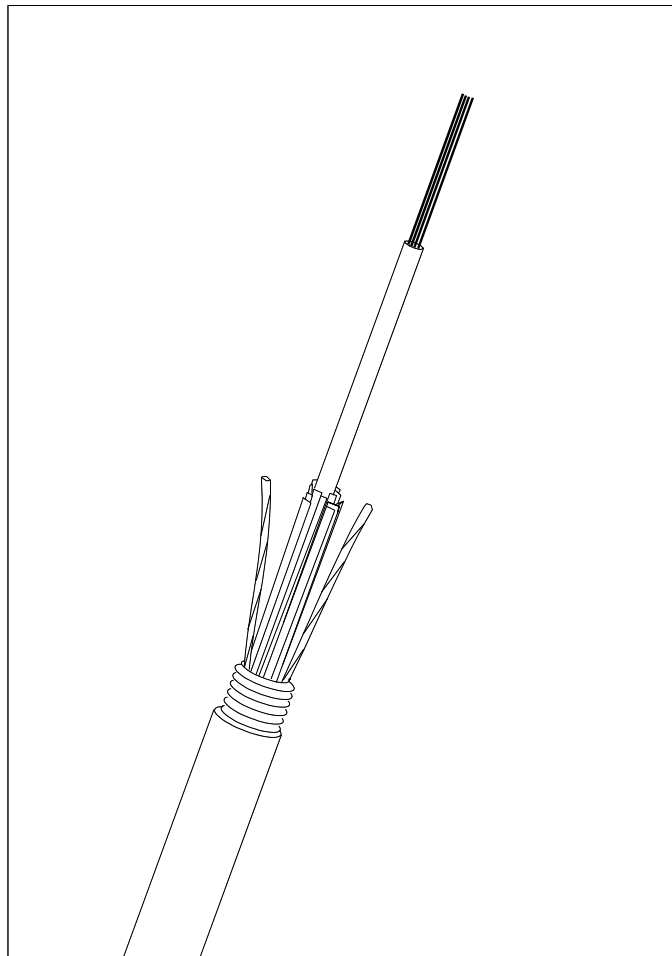




Cable Preparation Procedures For Single Armor Outside Plant CentraLink™ Cables



MP – 1013
Issue #2
October 2005



DISCLAIMER OF WARRANTIES AND LIMITATION OF LIABILITIES

The practices contained herein are designed as a guide. Since there are numerous practices which may be utilized, Prysmian has tested and determined that the practices described herein are effective and efficient. The recommended practices are based on average conditions.

In addition, the materials and hardware referenced herein appear as examples, but in no way reflect the only tools and materials available to perform these evaluations.

Prysmian Communications Cables and Systems USA makes no representation of nor assumes any responsibility for its accuracy or completeness. Local, State, Federal and Industry Codes and Regulations, as well as manufacturers requirements, must be consulted before proceeding with any project. Prysmian Communications Cables and Systems USA disclaims any liability arising from any information contained herein or for the absence of same.

For further information or assistance, contact:

Prysmian Communications Cables and Systems USA
Field Services Department
700 Industrial Drive
Lexington, SC 29072-3799
803-951-4800
FAX (803) 957-4628

OR

Prysmian Communications Cables and Systems USA
Applications Engineering Department
710 Industrial Dr.
Lexington, SC 29072-3799
803-951-4800
FAX (803) 951-4044



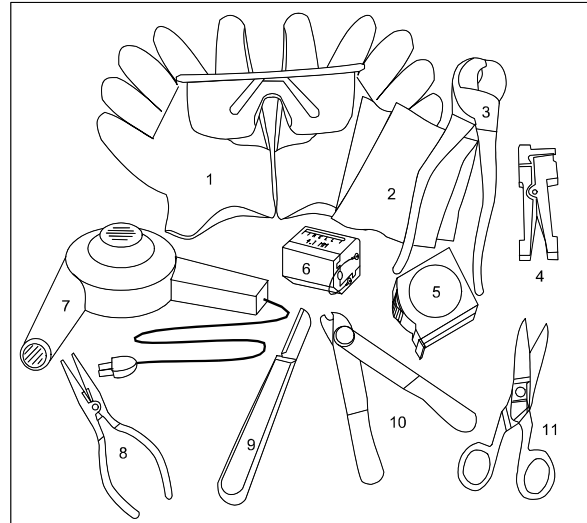
Cable Preparation Procedures For Single Armor Central Loose Tube Cables

MP – 1013

Table of Contents		Page
1.0	General Information	4
2.0	Preparation Notes - Tools and Materials	4
3.0	End-Access Procedure	5
4.0	Cable Core and Central Tube End Preparation	6
5.0	Mid-sheath Access Procedure	8
6.0	Cable Core and Central Tube Mid-Span Preparation	10
7.0	Fiber Preparation Prior to Termination	11

1.0 GENERAL INFORMATION

This instruction manual is a step-by-step guide for end and mid-sheath access of armored CentraLink™ cables, including sheath removal, core preparation, and fiber preparation. Local company practices and/or vendor specifications may be in place concerning cable access and how it relates to a specific product or application. Modifications that do not exceed the cable's optical and mechanical performance specifications may be made to accommodate local company practices and specifications. These modifications should be made at the discretion of local company users.



Photographs and illustrations have been provided for your reference and orientation as you follow the procedures.

2.0 PREPARATION NOTES

Gather the tools and materials to be used for the job and make sure they are approved by your company for use in the field and are in good working order.

Record for future reference the cable identification markings that consist of sheath number, footage, and cable description codes printed on the cable outer sheath.

Tools and Materials

1. Eye and Hand Protection
2. Clean Cotton Cloths
3. Approved Cable Cutters
4. Core Tube Removal Tool
5. Tape Measure
6. Tube Splitter
7. Hot air gun
8. Needle Nose Pliers
9. Sheath Knife
10. Primary Coating Stripping Tool
11. Scissors/Snips

Date manufactured	_____
Fiber Count	_____
Number of fibers per Unit	_____
Fiber Unit Configuration in Core	_____
Tensile Rating	_____
Sheath Description	_____
Performance @ 1310 nm	_____
Fiber Type/Wavelength	_____
Manufacturer	_____

= ☎ PRYSMIAN OPTICAL CABLE PC-34X2LT-012 01-05 =

= 75152 =

= 1346 FEET =

Sheath Number
Sequential Length Marking

3.0 END-ACCESS PROCEDURE

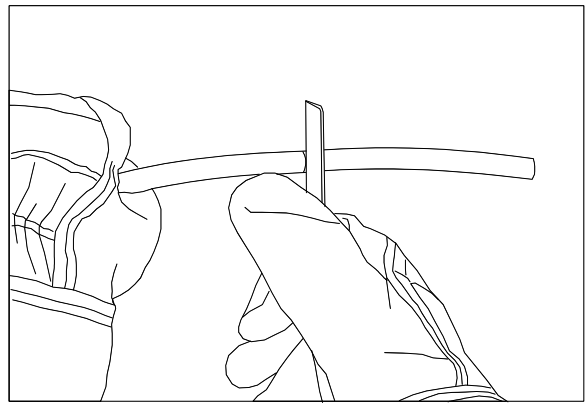
This procedure is intended to be used with central loose tube (CentraLink™) single armor cable construction, utilizing an outer sheath and dry yarn construction.

The length of the outer cable sheath to be removed will depend on local company practices and vendor specifications. Designate this distance from the end of the cable on the outer sheath. Using an approved sheath knife, 'ring' the circumference of the sheath at the designated distance.

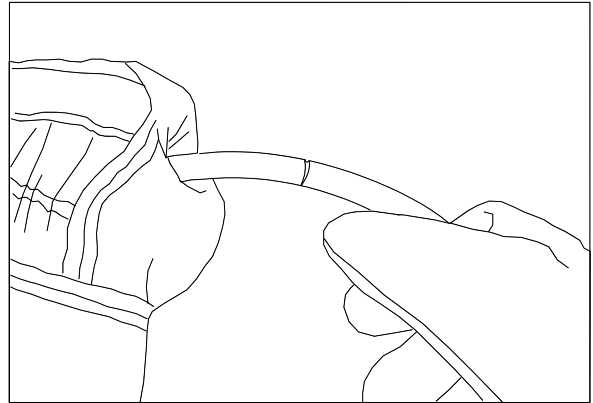
Using the sheath knife, 'ring' the circumference of the outer sheath about three to five inches from the end of the cable. Apply enough pressure to cut through the outer sheath and score the underlying armor.

Flex the end of the outer sheath and the armor sheath should crack open. Slide the separated section off the cable end. The ripcord(s) will now be exposed.

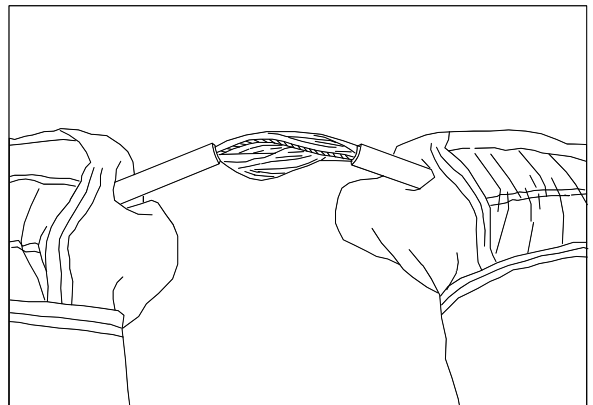
Before pulling the ripcords, nick the armor with side cutters at the points where the ripcords disappear under the sheath. This gives a starting point for the ripcords to slit the armor



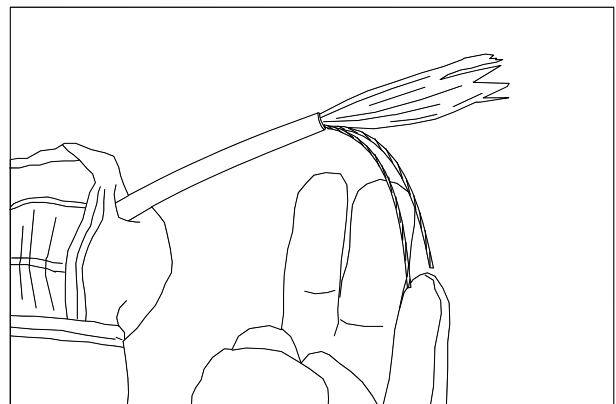
Ringing the cable outer jacket with a sheath knife



Flexing the cable at the cut location



Removing the outer section of sheath



Exposing the ripcords

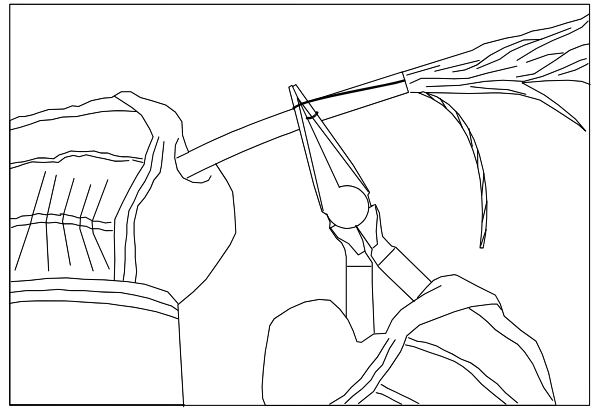
Grasp and wrap one of the ripcords around the needle-nose pliers and pull the ripcord about 1.5" into the sheath. Repeat with the second ripcord. Now pull each ripcord in turn back to the predetermined ring cut.

Remove the split sheath from the cable.

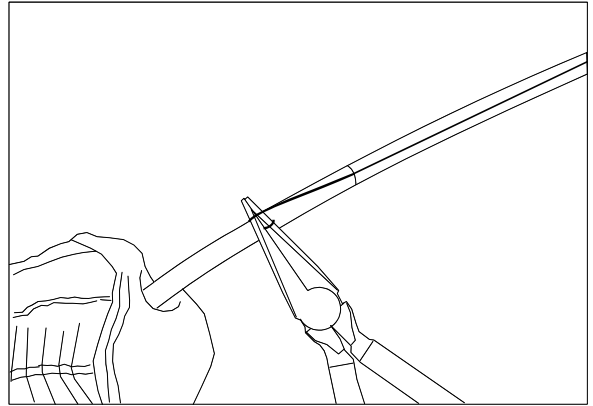
4.0 CABLE CORE AND CENTRAL TUBE END PREPARATION

Once the outer sheath has been removed, the cable core is exposed. The cable core consists of the outer fiberglass strength members, and a central loose tube containing the optical fibers.

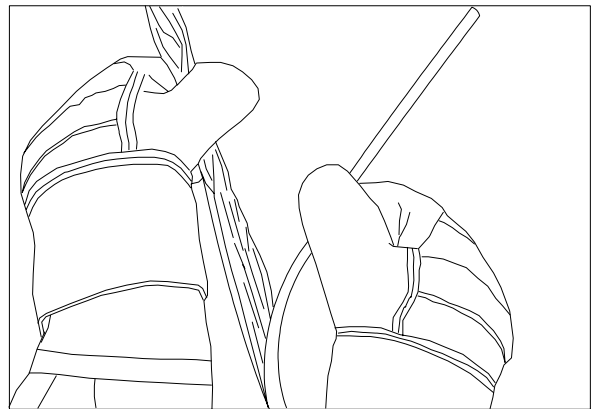
Unwrap the strength members from around the CentralLink™. Cut them to length as prescribed by local practices or closure manufacturer's instructions.



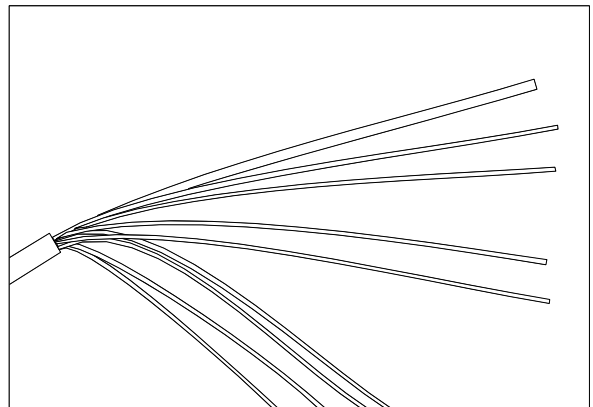
Grasping the ripcord with the needle-nose pliers



Pulling the ripcord to the predetermined ring cut



Removing the split cable sheath



Exposing the central loose tube

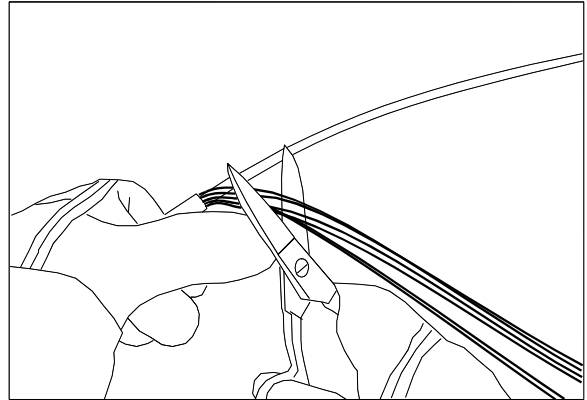
Measure the length of central tube to be removed and mark it. The length of central tube to be removed will depend upon local practices or closure manufacturer's specifications.

Check the blade depth setting on the buffer tube removal tool by ringing a small section of the central tube near its end. A proper depth setting will score the buffer tube without completely cutting through the tube. When gently flexed, the buffer tube will break at this point, allowing safe and easy access to the coated fibers.

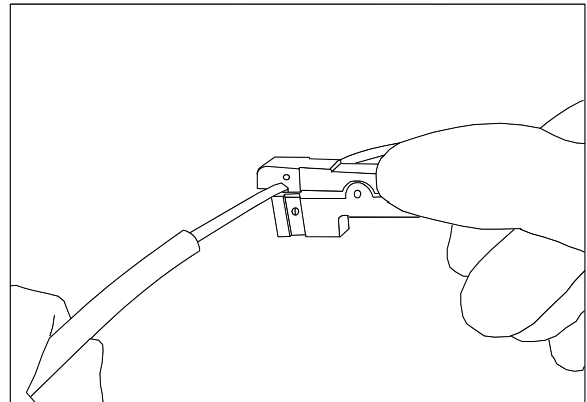
Ring the tube in one or two foot sections and remove until the desired amount of fiber is exposed in accordance with the requirements of the protective closure being used.

Gently wipe the excess thixotropic gel from the exposed fibers with a soft dry cloth.

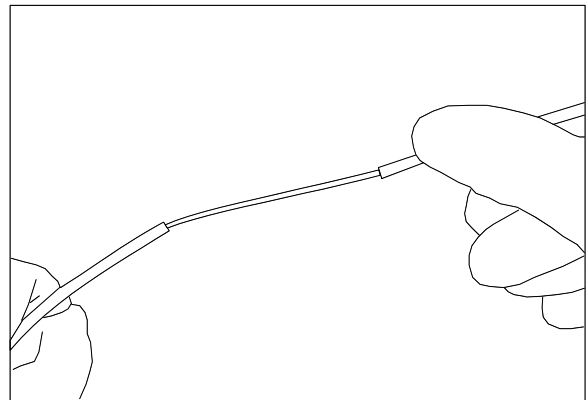
Refer to Section 6.0 for fiber preparation prior to termination procedures



Cutting the outer strength members



Ringing the central buffer tube



Removing the central buffer tube

5.0 MID-SHEATH ACCESS PROCEDURE

This section details the methods for entering a CentraLink™ armored cable mid-sheath.

CABLE SHEATH REMOVAL

To access the fibers in a CentraLink™ armored cable at mid-sheath, first locate the appropriate area of the cable.

The length of the outer sheath to be removed will depend on local company practices and vendor specifications. If not specified otherwise, 72 inches (183 cm) should be sufficient for most applications. Place marker tapes the required distance apart from each other on the section of cable to be accessed.

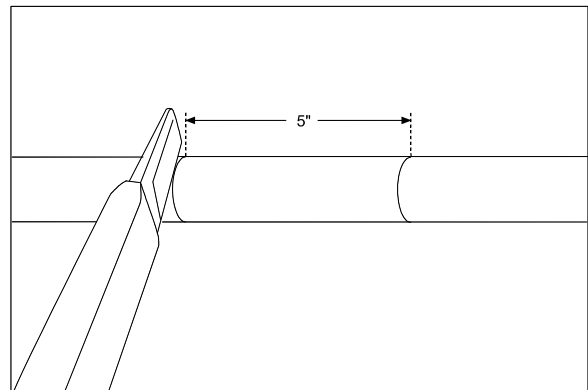
Using the sheath knife, “ring” the circumference of the outer jacket of the cable at each mark.

Next make two ring cuts approximately 5” inches (13 cm) apart at the mid-point of the section being removed.

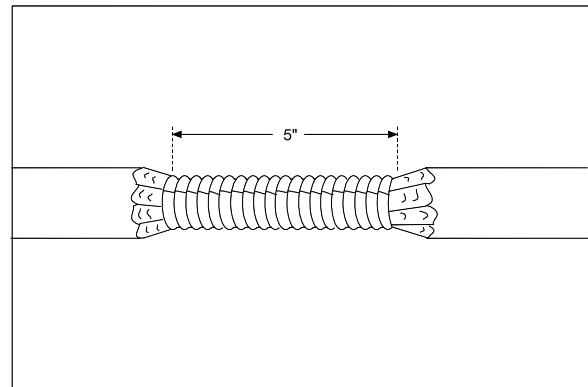
Using a hot air gun heat the 5” section of jacket between the two ring cuts. Once the jacket has softened use a sheath knife to easily remove the jacket material down to the armor.

Now use the sheath knife to gently pry up the armor along its overlap seam. Nick the armor at each end of the 5” section and peel it back, removing and discarding.

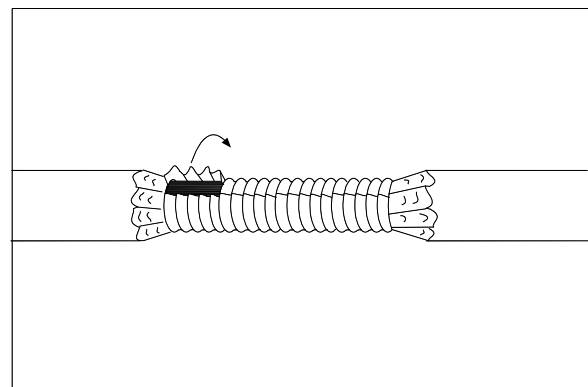
The cable’s inner elements including ripcords are now exposed.



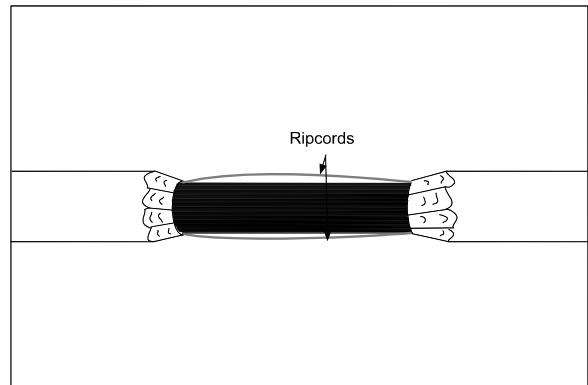
Ring the outer jacket with a sheath knife



The armor exposed



Peel back the armor



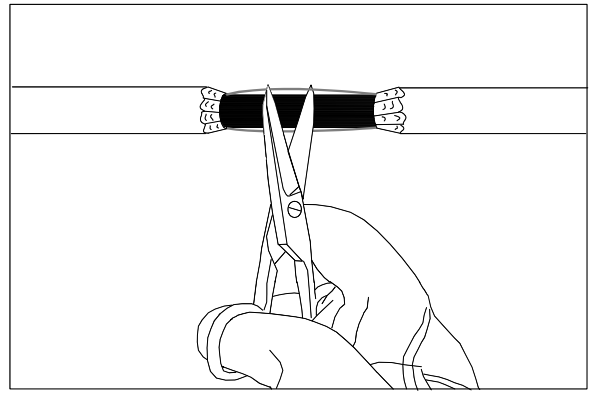
The exposed cable core elements

Cut the ripcords at the center of the exposed 5" section.

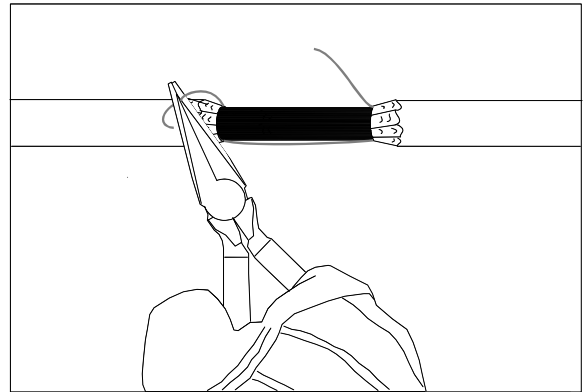
Before pulling the ripcords, nick the armor with side cutters at the points where the ripcords disappear under the sheath. This gives a starting point for the ripcords to slit the armor

Grasp and wrap one of the ripcords around the needle-nose pliers and pull the ripcord about 1.5" into the sheath. Repeat with the remaining three ripcords. Now pull all four ripcords in turn back to the predetermined ring cuts.

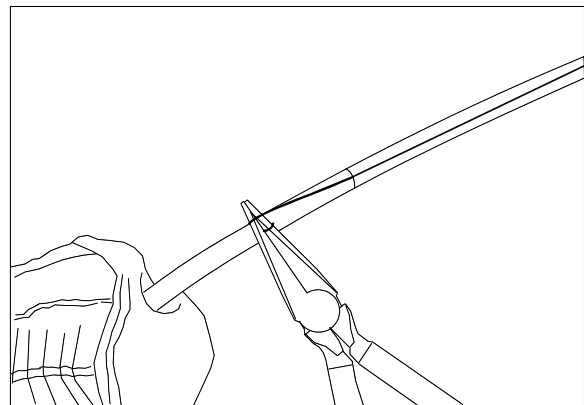
Remove the two sections of split sheath from the cable and discard them.



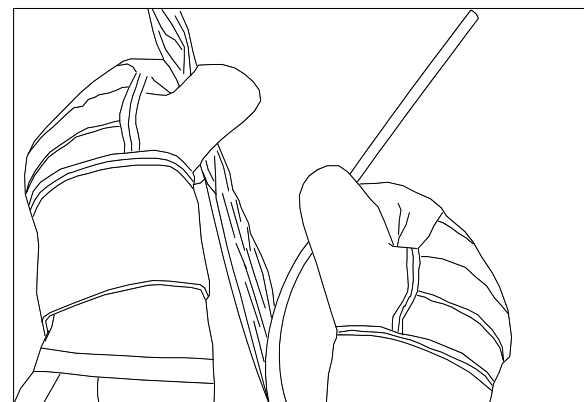
Cutting the ripcord



Grasping the ripcord with the needle-nose pliers



Pulling the ripcord to predetermined ring cut



Removing the split sheath from the cable core

6.0 CABLE CORE AND CENTRAL TUBE MID-SPAN PREPARATION

Once the outer jacket has been removed, the cable core is exposed. The core consists of outer the outer fiber glass strength members and the central tube which contains the fibers.

Unwrap the fiber glass strength members from around the CentraLink™. Cut them to a length as prescribed by local practices or closure manufacturer's instructions.

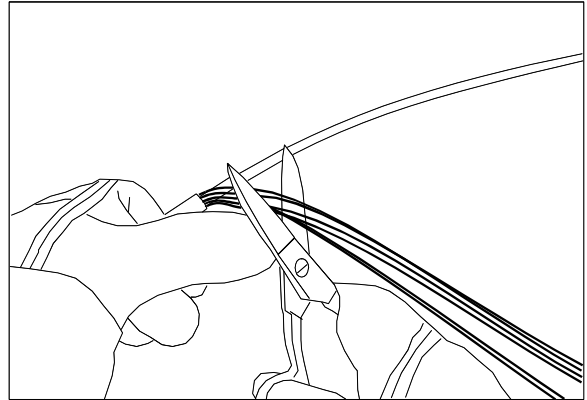
Before attempting to access the fibers, check the blade settings on the tool to be used by testing it on a section of scrap cable. Core tube slitters have been used successfully on Prysmian's central core tube configured optical fiber cable. A proper depth setting for slitting will cut two small grooves in the wall of the tube without touching the underlying fibers.

Measure the length of tube to be removed. Refer to the requirements of the protective closure being used. Mark the tube at the required distance from the cable sheath butt at the ends of the exposed core.

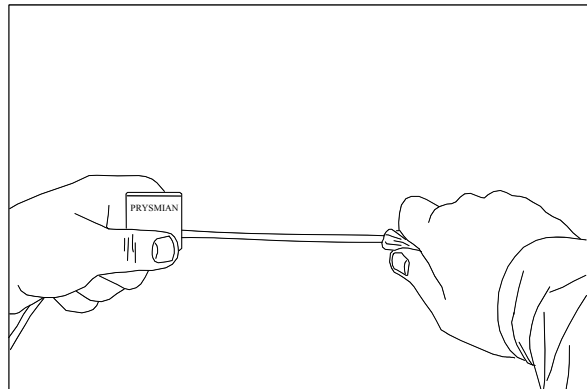
After checking the blade depth, use the core slitter carefully to slit the central loose tube in between the two marks.

With the central loose tube now slit, but still intact, final removal can take place.

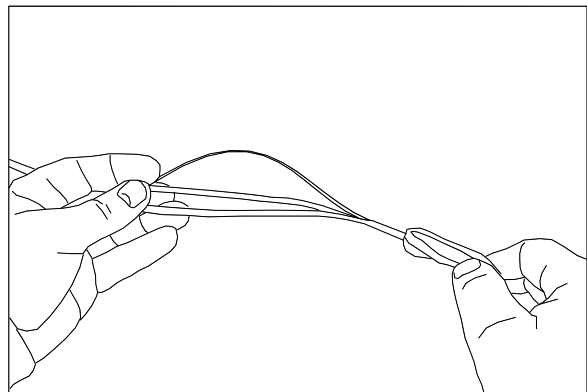
Peel the small slit section of the tube away and cut at both ends. Remove the fibers from the remaining split section of the tube.



Cutting the outer strength members



Slitting the central loose tube



Removing the fibers from the slit central loose tube

Cut the vacated section of central tube at both ends and discard.

The optical fibers are now exposed and accessible for termination. Extreme care must be taken to avoid damaging the fibers while handling the cable.

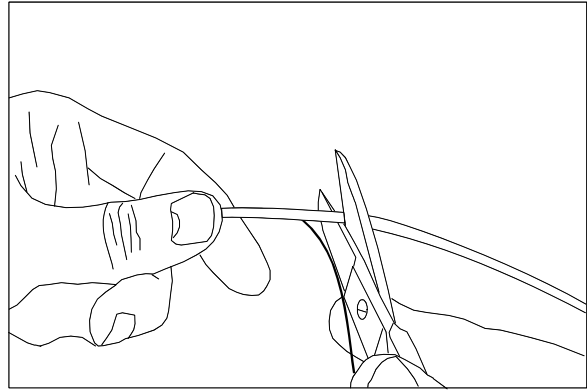
Gently wipe the excess thixotropic gel from the exposed fibers with an appropriate wipe.

Refer to local splicing/termination guidelines and vendor specifications for the correct procedures to install cable in closure.

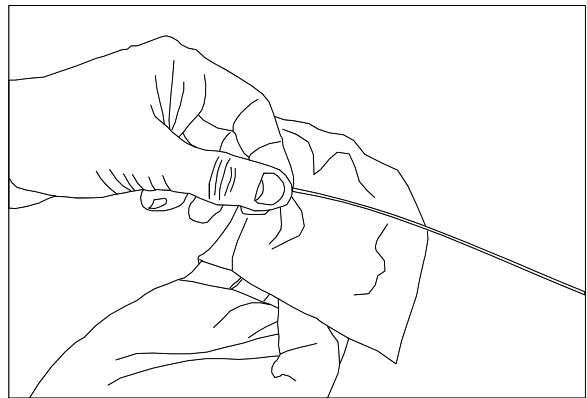
7.0 FIBER PREPARATION PRIOR TO TERMINATION

Using an approved primary coating stripping tool, remove the 250 μm diameter coating from the fiber. Note: Blades should close to a diameter that is between 150 and 175 μm . The fibers are now exposed and accessible for termination. Refer to local splicing /termination guidelines and vendor specifications.

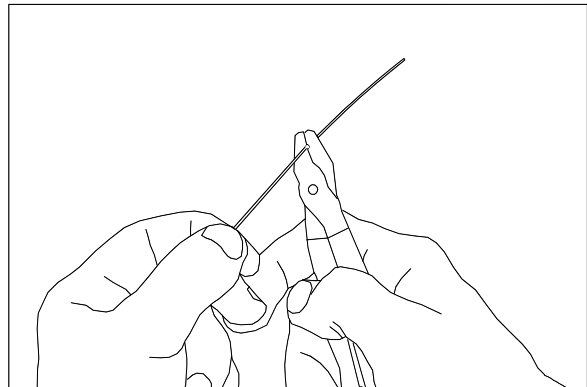
Note: If at this point connectors are to be installed it is the connector manufacturer that specifies cable component lengths, including proper termination procedures.



Cutting away the section of central tube just vacated



Wiping the excess thixotropic gel from the exposed fibers



Removing the primary coating