

SIROCCO™

Microduct Cable

Jacket Opening Procedure



Table of Contents

1.0	SCOPE.....	3
2.0	SAFETY	3
3.0	KEY POINTS OF FIBER.....	4
4.0	TOOLS AND MATERIALS	5
5.0	JACKET REMOVAL FOR A BUTT SPLICE.....	6
6.0	JACKET REMOVAL FOR A MID-SPAN SPLICE.....	10
7.0	COUNTING THE CABLE.....	15

1.0 SCOPE

This document will serve as an overview of the procedures involved with opening and removing the jacket from a SIROCCO Microduct Cable. The SIROCCO Microduct Cable ranges in size from a 12-fiber cable to an 864-fiber cable. This cable is suitable for butt splicing and mid-span access. However, at this time, Prysmian does not recommend mid-spanning the individual tubes. The tolerances inside the tubes are very small and fiber damage can occur while trying to remove the buffer tube. Failure to adhere to the preparation and handling procedures may void the manufacturer's warranty and will cause the user adversity when splicing this cable.

Please call Customer Support at 1-859-572-8000 if you have any questions

2.0 SAFETY

- 2.1** It is recommended that approved personal protective equipment be used while opening the sheath on the SIROCCO Microduct Cable.
- 2.2** When using solvents, wear safety glasses and gloves, as well as using them in a well-ventilated area.
- 2.3** Never look directly into the end of a fiber that has the potential to be carrying a laser light. Laser light may be invisible and can damage your eyes. Viewing it directly may not cause pain. The iris of the eye will not close involuntarily such as when viewing a bright light. Consequently, serious damage to the retina of the eye is possible. If you suspect accidental eye exposure, arrange for an eye examination immediately.

3.0 KEY POINTS OF FIBER

- 3.1 The minimum cable bend radius during installation (while under tension) is 20 times the cable diameter. The minimum long term static bend radius is 10 times the cable diameter unless otherwise specified by the manufacturer.
- 3.2 **DO NOT** expose more length of buffer tubes than expressly called for by the cable manufacturer. Exposing excessive lengths of buffer tubes may lead to an attenuation increase, along with fiber damage. If a longer buffer tube storage length is needed, remove the buffer tube, and place the fiber in the splice trays or inside a mesh wrap.
- 3.3 **DO NOT** allow blades or sharp edges to contact the fibers.
- 3.4 Central Strength Members (CSM) **MUST** be secured tightly in a closure to prevent expansion/contraction and potential attenuation increases.
- 3.5 Jacket sheath **MUST** be secured tightly in a closure. This will prevent expansion/contraction and potential attenuation increases.
- 3.6 **DO NOT** exceed the minimum bend radius of the cables.
- 3.7 **DO NOT** exceed the maximum pulling tension or blowing force.
- 3.8 When removing buffer tubes, keep the fibers pulled tight and straight to prevent fiber breaks. Pull the buffer tube off the fibers rather than trying to push it off. **DO NOT** attempt to remove more than 48 inches (122cm) of buffer tube at the time from dry fiber, and no more than 24 inches (61cm) at a time from gel-filled fiber. Especially if the temperature is <32°F (0°C).
- 3.9 **DO NOT BEND THE BUFFER TUBES AT SHARP ANGLES** while removing the jacket, armor, yarns, or strength members.
- 3.10 The use of proper tools to open fiber jackets and buffer tubes is highly recommended to prevent fiber damage. The use of an open blade is discouraged while accessing the cable sheath.
- 3.11 **AT ALL TIMES FOLLOW YOUR LOCAL PRACTICE AND SAFETY GUIDELINES REGARDING CABLE HANDLING AND MANAGEMENT.**

4.0 TOOLS & MATERIALS

Prysmian suggests having the following tools on hand to open the SIROCCO Microduct Cable easily and accurately.

At all times follow your local practice for allowable tools.

- Cut Resistant Gloves
- Safety Glasses
- Snips
- Diagonal Side Cuts
- Cable or Razor Knife (Follow your local practice)
- Cable Jacket Removal Tool (Follow your local practice)
- Tape Measure
- Vinyl Tape
- White Marking Pen
- Alcohol Preps
- Cable Wipes.

5.0 JACKET REMOVAL FOR A BUTT SPLICE

The ability to butt splice 2, SIROCCO Microduct Cables together is imperative to build your network. This all starts with the removal of the outside jacket or sheath. This process is very simple and can be accomplished in just a few steps.



- 5.1** Choose the right tool. There are many brands of tools that will work to take the sheath off of the Sirocco Mico-Duct Cable. They must have an adjustable blade to work well.



- 5.2 NEVER** use a cable knife or razor knife to remove the sheath from the Sirocco Microduct cable. You will damage the tubes and fibers.



- 5.3** Check the blade depth.



- 5.4** Use a scrap piece of cable to gauge the proper depth. This is too deep. The blade extends too far into the jacket and will cut the tubes.



5.5 Here the blade has been adjusted to the proper depth. This will score the sheath without damaging the underlying tubes.



5.6 Measure 6 inches (15cm) of sheath.



5.7 With your calibrated tool set to **RING CUT**. Score the cable at the 6 inch mark (15cm). Do this by spinning the tool around the cable 3-4 times.



5.8 DO NOT REMOVE THE TOOL FROM THE CABLE. Switch the tool to Longitudinal cut.



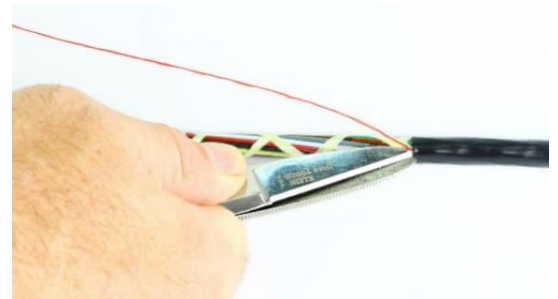
5.9 Gripping the tool firmly, slide the tool off the end of the cable.



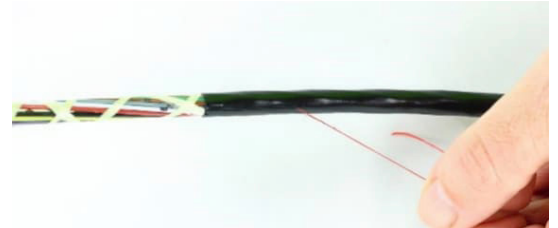
5.10 After you have made the longitudinal cut and removed the tool, you will be able to peel the jacket off the cable.



5.11 Using your snips, make a small notch in the jacket beside the rip cord. This will make it very easy to slide the rip cord through the jacket. If you omit this step, you risk breaking the rip cord and needing to start over.



5.12 Pull the rip cord out of the jacket for the desired length of cable that you wish to open.



5.13 Ring the jacket again and remove the excess sheath. Use your snips or other approved tool to remove the yarns, water blocking material, and rip cord.



5.14 Using your snips, trim the CSM to the desired length.



5.15 Use Vinyl Tape to cover the end of the fiber opening to prevent burrs or chaffing.



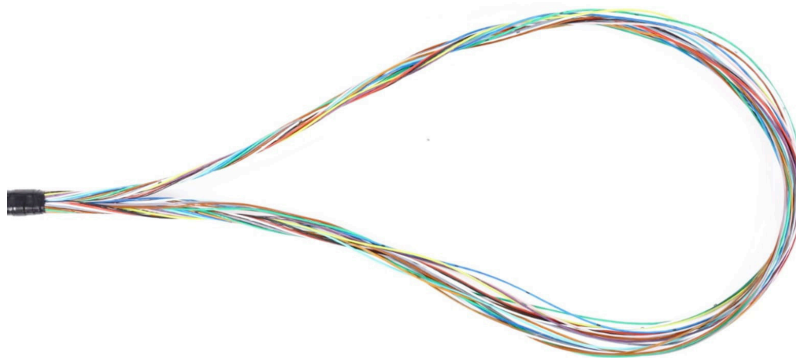
5.16 Repeat this process for any additional cables.

5.17 Follow the closure manufacturer recommended procedures for securing and splicing the cable.

6.0 JACKET REMOVAL FOR A MID-SPAN SPLICE

When splicing, having the ability to Mid-Span a cable is a very handy tool. The Sirocco Microduct Cable is very easy to Mid-Span. You will follow the same basic principals that we learned in the previous section. There are a few minor differences.

Please keep in mind, Prysmian allows you to Mid-Span the full cable, however, they do not recommend mid-span access of individual tubes.



- 6.1** Choose the right tool. There are many brands of tools that will work to take the sheath off of the Sirocco Microduct Cable. They must have an adjustable blade to work well.



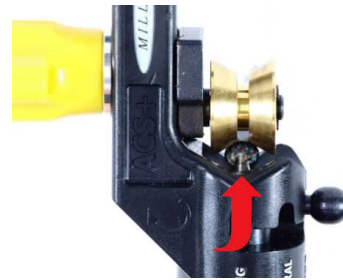
- 6.2** NEVER use a cable knife or razor knife to remove the sheath from the Sirocco Microduct cable. You Will damage the tubes and fibers.



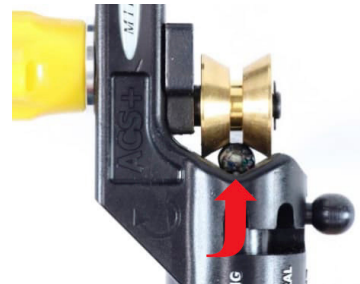
- 6.3** Check the blade depth.



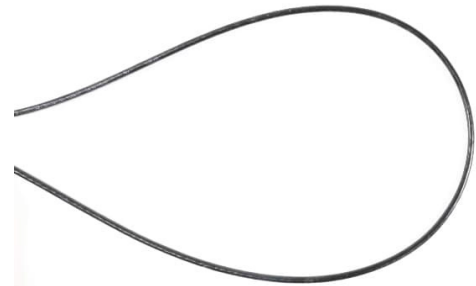
6.4 Use a scrap piece of cable to gauge the proper depth. This is too deep. The blade extends too far into the jacket and will cut the tubes.



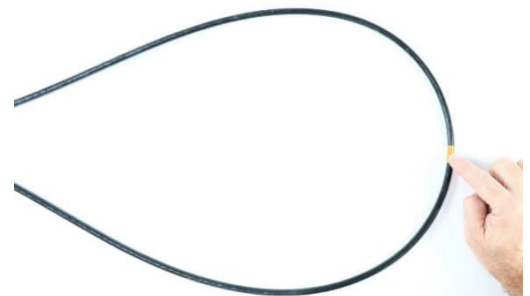
6.5 Here the blade has been adjusted to the proper depth. This will score the sheath with out damaging the underlying tubes.



6.6 You will need to decide how much cable that you need to introduce into the closure. Follow the manufacturer's guidelines.

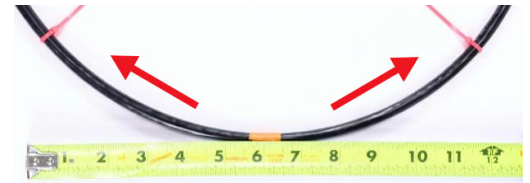


6.7 Find the apex of the mid-span.



6.8 Measure 6 inches (15cm) in each direction from the mid-point of the apex.

***Note:** You may prefer to use a white marker to make your marks on the cable. Doing so will reduce the risk of jacket damage when removing the tie-wrap.



6.9 Using the tool that you have calibrated, ring cut the jacket at one of your marks.



6.10 Shift your blade to longitudinal cut and pull the tool to the next mark across the apex.



6.11 Once you reach the next mark. Switch your tool back to ring cut and ring the jacket.



6.12 Remove the jacket from the cable in-between your marks.



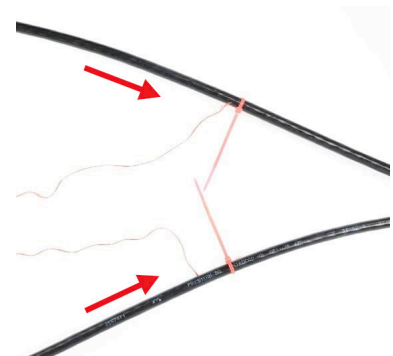
6.13 Use your snips to cut the rip cord at the apex.



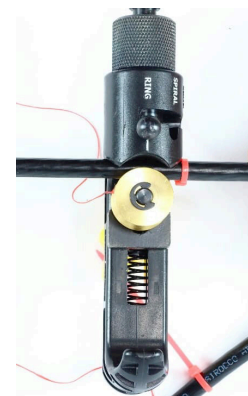
6.14 Use your snips to notch the jacket to allow the rip cord to pull easily.



6.15 Pull the rip cords down the jacket until you reach the desired length of sheath to be removed.



6.16 Use your calibrated tool to ring the jacket at each mark on the cable.



6.17 Remove the sheath from the cable.



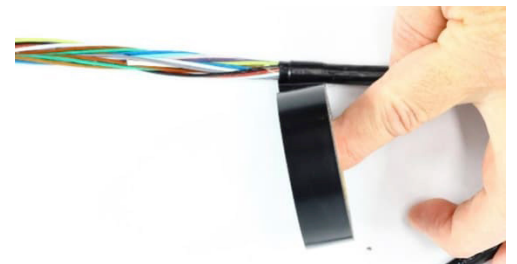
6.18 Use your snips or other approved tool to remove the yarns, water blocking material and rip cords.



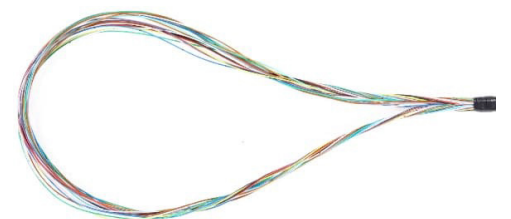
6.19 Use your snips or other approved tool to trim the CSM to the desired length.



6.20 Use Vinyl tape to secure the ends of the cable from fraying or chaffing.

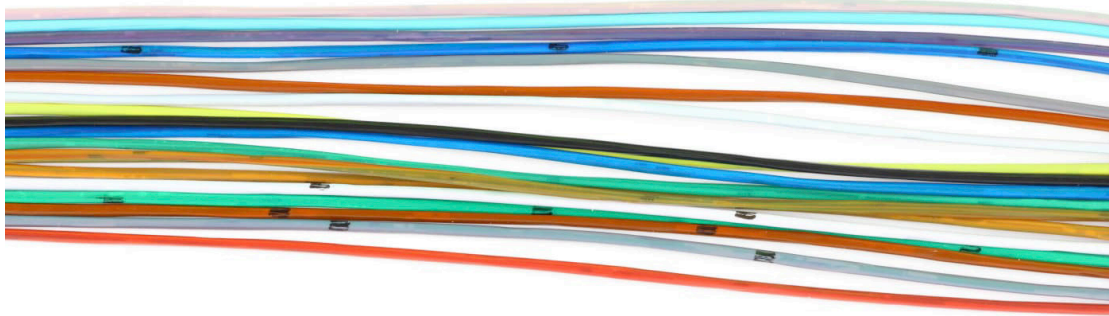


6.21 Carefully place the mid-spanned cable into the desired closure following the manufacturer's guidelines.



7.0 COUNTING THE CABLE

Prysmian’s Sirocco Microduct Cable uses the standard TIA color code to identify each tube. Due to the tube thickness the colors may look a little “faded” vs. standard tubes. Also, please note, for tube values above 12 a black stripe has been added. For higher count cables, you will find 24 to 36 fibers in each tube. Use extra caution when opening and sorting fibers.



TUBE COLOR DESIGNATIONS

Blue	1	Dash-Blue	13
Orange	2	Dash-Orange	14
Green	3	Dash-Green	15
Brown	4	Dash-Brown	16
Slate	5	Dash-Slate	17
White	6	Dash-White	18
Red	7	Dash-Red	19
Black	8	See Note*	20
Yellow	9	Dash-Yellow	21
Violet	10	Dash-Violet	22
Rose	11	Dash-Rose	23
Aqua	12	Dash-Aqua	24

***Note:** Tube 20 may look different depending on the factory that makes the cable.

Romania- Natural with a black stripe

North America-White with 2 Black Dashes.

These are subject to change.



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