clamp until they abut the top flange of the attachment unit. If the cable contains a tracer wire, attach or bond it per local company practice, or guide it away from the clamp. Do not pinch or secure the buffer tube under or in the clamp. Position the cable's sheath cut midway up the attachment unit. With only the strength members under the clamp, firmly tighten the clamp, and then secure the cable by opening and firmly affixing a hose clamp around both the cable and the cable attachment unit at the teeth.	
4.1.4 Cutting, Routing, and Securing the Feed Buffer Tube/Ribbon		
19	This step for loop-through applications only. For loose tube cables, separate working fiber buffer tube from the bundle, and loop/store the bundle. Find and separate from the loose tube bundle the buffer tube containing the fibers to be spliced. Loop and secure the rest of the cable bundle on the rear wall of the backboard. Gently crisscross the bundle to create as many loops as needed to contain the cable. For buffer tube cable bundles, secure the bundle to the backboard with cable ties at appropriate intervals. Do not over-tighten the ties. For loose tube cables, mark, cut, and remove the working fiber's a buffer tube. Per local practice, symmetrically extend the 12' loop length of buffer tube and mark the buffer tube where it will overlap and attach to a splice tray (allow 32" of exposed fiber to be available on the tray for splicing purposes). Score/remove the tube between the marks. For central core ribbon cable only: Cut and remove central core tube, locate working fiber ribbon, and loop ribbon bundle. Being very careful not to cut or damage the fiber ribbons, and using company practices, cut the central core ribbon tube approximately 1-2" above the cable attachment unit. Next, find and separate from the ribbon bundle the ribbon containing the fibers to be spliced. Clean the working fiber ribbon and loop it gently inside the fiber basket. Loop and secure the rest of the ribbon bundle around the outside of the basket on the rear wall of the backboard. First, gently crisscross the bundle to create as many loops as needed to contain the cable, then carefully place the loop-through ribbon bundle within the provided D-clips on the rear wall of the backboard.	
20	Cut to length then remove stub—in working fiber buffer tube. Measure, then make a mark on the buffer tube approximately 32" (varies per company practice) from the cut end. Using local company procedures and tools, and being careful to avoid the fiber inside the tube, score the tube at the mark and remove the 32" length of tube and discard it.	
21	Per company practice, clean the fibers.	

<p>22</p>	<p>Route the buffer tube up through the bottom opening of the fiber basket, and wrap the length of tube inside the basket (2-3 loops). Secure the tube to the inside walls of the basket with cable ties, especially where it first enters the basket, but do not secure the last 3 feet of tube. After the tube is attached to the splice tray in Step 25, this 3' length will allow the technician sufficient tube slack when the splice tray is accessed for fiber splicing.</p>	
<p>23</p>	<p>For Loop-through ribbon cable only: Cut working fiber ribbon to length, route ribbon end through transportation tube, affix tube end to fiber basket. Cut the working fiber ribbon to length (approximately 9' from the ground line or per company practice), then insert and guide the ribbon fiber into the end of one of the provided loose transportation tubes. Slide the ribbons through the tube until the ends exit the opposite tube end. Affix the top end of the tube to the right inside wall of the fiber basket using 2 cable ties (see Step 27). Verify a minimum of 28" to 32" of ribbon extends from the opposite bottom end of the tube, for placement and splicing in the splice tray.</p>	
<p>24</p>	<p>Prepare feed splice tray for tube attachment. Remove the cover from the provided A-size splice tray and start two cable ties at a top tray corner, using the inner tie-down slots.</p>	
<p>25</p>	<p>Overlap the feed buffer tube (or if loop-through ribbon cable is used, overlap the bottom end of the transportation tube) onto the tray corner about 1" (see Step 26) then secure the tube to the tray with the two positioned cable ties.</p>	
<p>26</p>	<p>Per company practice, wrap and store the fibers in the splice tray for later splicing, then attach the tray cover.</p>	

4.1.5 Preparing the Fibers From the Feed Fanout

<p>27</p> <p>Ribbon only: Attach top end of a transportation tube to the inside wall of the basket.</p> <p>Locate one of the provided 3-foot lengths of plastic 1/4" tubing to protect the ribbon fiber and fasten it to the top, right, inside wall of the fiber basket, using cable ties in two locations.</p>	
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28	<p>Again prepare the splice tray for tube attachment, starting two new cable ties at the same tray corner as before, using the outer tie-down slots. Overlap the transportation tube or fanout tube onto the tray corner about 1" (alongside the feed tube), then secure the tube to the tray with the two, positioned cable ties.</p> <p>If splicing is not performed at this time, wrap the fiber in the tray per company and tray manufacturer instructions, and continue with Step 29. If splicing is to be performed at this time, proceed to Step 31.</p>	
29	<p>To manage the tube slack and keep tubes neat and free of kinks, loop and store the tubes inside the fiber basket. If desired, starting at the splice tray, attach the length(s) of transportation tube to the feed tube(s) with cable ties at short intervals, for proper tube management. Allow the splice tray to rotate freely when looping the tubes for storage, to avoid stressing and kinking the tubes, and possible fiber damage.</p>	
30	<p>If splicing, drop cable installation, or splitter installation will be performed at a later time, perform Steps 37 and 70-72 now to secure the splice tray(s) and close the pedestal. Go to Step 1 to install splitters. Go to Step 31 to perform splicing. Go to Step 39 to install drop cables.</p>	

4.1.6 Splicing Feed Fibers in Splice Tray

31	<p>Prepare the area for splicing, and assemble and prepare any equipment and tools needed to splice fibers. Review all the cautions and warnings herein.</p>	
32	<p>Open the pedestal, if not already open, per Steps 3 and 4.</p>	
33	<p>Loosen the Vecro straps that secure the splice tray and pull out the tray(s), unwinding/rotating it and the tubes attached to it. Detach the clear plastic cover from the splice tray.</p>	
34	<p>Unwrap the working fibers to be spliced, perform all fiber splicing at this time, and when complete, route/place the spliced fibers back into the splice tray(s), all per local/company practice and product manufacturer's instructions.</p>	
35	<p>Per company practice, label/identify the splices.</p>	
36	<p>Re-attach the cover(s) to the splice tray(s).</p>	
37	<p>Secure the splice tray to the backboard. To do this, wind or rotate the tubes and tray as needed (to avoid any bending or kinking of the tubes which can cause fiber damage) to loop and store the tubing in the fiber basket. Secure the tray to the tabs at the front of the fiber basket with the provided Velcro straps.</p>	
38	<p>If drop cable installation, drop splicing, and splitter installation will be performed at a later time, perform Steps 70-72 to carefully close up the pedestal. Go to Step 1 to install splitters. Go to Step 39 to install drop cables.</p>	

4.1.7 Installing Fiber Distribution/Drop Cables

39	<p>Per company practice, prepare a trench to run the drop cable to the pedestal. Clear the soil from the bottom front of the base, where the cable enters at the drop cable access hole.</p>	
40	<p>Route the stub-end of the drop cable through the trench then up and through the pedestal base.</p>	
41	<p>Verify at least 9 feet of drop cable (10.5 feet in areas where frost heave is a concern) will extend up past the ground line indicator on the base, then, per company practice, measure and cut the cable at the desired length.</p>	
42	<p>At the splicing side of the backboard, at the bottom baseplate, locate and select one of the double-port grommets. Feed the distribution/drop cable through the grommet port by piercing a hole through the center of the grommet then inserting the drop cable through the grommet. Pull the cable all the way up through the pedestal base and the grommet (leave any cable slack per company practice) until it is at the level of the base plate. Always populate or use the rear-most ports first, for best hand and tool access and mobility. If necessary, the front part of baseplate can be unlocked and removed (as shown in Step 9) for easier cable manipulation.</p>	
43	<p>Locate the cable attachment unit that is located directly above the drop cable's chosen grommet. Hold the cable up to the cable attachment unit and mark a cut line approximately 1.25" below the top of the attachment unit (see Step 48).</p>	

44	<p>Cut and remove the drop cable sheathing from the end of the cable to the cut mark, per company practice. If none exist, score the cable sheathing at the cut mark, separate and pull any tracer wire down to the mark, slice off a piece of sheathing at the cable end to find the rip-cord, pull the cord down to the mark, and peel off or remove the sheathing. Trim any Kevlar and the rip-cord at the sheath cut-line. If the cable contains strength members and tracer wire, trim them but retain enough length (approx. 1.5" for strength members, 4" tracer wire) to attach them to the backboard, per company practice (also see Step 48).</p>	
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45	<p>Per company practice and cable type, find, unwrap, expose, and clean the desired buffer tube, as needed.</p>	
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4.1.8 Bonding and Securing the Distribution/Drop Cable

46	<p>Always follow local codes and company practices when grounding cables and equipment. Per local code, company practice, and the type of drop cable used, perform drop cable bonding at this time.</p>	
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47	<p>(Optional) If company practice calls for termination of cable strength members in a cable bond clamp (not in the strength member clamp at the top of the cable attachment unit on the pedestal backboard), then attach an approved bond clamp (3M type shown only for reference) to the cable at the sheath cut. Route, bend, trim and terminate the strength members to the exact length needed to fit into the bond clamp (per any company bond clamp installation procedure).</p>	
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48	<p>Secure cable to backboard's cable attachment unit. If the cable has strength members (and they were not terminated in an optional cable bond clamp as described in Step 15), loosen the hex screw of the strength member clamp which is located at the top of the cable attachment unit that is above the appropriate cable grommet, and slide the cable's strength members under the clamp until they abut the top flange of the attachment unit. If the cable contains a tracer wire, position it away from the clamp. Do not pinch or secure the buffer tube under or in the clamp. Position the cable's sheath cut midway up the attachment unit (approx. 1.5" below the top of the unit), press the cable against the teeth at the bottom of the attachment unit. With only the strength members under the clamp, firmly tighten the clamp, and then secure the cable by opening and firmly affixing a hose clamp around both the cable and the cable attachment unit at the teeth.</p>	
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49	<p>Label the drop cable with a cable marker or label. This facilitates cable identification for future troubleshooting, splicing, or rework.</p>	
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4.1.9 Cutting, Routing, and Securing the Distribution Buffer Tube/Ribbon

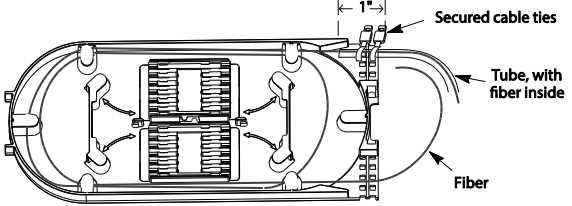
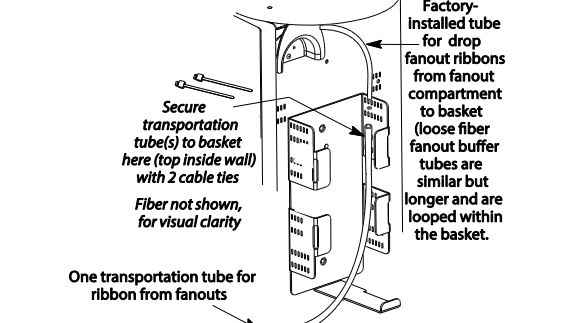
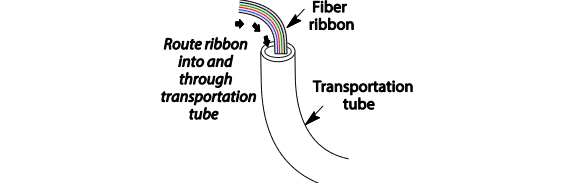
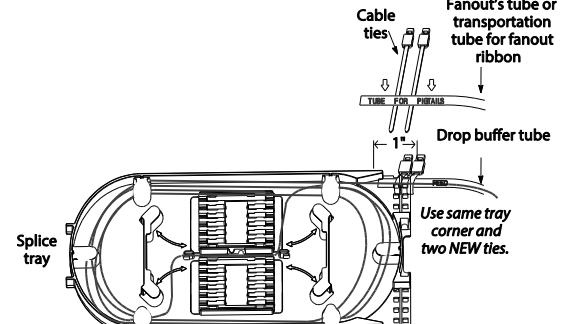
50	<p>Measure then make a mark on the buffer or central core tube about 32" (varies per company practice) from the cut end. Using local company procedures and tools, score the tube at the mark (do not cut the fiber inside the tube). Remove and discard the 32" length of surplus tube.</p>	
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51	<p>Per company practice, clean the fibers.</p>	
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52	<p>Route the buffer tube up through the bottom opening of the fiber basket, and wrap the length of tube inside the basket (2-3 loops). Secure the tube to the inside walls of the basket with cable ties, especially where it first enters the basket, but do not secure the last 3 feet (approx.) of tube. After the tube is attached to the splice tray in Step 55, this 3' length allows the technician sufficient tube slack when the tray is accessed for splicing.</p>	
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53	<p>Drop/distribution cable fibers are spliced and secured in their own splice tray (FOSC D ribbon trays are recommended, different than the feed tray). Locate a D-size splice tray (not provided) so the distribution cable tube can be secured to it.</p>	
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54	<p>Remove the cover from a D-size splice tray (not provided) and start two cable ties at a top tray corner, using the inner tie-down slots. As more drops are placed, if space permits, add their tubes to the drop tube group when securing them to the tray. Maintain the drop group integrity or unity by replacing the existing group's two cable ties one at a time, so at least one tie affixes the group to the tray at all times.</p>	
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55	Overlap the drop buffer tube onto the tray corner about 1" (see Step 56 figure), then secure the tube to the tray with the two positioned cable ties.	
56	Per company practice, wrap and store the fibers in the splice tray for later splicing, then attach the tray cover to protect the fibers.	 <p style="text-align: center;"><i>If more than 12 fibers will be spliced, additional splice tray(s) can be used. Always follow company practice.</i></p>
57	Repeat Steps 39-56 for each drop cable and splice tray installed in the pedestal.	
4.1.10 Preparing the Fibers From the Distribution/Drop Fanouts		
58	Ribbon only: Attach top end of a transportation tube to the inside wall of the basket. Locate one of the provided 3-foot lengths of plastic 1/4" tubing to protect the ribbon fiber and fasten it to the top-right inside wall of the fiber basket, using cable ties in two locations.	
59	Ribbon only: Route fiber ribbon end through transportation tube. Insert and guide the ribbon fiber into the end of the transportation tube that is secured to the basket. Slide the ribbons through the tube until the ends exit the opposite tube end. Verify a minimum of 28" to 32" of ribbon extends from the opposite end of the tube, for placement and splicing in the splice tray.	
60	Again, prepare the splice tray for tube attachment, starting two new cable ties at the same tray corner as before, using the tie-down slots. Overlap the transportation tube or fanout tube onto the tray corner per tray manufacturer's instructions, and then secure the tube to the tray with the two positioned cable ties. If splicing is not performed at this time, wrap the fiber in the tray per company practice and tray manufacturer instructions, and continue with Step 64. If splicing is to be performed at this time, proceed to Step 68.	
61	Attach the tray cover after wrapping the fiber in the tray.	
62	Fill out a splice tray label, if desired, per company practice.	
63	Per company practice, identify/label the fanout tube just before the tube enters the splice tray. Doing this facilitates future cable/tube identification.	
64	Always keep tubes neat and free of kinks. To manage the tube slack, loop and store the tubes inside the fiber basket. If desired, starting at the splice tray, secure the length(s) of transportation tube to the buffer tube(s) with cable ties at short intervals, for proper tube management. Allow the splice tray to rotate freely when looping the tubes for storage, to avoid stressing and kinking the tubes, and to avoid possible fiber damage.	
65	Repeat Steps 39-62 for all distribution/drop cables ready for installation and connection at this time. If splicing is to be performed, go to Step 68.	
66	Verify all active subscriber lines have their fanout pigtails installed in the proper adapters.	
67	If splicing is not performed at this time, carefully wind and loop all tube groups back into the fiber basket, gently rotating the splice	

	trays as needed to avoid any bending or kinking of the tubes (which can cause fiber damage). Secure the splice trays in place with the Velcro strap(s) provided. Go to Step 70 to close the pedestal.	
4.1.11 Splicing Distribution/Drop Fibers in Trays		
68	Repeat Steps 31-38 but this time for the distribution/drop fibers in each tray.	
4.1.12 Activating Future Subscribers		
69	When activating a subscriber at a future date, locate the correct inactive pigtail in the foam block parking lot, unplug the assigned pigtail from the foam block, and repeat steps 5 and 6 herein, then continue with Step 70.	
4.1.13 Closing the Pedestal		
70	Verify all pigtails are neatly contained within the confines of the cable guides on the backboard so they will not be damaged when the inner dome is installed. Verify all tubing is neat and not kinked, and that no cables, ties, pigtails or tubes protrude beyond the backboard walls.	
71	<p>Locate the inner dome, orient it so the flat side is toward the front of the pedestal (the base front has the Charles logo embossed on it), and gently slide the dome down over the backboard assembly, past the tray tab to the baseplate. Align the dome's top hole with the backboard's top snap and push down on the dome until the snap goes through the dome hole with a clicking sound. Locate the outer dome, and orient it so the lock faces the front of the base. Slide the outer dome down over the inner dome/backboard assembly, aligning the dome lock with the latch assembly on the base front. When correctly aligned, let the self-locking dome drop down in place. An audible (click) indicates the dome is locked.</p>	
72	Clean up the installation site, and leave this document inside the pedestal for the next crew or installer.	

4.2 Installing Fiber Splitters

Step Number	Instruction	
1	Open the pedestal, if not already open, per Steps 3 and 4 in section 4.1, to access the backboard where the splitter modules will be installed.	
2	<p>As shown at the right, the splitter side of the CFFP backboard (which is directly behind the fanout compartment) contains a splitter housing that accepts up to 3 field-installed splitter modules, depending on the CFFP model ordered and installed (company-approved 1x32 or 1x16 fiber splitters are available from Charles).</p> <p>Under the splitter housing is a 13-row adapter field that the installer must populate with pigtails from the splitter(s). The first adapter row contains only 6 adapters with hinged front shutters and is reserved for the incoming feed fiber that is to be split. Adapters are labeled left to right in ascending order to correspond with the splitters, and the shutter cover provides user protection from laser light.</p> <p>Always use caution when working with the bulkhead adapters and live circuits.</p> <p>Never look directly into a live fiber adapter.</p> <p>The remaining 12 rows contain 8 adapters. Each accepts pigtails for the split (Subscriber) fibers exiting the splitters. Under the adapter field is a horizontal shelf populated with holes that accept pigtail connectors for temporary holding, and under the shelf are storage brackets for unused pigtail (for inactive lines). Up and down the right side of the splitter side is a column of cable guides. The guides are used for routing and managing the excess lengths of jacketed pigtails. Each guide has a rear cable containment area or opening and a front opening. All subscriber pigtails should be routed from the splitter, to the right side, then down through each guide's rear opening. Active subscriber pigtails are routed back up through the guides' front openings, then routed horizontally over to the designated subscriber adapter. Inactive subscriber pigtails are routed through the D-clip located near the baseplate, then stored in the provided brackets at the bottom of the baseplate. This design keeps the pigtails neatly tucked away at the side of the bulkhead.</p>	

3	Install the first splitter into the lowest slot of the splitter module housing.	
4	Locate the single feed pigtail of the splitter (usually a different color jacket [blue] than the subscriber pigtails), and route it down the side of the backboard through the rear opening of the cable guides, then back up through the front openings of the guides, then (without looking into the adapter) lift the first feed adapter's shutter and insert the feed pigtail's connector into the adapter.	
5	Route live pigtails as shown.	
6	Label each pigtail with its splitter serial number and a pigtail number. Use the label provided on the door of the fanout compartment to identify each pigtail subscriber address. Fill out the label for each subscriber placed in service.	
7	Repeat steps 5-6 for all subscriber pigtails in service.	
8	Store the ends of pigtails not in service using the storage area at the bottom of the backboard. Always keep protective caps on unused connectors to protect from damage.	
9	Repeat steps 3-8 for each splitter being installed at this time.	
10	For housekeeping, route all pigtails through the cable guides, placing all unused pigtail connector ends into the storage bracket. If any live pigtail has excess slack, route it through additional cable guides as needed. Never allow bulging or loose loops of jacketed fiber cable to protrude from cable guides.	

5. TECHNICAL ASSISTANCE AND REPAIR 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>

6. WARRANTY & CUSTOMER SERVICE

Charles Industries, Ltd. offers a one-year warranty on the CUBE product. The Charles warranty is limited to the operation of the CUBE hardware as described in this documentation and does not cover equipment which may be integrated by a third party. The terms and conditions applicable to any specific sale of product shall be defined in the resulting sales contract. 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

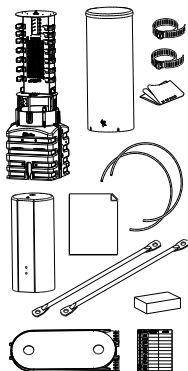
7. PHYSICAL SPECIFICATIONS

Feature	Measurement
Height, base bottom to top of outer dome	46.5 in
Height, base only, incl. collar	18.5 in
Height, base bottom to GL	8.5 in
Height, outer dome top to GL	38.0 in
Height, dome only	35.1 in
Depth, base	15.1 in
Width, base	16.1 in
O.D., dome	13.25 in
Weight, dome	40 lb.

GL = Ground line

NOTE: All dimensions and weights are approximate.

8. MODEL NUMBER INFORMATION

Model	Description
<p>CFFP12E 1 22 3 4 PS</p> 	<p>Product number/naming convention. All product numbers begin with CFFP12E. Italicized numbers represent the following options:</p> <p>1 = Vault-mount option (V = vault base, blank = std.) 22 = Bulkhead fiber capacity (either 12, 24, 36, 48, 72, or 96 fibers) 3 = Bulkhead fiber adapter type (A=SC/APC, B=SC/UPC) 4 = Fiber Fanout type: A = 12 fiber loose tube, B = 12 fiber ribbon</p> <p>Example: CFFP12EV96AB = CFFP pedestal with 12" diameter dome, expanded base, vault mountable, 96-fiber bulkhead equipped with SC/APC adapters, and 12-fiber ribbon fanouts</p> <p>Also includes two 3-foot long transportation tubes, two hose clamps, two insulated ground braids, and 1 4"x9" Charles fiber splice tray.</p>
Optional Equipment	
CFSM-FP1132AA	Charles Fiber Splitter Module for use in CFFP pedestals; contains one 1x32 splitters with one input pigtail (SC/APC type) and 32 output connector pigtails (SC/APC). Pigtail length = 28"
CFSM-FP2116AA	Charles Fiber Splitter Module for use in CFFP pedestals; contains two 1x16 splitters each with one input pigtail (SC/APC type) and 16 output connector pigtails (SC/APC). Pigtail length = 28"
CFSM-FP1116AA	Charles Fiber Splitter Module for use in CFFP pedestals; contains one 1x16 splitter with one input pigtail (SC/APC type) and 16 output connector pigtails (SC/APC). Pigtail length = 28"
97-FIBR24TRAY	Charles fiber splice tray, 12/24 fiber, 4"x9"
UMS36-STD	36" universal metal mounting stake, galvanized, with mounting hardware to attach the pedestal base to the stake.
UMS42-STD	42" universal metal mounting stake, galvanized, with mounting hardware to attach the pedestal base to the stake.
UMB102A	24" universal metal mounting stake, galvanized, with mounting hardware to attach the pedestal base to the stake.