

Staying safe

Introduction

Underground cables are used in areas where it is not possible to use overhead lines, such as sensitive wildlife habitats. Sometimes new cables may have to be joined to existing cables to get a supply to a particular area. This will involve:

- locating a buried cable, excavating it
- stripping away the insulation and armour
- making a joint and sealing it so that it is electrically insulated and not likely to be easily damaged
- reburying the cable.

What you need

- A piece of chalk and access to a floor on which you will be able to draw with the chalk
- Two 2 m lengths of three strand nylon rope, wrapped in duct tape in length.
- A tape measure
- Electrical tape
- Scissors
- Access to the internet

When jointers work with cables they follow a set of rules called an operating procedure. This makes sure that all work is carried out to the same high standards and, most importantly, it makes sure that the work is completed safely.

Follow the instructions below to write your own operating procedure for joining live underground cables.

Writing a safe operating procedure

To produce a good operating procedure for working on live cables it must contain the following things:

- A list of the tools, equipment and materials that the jointer will need and an explanation of what they will be needed for
- Dimensions for the hole that the jointer will need to work in
- A list of safety checks that will need to be done before work begins
- A step-by-step description of the work to be done

You may want to do some research on the internet to help you with this.

Using your operating procedure

Once you have written your operating procedure, present it back to the rest of the class. You can do this with some role play, using the long piece of rope to show the dimensions of your hole and the two pieces of rope wrapped in duct tape to represent the cables.

The duct tape represents the layers of insulation and armour and the three strands of rope inside each represent one of the conductors inside the cable.

The electrical tape can be used for joining your 'conductors' as part of the role play, but do remember this would not be used for real.