Environmental Distribution Center (EDC-12P-NH)

Figure 1

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1. General

1.1 This instruction describes the recommended procedure for the installation of the twelve-panel Environmental Distribution Center (EDC) (p/n EDC-12P-NH) manufactured by Corning Cable Systems.

1.2 To purchase any accessories that are sold separately, contact your Corning Cable Systems service representative for assistance.

1.3 This document is being reissued to clarify cable cleaning directions.

NOTE: *Read and understand this procedure (as well as the instructions provided with related assemblies) before beginning an installation. Make sure you know how the unit will be mounted and how the distribution cable and drop cable will be routed to the unit.*

2. Description

2.1 The EDC is designed to store and protect fiber optic connections and splices in an outdoor environment. The unit provides environmental protection and strain-relief for one distribution cable and up to six drop cables.

2.2 Connector panels are used to provide interconnection between the distribution and drop cables. The EDC accommodates up to twelve LANscape® connector panels. Some connector panels come with icons. Colored icons are available with different symbols to be used as a quick visual reference of the data type at each connector location. Panels and connector panel icons are ordered separately.

2.3 The EDC will hold up to twelve Type 2S or six Type 4S splice trays (ordered separately). The unit will also accept six UST-024 splice trays.

2.4 The unit can be field connectorized using buffer tube fan-out (BTF) kits which are ordered separately.

2.5 The EDC comes with brackets to mount the unit to a wall or a standard utility pole. The unit may be rack mounted with an optional rack-mount kit.

2.6 The unit may be pad-locked with a user-supplied padlock after installation of the provided quick-release latch kit.

2.7 Factory stubbed units are available with a preconnectorized length of fiber optic cable installed and strain-relieved inside the unit.

3. Precautions

3.1 Laser Handling Precautions

WARNING: ***Never look directly into the end of a fiber that may be carrying laser light.*** *Laser light may be invisible and can damage your eyes. Viewing it directly does not cause pain. The iris of the eye will not close involuntarily as when viewing a bright light. Consequently, serious damage to the retina of the eye is possible. Should accidental eye exposure to laser light be suspected, arrange for an eye examination immediately.*

WARNING: *DO NOT use magnifiers in the presence of laser radiation. Diffused laser light can cause eye damage if focused with optical instruments. Should accidental eye exposure be suspected, arrange for an eye exam immediately.*

3.2 Safety Precautions

CAUTION: *The wearing of safety glasses to protect the eyes from accidental injury is strongly recommended when handling chemicals and cutting fiber. Pieces of glass fiber are very sharp and can damage the cornea easily.*

CAUTION: *The wearing of safety gloves to protect hands from accidental injury is strongly recommended when using sharp instruments.*

CAUTION: *Isopropyl alcohol is flammable with a flashpoint at 50°F. It can cause irritation to eyes on contact. In case of eye contact, flush eyes with water for at least 15 minutes. Inhaling fumes may induce mild narcosis. In case of ingestion, consult a physician.*

CAUTION: *The filling compound remover used to clean loose-tube cable contains petroleum distillates which are harmful or fatal if swallowed. DO NOT induce vomiting. Call physician immediately.*

3.3 Glass Fiber Precautions

WARNING: *Cleaved glass fibers are very sharp and can pierce the skin easily. Do not let cut pieces of fiber stick to your clothing or drop in the work area where they can cause injury later. Use tweezers to pick up cut or broken pieces of the glass fibers and place them on a loop of tape kept for that purpose alone.* ***Good housekeeping is very important.***

3.4 Cable Handling Precautions

NOTE: *Fiber optic cable is sensitive to excessive pulling, bending and crushing forces. Consult the cable specification sheet for the cable you are installing.* ***Do not bend cable more sharply than the minimum recommended bend radius. Do not apply more pulling force to the cable than specified. Do not crush the cable or allow it to kink.*** *Doing so may cause damage that can alter the transmission characteristics of the cable — the cable may have to be replaced.*

3.5 Installer Precautions

WARNING: *Do not install this unit or work with telephone wiring during a lightning storm. Telephone lines can carry high voltages from lightning causing electrical shock resulting in severe injury or death.*

4. Tools and Materials

In addition to the usual complement of installation tools, the following are required for this installation:

- Slotted and Phillips-head screwdrivers
- Tape measure
- Pliers
- 8-mm ($^5/_{16}$-inch) open or box wrench
- Utility pole or wall mounting hardware (as required by your installation)
- Two cable entry port fittings (ordered separately) and sealant (if required)

5. Components

5.1 Components are illustrated in Figure 2. The back plate is the dark metal plate that holds the components inside the enclosure. It is secured by four screws.

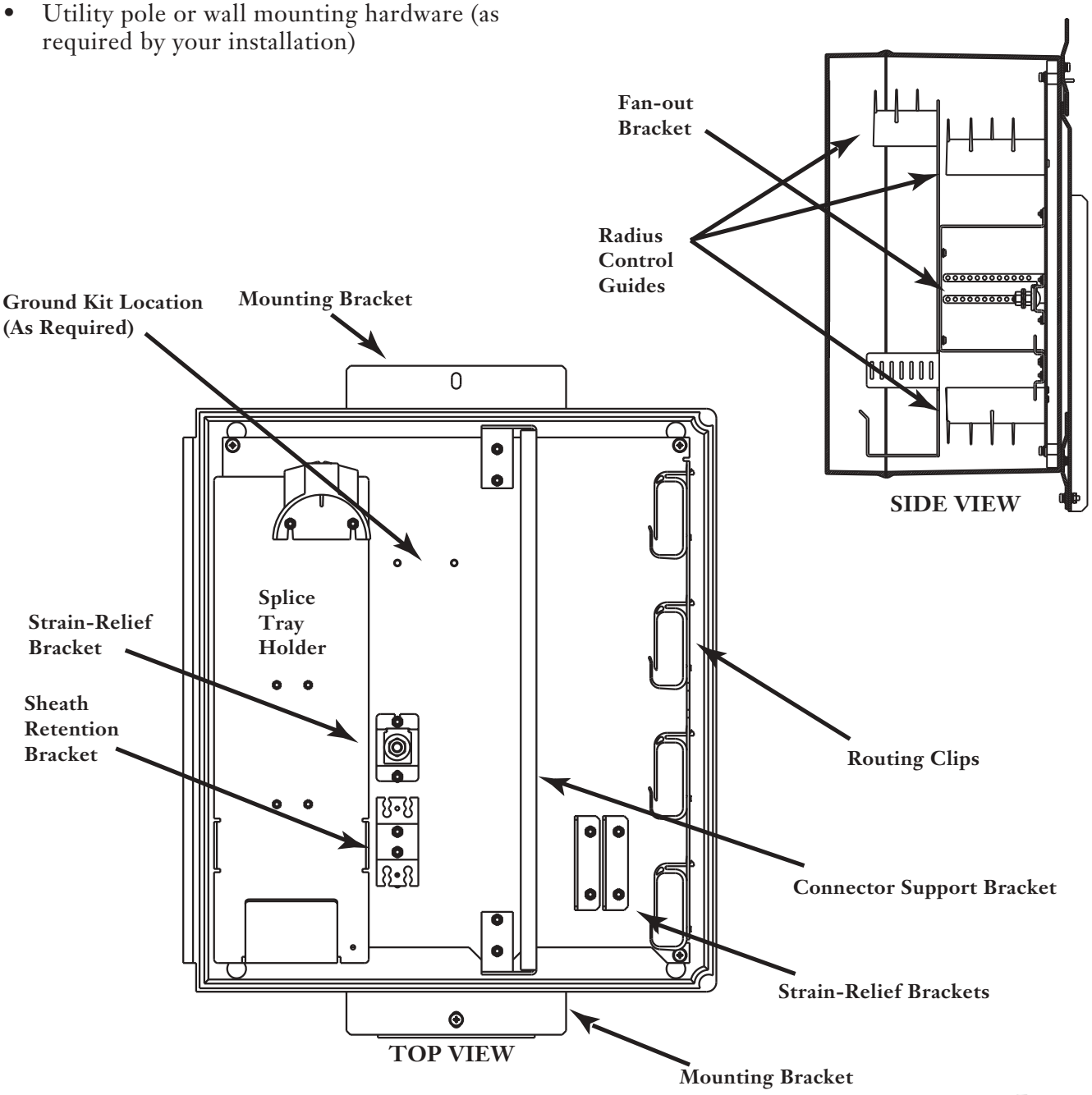


Figure 2

5.2 An installation kit is provided that includes cable ties, central member strain-relief hardware, a sheath retention kit and a quick-release latch kit.

6. Unpacking Stubbed Units

Follow the directions in Corning Cable Systems SRP 003-310, provided with the shipping container, to remove the stubbed unit from its packaging.

7. Installing Holes

IMPORTANT: *Remove the base plate from the housing before cutting any holes.*

7.1 Determine the size hole needed based on the fitting being used. Measure and mark the location of the hole centers, based on dimensions in Figure 3, on the bottom of the unit. The 2-inch conduit holes are represented by the larger circles and the 1-inch conduit holes by the smaller circles.

7.2 Cut holes as required for your coupling fitting. Follow local safety practices.

7.3 Install the fittings (purchased separately). Fitting kits are available in three types, dependant on the type of fitting desired for your application.

7.4 Reinstall the base plate.

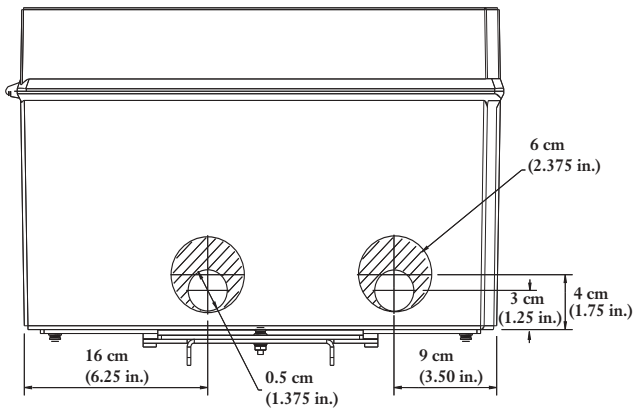


Figure 3

8. Mounting

NOTE: *If you will be mounting the EDC without the stabilizer bracket, remove and discard the external EDC brackets. Position the housing as desired and secure using 1/4-inch screws in the top and bottom brackets.*

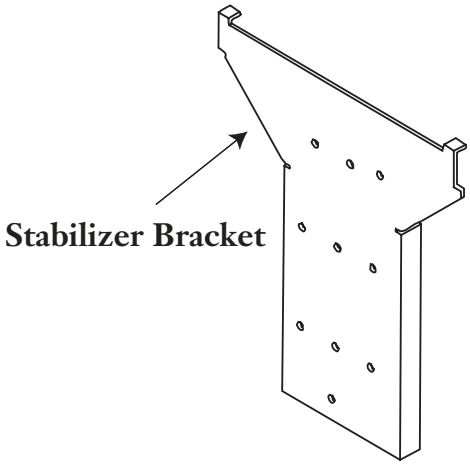


Figure 4

8.1 When wall-mounting is desired, select a vertical surface.

a) Remove the stabilizer bracket (Figure 4).

b) Drive 1/4-inch screws or wall anchors through the stabilizer bracket and into the mounting surface. *Do not install a screw in the bottom hole of the stabilizer bracket at this time.*

c) Hang the unit on the stabilizer bracket, ensuring that the top mounting bracket is resting between the two tabs on the stabilizer bracket (Figure 5).

d) Align the elliptical hole in the bottom mounting bracket and the bottom hole in the stabilizer bracket and install a 1/4-inch screw through it and the mounting surface.

e) Mounting hardware is not provided.

8.2 When the EDC will be mounted onto a utility pole:

a) Secure the stabilizer bracket to the pole using 1/4-inch screws. *Do not install a screw into the bottom bracket at this time.*

b) Hang the EDC on the stabilizer bracket, ensuring that the top mounting bracket is resting between the two tabs on the stabilizer bracket.

c) Line up the elliptical hole in the bottom mounting bracket with the bottom hole in the stabilizer bracket and drive a 1/4-inch screw through the brackets and into the utility pole.

d) Mounting hardware is not provided.

8.3 In order to rack-mount the unit, a universal rack-mount kit is required (ordered separately). Remove the stabilizer bracket and follow instructions supplied with the rack-mount kit.

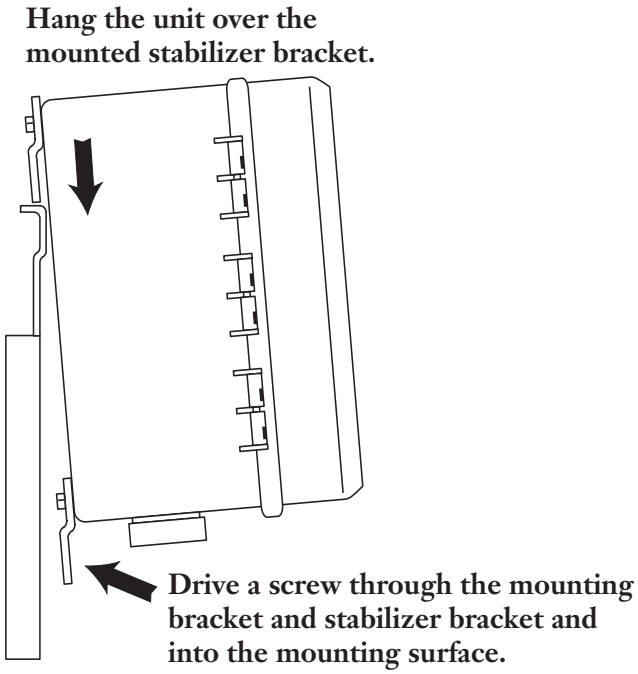


Figure 5

9. Preparing the Cable

9.1 Remove the splice tray holder to make cable installation easier (Figure 6). Route the incoming distribution (feeder) cable through the fitting on the left at the base of the unit.

9.2 Perform cable sheath removal steps per instructions for the type of cable being installed. Cut the cable to 5 meters (15 feet) inside the unit.

NOTE: *Do not expose the bare fiber until you are ready to terminate it.*

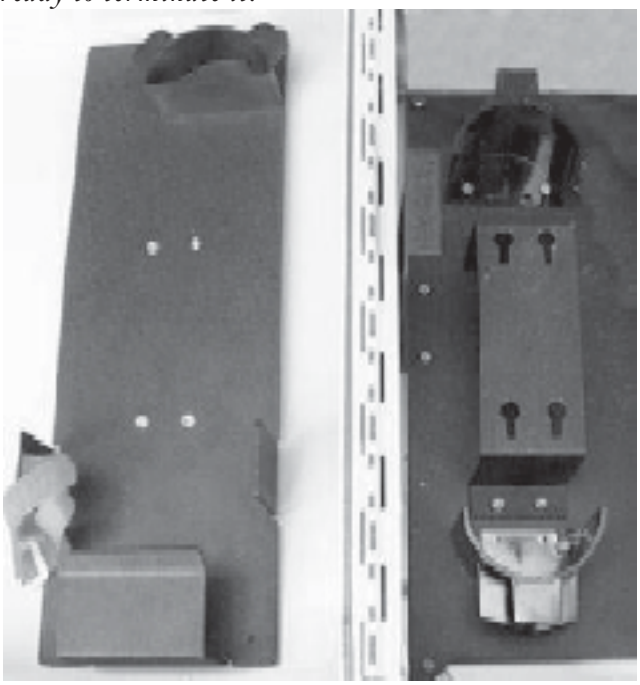
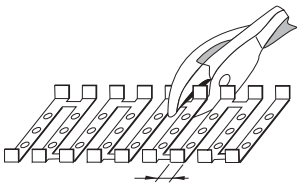


Figure 6

9.3 Install a sheath retention clamp onto the cable sheath as illustrated in Figure 7. If an armored cable is used, install the ground clamp before installing the sheath retention clamp.

1) Wrap a section of clamp material around the cable to determine the length needed for one full wrap.
2) Use side cutters to cut the clamp material so that it ends up one section shorter than this length.



3) Place the cut length of clamp material 5 cm (2 inch) from the end of the cable sheath.
4) Install a hose clamp over it, covering as many holes as possible. Hand tighten with a slotted screwdriver or a 5/16-inch driver.
5) Wrap the sheath retention assembly with vinyl tape. (Shown without vinyl tape for clarity)

Armored cable requires a ground clamp.

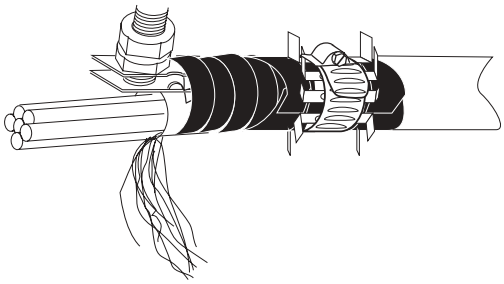
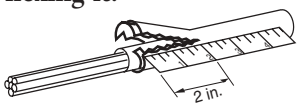


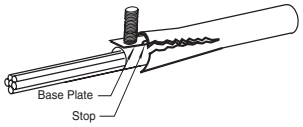
Figure 7

9.4 Armored cable (metallic cable sheath) should be grounded using a ground clamp (Figure 8).

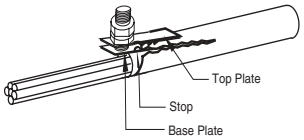
Cut a slit into opposite sides of the outer sheath and armor about 5 cm (2 inches). To do this, score the armor with a cable knife (being careful not to damage the inner sheath) and split the sheath by flexing it.



Position the grounding clamp base plate under the armor. The stops of the clamp should just touch the outside of the armor and sheath. Tap the sheath above the ground clamp base to set the teeth.



Position the top plate and lock nut on the outer sheath over the base plate. Tighten with a 10 mm (3/8 inch) wrench so that the teeth on the upper plate are driven into the sheath. Tighten the assembly with a 10 mm (3/8 inch) wrench.



Wrap the grounding connector and split portion of the sheath with a few wraps of vinyl tape.

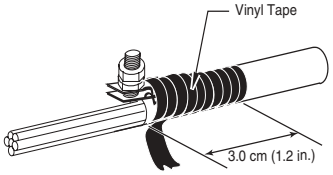


Figure 8

9.5 Secure the cable to the sheath retention bracket using cable ties. Make sure the tabs on the clamp material are in the recessed section of the bracket (Figure 9).

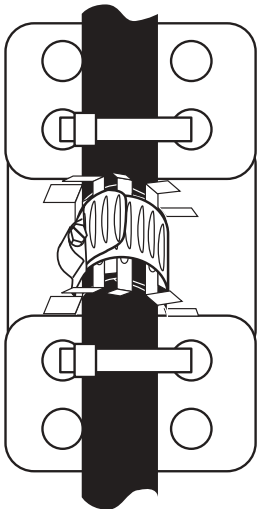


Figure 9

9.6 When central member strain-relief is required, the central member bolt must be installed into the strain-relief bracket as shown (Figure 10).

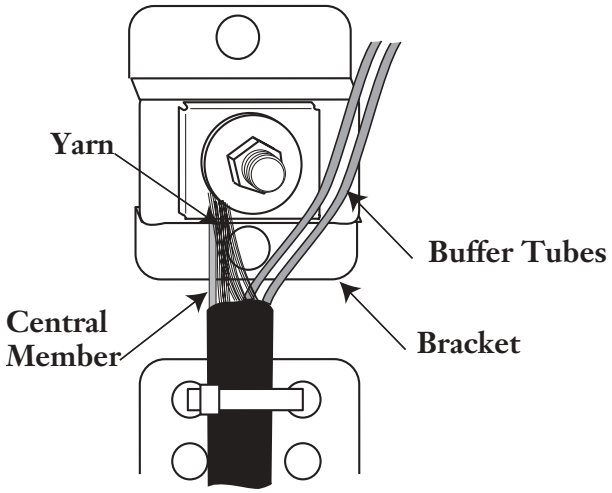
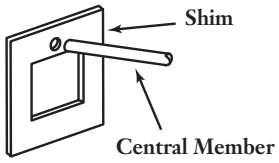


Figure 10

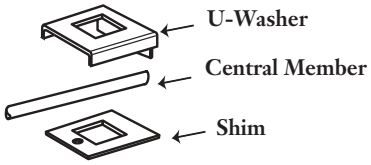
NOTE: *Smaller diameter central members require a shim to make sure they are adequately secured in the central member clamp. Use a central member clamp shim when necessary (Figure 11).*

Insert the central member into the hole in the shim.

If the central member passes through the hole, the shim is required to secure the central member.



Position the shim between the U-shaped washer and the bracket.



If the central member does not fit in the hole, discard the shim.

Figure 11

a) Remove the top nut and the two washers from the bracket.

b) Loosen the remaining nut.

c) Insert the central member of the cable between the bracket and the U-shaped washer.

d) Arrange the buffer tubes to ensure clearance around the central member clamp assembly and hardware.

e) Tighten the hex nut.

f) Install the two flat washers.

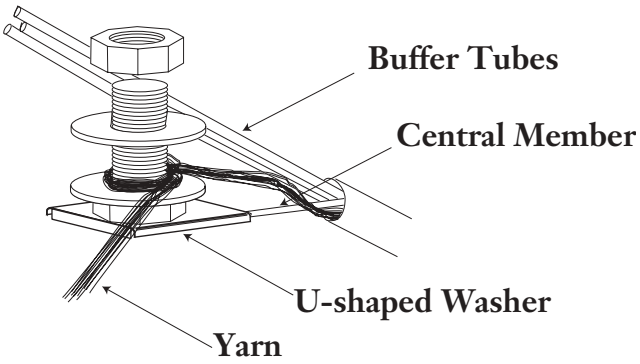
g) Loosely install the other hex nut.

h) Wrap the strength member yarn in a clockwise direction around the bolt and between the flat washers.

i) Tighten the second hex nut.

j) Trim off the excess yarn and central member.

NOTE: *The exposed length of the central member (after strain-relief) is to be less than or equal to 6.5 cm (2 1/2 inches) between the U-shaped washer and the end of the cable sheath (Figure 12).*



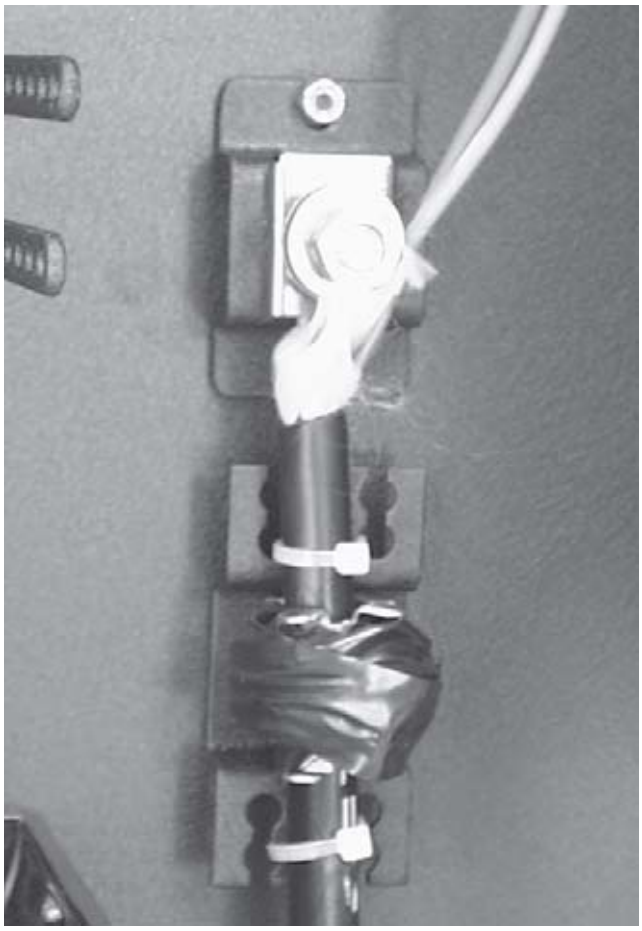


Figure 12

9.7 When cable grounding is necessary, order the hardware ground kit (purchased separately). Install the ground kit as shown in Figure 13.

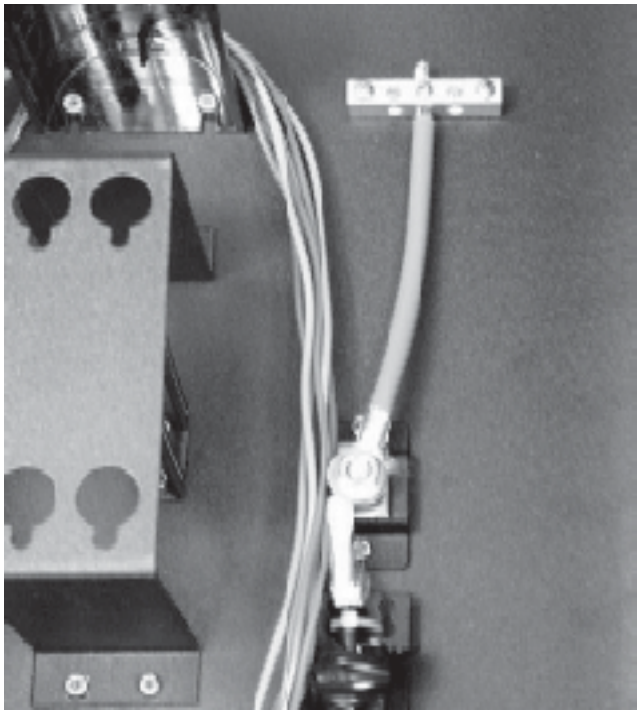


Figure 13

10. Connector Panels

10.1 LANscape® connector panels (Figure 14) are generally sold separately with connector adapters installed.

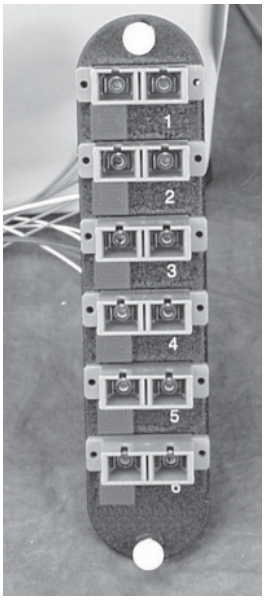


Figure 14

10.2 If fibers are not already connectorized, install connectors onto the fibers using pigtail splicing or direct connectorization per manufacturer's instructions.

10.3 Panels can be ordered with a specific length of preconnectorized pigtail cable installed. Pigtails are fiber optic cables with connectors on one end that are installed into connector panels (Figure 15). The other end of the pigtail is terminated in a splice tray.

10.4 Install connectors into the appropriate panels.

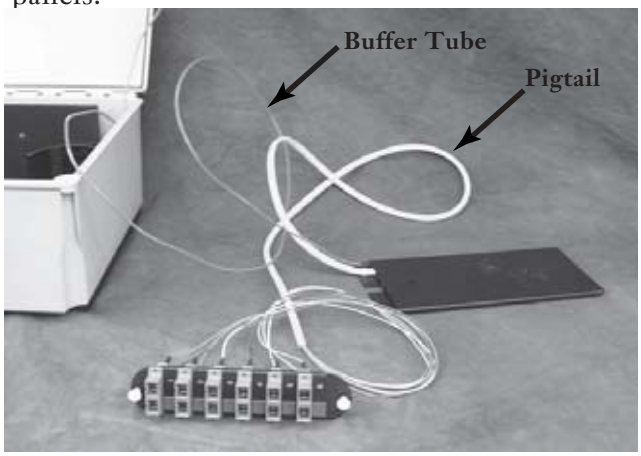


Figure 15

CAUTION: *The connector is a delicate device. Obey the following precautions. Damage to the surface of the connector will make it unusable:*

a) Use a clean tissue soaked in alcohol to gently clean the connector. Do not press heavily on it as you clean.

b) Dry the connector prior to installation with compressed air or a dry tissue.

c) Clean all areas that will contact the connector adapter.

d) Do not force the connector into the receptacle. If the connector does not fit easily into the receptacle, back it out and reinstall.

e) Install threaded connectors into the adapter and tighten. Do not OVERTIGHTEN. Do not allow the connector body (ferrule) to turn as you screw it into place. This causes the surfaces to grind against each other.

10.5 Remove the blank panels from the unit. Install the connector panels into the connector support bracket (Figure 16).

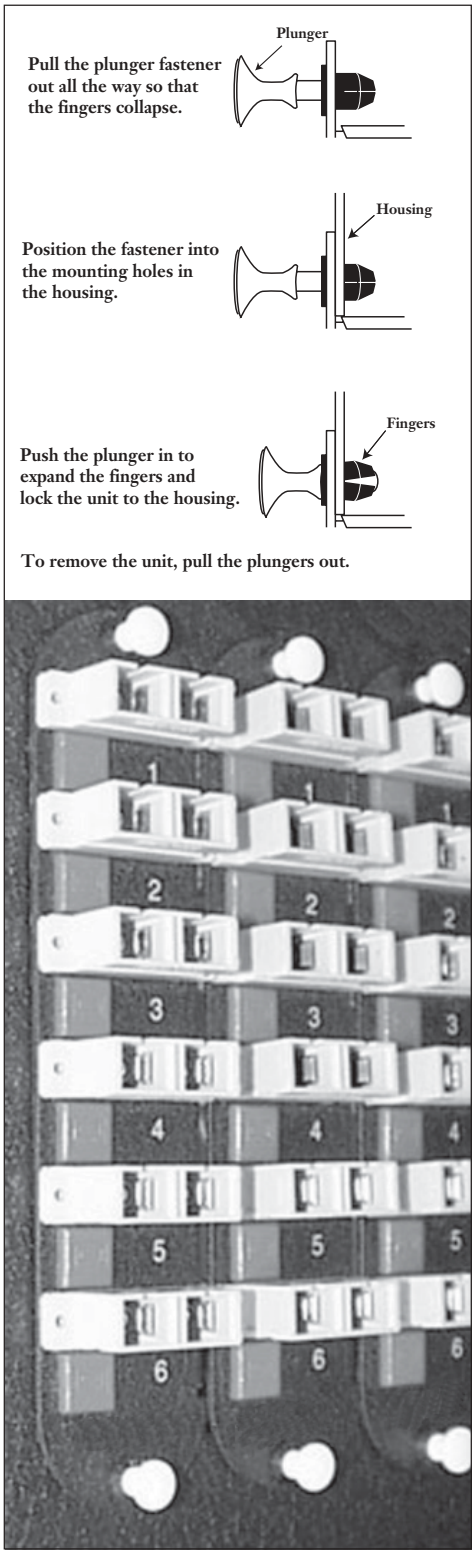


Figure 16

11. Splicing

11.1 The unterminated ends of pigtails are spliced to buffered fibers in a splice tray (Figure 14). Work on one splice tray at a time. Follow the instructions provided with the splice trays.

a) Route three complete loops of fiber in a counterclockwise direction around the radius guides. The radius guides are designed with sections. Begin routing from the bottom section and work your way up with each loop in a different section.

b) Reinstall the splice tray holder and install one of the trays you will be using.

c) Place ALL the buffer tubes where they will lie after installation and mark the cable where it will enter the splice tray 2 cm ($^3/_4$-inch) past the corner of the tray (Figure 17). (This is where the buffer tube will be removed.)

d) Refer to the instructions provided with the splice trays to determine the appropriate length of fiber required in the tray. Measure from the first mark towards the end of the cable and mark the cable. (This is the fiber that will be routed inside the splice tray.)

e) Trim the excess buffer tube beyond the second mark.

f) Remove the splice tray and the coiled buffer tubes.

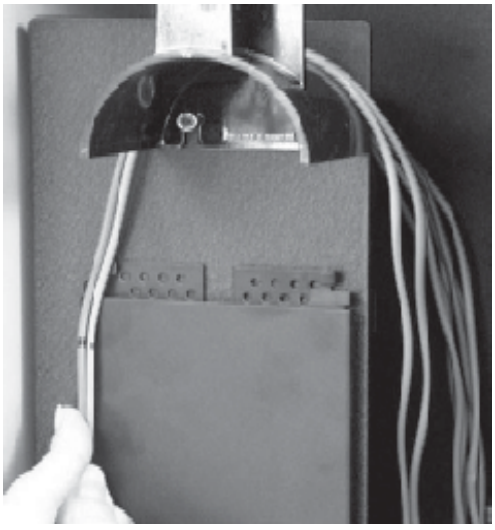


Figure 17

g) Strip the buffer tube from the fibers from the mark you made in the previous step c. Clean the fibers that will be inside the tray according to the cable manufacturer's instructions.

11.2 Prepare the pigtail fiber the same way for splicing.

11.3 Bring both pigtails and buffered fibers to a convenient splicing area - one pair at a time. Secure these fibers to the same corner of the splice tray using a cable tie (Figure 18). **Do Not tighten the cable tie too tightly.**

Figure 18

IMPORTANT: *When securing 900µm fiber to the splice tray, 1.5 inches of vinyl tape around the sheath as protection for the 900 µm fiber is recommended. Feed a cable tie through the strain-relief holes in the corner of the tray. Carefully tighten the cable tie around the tape wrapped portion of the fibers to secure the fibers to the tray.*

11.4 Splice fibers as described in instructions for the splicing method you are using.

11.5 As you complete a splice, label the connector end of the pigtail with its port identifier. Record information appropriately on the record label inside the front door (Figure 19).

11.6 Repeat for all required splice trays.

NOTE: *Accurate record keeping is imperative for an organized installation.*

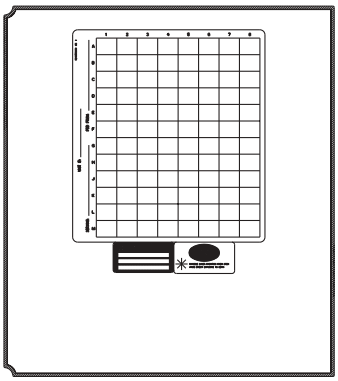


Figure 19

11.7 Once all splicing is complete:

a) Place the trays inside the splice tray holder. Secure the trays using the hook and loop strap as shown.

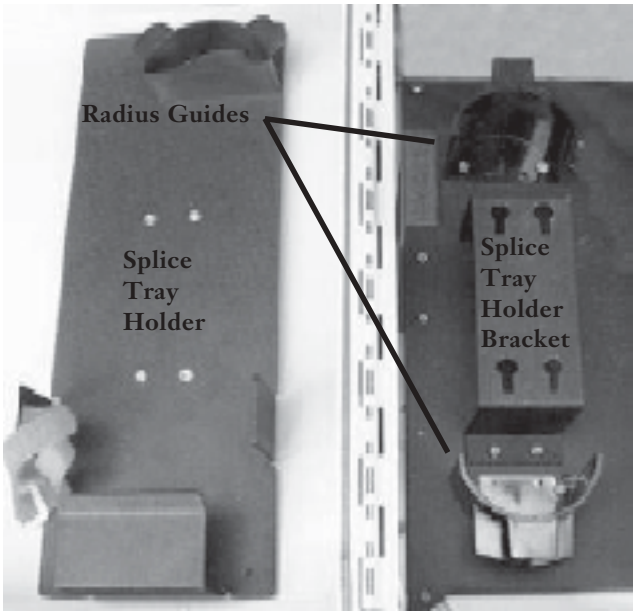


Figure 20

b) Route all buffer tubes (beginning at the cable sheath opening) and pigtails (starting at the connector panels) counterclockwise around the radius guides (Figure 20). Route the first loop in the bottom section of the radius guides and each successive loop in the section above the previous loop.

c) At the third loop, reinstall the splice tray holder and trays (Figure 21).

NOTE: *Cable ties can be used to loosely group and organize the coils of buffer tubes and pigtail assemblies.*

12. Installing Fan-outs

12.1 Fiber optic cable can be installed using BTF kits.

12.2 Slide the splice tray holder towards the top of the housing and remove it. Remove the splice tray holder bracket also (Figure 20).

12.3 Route the buffer tubes around the radius guides three times in a counterclockwise direction. Mark the location of the mounting bracket on the buffer tubes as shown in Figure 22 to determine the length required.

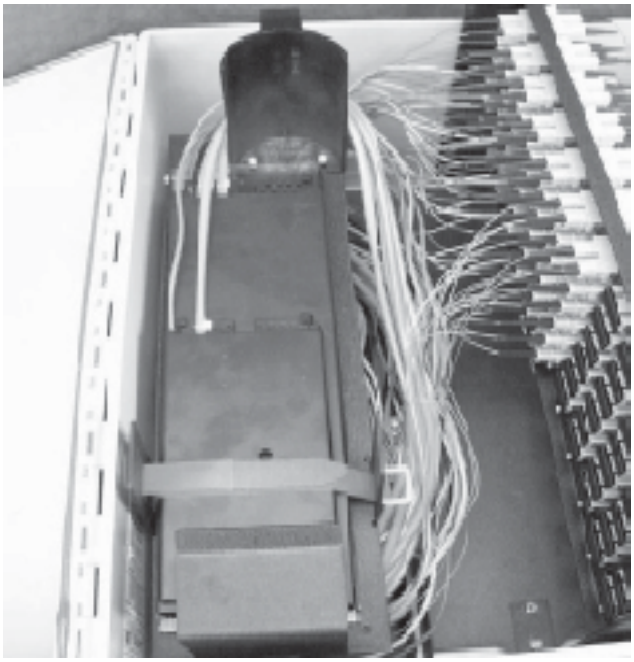


Figure 21

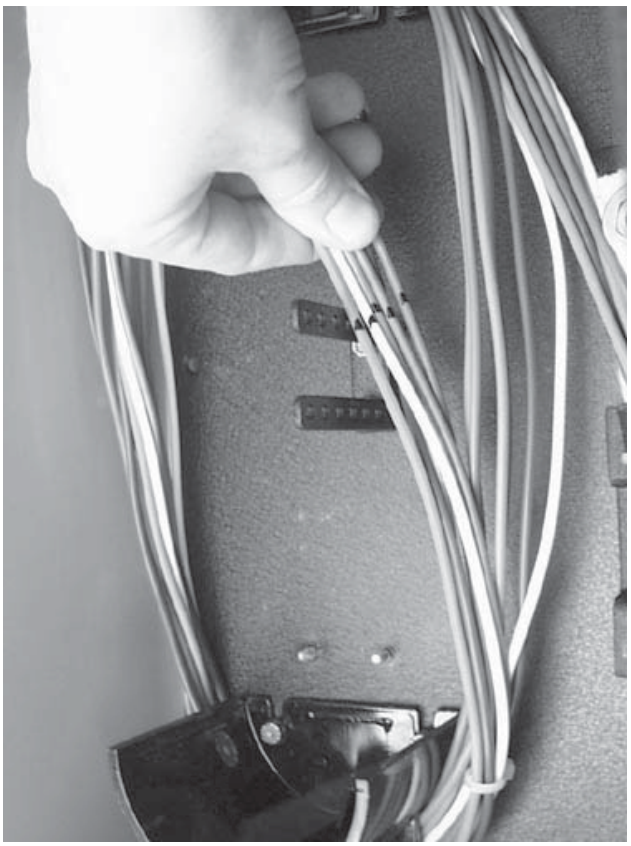


Figure 22`

12.4 Install fan-out assemblies according to the instructions provided with the BTF kits.

12.5 Route the buffer tubes around the radius guides and secure the fan-out asssemblies to the fan-out bracket beneath the splice tray holder mounting bracket as shown using a cable tie (Figure 23).

12.6 Route the fiber in the fan-out tubing around guides and plug connectors into the connector panel (Figure 23). Refer to the previous connector care instructions to avoid damaging the connectors during installation.

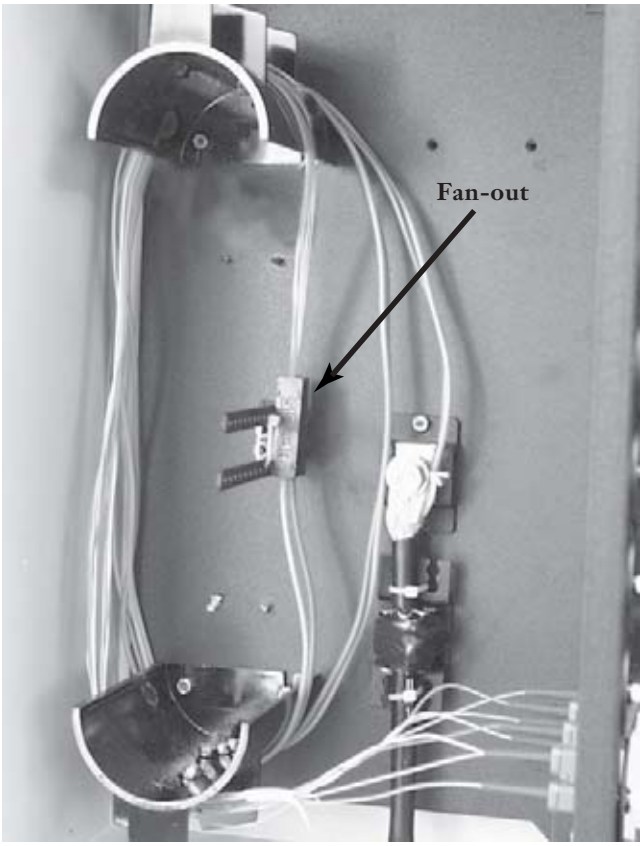


Figure 23

12.7 Label the connector end of the pigtail with its port identifier. Record information appropriately on the record label inside the front door (Figure 19).

NOTE: *Accurate record keeping is imperative for an organized installation.*

13. Installing Drop Cable

13.1 The EDC is designed to accept up to six drop cables. Feed the drop cable through the fitting you installed on the right at the base of the closure.

NOTE: *Drop cable subunit lengths should be approximately 130 cm (51 inches) in length in order to provide two loops of fiber slack around the radius guides.*

13.2 If the drop cables do not include central members, secure the cables to the bracket using loosely tightened cable ties. When central member strain-relief is necessary, remove the drop cable strain-relief bracket and secure the cable to the bracket using a cable tie as shown (Figure 24).

a) Install the 8-32x$^{5}/_{8}$ bolt from the front side of the strain-relief bracket through the flat washer and U-shaped washer. Loosely install the hex nut.

b) From the front side of the strain-relief bracket, wrap the strength member yarn in a clockwise direction around the bolt and under the U-shaped washer (Figure 24).

c) Insert the central member of the cable between the flat washer and the U-shaped washer (Figure 24).

d) Tighten the hex nut.

e) If the central member is metallic, place the eye of a ground wire (#6 AWG, purchased separately in appropriate length from any electrical supply store) under the U-shaped washer or under the flat washer.

f) Trim off the excess yarn and central member.

g) Reinstall the strain-relief bracket.

NOTE: *The exposed length of the central member (after strain-relief) is to be less than or equal to 6.5 cm (2 $^{1}/_{2}$ inches) between the U-shaped washer and the end of the cable sheath.*

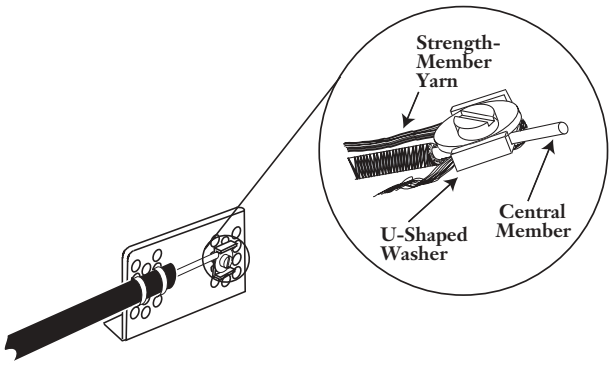


Figure 24

13.3 Route cable through the guides as shown in Figure 25 and plug in connectors. Refer to the connector installation instructions in Section 11 and the fiber precautions in Section 3 to avoid damaging the cable during installation.

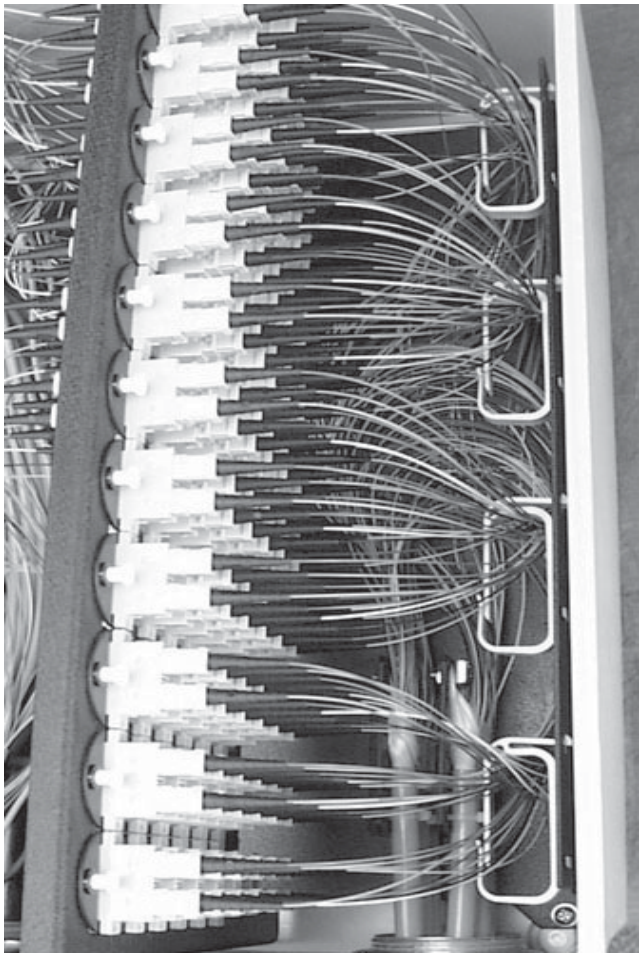


Figure 25

14. Maintenance

The unit requires very little maintenance to make sure fibers and parts remain in good condition.

Loose Parts: Check nuts, bolts and screws for looseness and tighten.

Moisture: Check the housing for accumulated moisture and place moisture absorbent packets as needed.

Fiber Bends: Check fiber optic cable to make sure bends do not exceed the minimum bend radius. Check cable for unnecessary strain. Check cable entries and exits for crimping or crushing.

Documentation: Check record label to make sure it is clear and accurate.

15. Specifications

The unit weighs 10 kg (22 lb)

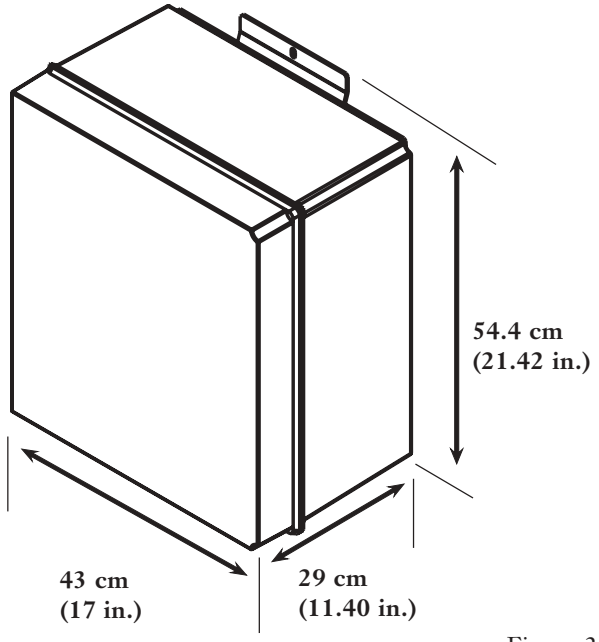


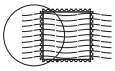
Figure 26

Customer Service and Information

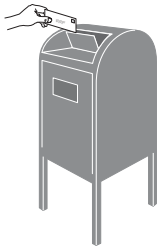
Telephone: ———————————————————————————————

Customer Service—US or Canada: 1-800-743-2671
International: +1-828-901-5000
Fax: +1-828-325-5060

Correspondence: ———————————————————————————

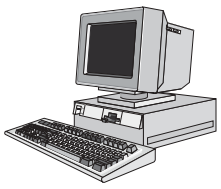


Corning Cable Systems LLC
PO Box 489
Hickory, NC 28603-0489 USA



Product Information: ———————————————————————

http://www.corning.com/cablesystems



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p/n 003-526 / July 2004