

PowerGuide® Hardware Installation

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1. Dead-End Assembly

1.1 The dead-end assembly (Figure 1) is used to terminate all-dielectric self-supporting (ADSS) cable at corner or dead end poles. The assembly is used to grip the cable and transfer tension from the cable to the pole. The dead-end assembly consists of a structural reinforcing layer, a dead-end component, thimble eye, and an optional extension link. The structural reinforcing layer consists of several subsets of reinforcing rods. The number and length of rods may vary according to the particular cable and application. The following instructions describe installation of the dead-end assembly onto the cable.

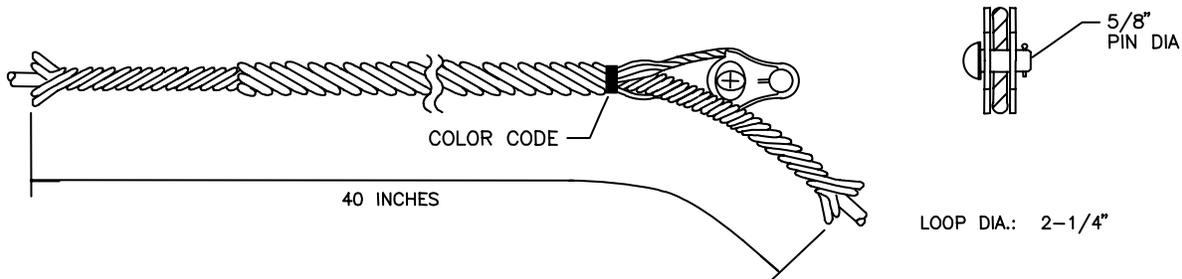


Figure 1 – Dead-End Assembly

- a. Confirm that the dead-end assembly matches the cable type and diameter and that all components of the assembly are included in the package.
- b. Install the thimble clevis and extension link (optional) onto the dead-end component. Hold the assembly adjacent to the pole attachment and parallel to the cable. Mark the position of the dead-end cross-over point on the cable with a wrap of vinyl tape. Set the dead-end component aside.
- c. Position the color code mark of a reinforcing rod subset adjacent to the reference mark on the cable.
- d. Beginning at the center of the rod subset, wrap the rod subset (4, 5, or 6 wires) onto the cable. Pull the end of the rod subset up and away from the cable as the subset is wrapped onto the cable.
- e. Position the center mark of the second rod subset adjacent to the first. Wrap the second rod subset around the cable two or three times leaving the ends loose. Note: It is helpful to wrap the second rod subset into the first subset. Wrapping the second subset away from the first may tend to increase the gap between rod subsets making it difficult to install subsequent rod subsets.
- f. Repeat step e with the remaining rod subsets. Make sure the cable does not twist during installation. Continue to wrap all of the rod subsets onto the cable one end at a time.

- g. Check installation of the structural reinforcing layer to ensure that all wires are fully seated on the cable and do not overlap.
- h. Insert the dead-end component through the thimble clevis. Position the cross-over mark of the dead-end component over the color mark (not the center mark) of the structural reinforcing layer.
- i. Starting at the crossover mark, wrap two pitches of the dead-end component (both legs) onto the structural reinforcing layer. Continue the installation by simultaneously wrapping both legs of the dead-end component onto the cable.
- j. Before applying the last two pitches, separate each leg of the dead-end component (5, 6, or 7 wires) into sub-groups. Completely install each sub-group onto the cable making sure the rod ends are snapped into place.
- k. Check installation of dead-end component to ensure that all wires are fully seated and do not overlap.

2. Tangent Support

2.1 The tangent support assembly is used to attach ADSS cable to intermediate poles along the cable route. The tangent supports are intended for short span applications (<600 ft) where the turn angle does not exceed 20°. The tangent supports are available as either suspension or fixed assemblies (Figure 2). The assemblies consist of a housing, cable inserts, and shackle (suspension assembly only). The following instructions describe installation of the tangent supports.

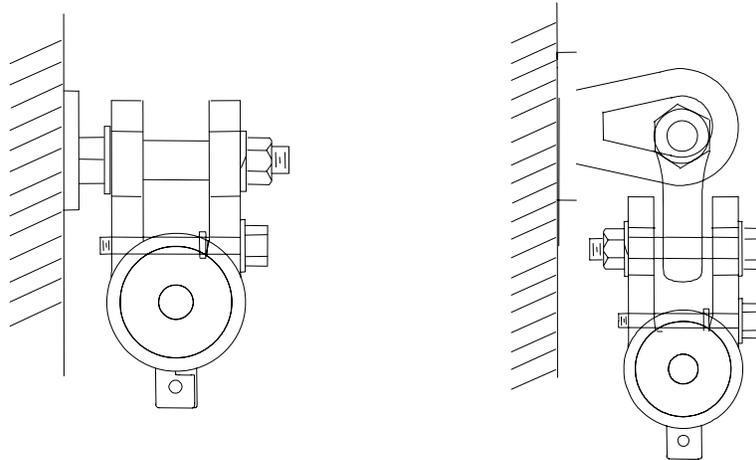


Figure 2 – Tangent Supports, Fixed (left) and Suspension (right) Assemblies

- a. *Fixed Support:* The fixed tangent support is mounted directly on the pole using a cable suspension bolt. Install and fasten the suspension bolt to the pole. If a spacer is provided with the tangent support, install the spacer on the bolt. Install the tangent support on the suspension bolt and secure with a washer and nut. Open the hinged housing, install the cable cushion on the cable, and place the cable and cushion in the housing. Close the housing and tighten with the captured bolt.
- b. *Suspension Support:* The suspension support is mounted on the pole using an eye bolt and shackle. Install and fasten the eye bolt to the pole. Attach the shackle to the eye bolt. Open the hinged support housing and place the cable in the cushion insert. Close the housing and tighten with the captured bolt. Attach the tangent support to the eye bolt with the shackle.

3. Heliformed Suspension Unit (Single Layer)

3.1 The single layer heliformed suspension unit is used to attach ADSS cable to intermediate poles or tower structures along the cable route. The single layer suspension unit is intended for use in spans up to 800 ft where the turn angle does not exceed 30°. The suspension unit consists of suspension rods, suspension housing, suspension strap, and cable insert (Figure 3). The following instructions describe installation of the heliformed suspension unit.

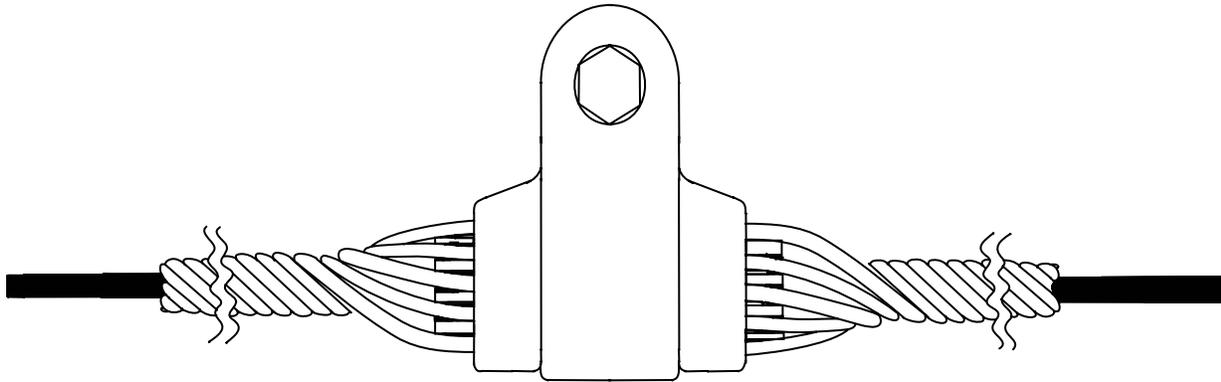


Figure 3 – Single Layer Heliformed Suspension Unit

- a. After the cable has been installed, mark the cable at the center of the stringing block.
- b. Center the top and bottom halves of the cable insert on the cable and hold in place with a thin layer of tape.
- c. Center a suspension rod on the top of the cable insert and wrap the rod two times around the cable on each end of the insert. The curvature of the rod follows the shape of the insert. Make sure the heliformed rod lays flat against the insert. Do not wrap the rod around the insert.
- d. Repeat step c with a heliformed rod centered on the bottom of the cable insert.
- e. Apply all remaining rods evenly around the insert. Each rod can be applied individually, or all rods can be partially applied and then wrapped as a group. Make a firm twist at the end of the rod to make sure that the rod ends are snapped in place. Make sure the rods are not crossed.
- f. Place the two halves of the housing around the cable insert and suspension rods. Position the housing with the bolt hole on the top side of the cable. Slide the suspension strap over the housing and position in place.
- g. Attach the assembly to the suspension hardware using the bolt, nut, and split lock washer. Tighten the nut so that the split lock washer is nearly flat. Do not over tighten the nut or squeeze the housing ears against the suspension hardware.

4. Heliformed Suspension Unit (Dual Layer)

4.1 The dual layer heliformed suspension unit is used to attach ADSS cable to intermediate poles or tower structures along the cable route. The dual layer suspension unit is intended for use in spans up to 2000 ft where the turn angle does not exceed 30°. The suspension unit consists of structural reinforcing rods, suspension rods, suspension housing, suspension strap, and cable insert (Figure 4). Installation of the dual layer suspension unit is similar to the single layer suspension unit with the exception that a layer of structural reinforcing rods are first applied to the cable. The following instructions describe installation of the structural reinforcing rods. The reader is then referred to the previous section for installation of the remaining components.

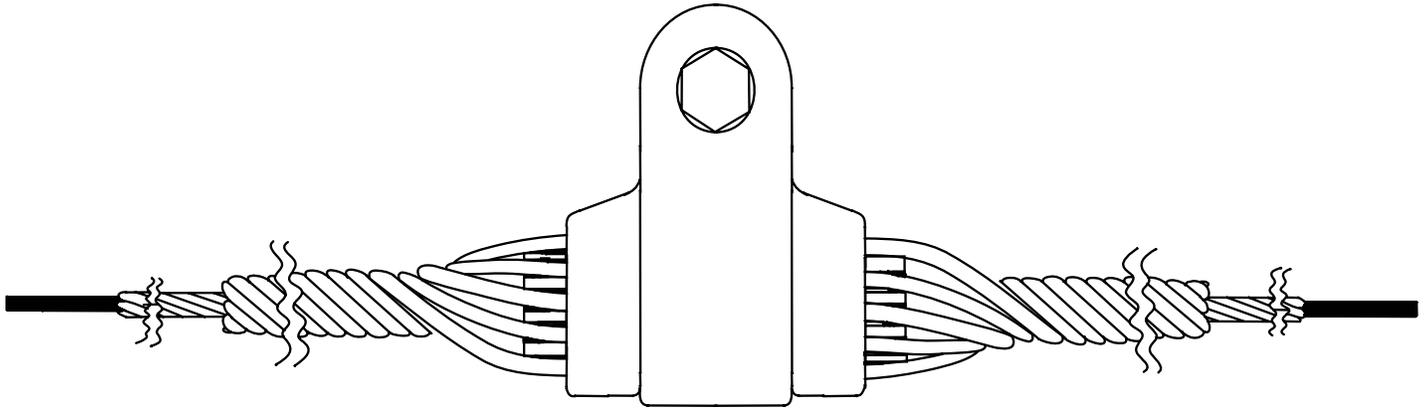


Figure 4 – Dual Layer Heliformed Suspension Unit

- a. After the cable has been installed, mark the cable at the center of the stringing block.
- b. Locate the structural reinforcing rods (the longer set of armor rods). Align the center of the first rod with the mark on the cable and wrap the rod around the cable. Leave the last 10 to 14 inches of rod unwrapped to allow for final adjustments of the rod position.
- c. Repeat step b for the remaining reinforcing rods. Align the center marks and make sure the rod ends are aligned within 2 inches of each other. Confirm that the rods are not crossed over each other.
- d. Wrap the final 10 to 14 inches of all rods into position and snap into place. Do not use any tools that may scratch or damage the cable.
- e. Align the center mark of the cable insert with the center mark of the structural reinforcement rods. Install the cable insert over the rods and hold in place with a thin layer of tape.
- f. Refer to **Section 3 - Step C** to install the remaining components of the dual layer heliformed suspension unit.

If you have any questions or need additional information, please contact OFS at 888-FIBER-HELP (888-342-3743).