



OCC-206-8

*Installation – Round Messenger
Guidelines*

Excerpt

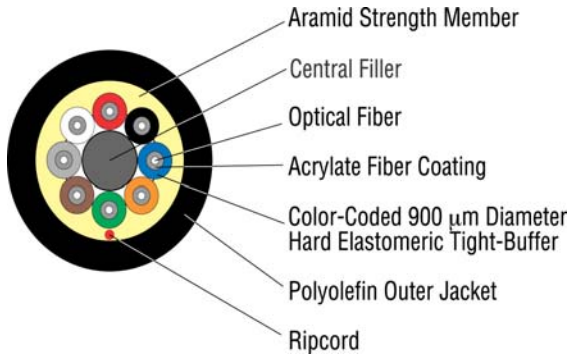
from

Optical Cable Corporation's

INSTALLATION GUIDE

Round Messenger (ADSS)

A round messenger fiber optic cable is designed for use in aerial installations that do not require a messenger for support. This cable is all dielectric and self supporting (ADSS).



A round messenger cable has several advantages. Installation material cost may be reduced by eliminating the need to purchase a separate messenger wire and lashing wire or to purchase a figure 8 cable. The labor cost can be greatly reduced in that there is only one installation job installing the round messenger cable as compared to installing a messenger wire and an aerial cable. Typically, the overall cost of the installation may be reduced by as much as 40 %.

Installation Precautions

Some precautions to be considered when installing round messenger cables include the following:

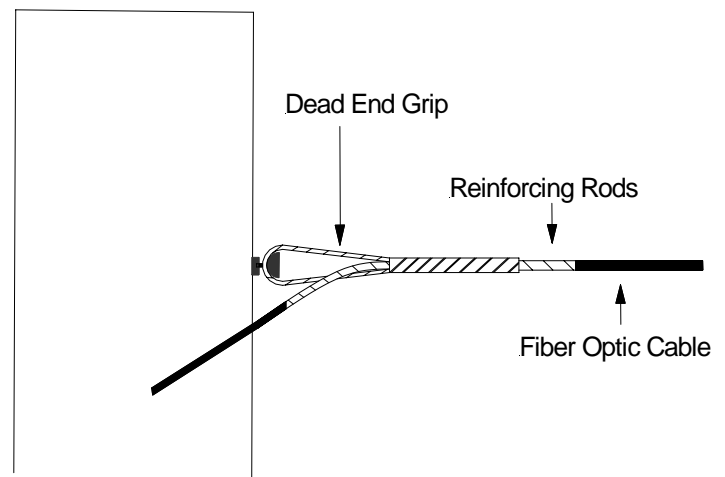
- Installing cables installed near high voltage greater than 12kV is not recommended
- Follow the National Electrical Safety Code (NESC) for all installations
- Maintain proper clearances between the fiber optic cable and the power cables
- Make allowances for sag
- The cable should be kept on one side of the poles (avoid zigzagging from one side of the pole to the other)
- Avoid twisting of the cable

- Maintain the minimum bending radius (MBR). The minimum bending radius for Optical Cable Corporation's round messenger cables are as follows:
 - o Short Term Tensile Loading
 - 20XOD (fiber optic cable outside diameter)
 - o Long Term Tensile Loading
 - 10XOD (fiber optic cable outside diameter)

Hardware

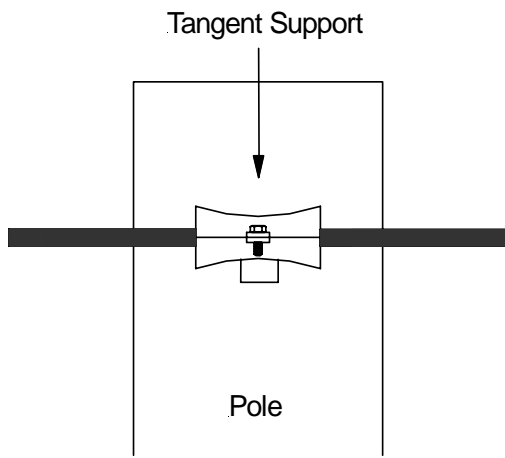
Dead Ends

Dead ends maintain the tension in the cable. A typical dead end for a round messenger cable consists of spirally formed high strength steel wires which are installed over reinforcing rods placed around the cable.



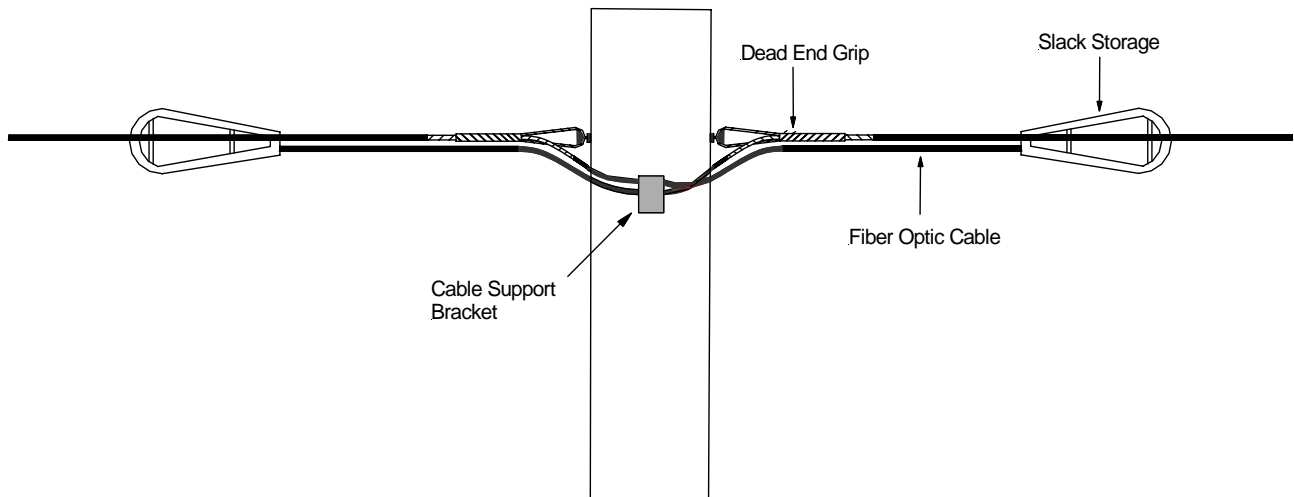
Tangent Support Clamps

Tangent support clamps are used to support the round messenger cable were limited tension is applied to the cable. There are various types of tangent support clamps. Please contact the tangent support clamp manufacturer for span lengths, sizes, and angle departure.



Slack Storage

Slack storage for round messenger cable can be located aerially or by running the excess cable down a pole and into a hand hole large enough to support the minimum bending radius of the cable. If the slack cable is going to be stored aerially, slack cable storage brackets are available. The brackets should be sized to insure the minimum bending radius of the cable is achieved.



Installation

There are two basic types of installation techniques; moving reel method and stationary reel method.

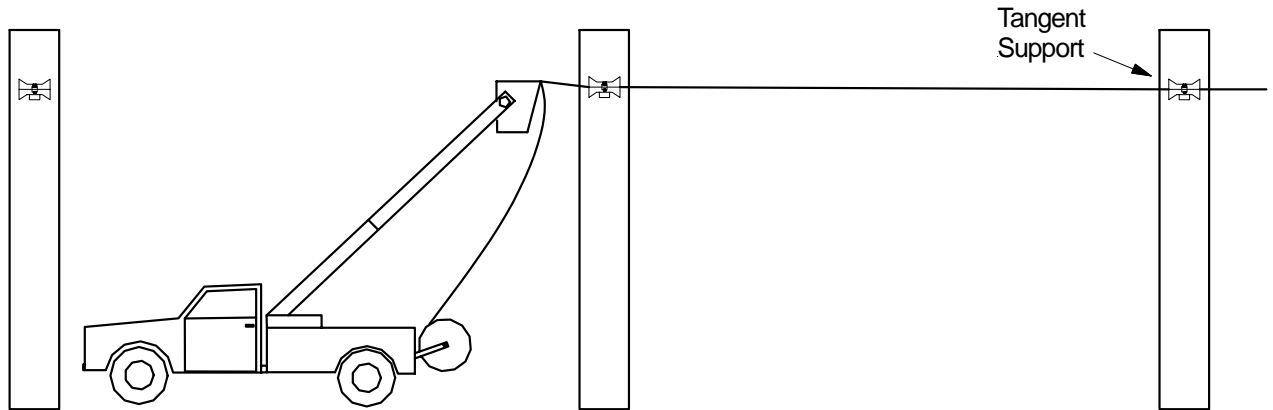
Moving Reel Method

The moving reel method is best used when there are no obstacles between the cable reel and aerial placement of the cable. Also, a clear path along side the poles is needed for the reel trailer and trucks. This method of installation is typically less costly than other methods due to the fact that there is less hardware involved during the installation.

The cable is payed off a moving reel trailer, or truck, while driving along the route of the

poles. At each pole location, the reel must be kept at least 50 feet from the pole while the cable is lifted into place on the pole. J Hooks or tangent supports without the inserts are used to temporarily hold the cable in place on each pole until a pole is reached where dead end hardware is necessary. Once a dead end pole is reached, the cable is properly tensioned and the cable is secured at the pole with dead end hardware.

Once the cable has been secured with the dead end hardware, the cable between the dead ends should be securely fastened to the poles by removing the J Hooks and attaching the proper tangent support hardware. If tangent support hardware without the inserts were used for temporary placement, then the center inserts should be installed in order to secure the cable.



Moving Reel Method

Stationary Reel Method

The stationary reel method is best used when there are obstacles along the path as to not to allow a reel trailer and truck to drive through. This method is generally more costly than other methods and may require more time to install the cable.

In the stationary reel method, the Round Messenger cable is pulled into place using rope and stringing blocks placed at each pole along the route. The radius of the stringing blocks must meet the minimum bending radius (under installation load or short term load) of the cable.

Some tangent support manufactures allow cables to be pulled through the tangent support clamps by removing the inserts. These tangent support clamps may be used up to certain line angle changes. Please contact the tangent support manufacturer. It is highly recommended that stringing blocks that meet the minimum short term bending radius of the cable being installed be used on all poles where the line angle changes are greater 10°.

During the pull of the cable onto the stringing blocks, Kellems pulling grips and a break-away swivel that is rated at the proper pulling tension of the cable should be used to attach the pulling rope to the cable. Please refer to the Installation – General Guidelines of the Optical Cable Corporation Installation Guide.

Once the cable has been pulled into place, the Round Messenger cable is tensioned and terminated with dead end hardware and attached to the pole at each dead end location along the route.

Once the cable has been secured with the dead end hardware, the cable between the dead ends should be securely fastened to the poles by removing the cable from the stringing blocks and attaching the proper tangent support hardware. If tangent support hardware without the inserts was used for temporary placement, then the center inserts should be installed in order to secure the cable.

