

# Flat Copper Tape & Warning Tape Installation

Ampetronic Flat Copper Cable is intended to be installed under carpets and other floor coverings using adhesive installation / warning tape; it allows loops to be installed easily and discreetly. The adhesive warning tape provides a warning of the loop presence, fixes the flat copper cable in place, and provides mechanical protection. The adhesive is formulated not to 'bleed' and has a long life. The insulating layer of the copper tape is bonded to the copper for better handling.

## Safety Warning

Ampetronic Flat Cable is not suitable for connection to AC mains power supplies or other high voltage systems. To do so could result in injury or death.

## Installation Method:

- 1) Check that all reels of cable are undamaged. Do not use damaged cable - it may have a reduced service life.
- 2) Concrete and screeded floors **must be properly sealed**. Unsealed concrete and similar materials contain strong alkalis, which can destroy the copper cables (and the carpet!) over time. If the installer is unsure whether the surface is properly sealed, it may be sensible to apply a PVA (white glue) type adhesive and allow this to dry before installing the cable.
- 3) The floor must be dry and free from dust and grease. It may be necessary to use a light solvent (e.g. methylated spirit) to remove any contamination that is present.
- 4) The flat copper cable can then be run out along the route required:
  - a) Unless using adhesive backed cable, it may be best to temporarily hold the Flat Cable in place using an occasional piece of adhesive tape at corners, etc.
  - b) At corners, fold the cable diagonally over itself to form a neat bend.
  - c) Where it is necessary to join the cable, use this procedure:
    - i) For each wire end, using a good soldering iron, heat the end of the wire, and apply solder, heating until the solder flows onto the copper and tin the two ends (the plastic coating will melt when heated). Then lay the tinned surfaces against each other and heat to solder the ends together. Leave to cool. Alternatively Ampetronic provide a crimp tool and crimps, however it is likely crimps will be visible beneath the floor covering.
    - ii) Insulate the joint fully using electrical grade PVC tape.
  - d) Do not attempt to connect the cable to the loop driver terminals directly as it will not make reliable contact. Instead, terminate the loop to wire feeders as below:

- i) Run the two flat cable ends from each loop or array together (on top of each other if possible) to a location where they will not be under any strain. A suitable location could be a standard electrical fitting box on the wall, at floor level.
  - ii) Use stranded copper wire of suitable sectional area to feed the loops from the loop driver. The two wires should be twisted together between the driver and the loop.
  - iii) Prepare the flat cable ends as for jointing (see 4c). Strip the wire end, spread the strands out flat and solder onto the tinned end. Alternatively Ampetronic provide a crimp tool and crimps.
- 5) When the cable is all laid out in the correct position and jointed, test the loops for continuity across the ends of each loop.
- 6) When all is satisfactory, run adhesive warning tape along the whole of each length of flat copper cable and press down firmly. The copper should be central under the adhesive tape. Ensure tape is between 0 & 35°C when applying it.
- 7) Ensure that carpet or floor fitters are aware of the loops. It is essential that the loops are not cut. The fitters should be made aware that they would be responsible for the cost of repairing any damage they cause. It may be sensible to test the loop continuity in their presence before and after floor finish installation to avoid any disagreement.
- 8) The tapes are usually invisible under carpets, if used under particularly thin floor coverings, the line of the tape could be slightly visible. In such a case, the tape can often be installed under equalising layers or levelling compounds; consultation with the flooring contractor is essential to ensure compatibility of materials. Note the following properties of the adhesive / warning tape:  
The carrier layer is LDPE (Low-Density Polyethylene) coated Polyester (65%) / cloth (fabric material 35%) The glue is a natural rubber & synthetic resin.

**Note to Distributors:** Distributors must include a copy of this document when Flat Cable and/or adhesive tape is despatched to installers.

## Warranty Information

The loop cable and Installation/Warning tape are warranted against defects in manufacture present at the time of supply. The warranty does not cover installation errors or mechanical damage to these products. Failure to follow these instructions properly could invalidate any warranty.

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