SUMITOMO RECOMMENDED PROCEDURE

SRP SP-F05-024

Assembling 3K Vertical Hyperscale eXchange (3K-V-HSX) Installation

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1.0 General

Recommended Procedure for mounting the 3K Vertical Hyperscale eXchange (3K-V-HSX) 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-F02-039 Pliable Outdoor/Indoor Riser LSHF Cable Preparation
SP-F02-035 Pliable Ribbon Indoor Rise 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 3K-V-HSX Features

5.1 Dimensions

The cabinet measures 21.5" H x 32" W x 15" D (546 x 813 x 381 mm) and will require a wall space area of approximately 5' x 8' (1.6 x 2.5 m) 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 each corners for a total of four. The options for mounting include the use of lag bolts directly into the wall / studs, or the use of the Uni-strut setup. There are lifting plates attached to the top of the cabinet. The boxed weight of the cabinet is approximately 100 lb (45.4 kg).

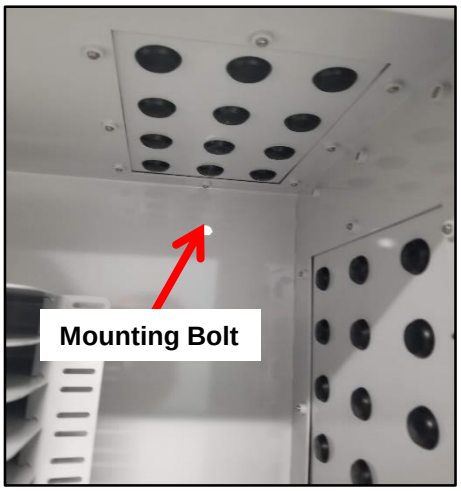

Figure 2

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.

- Strain relief glands when using the shingles for cable entry/exit?
- A Brush Shingle with Lancing Bar, **sold separately.**

On the left sides, top, bottom & side shingle locations have 2" openings, capable of accepting cord connectors for the various size OSP-plant cables.

On the right sides, top, bottom & side shingle locations have 1" openings, capable of accepting cord connectors for the various size ISP-plant cables.

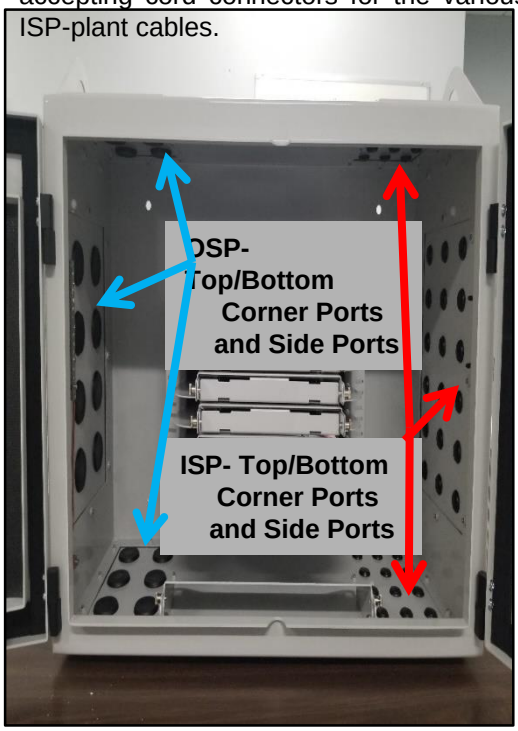

Figure 4

5.4 Cabinet Door Features

The cabinet door is a two-piece unit with a two point catch at the top and bottom 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. The handles on the door will allow a padlock for added security.

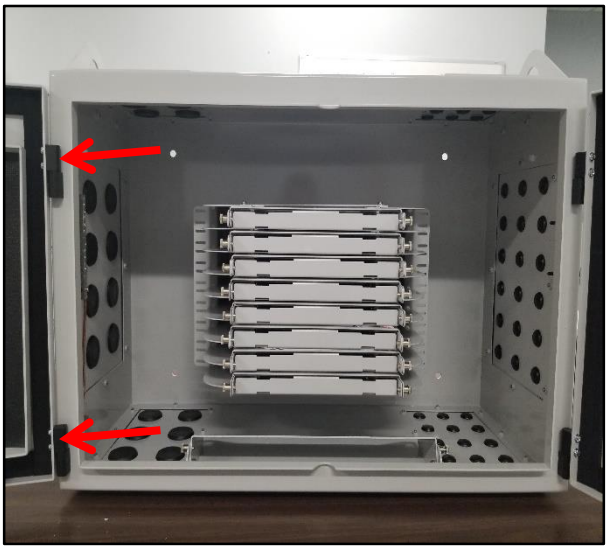

Figure 5

5.5 Cabinet Grounding

The grounding buss bar for the OSP cables is located in the interior of the lower left 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 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 & ISP 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 26 inches in the splice tray and 28 inches in the slack storage space beside splice tray to enable extending the tray for splicing operations.

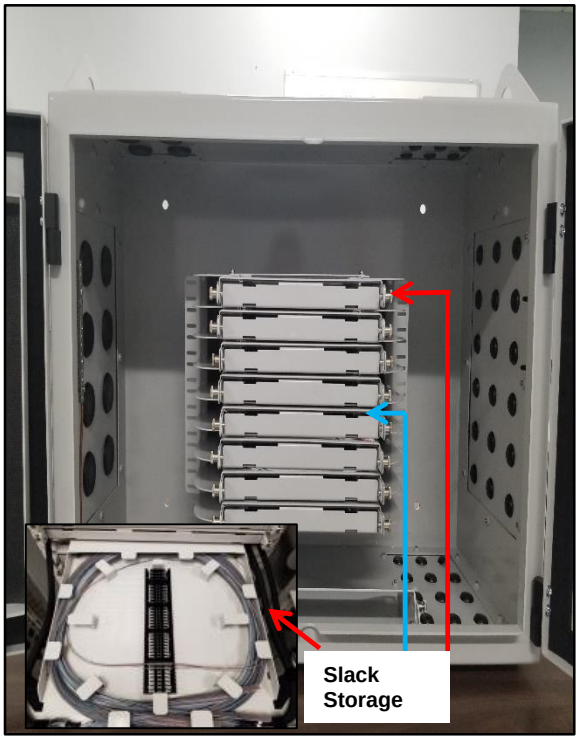

Figure 7

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

Figure 8

6.3 Installation of Cord Connectors for OSP Cables

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

There are (6) port openings on each left corner and (12) port openings on the side of the cabinet measuring 2” in diameter, and they will accept cord connectors capable of securing an OSP cable with an O.D. of 0.944 up to 1.515”.

The fiber capacity for this cabinet is 3,456 fibers. Maximum for each splice tray is 432f/8 trays, which equates to (2) 1728f fiber 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 "Hook & Loop Tie Wraps" to the frame. Route one sock to each splice tray for a total of 432 fibers.

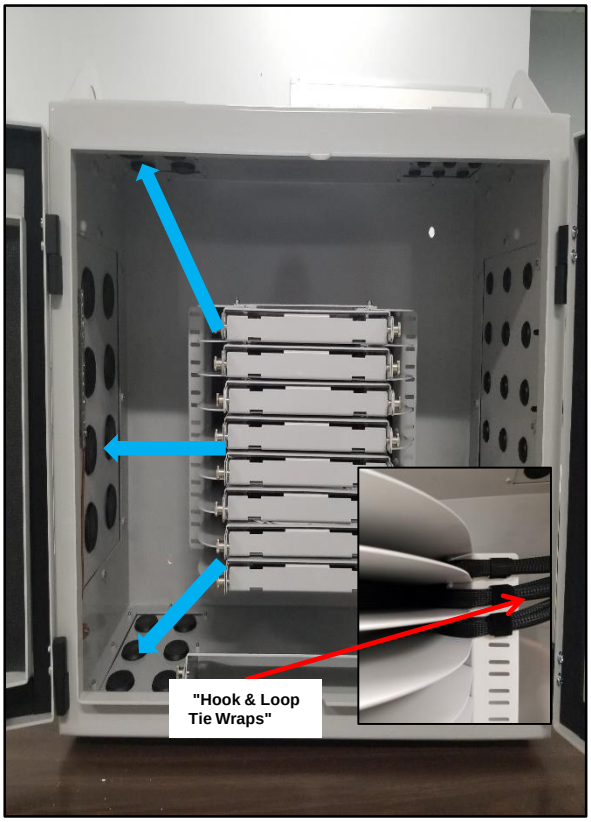

Figure 9

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 1728f cables requires either shingle (top, bottom or side) two openings are required.

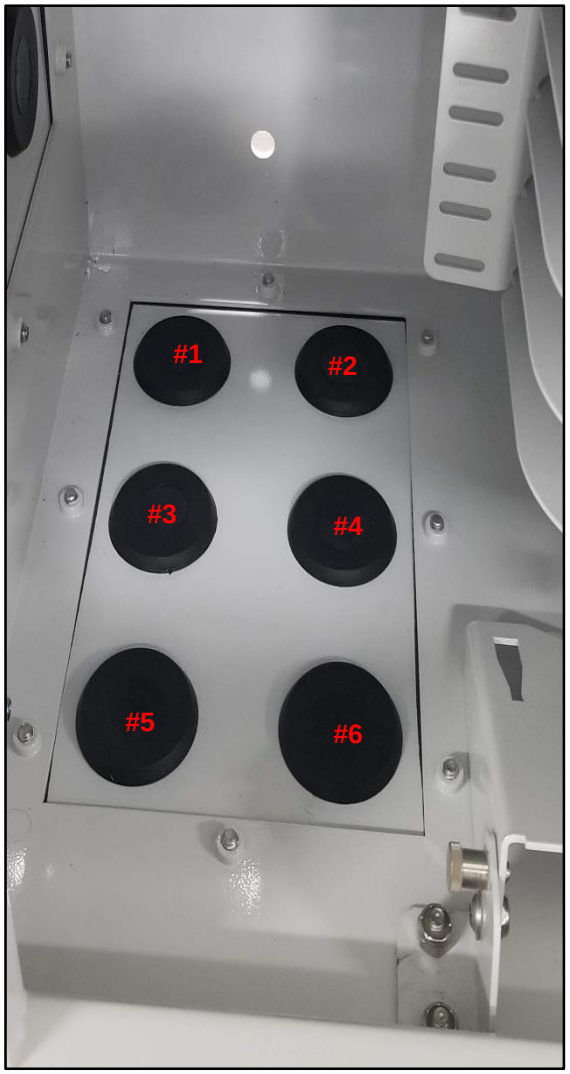

Figure 10

6.4 Cord Connector Installation for Inside Plant Cables

The shingles on the ISP cable portion of the 3K-V-HSX areas have port openings measuring 1”, which will accept a cord connector that will secure a cable OD of 0.354 up to the 0.709” diameter. The placement of 288f cables requires either shingle (top, bottom or side) (12) openings are required. See Figure 11.

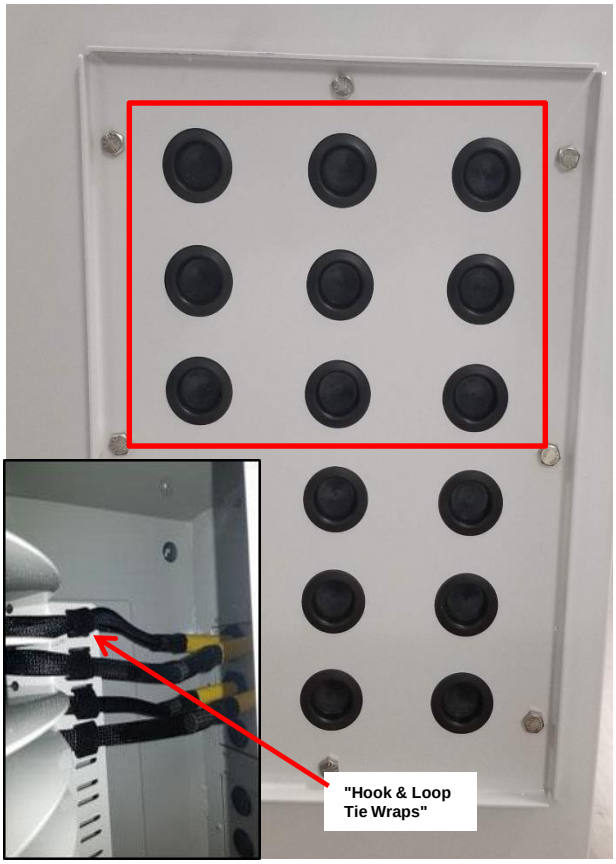

Figure 11

6.8 Splice Tray Design

The splice tray measures 10.25" L x 8" W x 0.75" H (260 x 203 x 19 mm) 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.

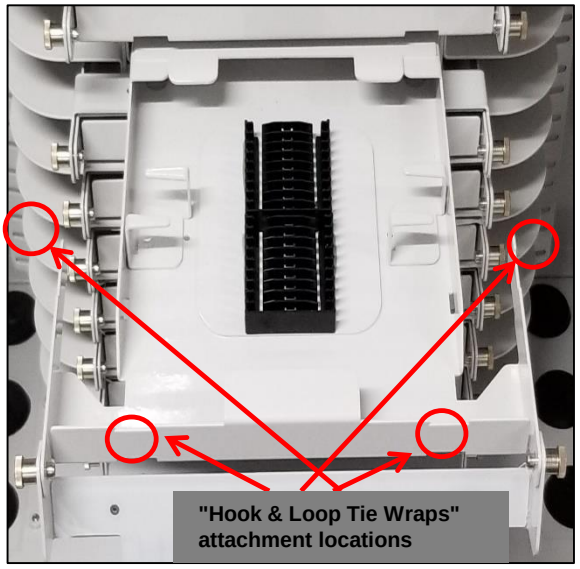

Figure 12

6.9 Fusion Splice Machine Set-up

The fusion splice machine equipment and supplies will be setup on a splice platform that attaches to a flip up holder at the bottom front of the cabinet.

Figure 13

The 26 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 Fusion Splicer Platform bracket can be flipped back down and the platform can be placed back on the holder brackets on the left side door.

Figure 14

6.15 3K-V-HSX Gland and Accessory Starter Kit

Item#	Quantity	Description
1	4	Strut Channel Nuts, with Springs
2	4	Zinc Plated Steel Oversized Flat Washer
3	4	Zinc-Plated Steel Cap Screw, 3/8-16 Fully Threaded
4	6	Cable Gland Nut, Nickle Plated Brass (25 per pack only 6 needed)
5	1	Cable Gland Nut, Nickel Plated Brass (10 per pack only 1 needed)
6	6	Strain Relief Gland for Cable Terminal, range of 0.354” to 0.709” (9 mm to 18 mm). Item Number: FTHFC-GLAND-KIT-0.709
7	1	Strain Relief Gland for Cable Terminal, range of 0.944” to 1.515” (24 mm to 38.5 mm). Item Number: FTHFC-GLAND-KIT-1.515
8	50	0.75” x 3.5” (19 mm x 89 mm) One-Piece Hook & Loop.
9	2	0.5” x 15’ (13 mm x 4572 mm) Hook & Loop Cable Tie.
10	2	0.625” x 75’ (16 mm x 23860 mm) Ribbon Protection Sock.
11	145	1.58” (40 mm) Ribbon Splice Protectors.