

When installing low-voltage landscape lighting, there are a few options when it comes to wiring the individual lights onto a main trunk cable running from the power supply. These options are:

1. Split / Solder / Heatshrink Method
2. Cut / Twist & Cap Method
3. Use QuickConnect compatible lights & power supply

Option 1 is the method that we will detail in this document and is the generally accepted “best-practice” for attaching lights to a trunk cable in a way that will minimise any potential maintenance issues.

Option 2 is a simpler method that can be performed quickly and does not involve any soldering techniques, however it may be susceptible to mechanical stresses on the cable over time.

Option 3 is the quickest and easiest method of all, however it requires the selection of compatible lights and power supplies and is only available in LED systems.

Required Equipment

A list of the equipment necessary for this installation method includes the following:

- Soldering Iron
- Multi-Meter (optional, to check voltages and potential problem solving)
- Wire Cutters
- Hot-Air Gun
- Heatshrink (Resin Filled)
- Power Supply / Trunk Line.

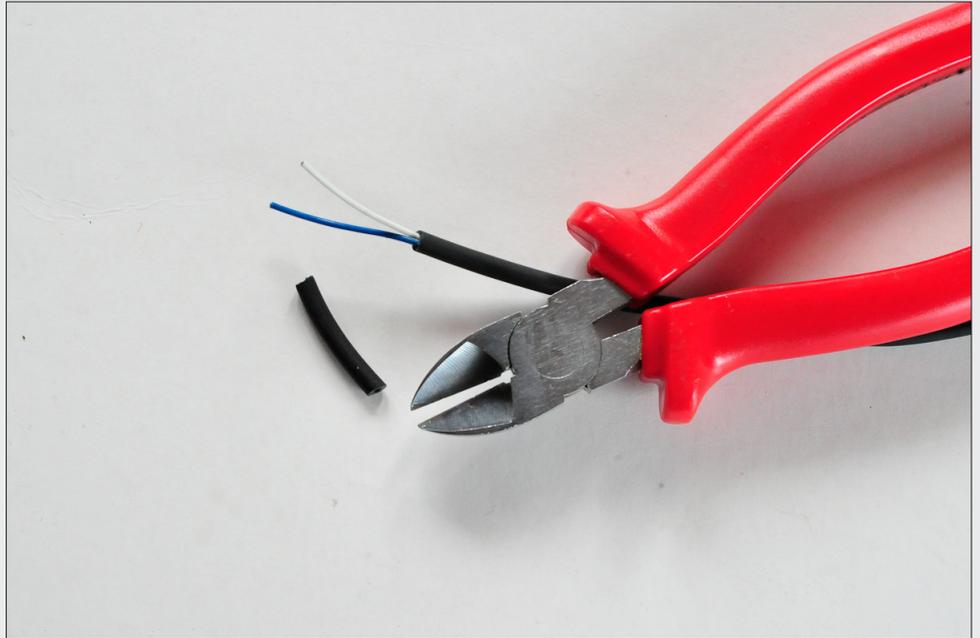
A knife will also come in handy.



Step 1

Cut approximately 25mm of outer insulation from the lighting cable lead, being careful not to damage the inner insulation.

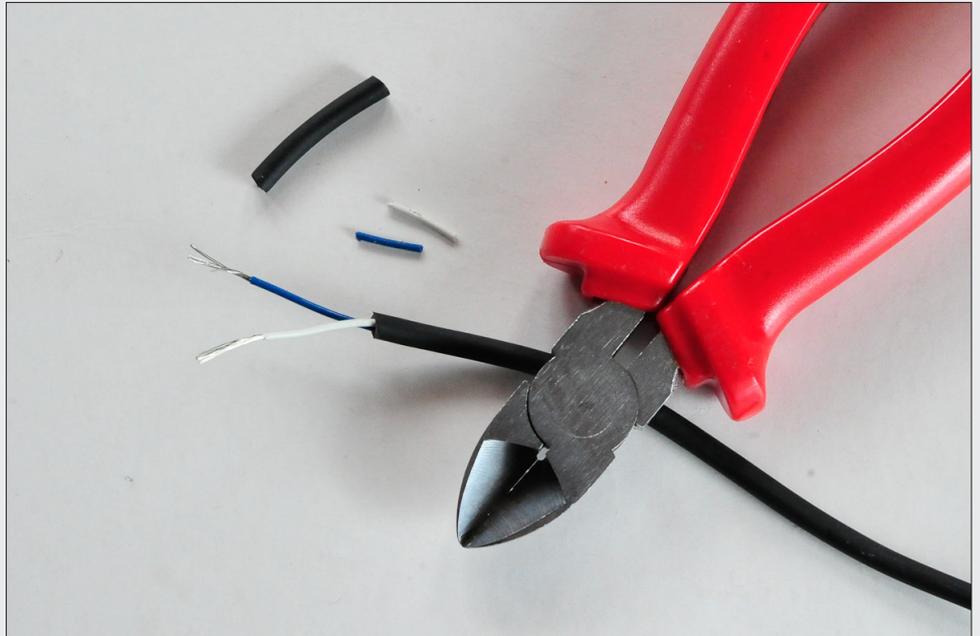
Aqualux lighting cable has an outer silicon sheath (relatively soft) and inner teflon insulation (relatively hard), so it's fairly difficult to damage the inner insulation, but still take care.



Step 2

Strip around 15mm from the ends of the lighting leads and twist the inner conductor so it's not frayed.

It's a good idea to prepare all your lighting fittings at this point.

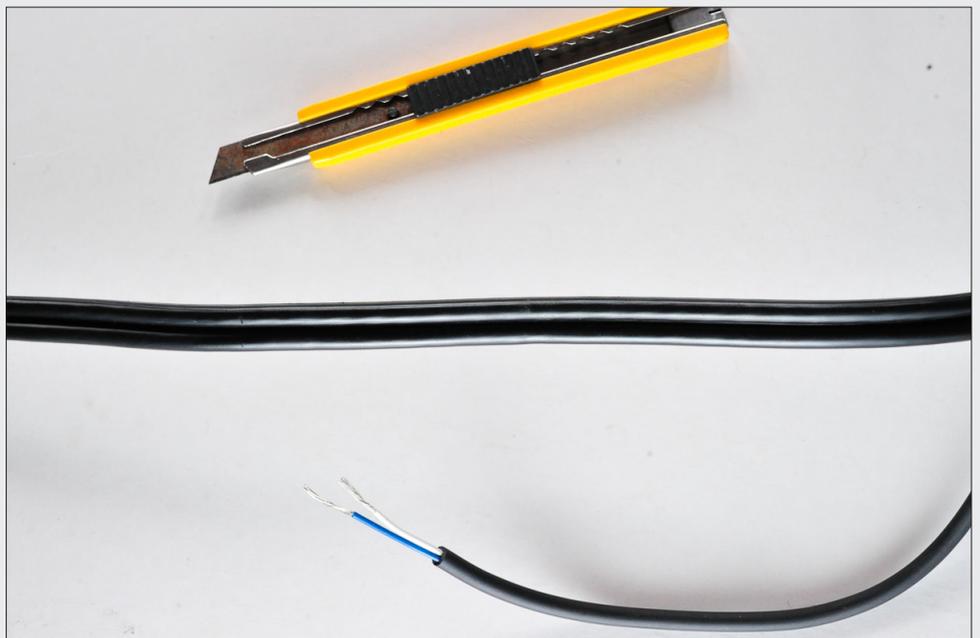


Step 3

Locate the position on the trunk cable near where the light is to be installed.

Bear in mind that you will need to run the heatshrink over the trunk cable to this point.

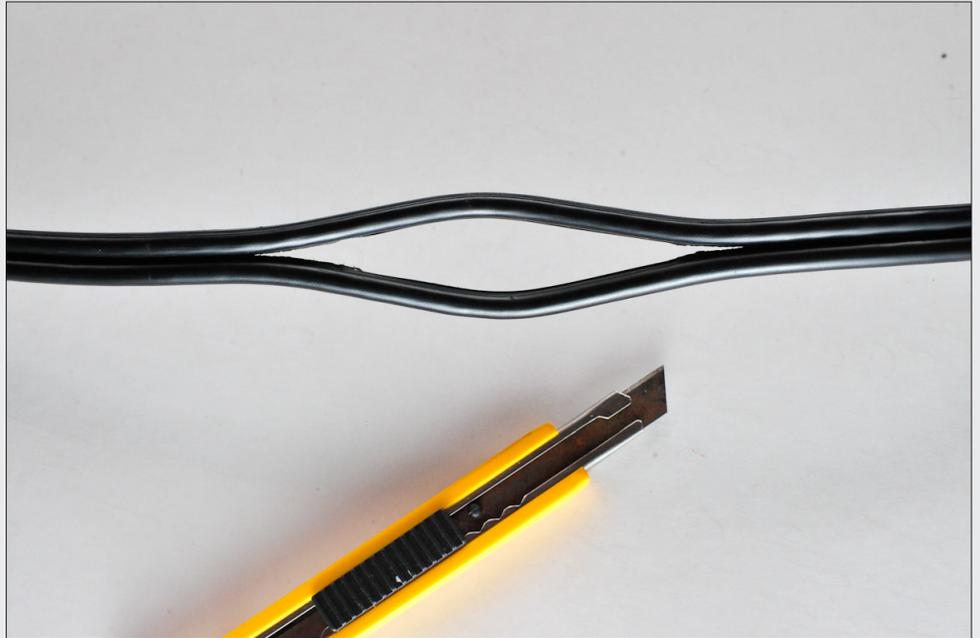
A good method to use is to run the trunk cable out and then run pre-cut heat shrink sections out into all the lighting positions prior to making any joins.



Step 4

Split the Figure 8 trunk cable down the center, being careful not to damage the insulation.

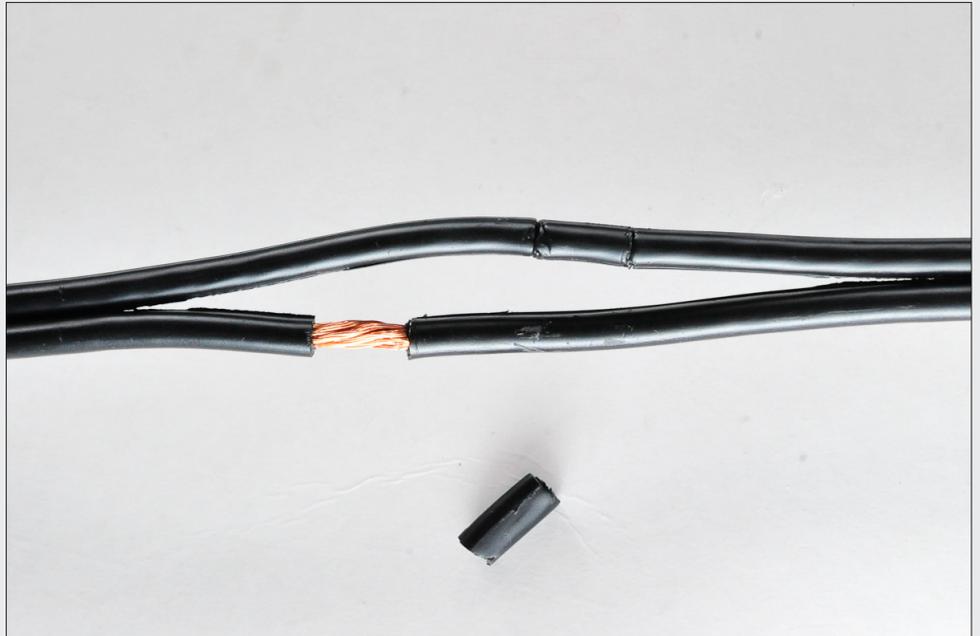
Split around 70mm.



Step 5

Cut two sections of trunk cable insulation, around 50mm apart. You can use either a knife or the wire cutters or scissors for this job.

Take care not to damage any conductor strands - 1 or 2 cut is OK, but the more that are damage this less power the cable will be able to carry past this point.



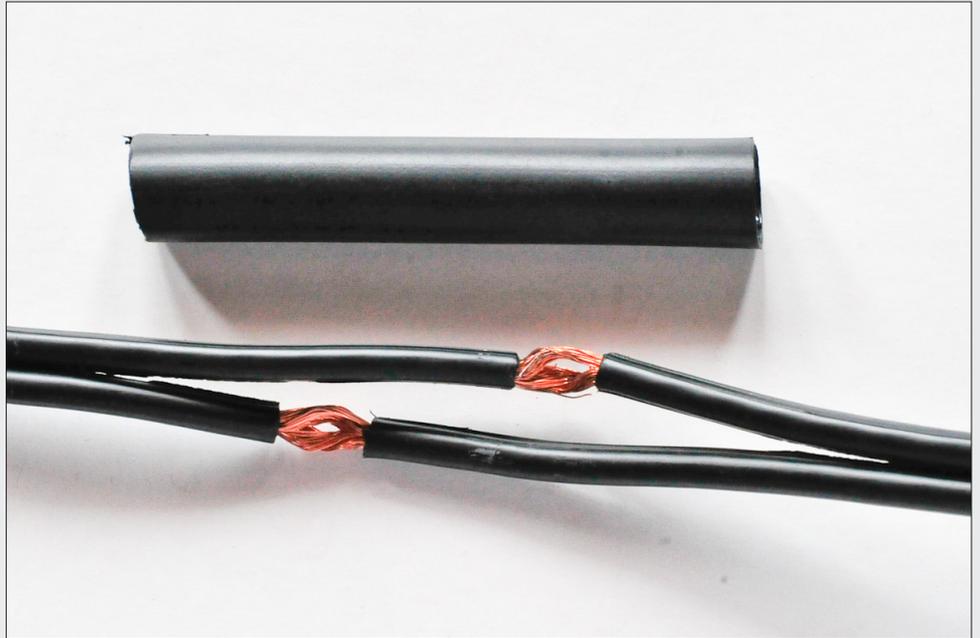
Step 6

Using a small screwdriver or nail, wedge a gap in the conductors to allow the lighting lead to pass through.



Step 7

When both conductor areas have been prepared, now is a good time to check the size of heatshrink that you've cut will cover the joined area.



Step 8

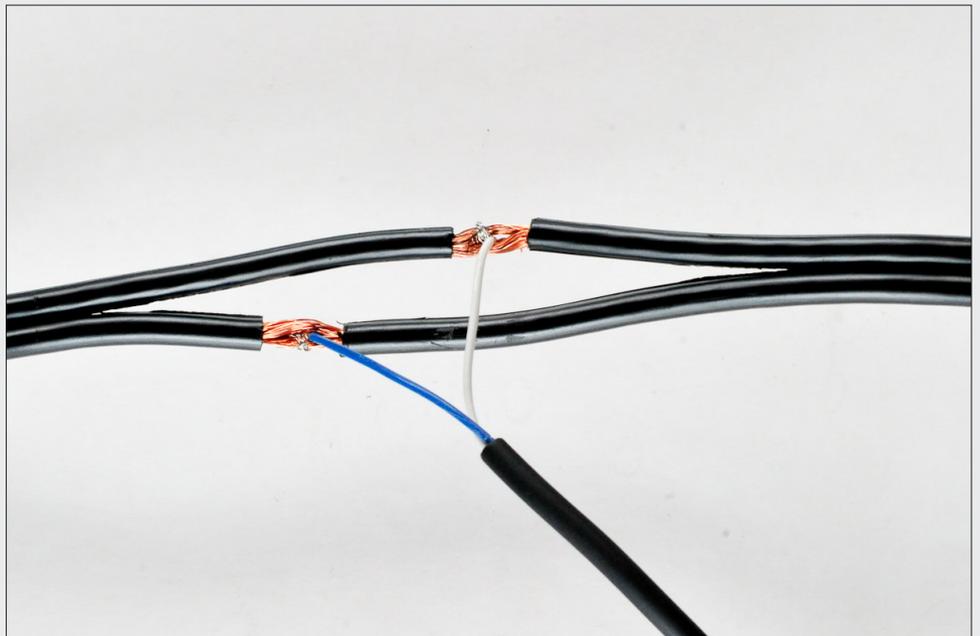
Run the heatshrink section up to the point of the join.



Step 9

Insert the stripped ends of the lighting lead into the gaps created in the trunk cable conductor. Twist them around so there is a good mechanical connection.

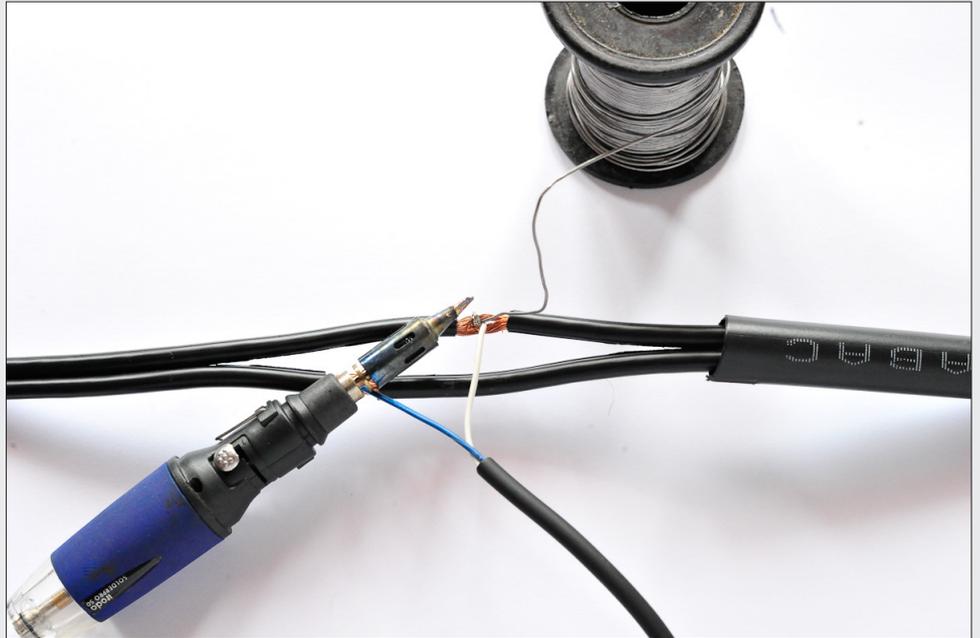
It's also possible to use some pliers to squeeze the lighting leads inside the trunk cable conductors after they are inserted.



Step 10

Fire up your soldering iron and allow it to heat up properly - around 30 secs - 1 minute.

A gas/butane soldering iron is your best bet. Not only is it easier to carry around to each solder point, but they are more powerful than most cheap electric irons, and not that expensive (\$50 should get you a good one)



Step 11

Insert the soldering iron tip into the cable join point and allow the join to heat up, around 20 secs.

Once the join has heated, apply the solder wire to the cable area and allow it to flow into the join.

Don't touch the solder wire to the iron tip! Allow the solder to melt directly into the cable join.



Step 12

Once both joins have been completed, fold the lighting cable back along the trunk cable and slide the heatshrink up to the join section.



Step 13

Slide the heatshrink over the join section, ensuring there is at least 15 - 20mms of heatshrink overhang on either side of the join.

Using resin filled heatshrink minimises the ingress of water into the join and the potential for water to be “siphoned” up the cable into the light fitting.



Step 14

Using a heatgun or blow torch, shrink the heatshrink evenly onto the join section.

If you are using a blow torch (or even a lighter) be careful not to burn the heatshrink!



Step 15

Finished!

A good join will last for decades and should be sturdy enough to resist accidental stresses on the cable.

