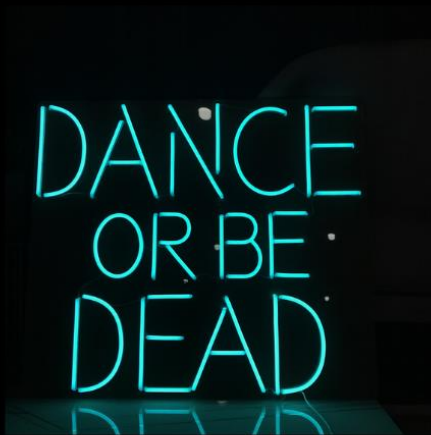
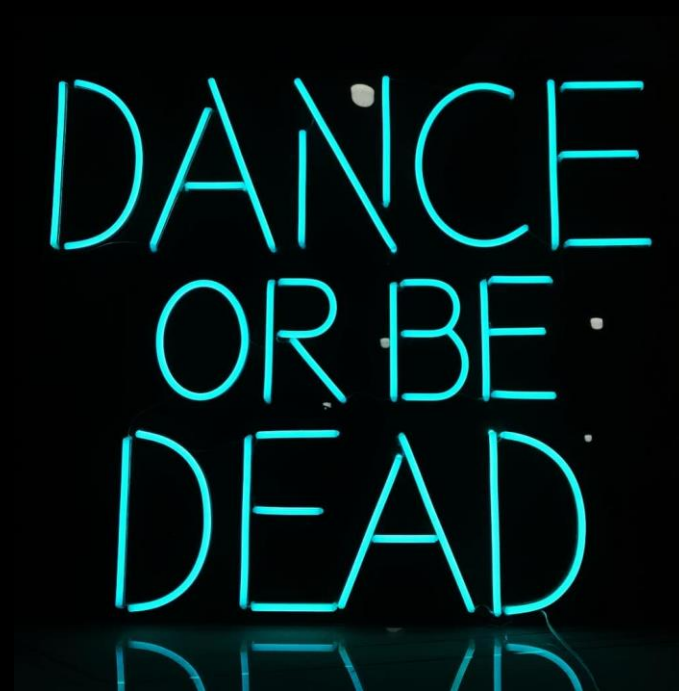
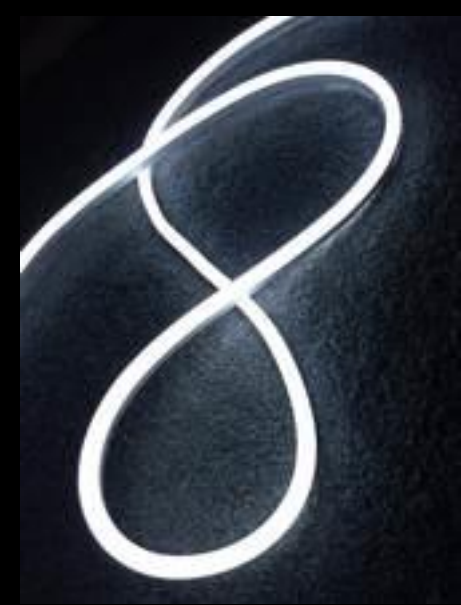


# GUIDE: HOW TO MAKE A NEON FLEX SIGN



USING PVC  
OR SILICONE  
LED NEON  
FLEX



# What is the difference between **PVC** and **Silicone** Neon Flex

We stock a wide range of Neon Flex products but our 3 primary products for making a Neon sign are;

- 24v PVC Mini/Mini Pro (8\*16mm)
- 12v Silicone Mini Pro (8\*16mm)
- 12v Silicone Ultra Mini Pro (6\*12mm)

## PVC 24v Mini Pro

- 24v
- 10 watts per metre
- Cutting increments every 50mm
- Bend radius of 30mm
- Fully waterproof
- Connects using sharps pin (either [pin connectors](#) or [pin extension connectors](#))

VS.

## Silicone 12v Ultra/Mini Pro

- 12v
- 8 watts per metre
- Cutting increments every 25mm
- Bend radius of 25mm
- Fully waterproof
- Connects [clear 2 core wire](#), directly soldered onto the LED strip inside the Silicone outer

As a starting point it is important to decide upon **which type of Neon Flex** you are going to use make your neon sign.

There are a wider range of [accessories](#) to use with our 24v Product and this product may be better suited for a beginner or for a larger or outdoor Neon Flex sign, especially where the connections and mountings won't be so visible. For a smaller indoor Neon Sign we would recommend using our Silicone Neon Flex as the accessories include [clear 2 core wire](#), [clear power cable to the plug](#), clear glue on [end caps](#) and the cutting increments are smaller (every 25mm), meaning you have more choice of size when designing your sign and can create more complex fonts/designs. As always it depends on the user, if you are more comfortable with making a smaller Neon sign with the PVC Mini Pro, then use the Mini Pro. We regularly speak to our sign making customers and it really down to personal preference when choosing the right product.



# How to design your Neon Sign

In order to decide on what you are going to order from us to make your Neon Sign you really need to have an idea of what you are planning to make e.g. Lettering or a business name or logo.

## Guess-timating

In the case of designing your lettering or a logo Neon sign, once you have decided on the height of your font/design, many people will simply estimate the total amount of Neon Flex needed by *guess-timating* the lengths (based on height) and then rounding up to total metres.

This is fine to do, you might have a little excess left over or you might need to order more if you don't quite order enough. E.g. If you have a letter N, the height of the font is 50cm and you know each line which makes up the N is going to be the same size then they would allocate 150cm for the letter N and use this principle of measurement to decide on the total length of Neon Flex needed.

VS.

## Using Software

The easier and more precise method of doing this is to use software e.g. Adobe Illustrator will tell you the total length of Neon Flex needed to create your design once you have designed your sign.

We would recommend this method simply as it will save you money (reducing excess left over) and you can be more confident in creating your sign to the correct lengths of Neon Flex as you come to produce it.



# Deciding how to mount your Neon Flex for your signage

Where you mount your Neon Flex for signage use is down to personal preference or the preference of your customer. There are 3 main types of backing that we see being used; Primarily Acrylic (clear or coloured). BUT Wood and Metal (including mesh) are also popular. We have seen Neon Flex used in other settings e.g. mounted into the upholstery of a head board on a bed, but that is beyond the scope of this guide. Using Mesh means you can avoid the below 3 methods, but it is obviously a very specific look for a Neon sign.

## The CNC route

We are going to be honest, in the case of all mountings you have 3 main ways to affix your Neon Flex. 1) CNC route your design into your backing, primarily so that the neon flex can simply be pushed into the CNC'd channel, is friction tight and only needs to be secured with a small line of silicone to keep it stuck down. Getting your CNC work done will add a bit of cost to your sign but the finish will be better. You don't need to own a CNC, lots of businesses with a CNC machine will be very happy to do this for you (for a cost).

## Strong Glue

The 2<sup>nd</sup> method is to use a 2 part epoxy glue that is renowned for its reliability. You will literally be gluing your Neon Flex directly onto your backing, you need to have a template to follow to make sure you are gluing in the right place. There are various types on the market, Loctite in particular has a very good range. This method can be messy, if you make a mistake you might end up with glue all over your backing. This method also means that if you make a mistake you may not be able to use that length of Neon Flex as it will be likely to get damaged if you try to remove it. Planning is everything using this method. Measure twice...Glue once needs to be your mantra.

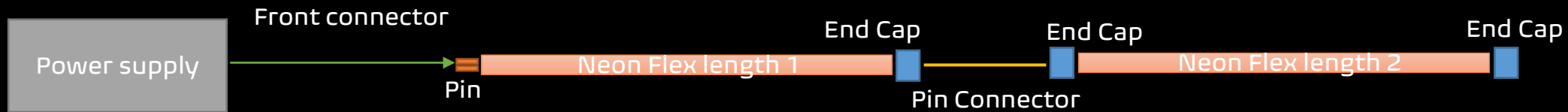
## Using Aluminium/Plastic Channel

In the case of our 8\*16mm (both in 12v Silicone Flex and 24v PVC Flex) we supply [Aluminium](#) or [Plastic channel](#) which can tightly hold the Neon Flex. This channel can then be glued or screwed onto your backing of choice. Occasionally people ask about the visibility of the channel, it really isn't an issue as when the Neon sign is turned on, all people are focussed on is the light coming from your design. We can either supply [1 metre lengths of channel](#) or [aluminium mounting clips](#) in 2.5 inch pre-cut and pre-drilled lengths.

# How to cut and join Neon Sign

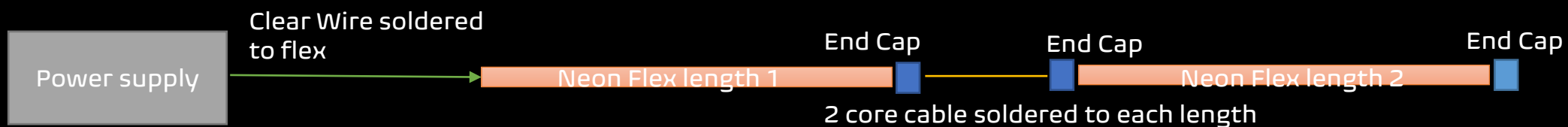
## 24v Mini Pro Neon Flex

In order to join different lengths of 24v Mini Pro, there is a very simple process. The Neon Flex has 2 wires which run all the way through the product & cutting increments every 50mm. We supply [pin connectors](#) (150mm of clear wire with sharp pins at either end), which can push into the wire at the end of each cut length you are joining and continue to power your sign/installation from a single power supply. Some of our customers talk about other ways of doing this, such as cutting into the bottom of the flex, but these methods are something which you should attempt once you've mastered the advised route. [End Caps](#) (which we also supply) should be used on the end of each length to provide a clean/safe finish and the pin connectors can be pushed through these. If the sign is to be used outside then [heat shrink/waterproof silicone](#) should be used over each end to produce a waterproof finish. There are dark marks on the underside of the flex which denote a cutting point (every 50mm).

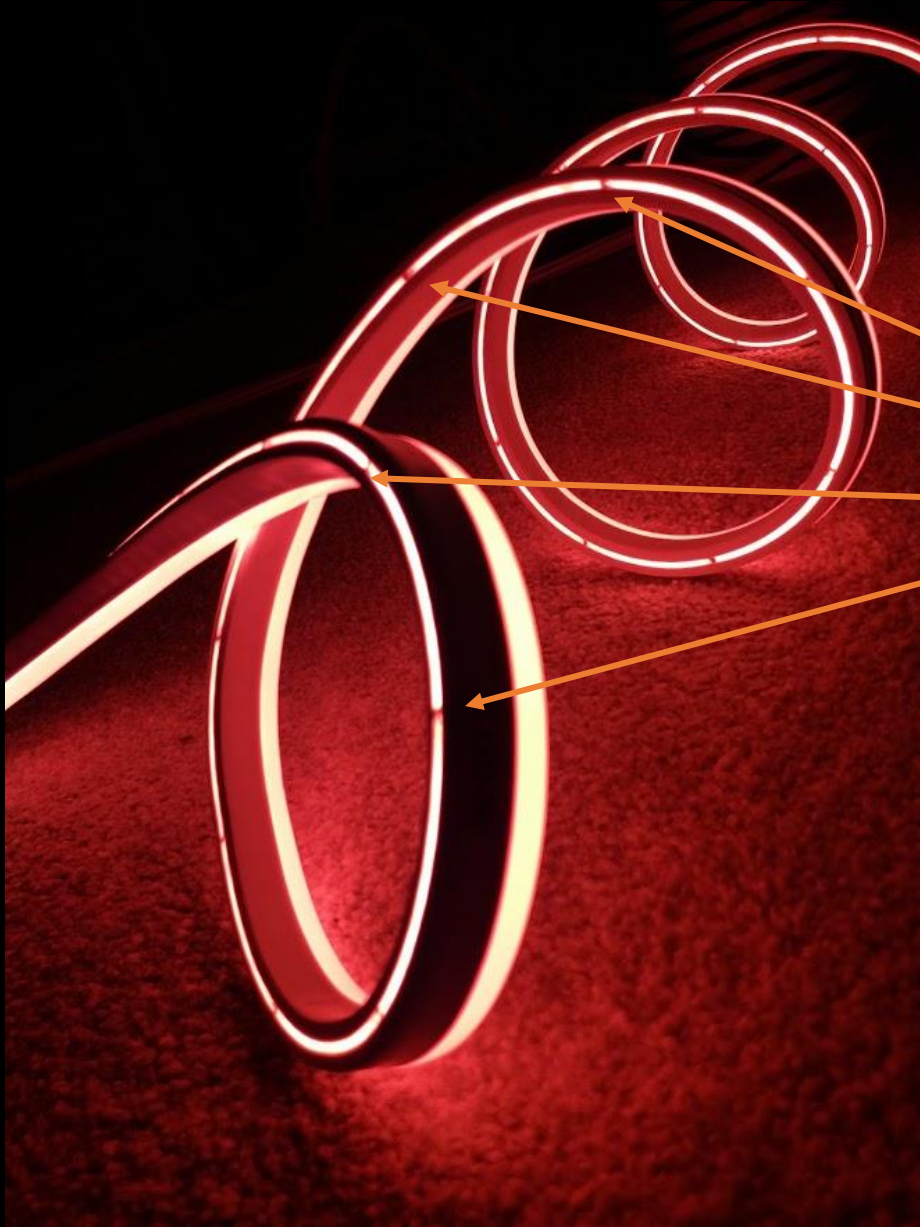


## 12v Silicone Neon Flex

The silicone Neon Flex has a different build to the PVC, the LED strip inside runs through a slightly hollowed out channel, you can then use clear [2 core wire](#) to join together your cut lengths of Neon Flex, this is done by soldering the wires onto the 2 visible terminals at each 25mm cutting increment. Each end of a cut length must also have an [end cap](#) (we sell specialist Silicone end caps which have space to pass the wire out of the side). There are dark marks every 25mm of the flex which denote a cutting point.



# Cutting point of 24v Mini Pro



You can see the dark mark's (every 50mm) on the thin channel of light on the underside of the product. These are easier to see when the product is illuminated but you can also see them when the product is not powered.

The cutting points on the 12v Silicone Neon Flex (every 25mm) are just as visible but are on the side of product.

# How to power your Neon Flex

## The range of Power Supplies

**24v Mini Pro** can be powered with an Indoor or Outdoor Waterproof power supply. We primarily supply [Waterproof 24v transformers](#).

**12v Silicone Mini Pro/Ultra Mini Pro** can be powered with an [Indoor](#) or [Outdoor Waterproof power supply](#).

We can supply these, in anything from fully waterproof Power Supply to the black laptop style 12v transformers.



## How to work out which level of power supply you need

There is simple formula to use to work out which power supply you need.

The level of available power the power supply has left to give will dictate how long your power supply will last and how hot your neon flex will run, the closer you are to the limits of your power supply the shorter lifespan it will have and the neon flex will reduce in terms of lifetime due to running at a higher temperature.

## The formula;

**24v Mini Pro Flex** is 10w per metre. This means that you multiply your total meterage by 10w and then add on a minimum of 10% to deliver design performance to your neon flex sign or installation. E.g. If you have 5m then;  $10w \times 5m = 50w + 10\%$  means your **24v Power Supply** should be greater than 55 watts.

**12v Silicone Neon Flex** is 8w per metre. This means that you multiply your total meterage by 10w and then add on a minimum of 10% to deliver design performance to your neon flex sign or installation. E.g. If you have 10m then  $10m \times 8w + 10\%$  means your **12v Power Supply** should be greater than 88 watts.



# RGB Neon Flex for sign making

We supply 2 types of RGB Neon Flex. Both types can be used to make colour changing signs.

**Type 1** = [24v, 11\\*19mm and 50cm cutting increments](#). This is more suitable for larger signs and installations. The usual 24v setup is required (e.g. pin connector, front connector, pin extension connectors to join), but you also require an [RGB receiver and remote control](#). The primary difference between the RGB and single colour Neon Flex is that as oppose to having 2 wires running through the inside, there are 4 wires, so to cut and join this Neon Flex you would need 2 x Pin connectors per connectors (as oppose to 1). The Pin Connectors which connect the RGB front connector to the Neon Flex are 4 pronged as oppose to 2.

**Type 2** = [12v 8\\*15mm and 1cm cutting increments](#). This means it can be used to make very intricate colour changing signs. The usual 12v setup is required, where you solder each using clear cable, but you require 4 cables per join and require an [RGB receiver and remote control](#).



Both products require an [RGB receiver and remote control](#) to change the colour

# Dimmers and Smart Controllers

We supply a range of [dimmers and smart controls](#) for Neon Flex, these can be used within a Neon sign setup.

Price wise we can offer a basic 5v-24v receiver and controller for around £35 all the way up to more professional looking devices for roughly £100 for the Receiver and Controller combined. These devices are RF controlled, although do supply a WIFI controlled device that you control using a mobile phone app.

There are options for DMX controls for Neon Flex but we don't supply these controllers as standard. If you would like us to source a DMX controller for your project then please get in touch. A single colour Neon Flex requires a [Dimmer receiver and a remote control](#), whilst an RGB sign would require a [RGB receiver and remote control](#).

We can supply a more basic product for dimming or RGB control, please speak to us for more information.

These devices are easy to setup and once the receiver is wired into the setup usually require a simple pairing process.



# Speak to us for more information

We are always on hand to take questions, the chances are that if it's a question regarding Neon Flex, then we will of heard it before.

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