

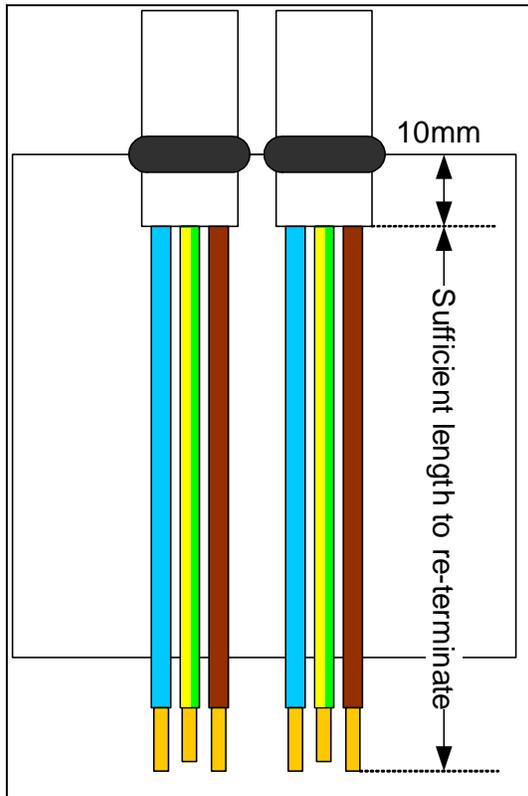


Terminations and Connections

Terminations and connections

When terminating multicore cables, there are some basic rules of good practise to follow. These are, in the main, common sense, but often ignored by the casual uninformed DIYer. The consequences of ignoring good practise can range from annoying, to downright dangerous.

Sufficient length



The Regulations state that there should be “sufficient length to re-terminate”. Often you will unscrew an existing accessory and find it difficult to disconnect and connect a new fitting because the previous

installer cut the conductors too short.

When we install cables, we need to allow for this sufficient length rule. The easiest way is to allow enough cable in the accessory to make a slight curl in the back of the box after fixing.

Mechanical protection

As well as the length of conductors, we need to allow sufficient mechanical protection of the cables entering the box (often the box is of the sunken knockout type and made out of roughly formed steel). This is done by means of a grommet (usually 20mm) fitted into the entrance of the box. This allows for movement while terminating without damaging the protection afforded by the grey PVC or LSF sheath.

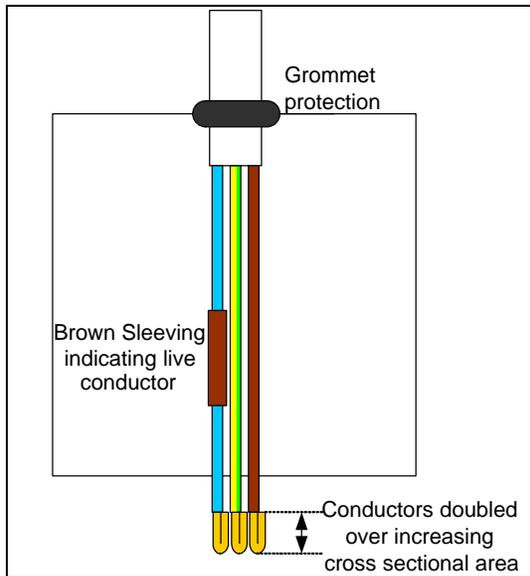
Tip

“Insulation is NOT conductor protection, sheathing, conduit, trunking etc. are all used for this purpose”

We also allow approximately 10mm of outer sheathing into the accessory box. This affords us additional protection from mechanical damage. It is important to get this right; leaving too much outer sheath leaves it difficult to correctly fix the accessory to the back of the box and increases the

risk of terminations coming loose in the back of the box whereas not leaving enough has the potential to damage the cable insulation which in turn increase the risk of both electric shock and fires.

Identification of conductors



CPCs need to be sleeved as a requirement of the Regulations. **CPCs should be sleeved individually**, never putting 2 CPCs into a single sleeve. It is also bad practise to twist the conductors together, **conductors should enter terminations as single entities**.

When we use a typical cable with brown and blue insulated conductors for a lighting circuit, we need to ensure that the switch wire is indicated as a live conductor.

Tip

“Correctly marking cables is a requirement of the Regulations as well as being common sense.”

This also prevents future visitors mistaking the blue insulation for a neutral conductor and creating a dead short, a common fault when someone purchases a nice new light fitting from the local hardware shop and puts the fitting back up connecting all the browns and all the blues together. An electrician or experienced person should be aware of this problem, but average DIY Joe does not have this knowledge.

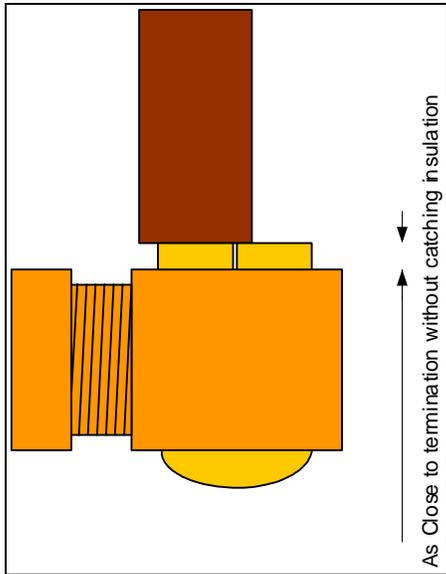
Terminations

For multicore cable, usually between sizes of 1.0mm^2 and 4.0mm^2 , there is a simple rule for termination:

1. If a single conductor enters a termination (for example a light switch) then we double over the ends of the conductor to maximise surface area and create a better connection.
2. If more than one conductor enters a termination, then they need not be doubled over.

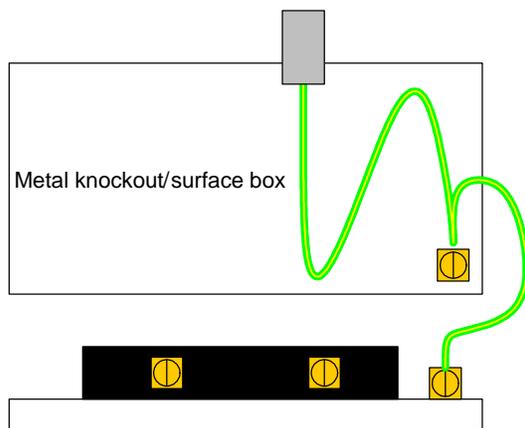
Connections should be tight, enabling a good connection and

should fill the depth of the termination. For instance, a socket outlet has a far deeper termination than that of a common light switch.



forms part of a circuit and is therefore, an exposed conductive part and needs connecting to the earth terminal via the CPC. This is done using a 'fly lead', a short piece of cable connected to the back box or earth terminal in plastic surface box connected to the earth connection on the accessory.

Bonding the box



As we have discussed before, there are two types of metalwork that needs connecting to the main earth terminal, extraneous and exposed conductive parts. As it is common to install metal accessories into installations, we need to be aware that the brass socket outlet we are installing