



Flat Cable

FACILITATOR'S GUIDE

DESCRIPTION: The purpose of this training is to educate participants with using flat cable in an installation.

OBJECTIVES: After completing this training, participants should be able to:

- Explain what is flat cable
- Determine when to use flat cable with an installation
- Describe how to use flat cable in an installation
- Explain where to use flat cable

AUDIENCE: All FSS personnel

MATERIALS:

- Facilitator Guide
- PowerPoint Presentation
- Installer script (2 copies)

TRAINING TIME: 15 minutes

Training & Development



INTRODUCTION

Slide 1



Say

"In today's training, we will take a look at some challenges of running a cable from the outside of a structure to the inside. As you will see, we have a new solution in some unique circumstances. To demonstrate these challenges, here's an **exaggeration** of an installer dealing with an new installation:"

Select two volunteers to read the exchange between the installer and customer. Distribute the script to the volunteers. Assign one participant to be the customer and the other participant to be the installer. Have the participants read the scenario out loud to the class

Installer: I just finished with the site survey, and it looks like I'll be able to run the cable through the house's south side.

Customer: What do you mean run the cable?

Installer: I'll need to drill a hole through the outer wall so that I can run the cable from the outside of your house to the inside and connect to the receiver.

Customer: Ok, wait a minute...You are not going to drill a hole through the south side of my house. I don't want any holes in my house.

Installer: I understand your concerns but let me assure you, it's a very small hole.

Customer: That's not the point. My house is made entirely out of glass and any hole will cause it to collapse!

Mouse click = advance slide



Say

"Thank you _____ and _____ for your fine acting skills. This was a totally fictitious example which goes to show you that "People in glass houses should drill holes."

Wouldn't it be nice if you had a way to run cable into the house without making an exterior penetration? (*Rhetorical*)

"Well in the near future, we have a solution."

Mouse click = advance slide



FLAT COAXIAL CABLE

Slide 2



Say

“Introducing the new Flat coaxial cable. The part number will be available soon.”

Mouse click = advance slide

WHAT YOU WILL LEARN...

Slide 3



Say

“In today’s class you will learn:”

- What a Flat cable is

Mouse click = advance animation

- When to use it

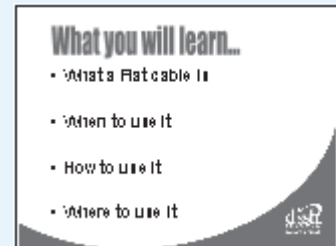
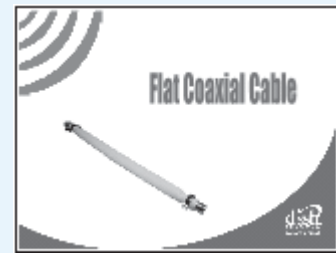
Mouse click = advance animation

- How to use it

Mouse click = advance animation

- And lastly, where to use it

Mouse click = advance slide



FLAT CABLE...

Slide 4



Say

“Let’s start out with a description of Flat cable. It comes in 12” lengths...”

Mouse click = advance animation

“...with female F connectors on each end.”

Mouse click = advance slide

CUT AWAY VIEW

Slide 5



Say

“A cut away view of the flat cable shows:”

Mouse click = advance animation

“A flattened conductor...”

Mouse click = advance animation

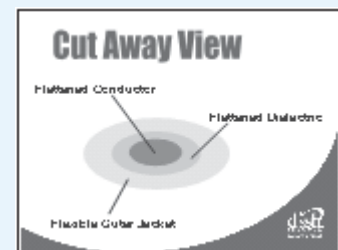
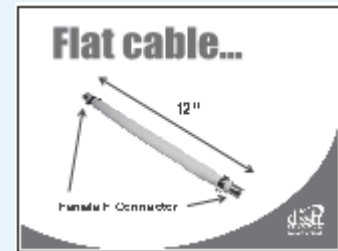
“A flattened dielectric...”

Mouse click = advance animation

“A flexible outer jacket.”

Mouse click = advance animation

“And flexible copper shielding”



SPECIFICATIONS

Slide 6



Say

“The specs for the Flat cable include:”

Mouse click = advance animation

- A 5-2150 megahertz frequency range

Mouse click = advance animation

- 75 ohms impedance

Mouse click = advance animation

- Can handle up to 28 volts DC

Mouse click = advance animation

- And is able to handle up to 1650 milliamps

If participants ask for additional specs, respond with the following points:

Insertion Loss – 2.0 dB

DC Loop Resistance – 0.5 Ohms

DC Voltage Drop – 0.8 Vdc

Shielding Effectiveness – 85 dB

Mouse click = advance slide

Specifications

- 5 – 2150 Frequency Range
- 75 Ohm Impedance
- Up to 28 Volts DC
- Up to 1650 m A



TRUE OR FALSE: USE FLAT CABLE FOR...

Slide 7



Ask

“True or False: You can use a Flat cable for:”

- An apartment?

Mouse click to reveal “True”

- As a substitute for burial cable?

Mouse click to reveal “False”

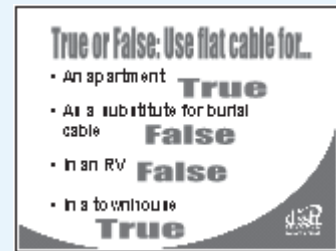
- In a normal residential house?

Mouse click to reveal “True”

- In a townhouse?

Mouse click to reveal “True”

Mouse click = advance slide



USE FLAT CABLE WHEN...

Slide 8



Say

“Use Flat cable only as a last resort, such as when penetration of the outside walls is not permitted or not possible. Some examples of this could be:”

Mouse click = advance animation

- An apartment

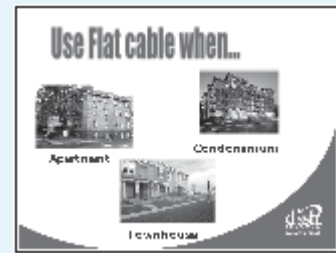
Mouse click = advance animation

- A townhouse

Mouse click = advance animation

- A condominium
- A Customer objection

Mouse click = advance slide



HOW DO YOU INSTALL FLAT CABLE?

Slide 9



Say

“How do you install Flat cable? (Rhetorical)”

Mouse click = advance animation

- Step 1: Hand tighten the RG-6 and Flat cable connections

Mouse click = advance animation

- Step 2: Use one 7/16” wrench to hold the Flat cable...

Mouse click = advance animation

...and another 7/16” wrench to gently tighten the RG-6 F connector until it is snug.

Mouse click = advance animation

- DO NOT OVER TIGHTEN!!!

Mouse click = advance animation

- Step 3: Attach the 10” adhesive strip to the back side of the Flat cable and make sure the mounting surface of the door frame is clean. Secure the adhesive strip on the Flat cable to the frame of the door (preferable 2-3 inches above the floor, if possible)

Mouse click = advance animation

- Step 4: And bend the Flat cable no more than at 180 degree angles . More than 180 degrees increases cable wear, which in turn, can cause signal loss.

Mouse click = advance slide



FLAT CABLE DIAGRAM

Slide 10

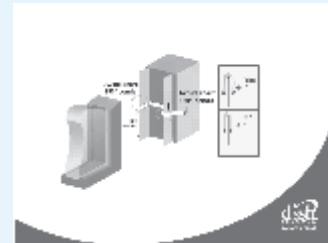


“Here’s diagram that will give you a better idea of how far the Flat Cable can be bent. Notice the difference between the correct and incorrect way to make the 180 degree bend?” (*Rhetorical*)

Mouse click = advance animation

The incorrect method for the bend produces a sharp bend which can lead to signal loss.

Mouse click = advance slide



INSTALLATION

Slide 11



Say

“If possible, use a cable clip to hold the coaxial cable in place to help reduce movement of the Flat Cable.”

Mouse click = advance slide



WINDOW INSTALLATION

Slide 12



Say

“Here’s an example of a Flat cable being used in a window installation. When you actually use the it in window installation, place the Flat cable near to the end of the window opening rather than the center.”

Mouse click = advance animation

Notice how the cable is not wrapped around the frame of the window at a 180° angle?

Mouse click = advance animation

Instead, it lays flat across the window frame

Mouse click = advance slide

HOW YOU COULD HAVE USED FLAT CABLE

Slide 13



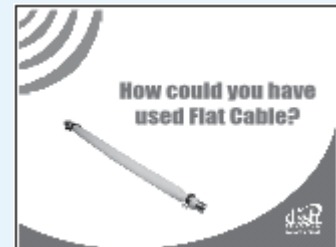
Ask

“In all the installations that you’ve done, there are probably some times a Flat cable would have come in handy. What are some of those times and how did you handle it? Make sure to include:”

- The type of installation
- Customer objections or wall penetration wasn’t possible
- How you resolved the situation
- How you could have used Flat cable

Solicit responses from participants. Responses may vary

Mouse click = advance slide



SUMMARY

Slide 14



Say

“To complete our session, let’s take a look at the main points of the training.”

Mouse click = advance slide

- The flat cable is made up of a flattened conductor and dielectric encased in a flexible outer jacket

Mouse click = advance slide

- Use the flat cable when penetration of the outside walls is not permitted or not possible

Mouse click = advance animation

- USE AS A LAST RESORT

Mouse click = advance animation

Summary

- Made up of a flattened conductor and dielectric encased in a flexible outer jacket
- Use when penetration of the outside walls is not permitted or not possible
- USE AS A LAST RESORT



SUMMARY Slide 15



Say

- Use two 7/16" wrench's to gently tighten the connections

Mouse click = advance animation

- Attach the flat cable to the frame of the door or the window with 10" adhesive tape

Mouse click = advance animation

- Make sure not to bend the flat cable more than 90°s



Ask

"What questions do you have?"

Address questions as needed

Summary

- Use two 7/16" wrench's to gently tighten the connections
- Attach the flat cable to the frame of the door or the window with 10" adhesive tape
- Bend the flat cable no more than 90°

