CORNING

Discovering Beyond Imagination

Corning Cable Systems
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Metal Splice Trays

Standard Length Metal Splice Tray

Reduced Length Metal Splice Tray

Figure 1

Table of Contents

1.   Description

1.1   This document describes the installation of optical fiber into a typical metal splice tray manufactured by Corning Cable Systems Corporation (Figure 1).

1.2   This document should be used in conjunction with any other instructions received with the cables, splicing components, and hardware being used.

1.3   This document is being reissued to include updated corporate information.

2.   Precautions

⚠ WARNING: *Never look directly into the end of a fiber that may be carrying laser light. Laser light may be invisible. Laser light 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 to laser light be suspected, arrange for an eye examination immediately.*

⚠ 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**.

CAUTION: Wear safety glasses to protect your eyes from accidental injury when handling chemicals and cutting fiber. Pieces of glass fiber are very sharp and can damage the cornea easily.

*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.   Tools And Materials

In addition to the standard tools and materials required for sheath removal and splicing, a cable crimping tool is needed to anchor buffer tubes under splice tray crimping tabs.

4.   Stripping Fiber

Remove cable sheath as described in the instructions for the cable you are installing. Strip buffer tube to expose enough bare fiber for the application. See Figure 2 for recommended lengths. Fiber stripping details can be found in splicing documentation.

Tray Type (Length)	Strip Length
Standard Length Tray (> 11.0")	62"
Reduced Length Tray (< 9.0")	50"

Figure 2

5.   Routing Fiber

Figure 3 shows the recommended fiber routing for various splice tray configurations. Make sure this routing is compatible with the closure or housing being used before proceeding.
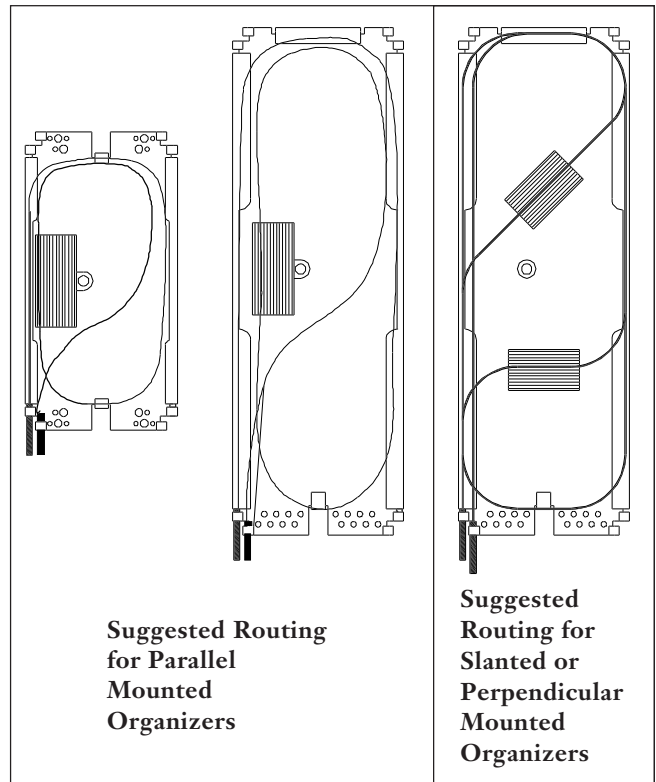
Suggested Routing for Parallel Mounted Organizers

Suggested Routing for Slanted or Perpendicular Mounted Organizers

Figure 3

6.   Securing Loose Tube Cable

6.1   To secure buffer tubes to the tray, first adjust the crimping tool. Adjust the stop screw so the jaws of the tool are equal to the outer diameter of the buffer tube (Figure 4). Tighten the lock nut.
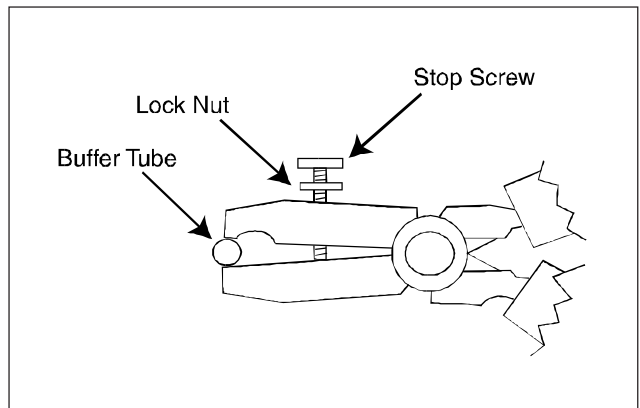
Figure 4

6.2   Select the crimping tab to be used for securing the first buffer tube (Figure 3). Always use the inner tab first (Figure 5).
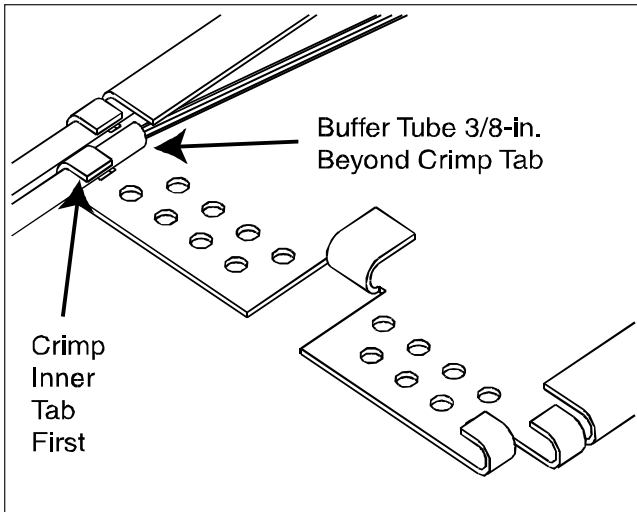

Figure 5

6.3   Crimp the buffer tube under the tab using crimping pliers. Buffer tubes should extend about 1 cm ($^3/_8$ in.) beyond the tab.

6.4   Crimp the remaining buffer tubes.

7.   Securing Tight Buffered Cable

7.1   Tight buffered fibers are generally secured with cable ties threaded through holes in the tray (Figure 6). Position cable tie buckles inside the tray and to one side of the cable bundle to avoid interference with the cover.
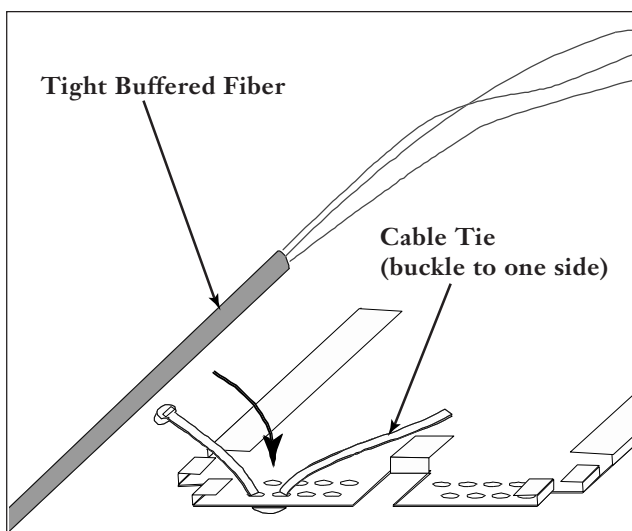

Figure 6

7.2   Multiple buffers may be secured under a single cable tie. Make sure cable ties do not interfere with cover installation or the stacking of trays.

8.   Securing Ribbon Fibers

8.1   Ribbon fibers are generally placed in a piece of slit grommet and secured with a cable tie threaded through holes in the tray (Figure 7). Position the cable tie buckles inside the tray and to one side of the slit grommets to avoid interference with the cover.
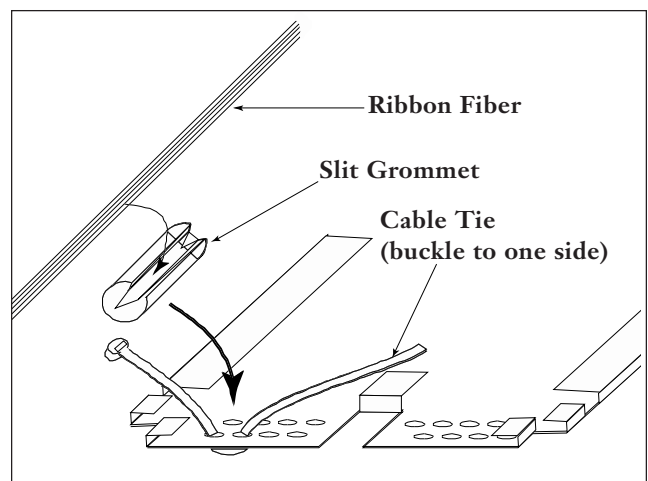

Figure 7

8.2   Up to four ribbons can be secured inside a single piece of grommet.

9.   Splicing Fibers

9.1   Place the tray as close to the splicing equipment as possible.

9.2   Route all fibers into the tray as described in Section 5. Make the largest circles possible to avoid attenuation from tight bends. Trim fibers as required.

9.3   Remove just enough fiber to reach the splicing equipment and splice per manufacturer's instructions. Do not remove the entire length of fiber from the tray or twist fibers as they are removed.

9.4   Coil fibers back into the tray and place the completed splice into the proper organizer. Check fiber bend radii inside the tray.

10. Using Step Slot Splice Organizer

10.1 If the splice tray utilizes a step slot splice organizer (Figure 8), load the organizer using the following procedure.

10.2 The step slot splice organizer is designed to accommodate 250 µm and 900 µm fibers. Figure 8 illustrates both fiber sizes. Note the 250 µm fibers lie in the lower grooves of the organizer.
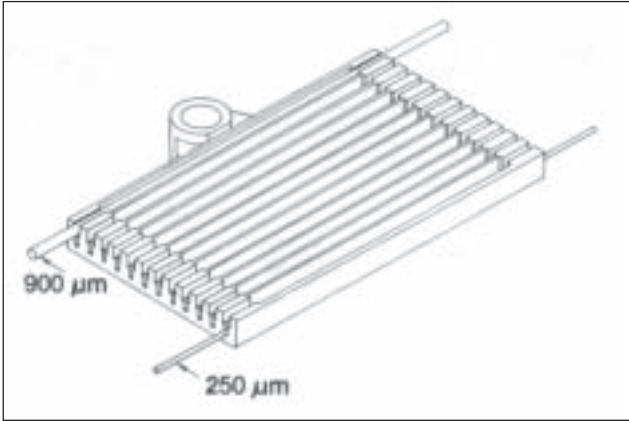
Figure 8

10.3 When the organizer is filled or all the fiber pairs are spliced, fill the organizer grooves with RTV silicone compound. Be sure to fill only the grooves with fibers in them. DO NOT OVERFILL (Figure 9).
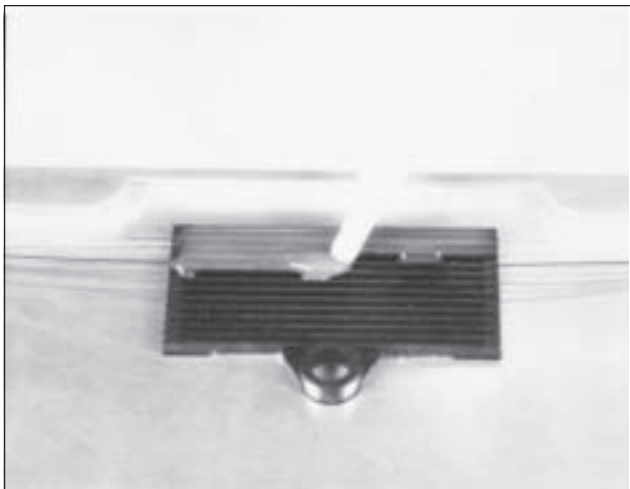
10.4 Cut a piece of waxed paper (a piece of B-sealing tape backing for instance) to approximately the size of the splice organizer and place it on top of the organizer. This will keep the splice tray cover from becoming glued to the organizer.

11. Cover Installation

11.1 Make sure all fibers are below the fiber retaining tabs and snap the cover into place (Figure 10).

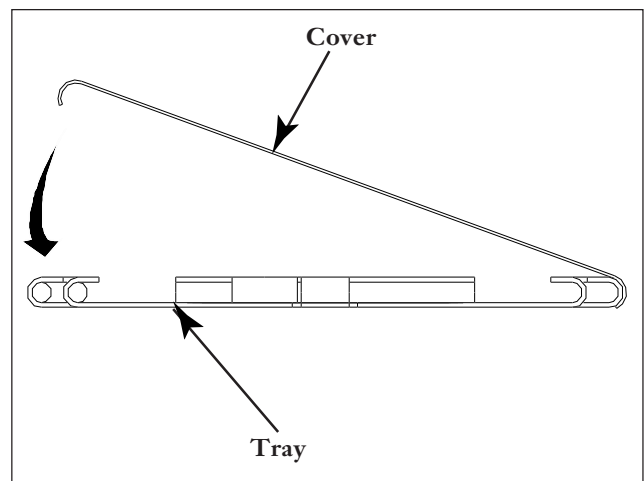**11.2** If there is a hole in the cover, align it with the hole in the tray.

Figure 10

Figure 9