Silicone neon flex for façade lighting planning guide

Pre-order guide

- The exact lengths required. Often this is dependent on the location of pre-installed conduit.
- The length of power cable required per section. It's usually better to have the factory supply, solder and seal the power cable since they use the exact gauge to fit the silicone connector snugly for a perfect waterproof seal.
- Whether you need a single power feed, or a power cable feed on both ends of a section.
- Whether you need left / right / straight / bottom connectors per cable section. This is usually dependent on the location of the conduit.
- The power supplies needed. This is dependent on the section lengths of neon and whether 1 or two power supplies will be needed.
- The aluminium channels required. These are available in 1m lengths with 5 connector clips, or 3.5cm lengths with 1 connector clip. The 1m channels are for straight lengths and the short channels are for securing the neon on bends. It is important to ensure as much of the neon as possible is within a channel since you want the neon as secure as possible and you want straight lines.

General considerations

- The maximum length the neon can be run is 15m if powered from one end or 30m if powered from two ends.
- It is easier to handle and install shorter lengths (15m or less) than longer (15m to 30m) lengths especially when on scaffolding or rope access.
- Installers can cut the neon every 5cm and connect cables, then silicone seal the connectors / end caps.
- Power cables require soldering. It is not difficult especially with a little practise.
- Ensure drivers are accessible once the project is completed in case you need to replace a driver or neon section in the future.
- It is possible to effect a repair on the building as long as you have clear access to the broken section and power.
- Silicone connectors and end caps are waterproofed with a neutral cure silicone sealant.
- It is easiest to fill a 20ml syringe with silicone and use the syringe to squeeze silicone into every void. LUMUL can also supply small syringe ends to make this even more effective.
- It is not difficult to waterproof the silicone connectors or end caps however the factory will always do it better since they use raw silicone as well as silicone glue for a sturdier connection.
- The factory can supply custom-cut lengths of neon with the cable and connectors already installed however it is difficult for them to cut to the millimetre. Our experience is that it might be better to have the factory connect and seal at least one end of the neon.
- This is also a good reason to stick to shorter lengths < 15m since in that case you only need to cut the neon to length, then fit and seal an end cap, which is extremely quick, easy and low risk.
- Silicone end caps are especially easy to connect and seal on site (no soldering required).
- Where there is a power feed, there is a silicone connector : these can have the cable feed from the left, right, bottom or straight.
- When trying to achieve the look of a long unbroken linear light, a cable feed from the left, right or bottom allows for neon flex sections to be butted together much more closely thereby reducing the chance of a dark spot. From a distance you generally cannot see two sections butted together with ends caps or left / right / bottom connectors.
- A left/right connector on one neon length butted against an end cap on another neon section has about a 1cm dark spot, which is not easily visible a few floors up.

- The cable feed can be up to around 10m without any significant voltage drop (tested by ourselves, using factory-supplied 16AWG cable).
- Try to avoid cable joins within your conduit as joins are bulky and pulling the cable through the conduit may pull your join apart.
- The neon is not designed to run for 24 hours. You must plan for and install a timer on the board or a day / night sensor.
- If the neon is damaged during installation it is possible to repair it onsite and maintain a waterproof seal although damaging the neon should be avoided as far as possible.
- The aluminium channels need to be secured to the building – this is usually achieved by using 2 securing screws and Fischer plugs.
- Be conscious of scaffold schedules at the site – you may be required to fit in with the schedule. Because of this it is often better to do what you can, when you can e.g. install drivers and their supply feeds first.

Project installation guide

If you have the opportunity to plan your façade lightning installation at the building design phase, then :

- Plan for 25mm or larger conduit – this will only make drawing the power cables easier.
- Plan for the drivers to be within 10m of the neon – even closer is better.
- Plan for easy access to the drivers for easier maintenance.
- Ensure the neon is on its' own circuits since it requires a timer switch or day/night switch.
- Plan for neon sections < 15m.
- Plan for the conduit opening to be at least 8 cm away from the neon connector – this will be a little more forgiving when drawing the cable through the conduit, and with your neon section measurements.
- Plan for how you want the channels mounted : flush on the surface, recessed, using screws, using an adhesive. Some construction firms may be anxious if you drill into the plasterwork.

Installation sequencing is usually as follows:

- Install the conduit to accommodate at least 18AWG cable.
- Install the channels, leaving a short gap for power cables at the conduit opening, leaving the clips in the channel.
- Install the timer or day/night switch but ensure it can be overridden during the installation process since you will want to test each section of neon as it's installed and connected.
- Install the power supplies and wire them to the circuit.
- Test the section of neon flex on the ground with one of the power supplies. It's always best to pick up a problem on the ground than after you've installed the neon, drawn the power cable and connected it to the power supply.
- Install the neon flex by simply pushing it into the channel and mounting clips. Do this with the relevant power supply off and test each section as you go along. You will test for connection to power - that the power cables are connected to both the power supply and the neon internals and the polarity has been respected – and for any neon damage during handling and installation.