

# LED Strip Installation Guide

## Things To Note

LED strips are extremely delicate and should be handled with care to maintain the warranty. Imagine taking a circuit board from a computer ...you would handle it very extreme care. LED strips lack the 2mm thick fibre glass backing board that computer PCBs have and so are far more fragile and should be treated as such.

## Things Not To Do

Never pull up a strip after sticking it down to re adjust its position. Doing so will break resistors, ICs or solder joints, voids the warranty and will cause the strip to fail prematurely after install or not work at all. If this does happen the strip should be discarded and replaced.

## Soldering Tails Vs Clips

Always where possible use soldered on tails.  
At TASK we always solder tails to the strips and use a special flux to ensure a lasting connection. Push on clips with tails can fail due to corrosion and movement etc and may waste installers time going back to a job to resolve failed connections.

For further electrical installation information, see the Electrical Installation Guide

## Things To Do

Always use some sort of heat sink to mount LED strips to as heat disipation is a critical factor in determining LED life.

Task Lighting profiles not only provide good heat sinking but also protect the LEDs with the diffuser from physical damage and dust & dirt build up.

Always do a dry run before peeling and sticking strips in place.

Centre your strip in its profile so if any unlit areas exist at each end they are equal.

This avoids the temptation to pull a strip up if its located wrong.

Clean the mounting surface of any dust & dirt etc plus wipe with meths or similar solvent to remove any greasy surface.

This avoids the temptation to pull a strip up if its located wrong.

Always peel and stick strips, where possible, starting from the cable entry end.

This avoids the possibility of the strip cable entry not positioning well to exit the profile.

## Strip Load Calculations & Voltage Drop

Soon all Task Lighting product stands will have a QR code displayed for quick access to our free strip load calculator.

Its simple to use and gives total loads for strip lengths plus the total amps.

For tuneable whites, RGB & RGBW strips the load and amps per colour is calculated which helps in choosing controllers (rated by amps per colour or channel) plus knowing the amps helps in choosing cable size to avoid excessive voltage drop. This website is useful for voltage drop calculations <https://www.jcalc.net/voltage-drop-calculator-as3008>

Aim for no more than 5% voltage drop when installing LED strips.

This is most important with Tuneable White, RGB & RGBW strips to main colour consistency over long runs.

## Installing Profiles

When installing profiles always allow for the profile to expand as its warms up when the LEDs are turned on.

Never have profiles hard up to walls at each end.

This becomes extremely important with long runs of profile end to end as the longitudinal expansion is cumulative.

The thermal linear coefficient of expansion of aluminium is 0.024mm per M per degC.

Example 40degC rise over 30m is  $0.024\text{mm} \times 40\text{degC} \times 30\text{m} = 29\text{mm}$  of length increase.

A rough and safe guide would be to allow 1.5mm per M for expansion plus the thickness of endcaps if used.

Failure to allow for expansion can cause the profile to buckle and/or the diffuser to fall out which will not be covered under warranty.

Profiles can be installed several ways.

Mounting clips which are screwed into place first and LED strip mounting profiles are then snapped into the clips.

Some profiles can be fixed by drilling through the profile base to screw fix directly.

Screw fixing is only recommended for short runs as long runs would require larger and larger holes to allow for accumulated expansion over a long run.

With screw fixing always use counter sunk screws and counter sink the drilled holes in the profile to ensure that the screw heads are flush with the profile surface.

Failing to do will stop the profile from acting as a heat sink for that portion of the LED strip and possibly cause premature failure due to the LEDs running too hot.

This will void the warranty.

## Exterior Installs

Exterior strips are best not to be exposed to direct sunlight this can cause premature failure in LEDs and diffusers.

Installation in shaded areas such as under eaves and under bench seats etc is OK.

Exposure to direct sunlight will void the warranty.

Neon Flex products are far more suitable where direct sunlight is a possibility as they have a large thickness of PVC or silicone protecting the LEDs.