

Lighting

Installation Guidelines

LED Aluminium Stair Edgings

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These installation guidelines apply to the following Gradus profiles only:
AS1106L, AT718L, ATD71L, ATD121L, ATF71L, ATNG71L, ELAF5150* & ELAF2350*
** This profile is sold pre-assembled. Some aspects of these instructions will not apply.*

Equipment Required:



Suitable Screws



Tape Measure



Stair edging adhesive
(we suggest Gradus Grip)



Mastic Gun



Mitre Saw



Power Hammer Drill



PVC Conduit Cutter



Combi Drill / Impact Driver

When materials are supplied, the Gradus marked packaging clearly states the product code contained within. The power supplies are clearly marked with the input and output voltage ranges, frequency and power rating.

Note: A qualified electrician must install the power supply unit.

Planning:

1. From the plan / drawing, calculate the number and length of steps to be illuminated.
2. Take templates of any curved stair edging that is required.
3. Calculate your electrical requirements:

Interlok Advance with 100mm spaced LED's = 0.25A @12v / 3W per metre (for IAV/600/6 strip option)
Interlok Advance with 50mm spaced LED's = 0.5A @12v / 6W per metre (for IAV/600/12 strip option)
Continuity = 0.025A @12v / 0.3W per LEDCHAM

- Circuit loading should not exceed rating of the P.S.U.
 - The loading must be calculated and divided between the power supplies evenly.
 - The power supply units must be SELV.
 - The power supply must match the voltage of the lighting at either 12 or 24VDC.
 - The power supply must be sufficiently rated for the applied load.
4. It is recommended that every circuit on the secondary side of the power supply is fitted with a quick blow type fuse. The rating of this fuse must be calculated to be as close as possible to the nominal current rating of the circuit.

The circuit current can be calculated from the approximate figures given above, or preferably, taken from a site measurement with a suitable ammeter.

If the PSU is located away from the steps, the number of feed points will depend on the quantity of power supplies, the location of the lighting and the volt drop of any circuit.

From the volt drop calculations, ensure the voltage drop does not exceed 5%. This can be achieved by re-feeding the circuit, taking care not to interfere with the effectiveness of the protective devices.

Voltage Drop = 65mV / A / M

Adhesives, Sealants and Crimps:

- Where references are made to adhesives for fitting stair edgings, this should be a high-performance gap filling adhesive – such as Gradus Grip stair edging adhesive.
- Silicone sealant refers to acetoxysilicone, silicone rubber compound equivalent to 732 RTV.
- Crimps should be the butt splice type, UL approved and suitable for 16AWG cable.

Aluminium Channel profiles:

Light can only project in one direction from aluminium profiles so ensure that the LEDs are pointing away from the profile and the opaque side of the LR1238 tube is not blocking the light.

Installation of the Step System:

1. It should be ensured that all surfaces to which the profile is to be fixed are dry, flat and free from any contaminants.
2. If using end caps, mark the position of the end caps on the step to determine the length of profile.
3. Cut the profile to the size required.
4. Place the profile in position and mark the position of the screw holes onto the substrate.
5. Drill the substrate to a depth of 45 - 50mm and insert suitable fixing plugs into the holes.
6. Apply high performance cartridge adhesive with gap filling properties (e.g. Gradus Grip stair edging adhesive) to the back of the profile and place onto the substrate. Ensure that all the profile is in contact with the substrate and there is a minimum 80% coverage of adhesive on the underside of the profile. Please refer to adhesive manufacturers data sheets for application details.
7. Using 6mm or 8mm screws (dependent on profile) fix through the profile, into the plugs and tighten.
8. Apply silicone into the channel to help secure the LR1238 tube.
9. Insert either the Interlok Advance or Continuity lighting system into the LR1238 tube.
 - If using Continuity – insert with both LED housings and blank connected to the rod and tube at either end.

For further information on installing the lighting systems, please refer to separate Interlok Advance or Continuity installation instructions.

10. Insert the LR1238 tube into the stair edging channel.
11. Use through crimp connectors to connect the LEDCHAM or IAVC1 wires to the supply cables. Continue this procedure for each step.
12. Mechanically fix the end caps and cover screw holes with supplied pips.

Note: The profile should be installed directly onto the substrate and **NOT** on top of any floorcovering. The floorcovering should be abutted up to the back edge of the profile.

If any further information is required, please do not hesitate to contact Gradus Technical Services on (+44)1625 428922.