

RECOMMENDED Procedure

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SP-F02-005 LITEPIPE™-ADS™ Sheath Cable Preparation, Issue 4

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1.0 General

This procedure describes the standard techniques for preparing LITEPIPE™-ADS™ sheath fiber optic cable for placing and use in splice or termination closures. This product utilizes the LITEPIPE™ tube, a single central buffer tube designed to accommodate 2-72 loose fiber bundles, 18 (12 or 24 fiber) ribbons, or up to twenty-four 36-fiber ribbons. Two sets of three dielectric strength rods are longitudinally laid 180° apart along the central tube to provide tensile strength. A polyethylene jacket then covers this core.

2.0 Safety Precautions

The use of safety equipment is strongly recommended during the cable preparation procedure. This includes the use of protective clothing and eyewear.

3.0 Reference Documents

Sumitomo Recommended Procedures:

- SP-F01-002 *Installing Cable Pulling Grip*
- SP-F01-002A *Grip Addendum for Ribbon Cables*
- SP-F02-006 *LITEPIPE Cable Midspan Access*
- SP-F02-007 *Ribbon Access Procedures*
- SP-F03-001 *Installing Fiber Unit Splitter*

4.0 Tools Required

The following tools and materials are required to complete this procedure.

1. Tape Measure
2. Utility Knife
3. Wire Cutters
4. Paper Towels
5. Marking Pen
6. Buffer Tube Remover / Coaxial Cutter
7. Pliers
8. Talcum Powder
9. PVC Routing Tubes
10. Fiber Unit Splitter
11. Gloves
12. Safety Glasses

5.0 Sheath Removal

5.1 Measure and mark the appropriate length of cable to be cleaned back for the particular application (splicing: typically 8 feet).

5.2 With the utility knife, ring cut the jacket once at the mark and again approximately 12 inches towards the cable end.

5.3 By bending the cable, the location of the two sets of dielectric strength rods can be determined.

5.4 Using a sharp utility knife, shave off the jacket material over the dielectric strength rods between the two ring cuts. Using pliers, remove the remaining jacket between the two ring cuts.

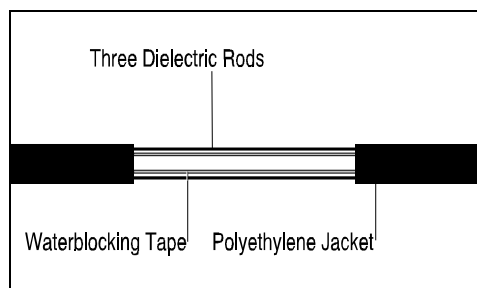


Figure 1.

5.5 Midway along the exposed area, cut all six dielectric strength rods with wire cutters. Be sure to leave enough rod length for attachment in the closure (refer to appropriate procedures for necessary lengths). The water blocking tape will be exposed.

5.6 Cut the water blocking tape layer at both ends of the opened window and remove it to expose the tube underneath.

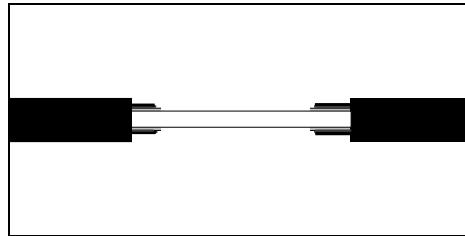


Figure 2.

5.7 Since this cable construction contains no metallic elements, grounding is not necessary.

5.8 Using a standard buffer tube remover, ring cut the central tube leaving the appropriate length at the cable end (typically 2-4 inches). Score the tube, cutting approximately 3/4 of the way through the plastic. Avoid cutting completely through the plastic as this may damage the fibers. Bend the tube gently at the score to cleanly separate the tube.

5.9 Carefully slide the tube, rods and jacket off to expose the optical fibers.

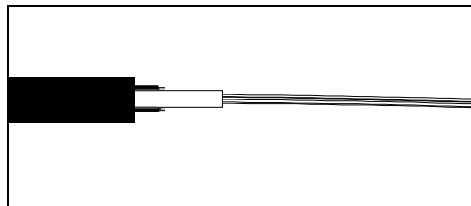


Figure 3.

6.0 Fiber Unit Identification and Routing

LITEPIPE™ cables may contain fiber bundles or ribbons. Procedures for unit identification and routing for each type of fiber unit is provided below.

6.1 Fiber Bundles

6.1.1 For LITEPIPE™ cables containing more than 6 fibers, the fibers will be grouped together by uniquely colored thread binders. For routing these fibers through closures, a unit splitter may be necessary. The unit splitter acts as an intersection where all the fibers coming from the cable's single tube are split up and placed into smaller tubes. See SP-F03-001 for further details on installing unit splitters.

6.1.2 **IMPORTANT:** Before wiping the fibers to remove excess jelly, the fiber units need to be identified and separated. To do this, first have a second person hold the cable or clamp the cable to a workbench.

6.1.3 Carefully straighten out the fibers and locate one of the thread binders at the free end.

6.1.4 While keeping a small amount of tension on the fibers, pull on the thread binder until the fibers bound by that binder pull away from the other fibers. Carefully separate that fiber bundle from the others.

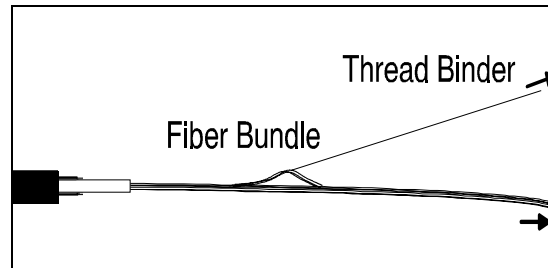


Figure 4.

NOTE: Typically a minimum of 1 meter of fiber needs to be exposed in order to separate the bundles.

6.1.5 Repeat step 6.1.4 until all fiber bundles have been separated.

6.2 Ribbons

6.2.1 Multiple optical fiber ribbons are stacked adjacent to one another within the LITEPIPE™ tube. Each ribbon contains individual fibers that are held together by a matrix encapsulant. Each ribbon has a unique marking code to provide unit identification.

6.2.2 First, gently wipe the majority of gel compound from the ribbon stack using a dry cloth (solvents can be used but are not necessary to remove the gel).

6.2.3 Individual ribbons can then be removed from the stack and remaining gel compound cleaned using alcohol.

NOTE: Vigorous cleaning of the ribbon stack or multiple ribbons at the same time can create excessive twisting or crushing forces which can potentially damage the ribbon structure. Detailed cleaning should be performed on individual ribbons.