

## 1. Precautions

### 1.1 Laser Handling Precautions



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

### 1.2 Safety Precautions



**CAUTION:** Recommend the use of safety glasses (spectacles) conforming to ANSI Z87, for eye protection from accidental injury when handling chemicals, cables, or working with fiber. Pieces of glass fiber are very sharp and have the potential to damage the eye.



**CAUTION:** The wearing of cut-resistant safety gloves to protect your hands from accidental injury when using sharp-bladed tools and armored cable is strongly recommended. Use extreme care when working with severed armor. There will be a sharp edge where armor is cut. To minimize the chance of injury from the cut armor, cover the exposed edge with a wrap of electrical tape. To minimize the chance of injury from sharp-bladed tools, always cut away from yourself and others. Dispose of used blades and armor scrap properly.



**CAUTION:** Isopropyl alcohol is flammable with a flashpoint at 54°F. It can cause irritation to eyes on contact. In case of contact, flush eyes with water for at least 15 minutes. Inhaling fumes may cause mild dizziness. In case of ingestion, consult a physician.

### 1.3 Glass Fiber Precautions



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

## 1.4 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 the 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.

## 1.5 Lifting Precautions



**CAUTION:** The Universal Optical Splice Enclosures weight between 75 and 90 pounds. Two people are required to move or lift them into position.

## 2. Accessories

**IMPORTANT:** For easier installation of optional kits that change the configuration of the unit (such as top and bottom entry plates or a locking latch), install the kits prior to mounting the unit. Refer to the instruction provided with the kit for details on installation.

- Cable entry hardware kits

Part Number	Cable Diameter Range	Color Code	Recommended Hole Size
OSE-CBL-34	0.375 to 0.500 in (9.5 to 12.7 mm)	Blue	1.375 in (35 mm)
OSE-CBL-35	0.500 to 0.625 in (12.7 to 15.9 mm)	Brown	1.375 in (35 mm)
OSE-CBL-36	0.625 to 0.750 in (15.9 to 19.0 mm)	Yellow	1.375 in (35 mm)
OSE-CBL-37	0.750 to 0.875 in (19.0 to 22.2 mm)	Purple	1.375 in (35 mm)
OSE-CBL-38	0.875 to 1.000 in (22.2 to 25.4 mm)	Gray	1.375 in (35 mm)
OSE-CBL-39	1.00 to 1.125 in (25.4 to 28.7 mm)	N/A	1.750 in (44.5 mm)
OSE-CBL-40	1.250 to 1.375 in (31.7 to 34.9 mm)	White	2.000 in (50.8 mm)
OSE-CBL-41	1.380 to 1.500 in (35.1 to 38.1 mm)	Metal	2.000 in (50.8 mm)

**Table 1:** Cable Entry Kit Part Numbers

OR

The following cable entry kits contain multiple grommets in each kit to support a multiple range of cable diameters. Additional hardware for central member strain-relief and cable grounding is not included in these kits.

- p/n A0402798 ¾-inch fitting Cable diameter range : 0.187 - 0.812 inch
- p/n A0402799 1-inch fitting Cable diameter range : 0.437 - 1.000 inch
- Mid-span entry kits (p/n OSE-LD-MSPN-KIT and OSE-HD-MSPN-KIT)
- Splice Trays: contact your customer service representative to order appropriate splice trays for the cable being installed.
- An optional work shelf kit (p/n OSE-LD-HD-WS-KIT) is available ordered separately.
- An optional lock kit (p/n OSE-LD-HD-LOCK-KIT) is available ordered separately.
- An optional T-slot mounting kit (p/n OSE-LD-HD-TSLT-KIT) is available ordered separately.

### 3. Components

Figure 1 shows the components of the Universal Optical Splice Enclosure (OSE).

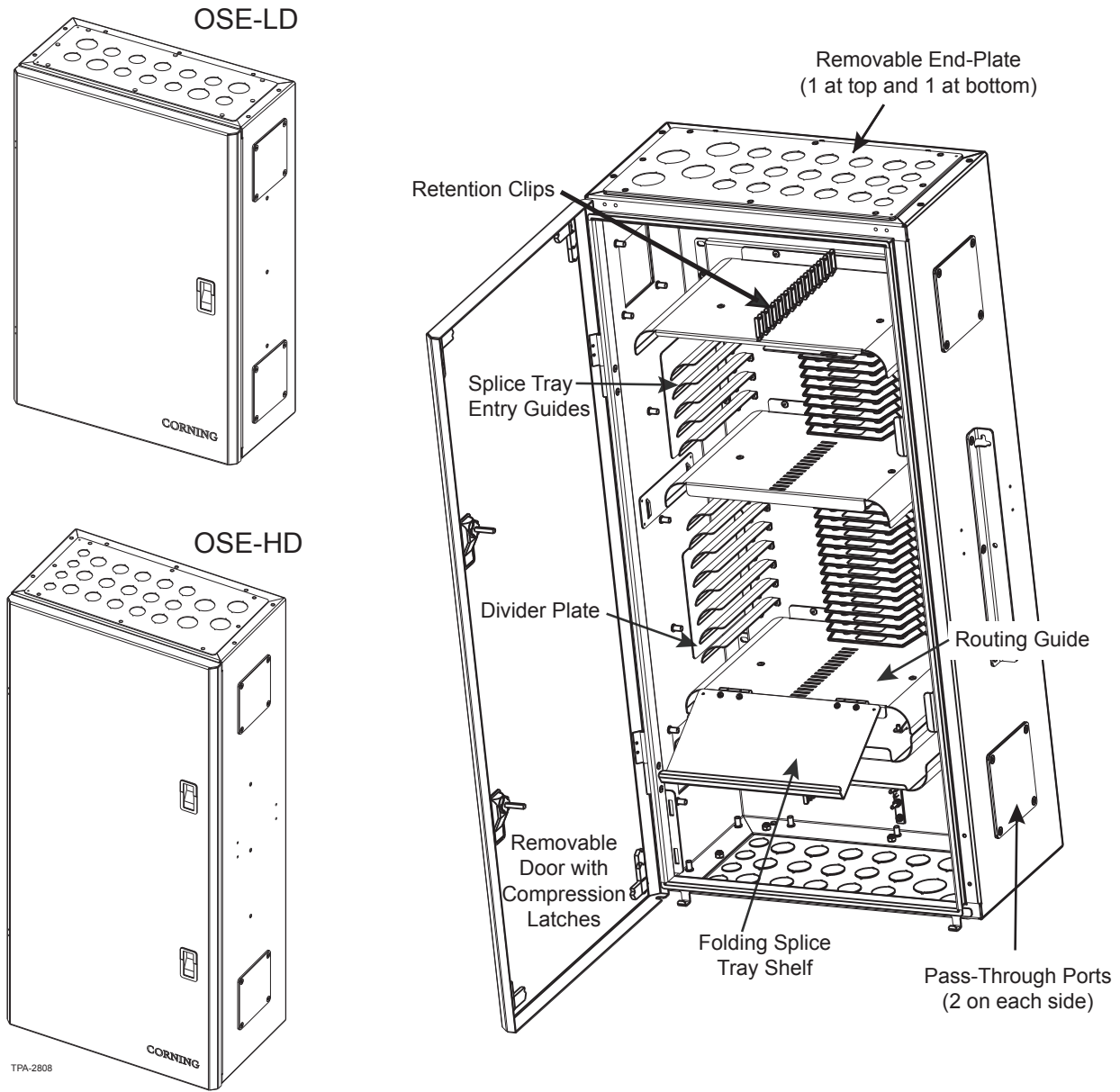


Figure 1 — Components

## 4. Frame-Mounting

**IMPORTANT:** Make sure there is adequate space above and below the unit to route cables. Do not violate the minimum bend radius for each cable being installed.

- Step 1:** Mount the cabinet to the frame using the two OSE mounting brackets on both sides of the cabinet (Figure 2).
- Step 2:** Insert two screws in the 23-inch frame where the top holes in the mounting bracket should be located.
- Step 3:** Leave a  $\frac{1}{8}$ -inch gap between the frame and the screw head to hang the unit.
- Step 4:** Using two people, lift the cabinet into position on the frame and hang the cabinet on these bolts through the upper holes in the brackets. Tighten the bolts against the brackets.
- Step 5:** Install the lower mounting screws and tighten them against the mounting bracket.

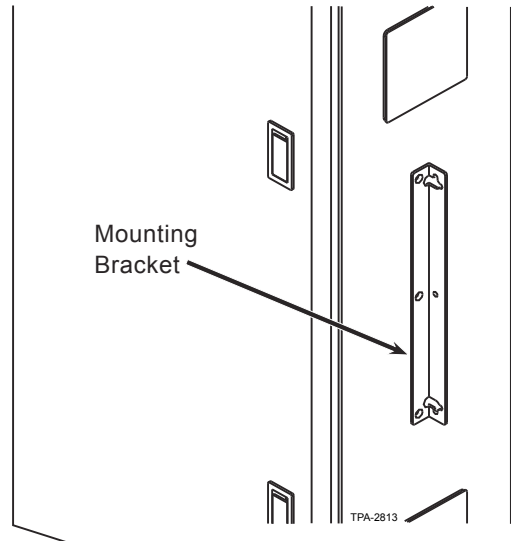


Figure 2 — Frame Mounting Bracket

## 5. Wall-Mounting

**IMPORTANT:** Make sure there is adequate space above and below the unit to route cables. Do not violate the minimum bend radius for each cable being installed.

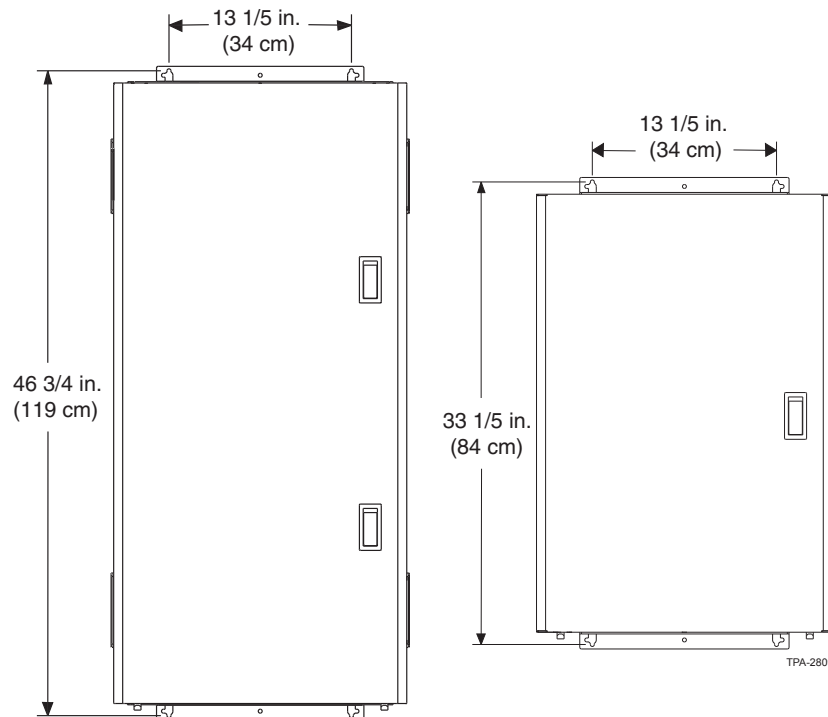


Figure 3 — Remove and Reattach Brackets for Wall Mounting

- Step 1:** Remove the mounting brackets and screws from each side of the cabinet.
- Step 2:** Reattach the mounting brackets to the top and bottom of the cabinet as seen in Figure 3.
- Step 3:** Choose a dry, vertical surface to mount the cabinet.

**NOTE:** The type of hardware used is dependant on the mounting location; wall anchors may be required for adequate support on sheetrock walls.

**Step 4:** Install the top two mounting bolts in the wall at the distances specified in Figure 4.

**Step 5:** Leave a 1/8-inch gap between the screw head and the wall.

**Step 6:** Hang the unit on the two screws through the holes in the upper mounting bracket. Tighten the screws firmly against the bracket.

**Step 7:** Install the screws in the lower bracket and and tighten securely.

## 6. T-Slot Mounting

T-slot rack mounting kits are purchased separately. Refer to “Section 2. Accessories” for part number information. Follow the instructions provided with the kit.

## 7. Cable Preparation

**NOTE:** Cable entry hardware kits are purchased separately. Refer to “Section 2. Accessories” for part number information.

**Step 1:** Determine cable entry location and remove the required knockouts. Start at the rear corner and work towards the front and center.

**Step 2:** Select the appropriate cable entry hardware for the cable being installed. Strain-relieve the cable as detailed in the instruction provided with the cable entry kit.

**Step 3:** Remove cable sheath as described in the sheath-removal instructions for the cable you are installing. Suggested lengths (Figure 4) can be altered for particular preferences or specific applications.

**Step 4:** Ground armored cable as illustrated in the instruction provided with the cable entry kit. Additional ground kits (p/n HDWR-GRND-KIT) may be purchased separately.

**Step 5:** Multifiber tube cable is prepared as shown in Figure 5. A mid-span entry kit is required to access the fiber in one buffer tube of a multifiber tube cable without disturbing the other buffer tubes. Refer to “Section 2. Accessories” for part number information. Follow instructions provided with the kit to replace the end plate on the enclosure with the plate from the mid-span kit.

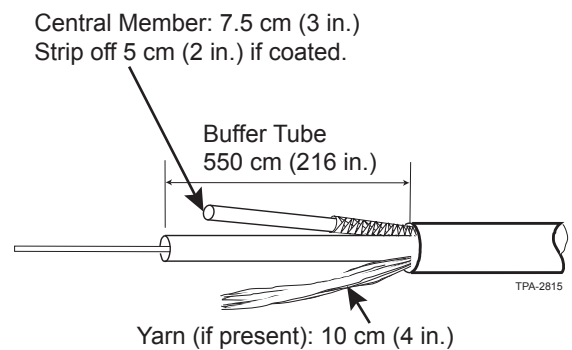


Figure 4 — Cable Strip Lengths

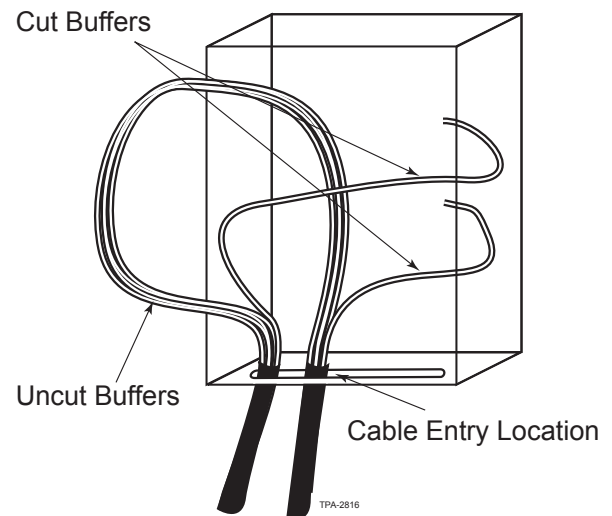


Figure 5 — Multifiber Tube Preparation

## 8. Cable Splicing and Routing

**NOTE:** Installation of mid-span cable requires a mid-span access kit (purchased separately). Refer to Section 2 for part number information.

**IMPORTANT:** Buffer tube routing and subsequent splicing should be performed in a top-to-bottom and back-to-front order.

- Step 1:** Route at least one full loop of cable (or more if desired) around the inside perimeter of the enclosure, below the bottom routing guides and through the retention clips. Do not violate the minimum bend radius for the cable.
- Step 2:** After making the desired number of slack loops, route the buffer tubes around the center routing guide and between the divider plates and splice tray guides into the splice trays Figure 6. Do not bend cable too sharply.

**NOTE:** Cable ties can be used every 10-12 in. to manage buffer tubes. Do not overtighten cable ties.

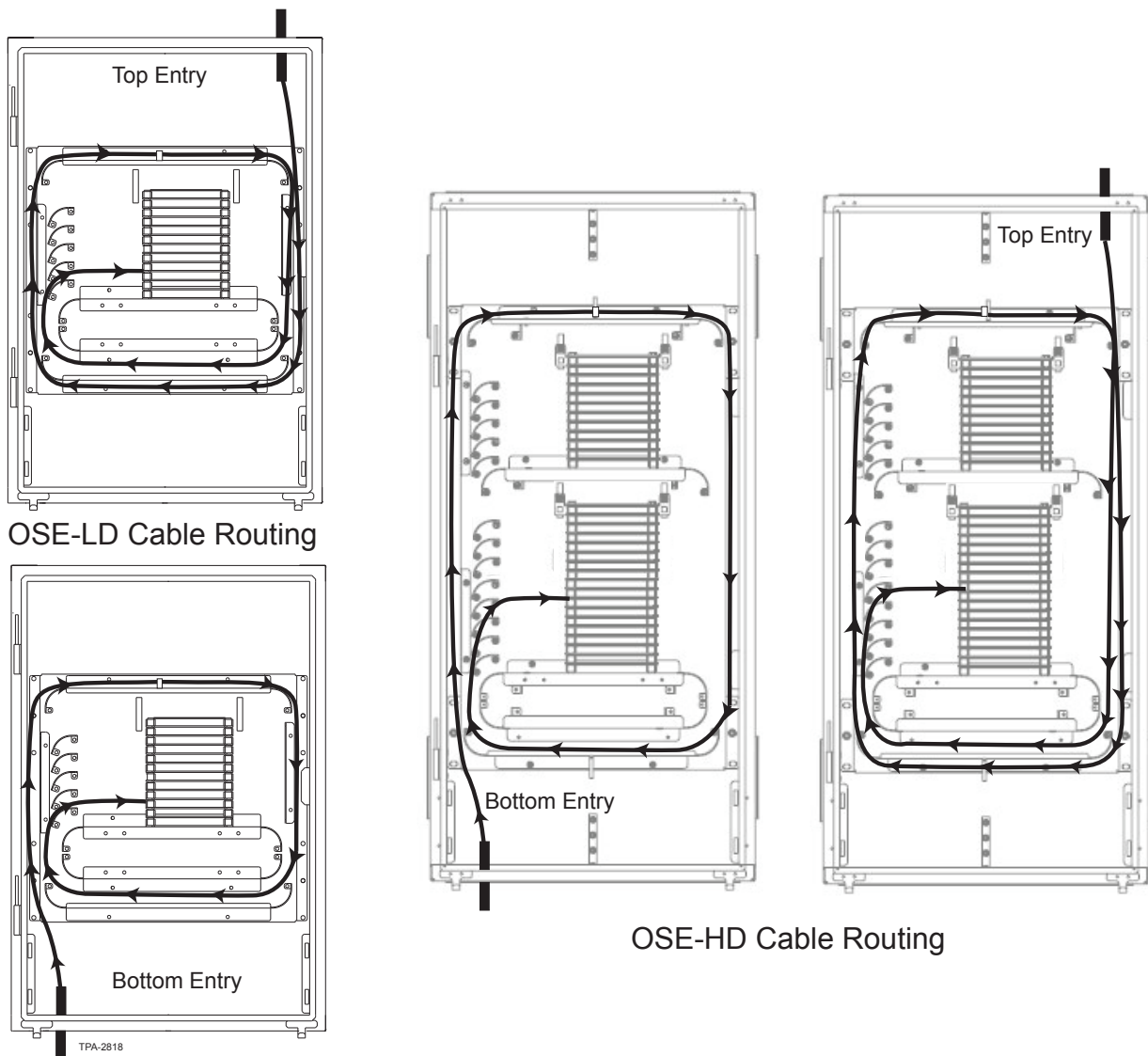


Figure 6 — Cable Routing

**Step 3:** Mark buffer tubes where they will enter the splice tray.

**Step 4:** Splice fibers:

Splice Tray Part Number	Qty Splices per Tray		Qty Splice Trays per Cabinet		Total Splices	
	LT Splices	Ribbon Splices	OSE-LD	OSE-HD	OSE-LD	OSE-HD
OSE-ST-1	36	N/A	12	30	432	1,080
OSE-ST-6 (HS)	48	N/A	12	30	576	1,440
OSE-ST-7 (Q-pack)	48	N/A	12	30	576	1,440
OSE-ST-3	N/A	72	12	30	864	2,160
OSE-ST-3-TQ	N/A	144	12	30	1,728	4,320
0.2-in Trays (SCF-ST-112)	24	N/A	21	42	504	1,008
0.4-in Trays (SCF-ST-077)	72	144	14	28	1,008/ 2,016	2,016/ 4,032

**NOTE:** (reference splice off frame application where an OSE cabinet will be required):

- > Fully configured Eclipse® stubbed frame = 1,440 fibers
- > Fully configured EMF stubbed frame - 1,728 fibers
- > Fully configured Centrix™ stubbed frame with SC connectors = 2,880 fibers
- > Fully configured Centrix stubbed frame with LC connectors = 4,320 fibers

- Select the appropriate splice tray (purchased separately) for the fiber being installed. Bring splice tray and fiber to splice tray shelf.
- Strip buffer tubes at the mark made in Step 3.
- Secure buffer tubes to splice trays. Splice fibers as explained in instructions for the tray and splicing method you are using.
- Once splicing is complete, load the splice tray into the stacker. Load trays from top to bottom.
- Secure all trays using the provided hook-and-loop strap.

**NOTE:** An optional splice workshelf is available to provide a larger work surface. Refer to Section 2 for part number information.

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