

SUMITOMO RECOMMENDED PROCEDURE

SRP SP-F02-031

3456 UHFC Slotted Core Ribbon Cable Preparation

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1.0 General

This procedure describes techniques for preparing Sumitomo Slotted Core fiber optic ribbon cable. This product contains 3,456 optical fibers. The fibers are grouped into 12 fiber flat pliable ribbon matrices. The slotted core is made up of 8 individual slots with a central strength member. The ribbons are stacked in groups of 432 fibers per slot. The central strength member consists of seven stranded steel wires in the center of the slotted core for tensile strength. Water blocking tape surrounds the entire cable core and a smooth black polyethylene sheath is extruded over the core.

Note: See Addendum A for installation recommendations before cable installation begins.

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, Kevlar gloves are recommended when handling the cable components.

3.0 Reference Documents

SP-F01-002 Installing Cable Pulling Grip

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. Kevlar Gloves
11. Safety Glasses

5.0 Cable Preparation

5.1. Cable Sheath Removal

This procedure involves making a ring-cut in the sheath at the desired distance from the cable end

and exposing the inner slotted core. Refer to step by step instructions.

5.1.1 Measure and mark the appropriate length of cable to be cleaned back for the particular application (Refer to SP-F01-018 for specific measurements if using Mechanical Joint Closure GI-TN).

5.1.2 With the utility knife, ring cut the jacket once at the mark and again approximately 6" inches from the cable end. **CAUTION:** Always cut away from your hands and support the cable on a table or surface.

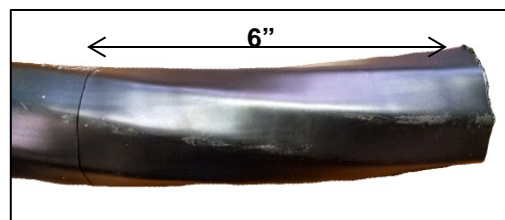


Figure 1

5.1.3 Using a sharp utility knife, gently cut longitudinally on one of the ribs toward the cable end. You only need to make this one cut.

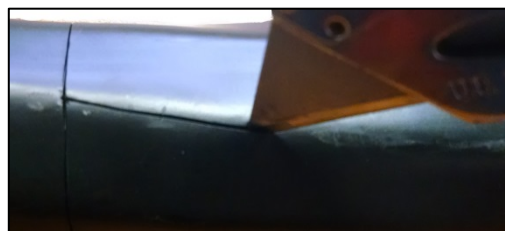


Figure 2

5.1.4 Open the sheath along this cut and peel off of the polyethylene sheath to access the rip cords.

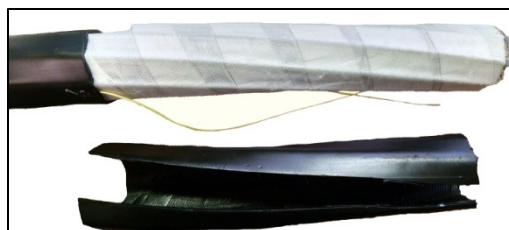


Figure 3

5.1.5 Using the utility knife, make a small notch by each rip cord to help start the cut .

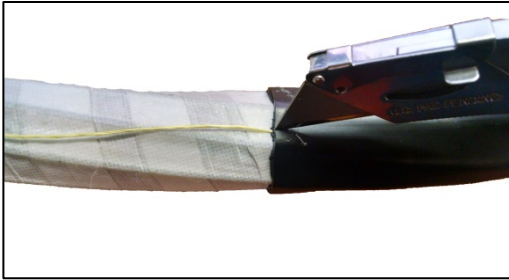


Figure 4

5.1.6 Pull each rip cord longitudinally down the cable to the measured mark.

5.1.7 Remove polyethylene sheath and partially remove most of the water blocking tape. Leave enough tape to hold ribbons in slots until time for fiber management. Fig. 5



Figure 5

5.1.8 By flexing the cable at this point the ribbons will ease out of the slots. **Fig. 6**



Figure 6

5.1.9 After the ribbons ease out of the slots pull the three bundles (12 ribbons each) out of the slot (one bundle at a time). **Fig. 7**



Figure 7

5.1.10 Manage these 36 ribbons in furcation tubes using the procedure below for fiber identification and installing the tubing to each group of ribbons. **Fig. 8**

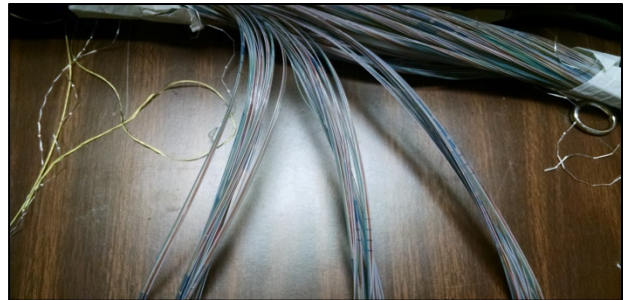


Figure 8

5.2 Identification of Fibers (Each Slot)

Each slot will require six tubes. The transportation tubes are pre-cut to the length of 1000 mm (40 inches). Cut one side diagonally for easy installing. **Fig. 9**



Figure 9

Cut one side diagonally

Note: Use standard color code – Blue, Orange, Green, Brown, Slate, White, Red and Black for the eight slots.

1. Blue	Blue
2. Orange	Orange
3. Green	Green
4. Brown	Brown
5. Slate	Slate
6. White	White
7. Red	Red
8. Black	Black

Figure 10

5.3 Installation of Transportation Tubing

5.3.1 Install one tube per every 6 ribbons for fiber identification.

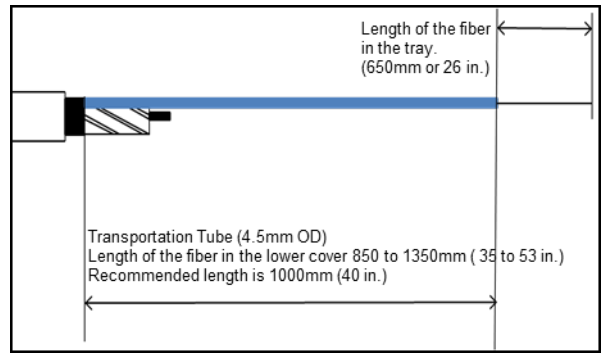


Figure 12

5.2.2 Divide fibers per slot (36 ribbons).
SEE ADDENDUM B for RIBBON PATTERN

6 ribbons / tube

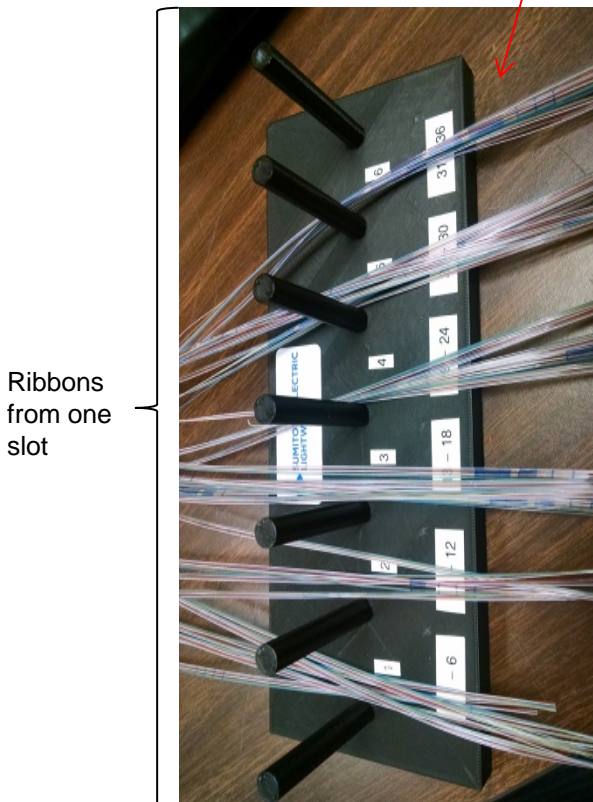


Figure 11

5.3.2 After all ribbons are managed into furcation tubes for each slot, now cut the slotted core to the length needed for the application or by closure procedure requirements for securing the tension member.



Figure 13

5.3.3 Using the PVC Cutter tool, cut the slotted core the recommended length needed for securing the tension member.



Figure 14

5.3.4 Once the blade depth has reached the tension member spin the tool around the core to complete a radial cut. Once this is complete the core slots will easily come off leaving just a layer on the tension member.

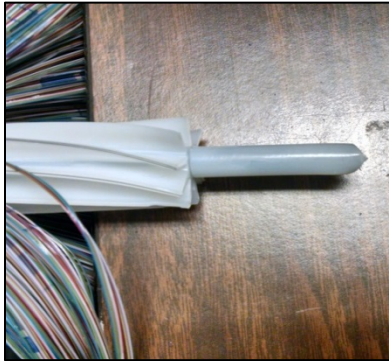


Figure 15

5.3.5 Using a utility knife cut a longitudinal cut along the tension member.



Figure 16

5.3.6 Using a sheath knife separate the plastic coating on the tension member.



Figure 17

5.3.7 Use pliers to remove plastic coating from the tension member.



Figure 18

ADDENDUM A

Document: SP-F02-031

Date Issued: 06/17

Revision: 9

Cable Installation Recommendations

Reel Preparation

Before installation begins it is recommended to remove metal plate from reel flange that covers the cable exit slot. Cut loose the inside end of the cable that is tied down inside of the slot.

Cable Installation

During installation the inside end of the cable can extend out of the slot as tensions are exerted on the cable and this is normal. If the cable extends and starts to affect the payoff of the reel it needs to be cut back to within a few feet of the slot. Continue to do this during cable installation when needed.

During installation maintain constant tension control on cable and cable reel. As the top cable wraps get down to the slot on the reel flange take extra caution that the cable tension does not allow the wraps to extend into the slot beyond the actual barrel width. This can enable a gap between cable wraps; the upper wrap can fall into a gap on the wrap underneath. If tension then increases it can pinch the upper cable wrap and cause a cable kink when this cable wrap tries to pay off of the reel. **See Fig. below.**

NOTE: This event does not occur during every installation but can occur if the slot and tension allows a gap in the cable wraps on that one side of the reel.



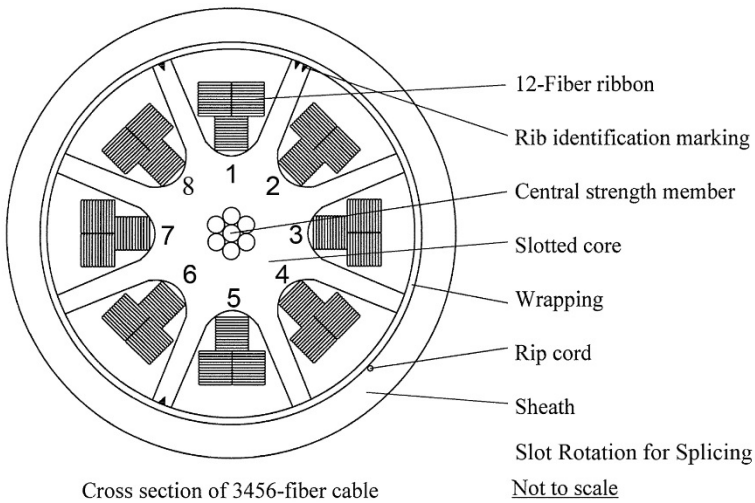
Figure 19

ADDENDUM B

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<i>RIBBON MARKING CODES</i>	
RIB #	CODE
1	1 bar
2	2 bars
3	3 bars
4	4 bars
5	1 Short Block
6	1 Short Block + 1 bar
7	1 Short Block + 2 bars
8	1 Short Block + 3 bars
9	1 Short Block + 4 bars
10	1 Long Block
11	1 Long Block + 1 bar
12	1 Long Block + 2 bars
13	1 Long Block + 3 bars
14	1 Long Block + 4 bars
15	1 Long Block + 1 Short Block
16	1 Long Block + 1 Short Block + 1 bar
17	1 Long Block + 1 Short Block + 2 bars
18	1 Long Block + 1 Short Block + 3 bars
19	1 Long Block + 1 Short Block + 4 bars
20	2 Long Blocks
21	2 Long Blocks + 1 bar
22	2 Long Blocks + 2 bars
23	2 Long Blocks + 3 bars
24	2 Long Blocks + 4 bars
25	2 Long Blocks + 1 Short Block
26	2 Long Blocks + 1 Short Block + 1 bar
27	2 Long Blocks + 1 Short Block + 2 bars
28	2 Long Blocks + 1 Short Block + 3 bars
29	2 Long Blocks + 1 Short Block + 4 bars
30	3 Long Blocks
31	3 Long Blocks + 1 bar
32	3 Long Blocks + 2 bars
33	3 Long Blocks + 3 bars
34	3 Long Blocks + 4 bars
35	3 Long Blocks + 1 Short Block
36	3 Long Blocks + 1 Short Block + 1 bar

Marking Pattern		
1	5	10
 Bar	 “Short” Block	 “Long Block”

