SUMITOMO RECOMMENDED PROCEDURE

SRP SP-F05-015

Assembling V-HSX (Vertical Hyper Scale Exchange) Installation

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1.0 General

Recommended Procedure for mounting the V-HSX (Vertical Hyper Scale Exchange – slotted cable) cabinet in the workplace, along with detailed procedures for installing and routing high count ribbon slotted cables within the internal devices of the cabinet, as well as steps to setup the mass fusion splicing operation.

2.0 Safety Precautions

2.1 The use of safety equipment is strongly recommended during the installation and handling of optical fiber cable.

2.2 To protect the hands, gloves are recommended when handling cables with armor.

3.0 Reference Documents

SP-F02-001 1728f Ribbon Indoor Riser Cable Preparation
SP-F02-029 1728f Ribbon Slotted Core Cable Preparation
SP-F02-031 3456f Ribbon Slotted Core Cable Preparation
ETK1524037 Splicing Pliable Ribbons

4.0 Tools Required

The following is a list of tools and materials required to complete this procedure.

1. Tape Measure
2. Utility Knife
3. Cable Cutters
4. PVC Cutter for up to 1-1/4“ (Greenlee 864)
5. IDEAL Wire Marker Booklet (#44-101)
6. Sumitomo Ribbon Separator Jig
7. Splicer’s Scissors
8. Marking Pen
9. Needle Nose Pliers
10. Gloves
11. Safety Glasses

5.0 V-HSX Features

5.1 Dimensions

The cabinet measures 43” H x 33” W x 15” D. and will require a wall space area of approximately 5’ x 8’ in order to efficiently mount entrance cables and to establish a comfortable work operation setup for fusion splicing.

Figure 1

5.2 Cabinet Mounting

In the interior of the cabinet locate the ½” mounting holes in the four corners of the unit and two in the middle for a total of six. The options for mounting include the use of lag bolts directly into the wall / studs, or the use of the Uni-strut setup. The crated weight of the cabinet is 800lbs and the uncrated weight of the cabinet is 400lbs.

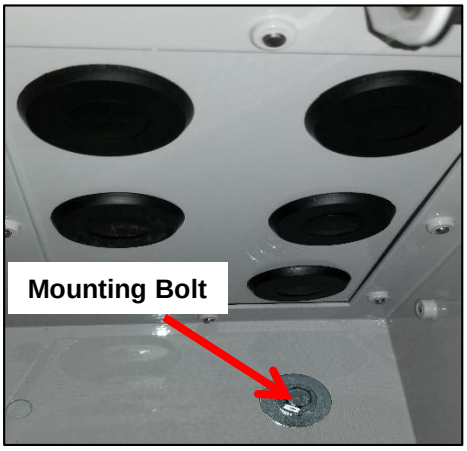

Figure 2

5.3 Cable Entrance Port Access

There are two shingle designs for the placement of the cord connectors to suit the installation of the entrance cables. Each of the two shingle designs has its own port size.

On the left & right sides, the side shingle locations have 1.75" openings, capable of accepting cord connectors for the various size inside-plant cables.

On all corners, at top and bottom shingle locations, there are 2.125" ports for accepting the cord connectors that will secure the OSP cables in place.

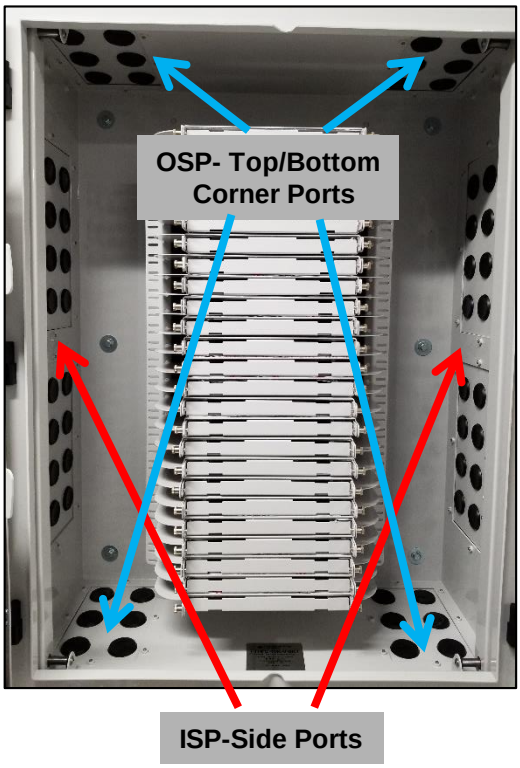

Figure 4

5.4 Cabinet Door Features

The cabinet door is a two-piece unit with a three point catch at the top, bottom, and center handle position. With the doors opened, both halves are removable by a simple lifting motion, allowing for an open work space, then re-installed by inserting the door pins into the attached hinge pieces.

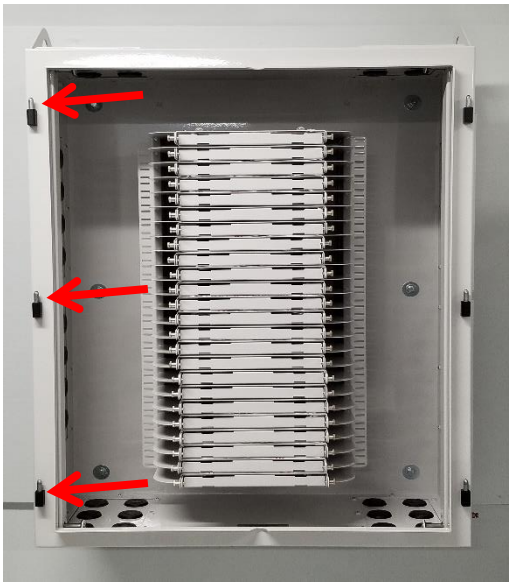

Figure 5

5.5 Cabinet Grounding

The grounding buss bar for the OSP cables is located in the interior of the lower right hand side and is connected to the cabinet side wall with a #6 ground wire.

From this point of grounding on the cabinet side wall, a second #6 ground wire should be run by the installer to the established building ground to complete the electrical requirement.

Figure 6

6.0 Slotted Core Cable Installation

6.1 Sheath Preparation

In order to store and splice the pliable ribbon bundles correctly, the length of exposed ribbons for both the OSP and Inside Plant cables is important in conforming to the route of the ribbons from the cord connector to the mass fusion splice machine.

Both OSP & ISP exposed fiber length of pliable ribbon bundles will need to be independently measured. Depending on the ports used it will vary on amount of cable sheath opening. Maintain at least 52 inches in the splice tray and 28 inches in the slack storage space beside splice tray to enable extending the tray for splicing operations.

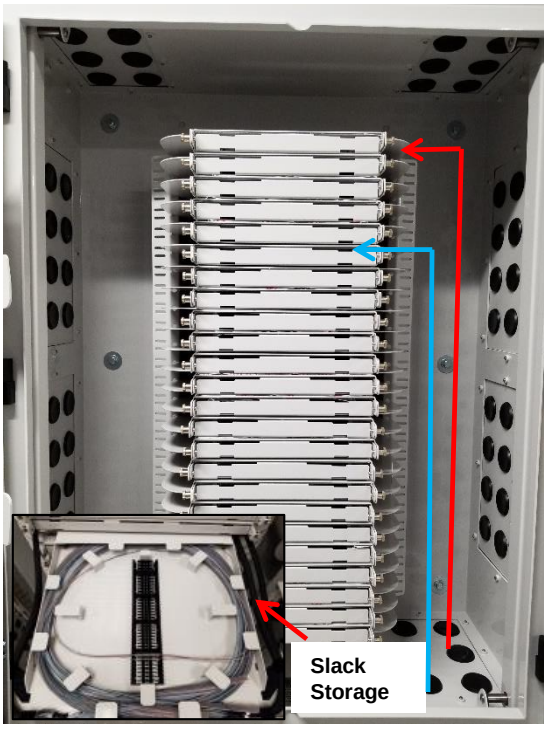

Figure 7

6.2 Sheath Preparation Protective Sock

A protective sock material is recommended to be placed during the sheath preparation procedure, which will protect the exposed bundles of pliable ribbons.

(The sock is to be used for ribbon separation/protection from cable butt to the splice tray). The protective sock should be placed over the ribbons leaving 52 inches of exposed ribbons that will be routed into the splice tray.

Note: (Expandable Braided Sleeve material from FLEXO, part # 63BK, cable range = 5/8" to 1-1/4" O.D.).

Once the sheath and slotted core material has been removed, make sure all bundles of fibers are identified/tagged and hand tighten the plastic cable grommet into the shingle opening.

Note: To assist in the removal of the slotted core material and expose the CSM, a tool is available from Greenlee, called the CAT864 tool.

Figure 8

6.3 Installation of Cord Connectors for OSP Cables

For the shingle use on the OSP cable side, there is one on the top and one on the bottom to meet the typical entry position of outside plant entrance cables.

There are (6) port openings on each corner of the cabinet measuring 2.125” in diameter, and they will accept cord connectors capable of securing an OSP cable with an O.D. up to 1.5”.

The fiber capacity for this cabinet is 10,368 fibers. Maximum for each splice tray is 432f/24 trays, which equates to (3) 3456f or (6) 1728f slotted cables. This maximum capacity will hold true regardless of the cable configuration. All of the bundles of pliable ribbons from these cables will be socked by (432f) routed and then secured by Velcro straps to the frame. Route one sock to each splice tray for a total of 432 fibers.

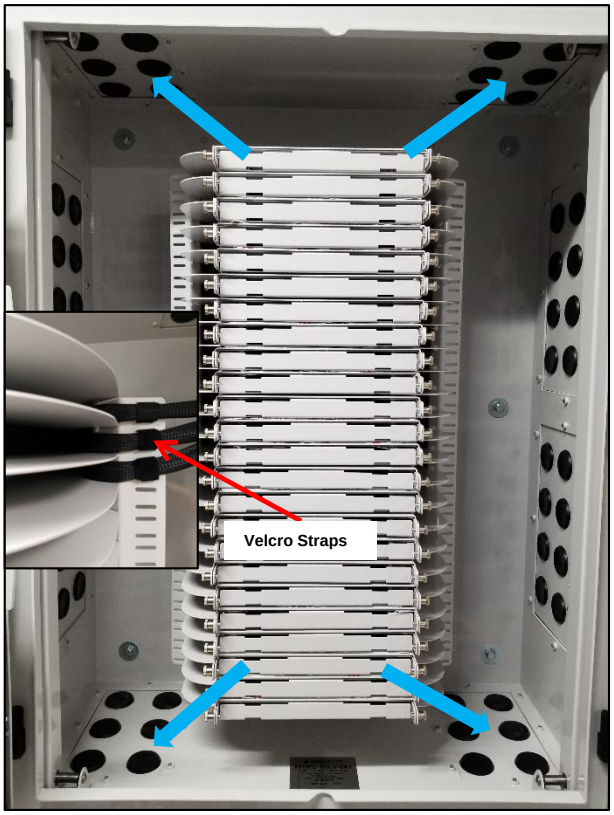

Figure 9

6.4 Cord Connector Installation for OSP Cables

There is no required cable placing pattern for the UHFC cables. Figure 10 shows a suggested pattern to best help keep the cables in a sequence working from the top/down of the cabinet.

The placement of (6) 1728f cables requires either shingle (top or bottom) and all of the openings are required.

The placement of (3) 3456 cables requires either shingle (top or bottom) and only three openings are required.

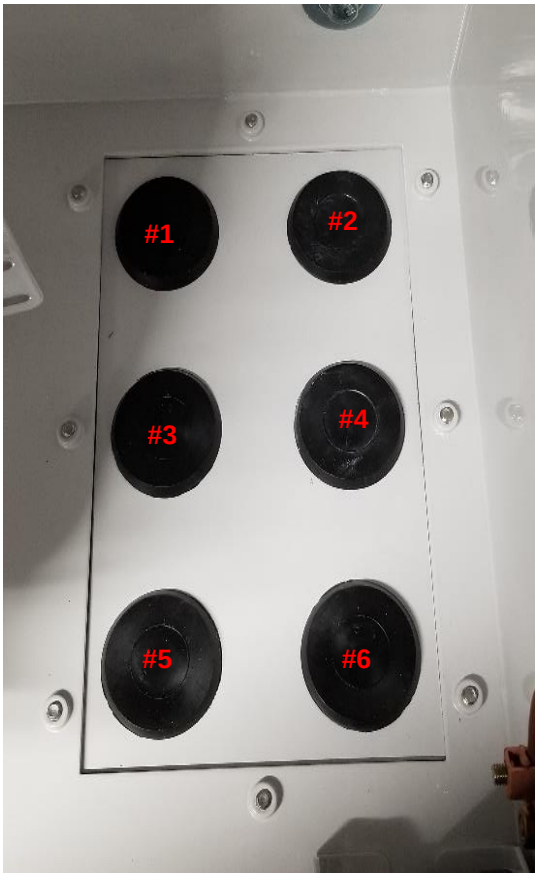

Figure 10

6.4 Cord Connector Installation for Inside Plant Cables

The shingles on the ISP cable portion of the V-HSX, side areas have port openings measuring 1.75”, which will accept a cord connector that will secure a cable up to the 1.1” diameter. See Figure 11.

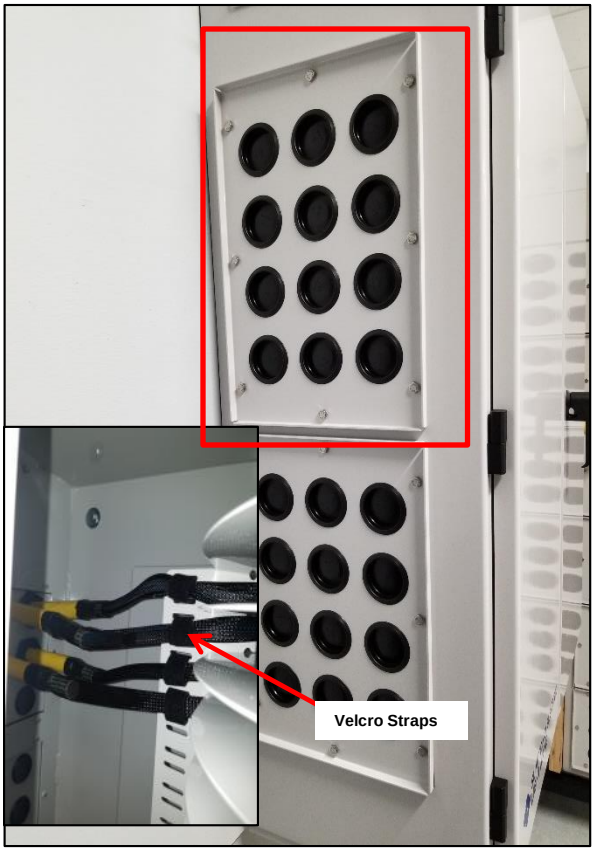

Figure 11

6.8 Splice Tray Design

The splice tray measures 10.25” L x 8” W x 0.75” H, and is open on each side with multiple points for installing tie wraps and transportation sock to secure the ribbons. The ribbons are placed in the tray with adequate ribbon slack for re-burns and to reach the splicer on the splicer platform.

The center strip can accommodate (36) mass fusion splice sleeves, (18) double stack holders, for a splice tray capacity of 432 fibers.

The integrity of the completed splices is provided by a clear removable tray cover. The tray covers can be removed during splicing operations and re-attached when splicing operations are complete. Each splice tray has its own independent compartment for storage.

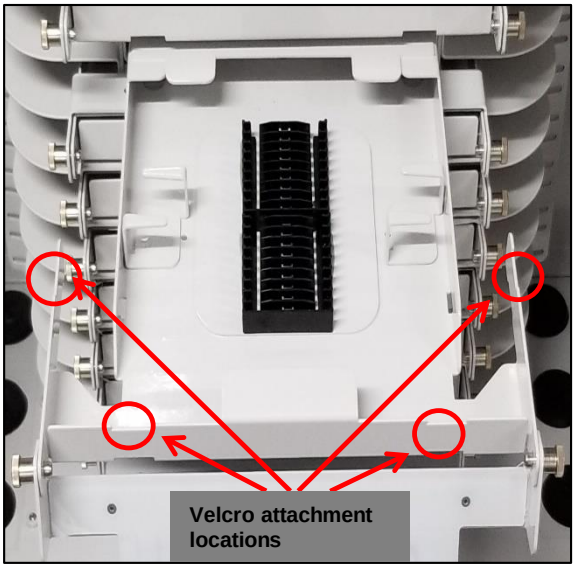

Figure 12

6.9 Fusion Splice Machine Set-up

The fusion splice machine equipment and supplies will be setup on a splice platform that attaches to sliding vertical brackets. The brackets can be slid out from the sides of the cabinet when splicing operations begin.

Figure 13

The 52 inches of ribbon slack in the tray should provide enough length to reach the fusion splicer even if an occasional re-burn is required. Once splicing operations are complete the vertical brackets can be slid back out of the way against the cabinet walls.

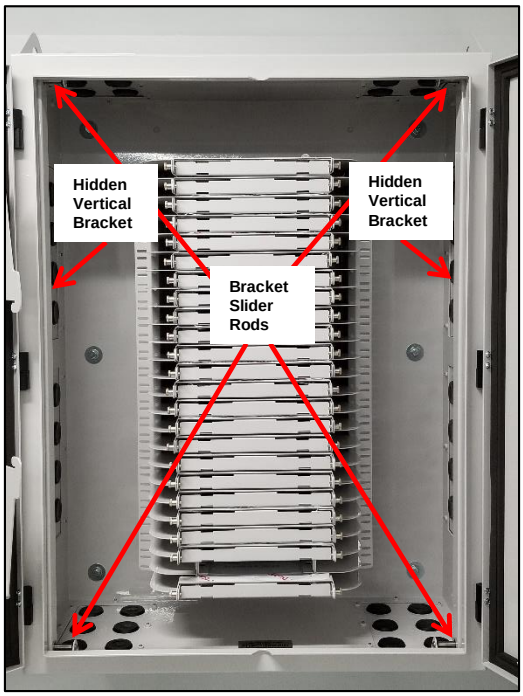

Figure 14

6.15 V-HSX Materials Kit

Item#	Quantity	Description
1	4 pieces	Strut Channel Nuts
2	4 pieces	Zinc Plated Steel Oversized Flat Washer
3	4 pieces	Zinc-Plated Steel Cap Screw
4	4 pieces	Black Liquid Tight Cord Grip (.787" to 1.02" range)
5	1 piece	Cable Gland, Grip Range (.944" to 1.515")
6	1 piece	Cable Gland Nut, Nickel Plated Brass
7	80 pieces	Double sided velcro 3/4" wide
8	2 rolls	15 ft. Roll of 1/2" Velcro
9	2 rolls	75 ft. Roll of Black 5/8" Expandable Braided Sleeving
10	1 assembly	Splice Platform Assembly for U-HSX, Gen2
11	1 box	40mm Mass Protection Sleeves 250/Box - FPS-6-BX
12	37 packs	40mm Mass Protection Sleeves 5/pack - FPS-6-5P