COMMSCOPE®

SYSTIMAX® Solutions

# Interlocking Armor Fiber Optic Cable Installation Guide

at work

Getting Started

In order to install an interlocking armor cable, there are a few important tools that you should have for the installation process:

- Utility knife or sheath knife
- Armor splitting tool
- Screw Driver
- Metal Clad Cable Connector

How is interlocking armor installed?

Interlocking armor can be installed like any fiber optic cable installation; however, there are some extra steps when preparing the cable for the installation:
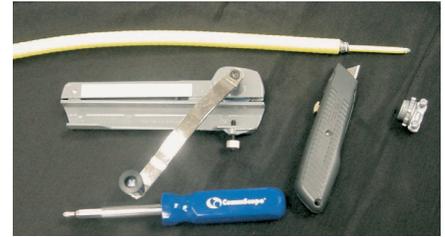

Basic Tools

Caution: *Failure to follow proper pulling procedures, pulling on the fiber cable, or armor only may result in fiber damage and void the manufacturer's warranty.*

Installation of Wire Mesh Pulling Grips In Preparation to Install CommScope Interlocking Armored Single Unit Fiber Cable
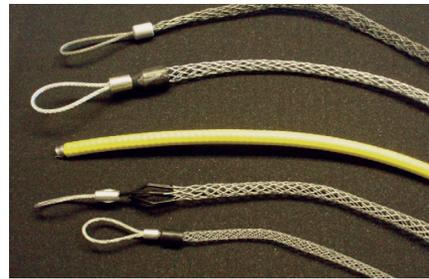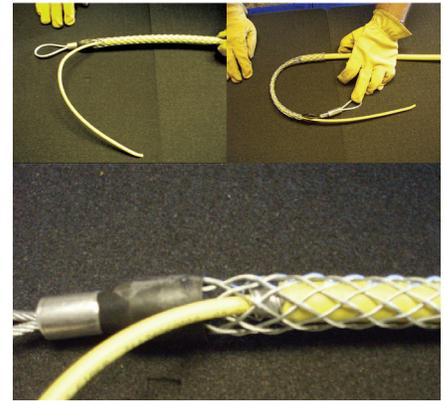

Step 1:
Determine the correct size wire mesh pulling grip. Caution: too large a grip will slip on the armor, too small will be very difficult to install.


A
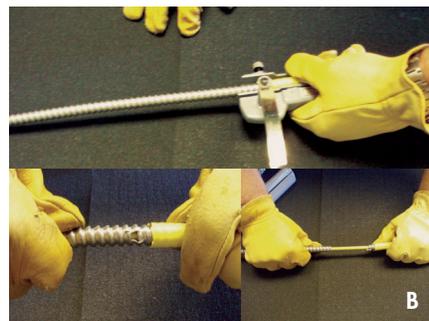
Step 2:
Mark the outer jacket at 18 to 24 inches from the open end. Ring cut and split the jacket. Remove the outer jacket from the armor. Using an armor cutting tool remove 18 to 24 inches of armor to expose the core cable.
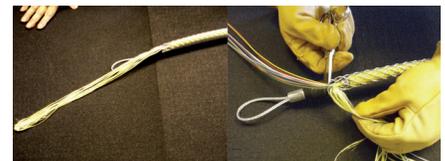

B

Step 3:
Insert the cable and armor into the wire mesh pulling grip. Bring the core cable out of the grip through the mesh as close to the pulling end as possible, or through the "Basket" depending on the pulling grip being used.
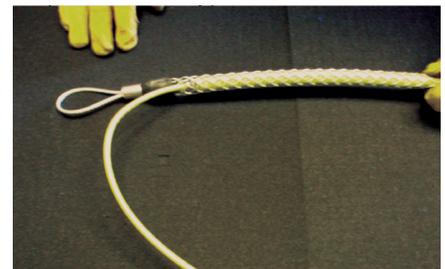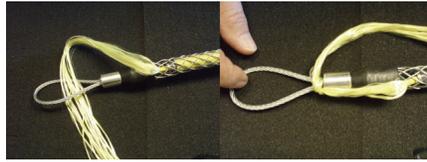

Step 4:
Continue to insert the cable and armor into the grip until the tip of the armor is at the point where the cable exits the grip.
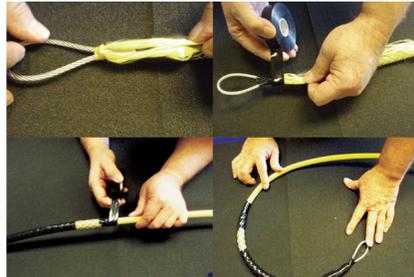

Step 5:
Ring cut the core cable as close to the mesh grip as possible, remove the jacket to expose the aramid yarn and fibers. Using an appropriate cutting device remove the buffered fibers, taking care to leave ALL the aramid yarn intact.

Step 6:
Twist the yarn into a manageable bunch and tie securely to the pulling eye of the mesh grip.

Step 7:
Slide the armor and core cable back into the mesh grip until the aramid is tight. Using electrical tape cover the aramid to protect it during the pulling process. Also tape the mesh grip to the armor at the entry point.

Step 8:
Attach a properly rated swivel to the pulling eye of the mesh grip. Take caution not to exceed the maximum pulling tension of the fiber cable.
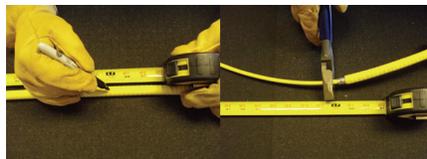
Step 9:
After completion of the pull, remove the pulling grip. Measure 48 inches from the end of the armor. Using the armor cutting tool, remove the armor, then cut the cable at the armor exit and discard. Secure the cable. Tape the end to prevent ingress of foreign materials.

Preparation of Interlocking Armor for Termination

Step 10:
After determining the amount of fiber cable needed for proper termination, make a ring cut in the outer jacket.

Step 11:
Make a second ring cut in the outer jacket 1 to 1-1/2 inches from the first ring cut.

Step 12:
Split outer jacket between ring cuts.

Step 13:
Remove outer jacket between ring cuts.

Step 14:
Using the armor splitting tool, place the cable in the cable guide, tighten the thumbscrew and rotate the handle until the armor is cut. The armor splitting tool is designed to cut through with only one revolution of the cutter to protect the fiber cable inside.

Step 15:
Using a twisting motion, separate the armor at the cut and remove the armor from the fiber cable.
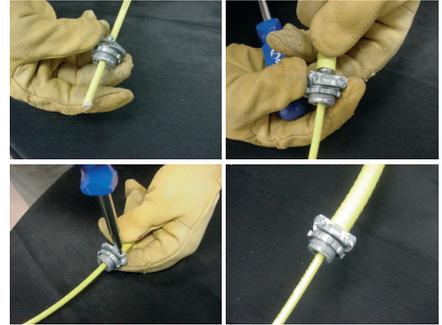
Step 16:
Insert the fiber cable into the MC connector and attach to the armor. This will provide protection for the sharp edges of the armor and allow for grounding.

Note:
The MC connector must be in contact with bare metal when used for grounding.

Should Interlocking Armor be grounded?
The simple answer is YES. Interlocking armor must be bonded to ground. When the cable run is started and terminated in a metal distribution box, the NEC approved MC connector will serve as the bond. Remember the metal distribution box must be bonded to ground. If the armor is stopped short of a metal box at least one end must be grounded. One method is using a piece of 1-5/8″ x 1-5/8″ U shaped metal strut. Mount a ground lug to the strut to attach a separate ground wire and use a strut clamp to secure the interlocking armor run to the strut. The ground wire should be ran to the Telecommunications grounding bus bar.

Multiple interlocking armor runs entering the closet can be handled by using a 1-5/8″ x 1-5/8″ metal strut. The strut can be field modified to the length necessary to handle the number of interlocking armor runs necessary for the installation at that location. Mount a ground lug to the strut and run the ground wire to the Telecommunications grounding bus bar.

Installation Tips

- An acceptable practice is to terminate and ground the armor at the entry point into the cabinet or rack and then route the fiber cable to its final termination.
- Protect the fiber cable from sharp edges of the armor by using electrical tape to cover the edges

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