



# Mare's Tail

## Purpose

The purpose of this application note is to provide a safe and reliable method to pull additional cable slack where needed. When pulling cable through conduit or cable tray systems in most cases the cable puller (tugger) is positioned where enough slack can be pulled to make the final connection. However, there are instances where additional slack is needed after the cable end has reached the tugger. Another instance where a mare's tail is needed is when an assist puller is used.

## Methods

For slack needed in low tension pulls (below hundred pounds) rope, soft or flat straps can be applied to the cable using several half-hitch knots. It is important to only use this method on low tension pulls or else the rope or straps can leave indents or tear the jacket.

For higher tension pulls (above 500 pounds) or assist pulling, a mare's tail is recommended. A mare's tail is a rope eye with 4-6 flat long straps that are wrapped around the cable to form a basket. The straps will not dig into the cable jacket since they lay flat on the cable surface and are made from aramid fiber which has low stretch, high strength properties. Mare's tails are a recognized practice in IEEE 1185 Recommended Practice for Cable Installations in Chapter 5.

## Determining the Length

Calculating the length of the mare's tail will depend on the tension of the pull and type of cable being pulled.

For armored cable with a pvc jacket, the applied pressure/tension should not be greater than 125 pounds per foot of the mare's tail contact with the cable.

### Example:

Tension required for cable section being pulled – 2000 pounds

Pressure/tension allowed per foot – 125 pounds

$$2000 \div 125 = 16$$

Working length of mare's tail is 16 feet



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# Application Note

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For single conductor cables, the applied pressure/tension should not be greater than 300 pounds per foot of the mare's tale contact with the cable.

**Example:**

Tension required for cable section being pulled – 6000 pounds

Pressure/tension allowed per foot – 300 pounds

$6000 \div 300 = 20$

Working length of mare's tail is 20 feet

In any case, the minimum working length of a mare's tail should be no less than 6 feet.

**Safety**

Whatever method is being used to gain additional slack in cable, always inspect ropes and straps for damage or areas that are frayed, do not use damaged equipment. Consider the tension that will be required to pull the cable and ensure that the equipment being used is rated for the task.

You can find a variety of mare's tales at: [Yale Grip](#)