

Flat Copper Tape

Ampetronic flat copper tape (cable) is the default choice when installing loop cable under floor coverings such as carpet, wood, laminate, tiles or linoleum. The cable will not be visible under most floor coverings and is generally secured to the floor with Printed Warning Tape that alerts tradespeople, such as carpet fitters to its presence.

The tape can be attached to feeder cables using crimps or soldering and plastic extrusion is available to cover it in high traffic areas. There are three sizes of flat cable available depending on application. The insulating layer of the cable is bonded to the copper for better handling.

Features

- **Quick and simple to install**
- **Discreet installation**
- **Sealed in adhesive backed film to avoid grounding**
- **Easy to fold around corners**
- **A more electrically efficient conductor than standard round cable**
- **Inductive characteristics are much lower than the equivalent round cable**

Applications include:

- **Under floor perimeter loops**
- **Under floor Multiloops / Phased Array**
- **Can be fitted under most coverings with no effect on the magnetic field.**
 - Carpet
 - Vinyl
 - Linoleum
 - Wood
 - Laminate
 - Ceramic & Porcelain Tiles
 - On top of metal decking (requires high power driver and appropriate loop design)



INSULATION PROPERTIES

Composition:	Polyester Film
Thickness:	0.050 mm
Dielectric Strength:	5,000 v
Colour:	Colourless
Heat Class:	B (Temperature Resistance up to 130°C)
Insulation Breakdown Voltage:	5,000 Volts
Adhesive:	Polyacrylate

CONDUCTOR PROPERTIES

Composition:	Cu min 99.90%
Density:	8.9g/cm ³
Coefficient of Thermal Expansion:	16.8 X 10 ⁻⁶ / K at 25 -100°C
Electrical Conductivity:	5.8 – 5.89 S/m at 20°C (soft)
Thermal Conductivity:	385.2 W / Km at 100°C
Modulus of Elasticity:	117.7 kN / mm ²
Tensile Strength:	250.0 N / cm
Elongation:	10.0 – 40.0%
Hardness:	40.0 – 60.0 HV (VPN)

TECHNICAL PROPERTIES

Part No.	Width	Thickness	(CSA)	Current	Length	Weight
ACFB50U10	10mm	0.1mm	1.0mm ²	11A Max	50m	0.52kg
ACFB50U18	18mm	0.1mm	1.8mm ²	18A Max	50m	0.96kg
ACFB100U18	18mm	0.1mm	1.8mm ²	18A Max	100m	1.89Kg
ACFB50U20	20mm	0.15mm	3.0mm ²	22A Max	50m	1.5kg
ACFB100U20	20mm	0.15mm	3.0mm ²	22A Max	100m	2.84kg

Safety warning

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

For material data safety MSDS sheet please request and see document UP10027.

Copper Tape Information

Optional accessories

Printed Warning Tape
PVC Extrusion
Crimps

Standards Compliance

Ampetronic Flat Copper Tape is UL recognised for fire retardancy and uses RoHS compliant, halogen free, non-toxic polyester insulation.

Installation note

When installed, the Ampetronic flat copper tape is not normally visible through carpets and floor coverings. However, if used under particularly thin floor coverings, the line of the tape may be slightly visible. The installer is responsible for confirming the compatibility of all materials before they are used in any project.

Warranty Information

Copper Tape and Printed 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 the products.

WORKING WITH FLAT COPPER TAPE

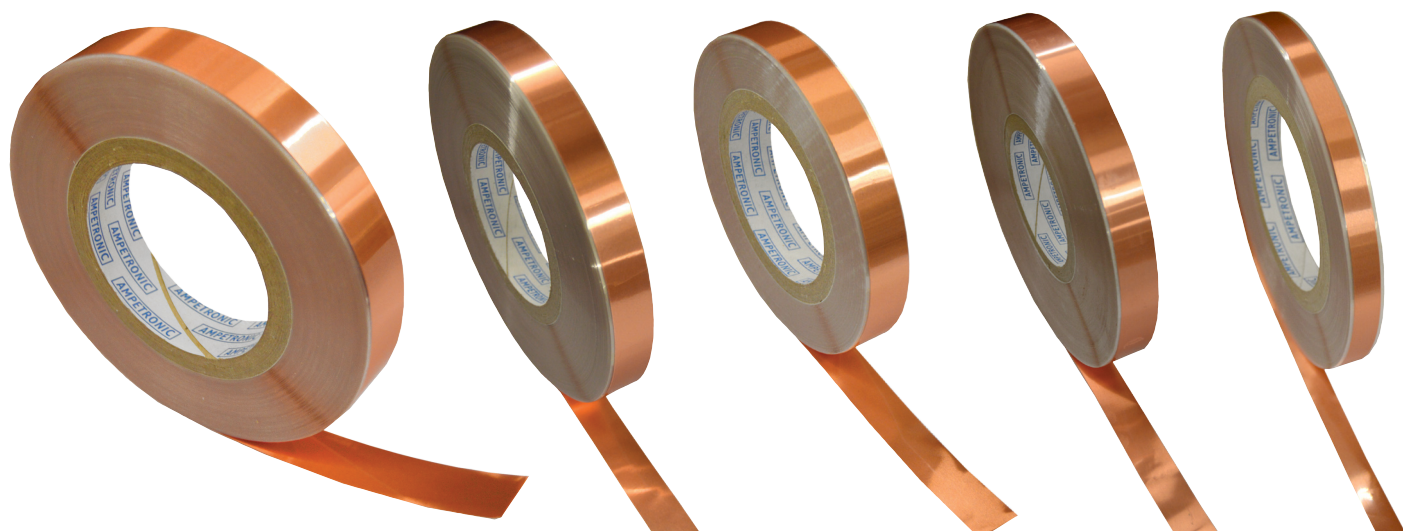
To turn a corner, simply fold the tape over and press to flatten. To terminate, tin the end of the tape with a good soldering iron, melting the polyester insulation with the solder.

Solder on feeder cable (or the next length of tape) to the copper tape, and insulate with electrical tape ensuring that there is no possible conductance to any surrounding materials.

Crimps are available for installations where soldering is not possible.

INSTALLATION PROCEDURE

1. Ensure that the Copper tape and insulation remains undamaged. Using damaged cable may result in capacitance to ground and/or reduced service life.
2. Ensure concrete and screeded floors are properly sealed. Unsealed concrete and similar materials contain strong alkalis, which can destroy the Copper Tape (and the carpet) over time. To ensure the surface is properly sealed, it may be advisable to apply a coating of PVA adhesive.
3. Ensure the surface is dry and free from dust and grease to allow the Printed Warning Tape to adhere to the floor. It may be necessary to use a light solvent (e.g. methylated spirit) if there is grease present.
4. Run the Copper Tape out along the route required. The following notes may be of use. Depending on the surface and length of runs it may be useful to first layout out double sided tape and apply a layer of glue to the surface.
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.
7. Ensure that carpet and floor fitters are aware of the loops. It is essential that the loops are not cut, and the fitters should be made aware that they would be responsible for the cost of repairing any damage they cause to the loop. We recommend the loop continuity be tested in their presence.
8. Connect feeder cables to the Hearing Loop driver in accordance with the instructions provided with it.



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