Prysmian Group

PRYSMIAN Draka

Armored | Microunitube cable with Ripcord
Preparation & Handling Procedure

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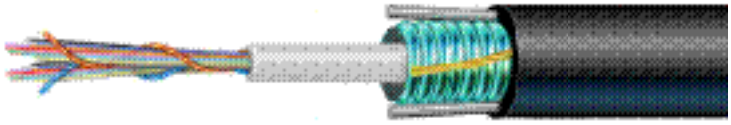

1.0 Scope

These instructions explain key installation and cable handling considerations for Microunitube (MUT) cable. MUT cable considerations are provided in other documents. When this cable is used in conjunction with closures, cabinets, pedestals, hardware, etc, the user must obtain installation procedures from the appropriate component manufacturer. Failure to adhere to preparation and handling procedures may void the cable warranty.

Please call if you have any questions at 1-800-669-0808 or 1-800-879-9862

2.0 Safety

2.1 It is recommended that the use of approved personal protective equipment be used.

2.2 Wear safety glasses and gloves, and use solvents in well ventilated areas.

2.3 Never look directly into the end of a fiber that may be carrying laser light. Laser light may be invisible and can damage your eyes. Viewing it directly does not cause pain. The iris of the eye will not close involuntarily as when viewing a bright light. Consequently, serious damage to the retina of the eye is possible. Should accidental eye exposure to laser light be suspected, arrange for an eye examination immediately.

2.4 DO NOT use magnifiers in the presence of laser radiation. Diffused laser light can cause eye damage if focused with optical instruments. Should accidental eye exposure be suspected, arrange for an eye exam immediately.

2.5 A Material Safety Data Sheet (MSDS) for Fiber Optic Cable is also available. Please call **1-800-669-0808 or 1-800-879-9862**

3.0 General Installation

3.1 Cable tension should not exceed 600 lbf.

3.2 The dynamic bend radius must be kept larger than 20 times the cable diameter. The static bend radius must be kept larger than ten (10) times the cable diameter.

3.3 DO NOT bend the central tube at sharp angles while removing the jacket, armor, tapes or strength members.

3.4 Properly set the blade depth on ring cutters. A shallow blade using single rotation is recommended.

3.5 Armor cable shall be bonded and grounded in accordance with customer requirements. Prysmian recommends all metallic components be bonded and grounded at each cable end.

3.6 Figure 8 machines are not permitted.

3.7 When blowing, a crash test should be performed for each cable to determine the maximum push force that can applied. This force will vary for different cable sizes and duct inside diameters.

3.8 Radial Strength Members (RSMs) should be secured at termination points. The cable jacket must also be secured.

3.9 DO NOT route more than 20 feet of buffer tube inside a closure or pedestal.

3.10 When removing buffer tubes, keep fibers pulled tight and straight to prevent fiber breaks. Pull the buffer tube off rather than pushing. DO NOT attempt to remove more than four (4) feet of buffer tube at a time.

3.10 DO NOT allow blades or sharp edges to contact the fibers.

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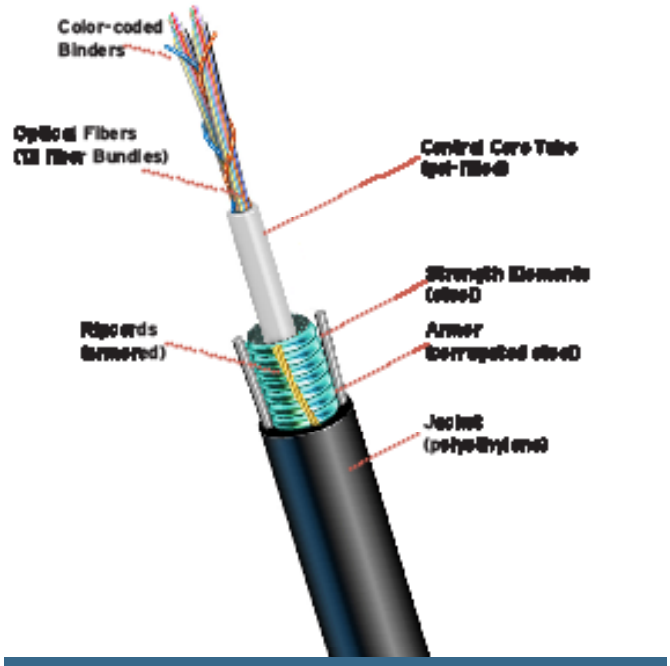
4.0 Reference Drawing



MicroUnitube Armor Cable

5.0 Tools and Materials Needed

- [+] Cable ring cutter, sheath knife, or utility knife (Alternative-Prysmian's Cable Jacket Slitter)
- [+] Pliers – needle nose, diagonal cutter, or linesman
- [+] Scissors or snips
- [+] D'Gel or cable cleaning solution
- [+] Lint free wipes
- [+] 99% Isopropyl alcohol
- [+] Disposable rags
- [+] Procedure from the closure, cabinet, pedestal, hardware manufacturer.

6.0 End of Cable Access Procedure

Quick Reference Checklist

6.1 Determine length of cable to be stripped, make Ring Cut #1 that distance from the end of the cable. (Prysmian does not recommend accessing more than 84 inches at a time).

6.2 Make Ring Cut #2 six (6) inches from the end of the cable.

6.3 Look at the end of the cable and locate the Radial Strength Members (RSM). The rods are located on opposite sides of the cable 180 degrees apart from each other.

6.4 Shave off the jacket/sheath over each radial strength member (RSM), starting six (6) inches from end of cable (ring cut #2) and cutting towards the end of the cable.

6.5 Remove the jacket in this six (6) inch area. Expose the ripcords.

6.6 Notch jacket/sheath near the ripcords. Pull the red ripcords to Ring Cut #1. Pull each red ripcord separately.

6.7 Remove jacket. (Grasp RSM's & armored buffer tube firmly and pull longitudinally with core)

6.8 Cut off excess length of RSM (see closure manufacturer recommendations. When in doubt, leave 12").

6.9 Score or ring cut the armor. Flex the armor to break/separate the armor for removal. Pull the armor over the tubes in a straight line careful not to bend or kink the buffer tube. Note: The armor should be bonded and grounded per company practices.

6.10 Determine length of fibers to be accessed and open the central tube. Use Ideal® ring cutter to score the buffer tube. Flex the tube and pull off tube in 48" sections.

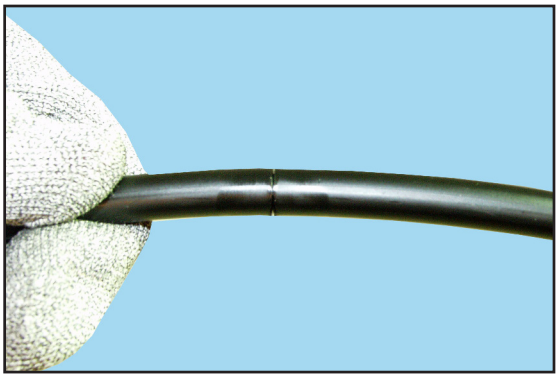
6.11 Clean fibers

7.0 Step-by-Step: End of Cable Access

7.1 Measure and Ring Cut #1

Determine the length of cable needed to access by referring to the instructions of the closure, pedestal, cabinet, etc manufacturer. Make a ring cut at this distance from the end of the cable.

CAUTION: Cutting too deeply through the jacket could damage the ripcords, armor or central tube. Only a shallow cut is necessary to allow the jacket to be removed. No more than 20 feet of tube should be stored inside a closure or pedestal.

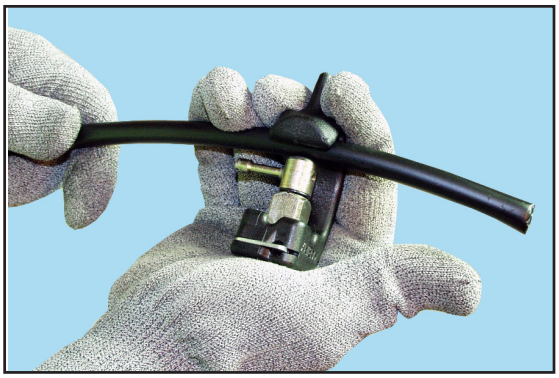


7.2 Ring Cut #2

Make Ring Cut #2 six (6) inches from the end of the cable.

7.3 Locate RSM's

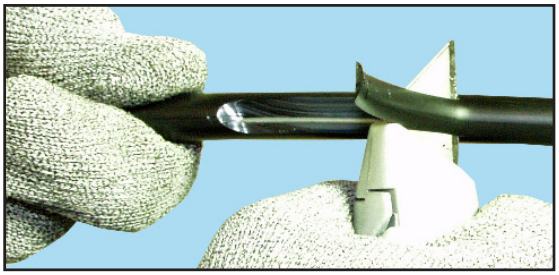
Look at the end of the cable to locate the Radial Strength Members (RSM). Radial Strength Members are located on opposite sides of the cable.

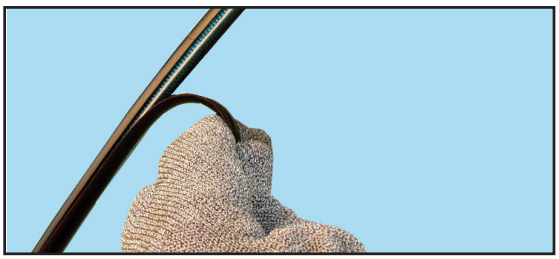


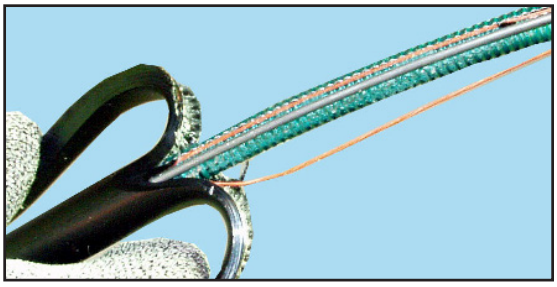
7.4 Shave The Jacket over the RSM's

Beginning six (6) inches from the end of the cable (Ring Cut #2), use a utility knife to shave-off the black jacket/sheath over the RSM's. Shave in the direction towards the end of the cable. Repeat over both RSM's. Peel back the jacket.

CAUTION: It is important to cut away from yourself to prevent injury from the blade.

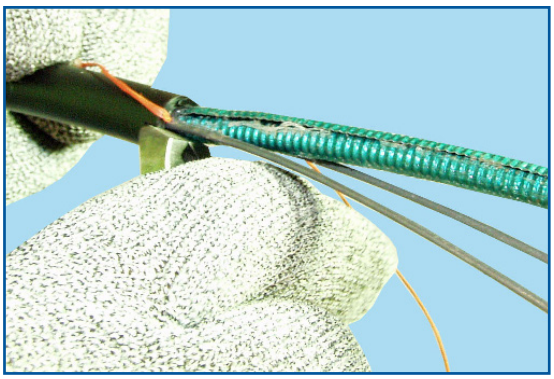






7.5 Locate Ripcords & Notch the Jacket

Locate the two (2) red ripcords. Use diagonal cutters to notch the jacket near the ripcords. This helps start the pull off the ripcords and prevents breaking the ripcords.

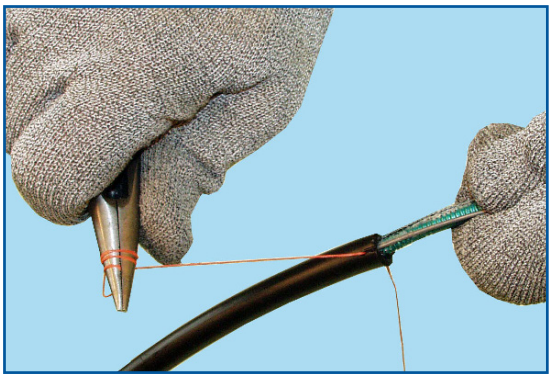


7.6 Knot the Ripcords

Tie a knot in the end of each ripcord. This will help hold the ripcord in the jaws of the pliers.

7.7 Pull Ripcords

Grasp one end of a ripcord in the jaws of needle nose pliers. Twist the pliers to wrap the ripcord around them, pull the ripcord through the jacket to the first ring cut.



> ***NOTE:*** For armored cable, consult the closure, pedestal, cabinets, or hardware manufacturer procedure and make sure to leave enough armor in front of the ring-cut to be used for grounding. You may need to pull the ripcord several more inches to leave adequate armor for grounding.

7.8 Remove the Sheath

Peel the sheath away from the armored cable core. Short pulls of eight (8) to ten (10) inches are recommended. Cut and discard.

> ***CAUTION:*** Care should be taken to prevent kinking the cable core while removing the jacket

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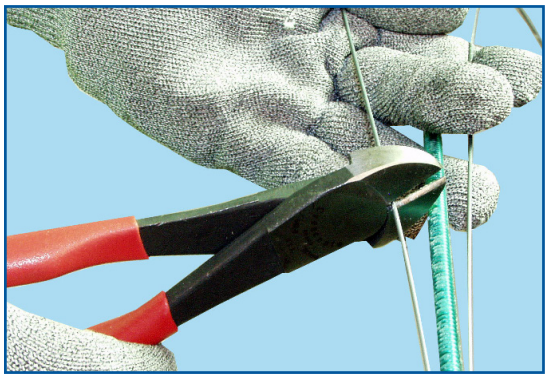
7.9 Remove the RSM's

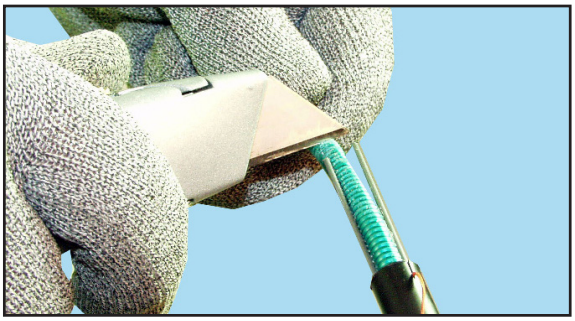
Determine the required length of Radial Strength Members (RSM) that need to be left for anchoring. Refer to the closure, cabinet, or pedestal manufacturer procedure. Cut and remove excess length. When in doubt, leave 12" of RSM's.



7.10 Remove the Armor

A. Score or ring cut the armor. Remember to leave the required length of armor needed for bonding and grounding.

A.

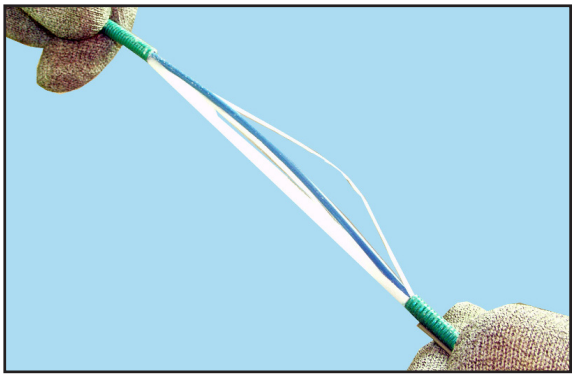


B. Flex the armor where the armor was scored to cause the armor to crack and separate.

B.

C. Pull off the armor from the core to access the buffer tube.

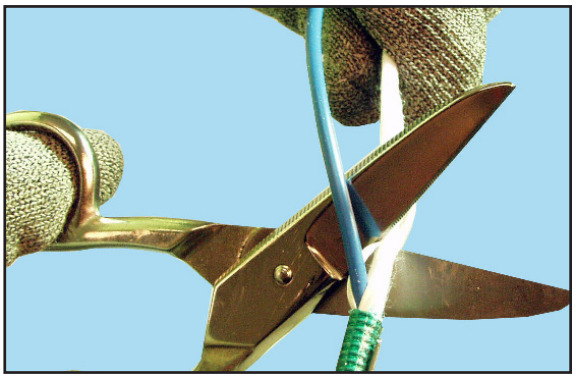
C.



> ***CAUTION:*** Care should be taken to prevent kinking the tube.

7.11 Remove the Yarns

Determine the required length of yarns that need to be left for anchoring. Refer to the closure, cabinet, pedestal manufacturer procedure. Use snips to cut and remove all excess length of yarns and tape from the cable core.



> ***NOTE:*** It is CRITICAL to tightly secure the radial strength members inside the closure, cabinet, pedestal or hardware.

7.12 Determine the length of buffer tube that is required for routing in the closure or pedestal. Refer to the procedure from the closure, cabinet, pedestal manufacturer. Do not expose more central tube than necessary.

> ***CAUTION:*** DO NOT store more than 20 feet of buffer tube.

7.13 To remove the tube, score the buffer tube with one rotation of the coaxial ring cutter. One rotation around the tube with the coaxial ring cutter is generally sufficient. Do not remove more than 48" of tube at a time.

CAUTION: Calibrate or test the depth of your coaxial ring cutter before scoring the tube. Failure to do so could result in cutting to deep an inadvertent cutting of fibers. It is also important that the tube only be scored; DO NOT cut through the tube.

7.14 Grasp the tube on each side of the score. Flex the central tube in all directions to separate the tube at the score mark. Pull the tube off of the fibers. Repeat removal of tubes in 48-inch sections until the desired length of fiber is exposed.

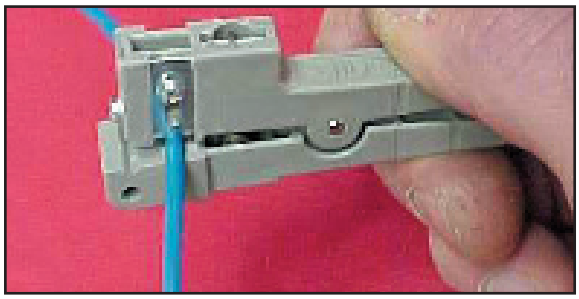
CAUTION: When removing buffer tubes, keep fibers pulled tight and straight to prevent fiber breaks. Pull the buffer tube off rather than pushing. Do not attempt to remove more than four (4) feet of buffer tube at a time.

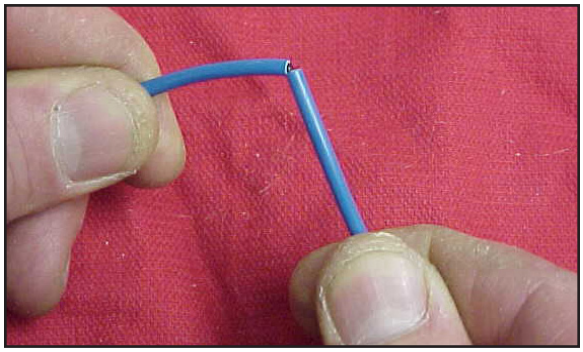
7.15 Clean the fibers using 99% isopropyl alcohol.

8.0 Midspan Access Procedure

Midspan access is not recommended with this design. Midspan access will require unfolding the armor overlap the entire accessed length.

END OF PROCEDURE





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.

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