

### HELIAX® FiberFeed® Power Cable Installation Overview

#### 1. Inspect and Prepare the cable.

Take extra care when removing over packing with a knife. Nicks and cuts in the outer jacketing can cause failure due to water ingress. If shrink wrap is applied lift it away from the cable before cutting. After shrink wrap is removed inspect the cable for possible shipping damage. If damage is identified reject the shipment.



Carefully remove shrink wrap



Shipping Damage - Reject

2. Hoisting the Cable (see Illustration on page 2)

Hoist Line. Use a hoist line that supports the total weight of the cable. Refer to the cable specs in the CommScope eCatalog for approximate cable weights per foot and per meter to calculate total cable weight. (QR link on page 2)

**Pulleys.** Use a strong pulley at both the top and bottom of the tower to guide the hoist line, as illustrated.

**Cable Reel.** Support the cable reel on an axle so that the reel can rotate freely as the cable is hoisted and the cable is pulled from the bottom. Have a crew member control the rotation of the reel.

**Hoisting Grips.** Hoisting grips are interlaced wire that fit around the cable so that the looped handle at the upper end can be pulled to cause gripping of the cable. Grips are placed at intervals not to exceed 200 ft (60 m) along the cable. The grip is first wrapped around the cable and then the loops are laced together for hoisting. Apply a Tie Wrap to the base of the hoisting grip before applying tension to the line to avoid slipping of the grip.

**Tag Line.** Tag line is used to keep cable away from sharp edges on the structure.

**Hoisting Procedure.** Place a weatherproof protective covering over the cable end to prevent damage during hoisting. Attach a hoisting grip near the end of the cable, allowing a sufficient length, called a leader, of at least 5 ft (1.5 m) to reach the connection point from the hoisted cable position. Tie the cable leader to the hoist line so that it does not dangle during hoisting.

On long cable runs there should be no more than 200 ft (60 m) spacing between grips. For example you would divide a 300 ft (91 m) length in half with grips at 150 ft (46 m) and 300 ft (91 m). When additional grips are used, tie the cable to the hoist line between the grips with fiber-reinforced tape at 50 ft (15 m) intervals. Make sure to allow slight slack in the cable - not in the hoist line - between grips and maintain that slack during hoisting. This slack in the cable indicates that the load is properly distributed.

Hoist the cable slowly and carefully. Prevent kinking by controlling rotation of the cable reel as it is uncoiling. Avoid snags when hoisting or routing cable through and around tower members. Careless handling can cause scrapes and cuts in the cable.

#### 3. Anchoring the Cable

After raising the cable to the correct height, anchor it to the support structure, starting at the top.

All cable should be supported within 1 to 2 feet (30 to 61 cm) of the connection point. Maximum hanger spacing of 3 ft (0.9 m) - 4 ft (1.2 m) should be followed. Maintain cable support with the hoist line until anchoring is completed.

#### 4. Inspect for Damage

The entire length of cable should be inspected for possible damage as it is being anchored. Nicks and cuts in the outer jacketing can cause failure due to from water ingress.

Note: Metal strapping or hose clamps should not be used to attach cable directly to the tower; they can easily damage the cable.

#### Potential damage points:

- Cable being allowed to drag on the ground
- Wear marks from the hoisting line rubbing on cable
- Sharp edges on support structure and pre-installed cable hangers
- Dragging on the edge of the cable bridge
- Not tagging the cable away from the structure
- Crossing of lines during hoisting can damage pre-installed cables



## Installation Damage - Replace

# **Technical Publication**





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