

Attaching a Pulling Line to Optical Fiber Cable

Attaching a Pulling Line to Loose Tube Optical Fiber Cable

The use of pulling grips (kellum type) is common for attaching a pulling line to loose tube optical fiber cable when installing into ducts or pulling into aerial facilities. Grips must be constructed of double or triple weave wire mesh and are fitted for the specific diameter of cable to be installed. Grips must be rated for the maximum expected pulling load (this will typically be 600 lbs for Superior Essex cable, however, some cables are rated higher or lower depending on design – always check cable product sheet or call Superior Essex Technical Support at 877-263-2818). Gripping length of the pulling grip is important in order to distribute the tension load over the proper length of cable jacket. When ordering a pulling grip, it must be specified for optical fiber cable of a specific cable diameter and rated load. A full swivel, rated for the appropriate tensile load, should always be used in conjunction with the pulling grip to ensure that pulling line twist is not transferred into the fiber cable.

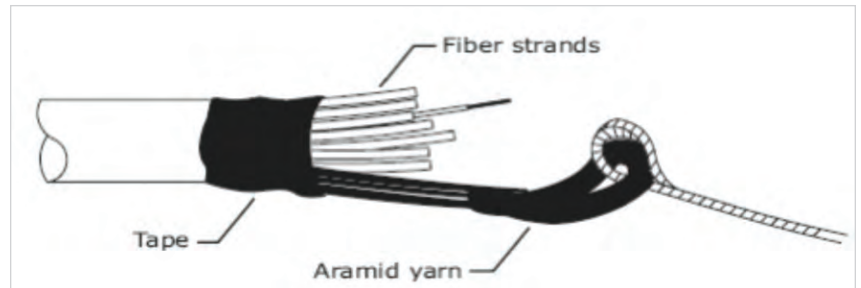
1. Apply the correct sized pulling grip over the cable end and mark the gripping length of the grip onto the cable. Continue to push the grip down on the cable to expose the full gripping length.
2. Remove the cable jacket from half of the gripping length, being careful not to score or damage the strength yarns over the cable core. Tightly wrap a layer of friction tape around the un-jacketed portion of the cable. (Note: do not use vinyl tape under the pulling grip due to its slick surface finish).
3. Slide the pulling grip back up over the cable end so that the cable core extends about $\frac{1}{4}$ to $\frac{1}{2}$ " (6 to 13 mm) beyond the grip mesh. Under the wire mesh should be about half jacketed cable and half friction tape. Tighten the grip onto the cable.
4. Tightly wrap over the grip with a vinyl tape. Begin the tape wrap about 1" (25 mm) below the mesh (on the cable jacket) and wrap towards the pulling eye to about 1" (25 mm) above the mesh.
5. Attach pulling line with full swivel to the eye of the pulling grip.

Note: When pulling is complete, cut cable 10 feet (3 meters) from grip end. Cap and seal cable end.

Attaching a Pulling Line to Tight Buffered Optical Fiber Cable

Tight buffered premises fiber cables typically attain tensile strength through the use of aramid yarns underneath the jacket. When pulling these type cables, it is imperative to attach the pulling line to the aramid yarns so that they are supporting the installation tensile loads. Attaching solely to the cable jacket will likely result in jacket stretching which may result in product failure and voiding of the warranty.

1. Remove the sheath from the optical fiber cable for about 300 mm (12 in) length
2. Separate the aramid yarns from the fiber strands and thread the yarns through a loop in the rope.
3. Secure it with tape, as shown in the drawing below.



Drawing courtesy of BICSI® Information Technology Installation Methods Manual