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3.0 Key Points

3.1 Do not allow blades or sharp edges to contact the fibers.

3.2 For 2.5 mm (standard product) buffer tubes do not leave more than 8 foot of exposed buffer tube in closures, pedestals, cabinets, etc. For 3.0 mm (heavy duty) designs, do not leave more than 20 feet of exposed buffer tube. Exposing buffer tube beyond the recommended limits may lead to attenuation increase.

If longer buffer tube storage length is needed:

- remove the buffer tube and place the bare fiber(s) in splice trays or inside spiral wrap.

3.3 Central strength member MUST be tightly secured to prevent expansion/contraction and potential attenuation increase.

3.4 Jacket sheath MUST be tightly secured inside the closure, pedestal, cabinet, etc to prevent expansion/contraction and potential attenuation increase.

3.5 Do not exceed the minimum bend radius.

3.6 Do not exceed the maximum pull tension.

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

3.8 Do not bend buffer tubes at sharp angles while removing the jacket, armor, yarns, or strength members.

3.9 A Draka ezACCESS Buffer Tube Access Tool is highly recommended for midspan access of fibers in the buffer tubes to prevent fiber damage. [Call 1-800-879-9862](tel:1-800-879-9862) to order.

1.0 Scope

This document provides instruction for the preparation and handling of Draka ezPREP Loose Tube fiber optic cable. The instructions in this document explain how to prepare end openings and midspan openings of loose tube fiber optic cable. When this cable is used in conjunction with splice closures, cabinets, pedestals, hardware, etc, the user must obtain installation procedures from the appropriate component manufacturers. Failure to adhere to preparation & handling procedures may void the cable warranty.

Questions? Call 1-800-879-9862

2.0 Safety

2.1 Draka Comteq recommends the use of approved personal protective equipment in this procedure.

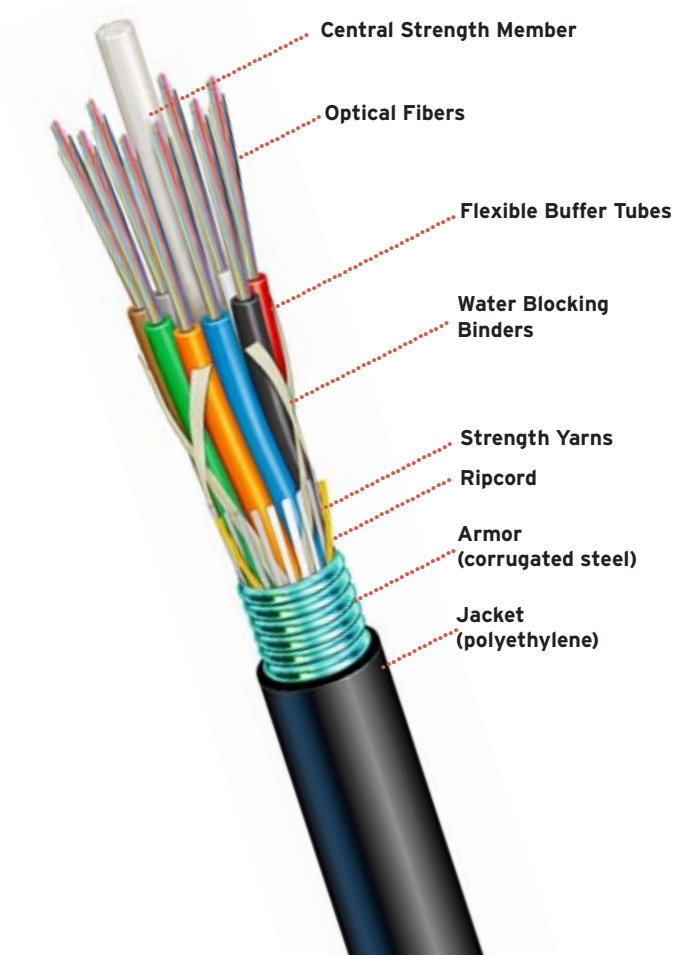
2.2 Wear safety glasses and gloves, and use solvents in well-ventilated areas.

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.

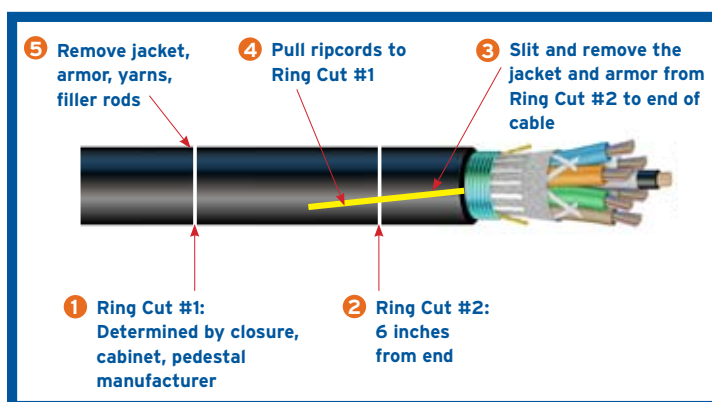
2.4 DO NOT use magnifiers in the presence of laser radiation. Diffused laser light can cause eye damage if focused with optical instruments. Should accidental eye exposure be suspected, arrange for an eye exam immediately.

2.5 A Material Safety Data Sheet (MSDS) for Fiber Optic Cable is also available. [Call 1-800-879-9862](tel:1-800-879-9862).

4.0 Reference Drawing



Armored Loose Tube



5.0 Tools and Materials Needed



- [+] Cable ring cutter, sheath knife, or utility knife (alternatively, an ezACCESS cable jacket slitter)
- [+] Pliers - needle nose, diagonal, or lineman
- [+] Diagonal cutters
- [+] Scissors or snips
- [+] Flat-tip screwdriver
- [+] Cable cleaning solution / D'Gel
- [+] Lint free wipes
- [+] 99% propanol alcohol
- [+] Disposable rags

6.0 End of Cable Access Procedure Quick Reference Checklist

1. Remove jacket and armoring (if applicable)

- [+] Measure access length and make ring cuts.
- [+] Score armor, flex and pull off 6" section from cable end
- [+] Notch armor/sheath and pull ripcords.
- [+] Remove jacket and armor.

2. Prepare the cable core.

- [+] Cut and remove yarns, binders, and unnecessary filler rods.
- [+] Separate buffer tubes from central strength member (CSM).
- [+] Cut CSM to proper length.

3. Prepare buffer tubes and fibers.

- [+] Score and remove buffer tubes in < 4 foot sections. Draka's ezACCESS Buffer Tube Access Tool is recommended for midspan access.
- [+] Do not leave more than the maximum specified length of exposed buffer tube for use inside closures, pedestals, cabinets, etc.
 - > for 2.5mm buffer tubes, not more than 8 feet
 - > for 3.0mm buffer tubes, not more than 20 feetExposing buffer tube beyond the recommended limits may lead to attenuation increase. For longer lengths, place bare fiber in spiral wrap or secure in splice trays.

- [+] Clean fibers and prepare for splicing.

Step-by-Step: End of Cable Access

6.1 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:

Only a shallow cut is necessary to remove the jacket. Cutting too deeply through the jacket may result in damage to the ripcords, armor, buffer tubes, and fibers.

6.2 Ring Cut #2

Make a second ring cut 6 inches (15 cm) from the end of the cable, again being careful not to cut too deeply.

6.3 Jacket and armor removal (preferred method)

FOR ARMORED CABLE, score the armor at ring cut #2. Flex the cable at the ring cut to make sure the jacket is cut all the way through and to break the armor (if applicable).

FOR NON-ARMORED CABLE, score the jacket longitudinal down the cable. Make several shallow cut passes. Flex the cable to separate the jacket.

Grabbing the cable end, pull the 6" section of jacket/armor off the end of the cable.

6.4 Jacket and/or armor removal (alternative method)

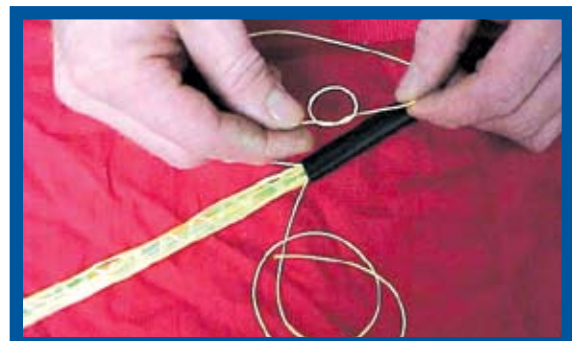
Slit 6" of the outer jacket from the second ring cut to the end of the cable, and remove the jacket with needle nose pliers.

6.5 Ripcord Notches

Use diagonal cutters to notch the jacket (and armor, if applicable) near the ripcords. This helps start the pull of the ripcords and prevents breaking ripcord.

6.6 Knot the Ripcords

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



6.7 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.



6.8 Remove Jacket/Armor

Peel the jacket and armor (if applicable) away from the cable core and discard it.

NOTE:

If the cable has an inner jacket, repeat steps 1 through 8.

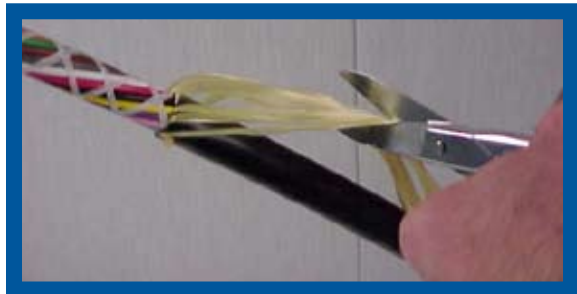
CAUTION:

Care must be taken not to cut into the buffer tubes when scoring the inner jacket. Keep the center of the cable as straight as possible and avoid bending the buffer tubes at sharp angles, which can break fibers.



6.9 Strength Yarn

Refer to the closure, pedestal, cabinets, and hardware manufacturer procedure to determine how much strength yarn to leave exposed for anchoring. Use snips to cut and remove the excess length of yarns from the cable core.



6.10 Binders

Use scissors and/or diagonal cutters to cut and remove binders from cable core.

CAUTION:

Take care to avoid piercing or cutting the buffer tubes.



6.11 Buffer Tubes

Separate the individual buffer tubes from the central strength member (CSM) and filler rods. Keep the buffer tubes straight as possible to prevent fiber breaks.



6.12 Central Strength Member (CSM)

Refer to the closure, pedestal, or cabinet manufacturer procedure to determine how much CSM to leave exposed for anchoring. Using lineman's pliers, cut the excess CSM and filler rods and remove them from the cable core.

CAUTION:

Securing the central strength member inside the closure, pedestal, or cabinet is a critical element to prevent expansion/contraction and potential attenuation increases.

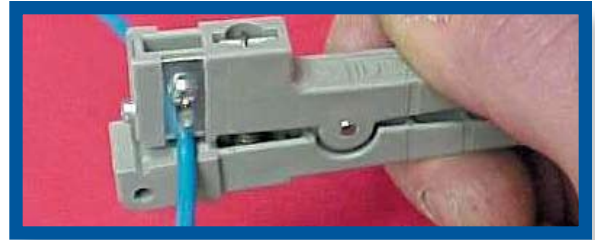


6.13 Buffer Tube Cleaning

If handling a flooded cable, thoroughly clean all buffer tubes with cable cleaning solution and a rag. All Draka ezPREP Loose Tube cables utilize dry water-swallowable binders and tapes that eliminate this step.

6.14 Buffer Tube Scoring

Starting from the end of the tube, measure 1 to 4 feet, then score each tube individually with rotations of the coaxial ring cutter.



6.15 Removing the Buffer Tube and Exposing Fibers

CAUTION:

Care must be exercised in this step to prevent cutting or breaking fibers while removing the buffer tube.

Grasp the tube on each side of the score mark. Flex the tube in all directions to separate the tube at the scored mark.



CAUTION:

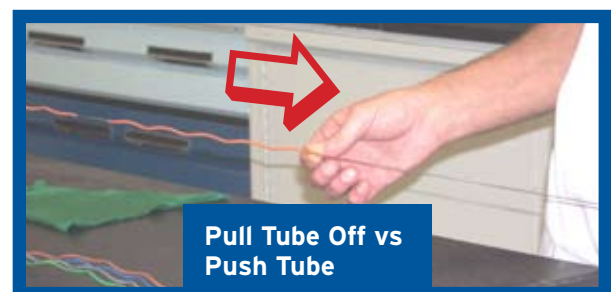
Hold the buffer tube tight and straight while pulling the tube off the fibers. Apply back-tension to the fibers while pulling the tube off.

Repeat the removal of tubes in 1 to 4 foot sections as described in steps 14 and 15 until the desired length of fiber is exposed.

For 2.5 mm (standard product) buffer tubes, do not leave more than 8 foot of exposed buffer tube in closures, pedestals, cabinets, etc. For 3.0 mm (heavy duty) designs, do not leave more than 20 feet of exposed buffer tube. Exposing buffer tube beyond the recommended limits may lead to attenuation increase.

6.16 Fiber Cleaning

Clean the fibers with 99% propanol alcohol and lint free wipes.



7.0 Midspan Access Procedure

Technical Note

Cables with more than 288 fibers will have 24 fibers per tube that contain two bundles of 12 fibers each. The bundles are distinguished by blue and orange binder threads.



Tools and Materials Needed

- [+] Cable ring cutter, sheath knife, or utility knife (alternatively, an ezACCESS cable jacket slitter)
- [+] Needle nose pliers
- [+] Diagonal cutters
- [+] Scissors or snips
- [+] Flat-tip screwdriver
- [+] Pliers
- [+] Procedure for closure, cabinet, pedestal hardware
- [+] Draka ezACCESS Midspan Access Tool
- [+] Cable cleaning solution or D'Gel
- [+] Cleaning rags
- [+] Lint free wipes
- [+] 99% propanol alcohol

Quick Reference Checklist

1. Remove jacket and armoring

- [+] Determine access point and make 2 ring cuts 8-12 inches apart.
- [+] Slit jacket between ring cuts & remove.
- [+] Cut and pry away the armor.
- [+] Notch jacket and pull ripcords an equal distance both directions from switchback.
- [+] Remove jacket and armor.

2. Prepare the cable core.

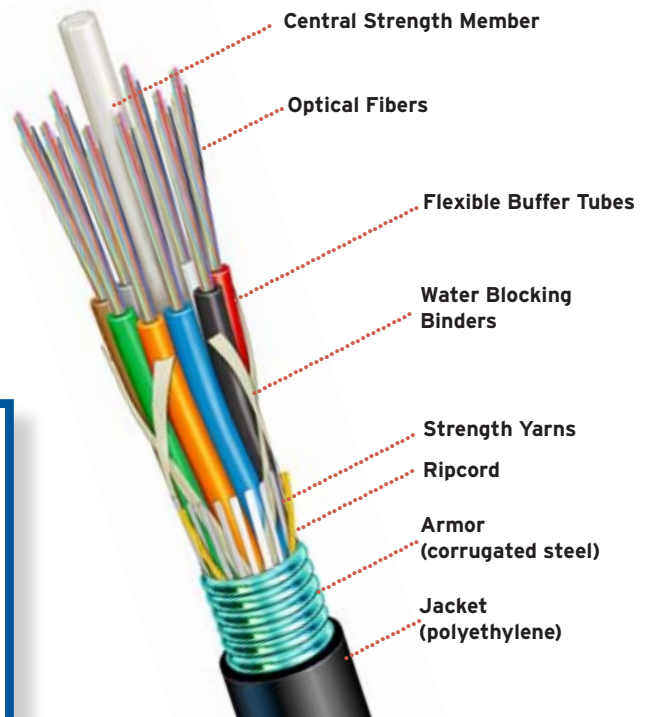
- [+] Cut and remove yarns and binders.
- [+] Separate buffer tubes from central strength member (CSM).
- [+] Cut CSM and remove filler rods (if present).

3. Prepare buffer tubes and fibers.

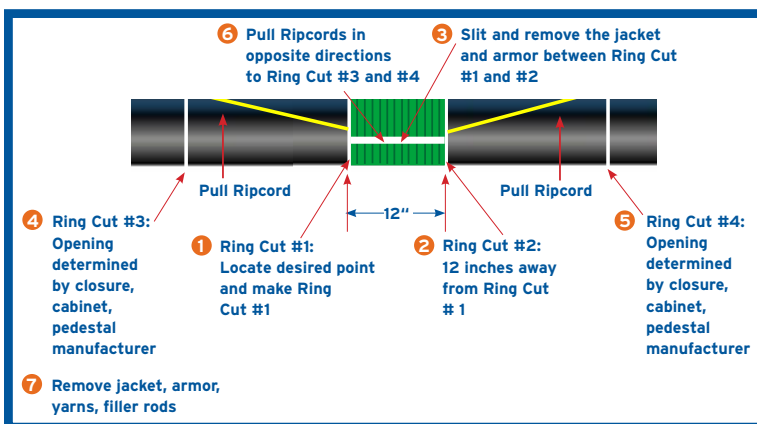
- [+] Clean buffer tubes (as needed).
- [+] Refer to "Procedure for Midspan Access of Fibers in Buffer Tubes". Draka recommends the ezACCESS Buffer Tube Access Tool. [Call 1-800-879-9862](tel:1-800-879-9862) to order.

4. Ensure appropriate buffer tube length.

- [+] For 2.5 mm (standard product) buffer tubes do not leave more than 8 feet of exposed buffer tube in closures, pedestals, cabinets, etc. For 3.0 mm (heavy duty) designs, do not leave more than 20 feet of exposed buffer tube. Exposing buffer tube beyond the recommended limits may lead to attenuation increase.



Armored Loose Tube



Step-by-Step: Midspan Access

7.1 Ring Cut #1:

Determine the access/splice point location and make a ring cut at this location.

CAUTION:

Only a shallow cut is necessary to remove the jacket. Cutting too deeply through the jacket can result in unintentional damage to the ripcords, armor or buffer tubes.



7.2 Ring Cut #2:

Make a second ring cut 8 to 12 inches (20-30 cm) from the first ring cut, again being careful not to cut too deeply.

7.3 Jacket Removal:

Use a cable or utility knife to slit the outer jacket between Ring Cut #1 and Ring Cut #2. Remove the jacket in a single piece. Make several shallow cut passes.



7.4 Armor removal:

At the ring cut, cut the armor (if applicable) with diagonal cutters and then use a flat-tip screwdriver to pry it away, exposing the ripcords. Remove the Armor.

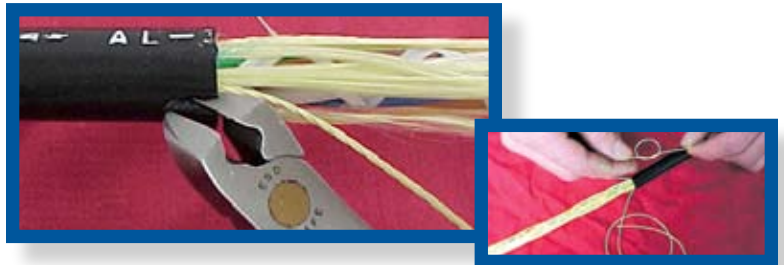


7.5 Ripcord Notches:

Use diagonal cutters to notch the jacket (and armor, if applicable) near the ripcords. This helps start the pull of the ripcords.

7.6 Knot in the Ripcords:

Cut the ripcords in the center of the opening. Tie a knot in the end of each ripcord.

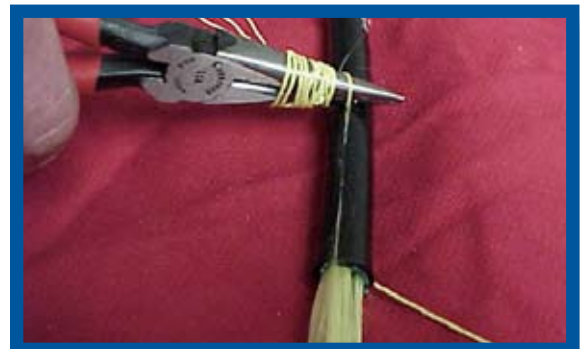


7.7 Pull Ripcord and Find Switchback Point:

Grasp one end of a ripcord in the jaws of needle nose pliers. Turn the pliers to wrap the ripcord around them, then pull the ripcord through the jacket to the nearest switchback (stranding reversal point).

NOTE:

For armored cable, consult the closure, pedestal, cabinet, or hardware manufacturer's procedure and make sure to leave enough armor in front of the ring cut to be used for grounding.



7.8 Ring Cut #3 and #4

Refer to the closure, pedestal, cabinet, and hardware manufacturer's procedure to determine the required access length. Mark equal distance on both sides of the switchback to provide the predetermined access length, then ring cut the jacket at each mark. Make Ring Cut #3 and #4.

CAUTION:

Only a shallow cut is necessary to remove the jacket. Cutting too deeply through the jacket can result in unintentional damage to the ripcords, armor or buffer tubes.



7.9 Pull Ripcords to Ring Cut #3 and #4

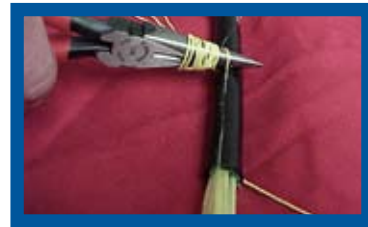
Pull the ripcords through the jacket and open the jacket to Ring #3 and #4. Remove the jacket and armor.

NOTE:

For armored cable, consult the closure, pedestal, cabinet, or hardware manufacturer's procedure and make sure to leave enough armor in front of the ring cut to be used for grounding.

7.10 Strength Yarn

Refer to the closure, pedestal, cabinet, or hardware manufacturer's procedure to determine how much strength yarn to leave exposed for anchoring. Use snips to cut and remove the excess length of yarns from the cable core.



7.11 Binders

Use a seam ripper and/or diagonal cutters to cut and remove binders from around the cable core.

CAUTION:

Take care to avoid piercing or cutting the buffer tubes.

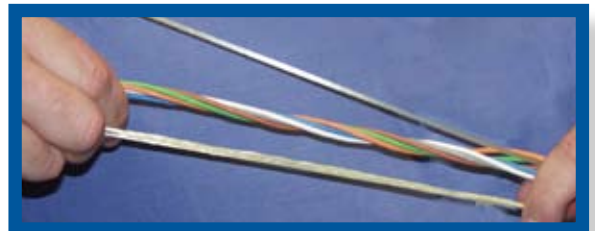


7.12 Buffer Tubes

Separate the individual buffer tubes from the central strength member (CSM) and filler rods.

7.13 Central Strength Member (CSM)

Refer to the closure, pedestal, cabinet, or hardware manufacturer's procedure to determine how much CSM to leave exposed for anchoring. Using lineman's pliers, cut the excess CSM and filler rods and remove them from the cable core.



7.14 Buffer Tube Cleaning

If handling a flooded cable, thoroughly clean all buffer tubes with D'Gel cleaning solution and a rag. All EZ Prep Loose Tube cables utilize dry water-swelling binders and tapes that eliminate this step.

7.15 Buffer Tube Access

Refer to Draka Comteq's "Procedure for Midspan Access of Fibers in Buffer Tubes".

