

## 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**

### Applications include:

- **Under floor finish - Perimeter loops**
- **Under floor finish - Multiloops / Phased Arrays**
- **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

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

#### CONDUCTOR PROPERTIES

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

#### TECHNICAL PROPERTIES

Part No.	Conductor			Overall				
	Width	Thickness	CSA	Width	Thickness	Current	Length	Weight
ACFB50U10	10mm	0.1mm	1.0mm <sup>2</sup>	13mm	0.15mm	11A Max	50m	0.52kg
ACFB50U18	18mm	0.1mm	1.8mm <sup>2</sup>	21mm	0.15mm	18A Max	50m	0.96kg
ACFB100U18	18mm	0.1mm	1.8mm <sup>2</sup>	21mm	0.15mm	18A Max	100m	1.89kg
ACFB50U20	20mm	0.15mm	3.0mm <sup>2</sup>	23mm	0.20mm	22A Max	50m	1.49kg
ACFB100U20	20mm	0.15mm	3.0mm <sup>2</sup>	23mm	0.20mm	22A Max	100m	2.96kg
ACFB200U20	20mm	0.15mm	3.0mm <sup>2</sup>	23mm	0.20mm	22A Max	200m	6.50kg

#### 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

## Standards Compliance

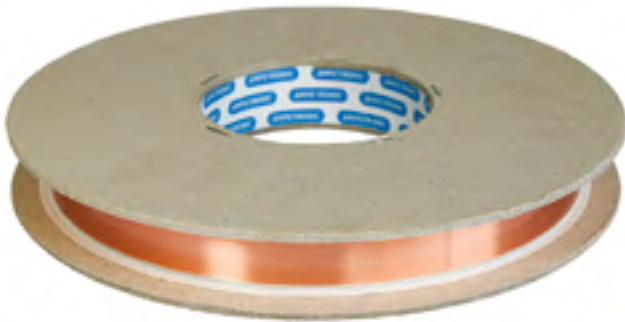
Ampetronic Flat Copper Tape is UL recognised for fire retardancy and uses RoHS compliant, halogen free, non-toxic polyester insulation.

## 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.

## OPTIONAL ACCESSORIES

### Printed Warning Tape (ACWP50)

Ampetronic supply a special high quality adhesive tape for affixing copper tape to floor surfaces. The tape has a printed warning message and symbols designed to alert others to its presence, purpose and importance.



The warning message printed on the tape is especially pertinent if visible before a floor covering is fitted. To alert inform carpet fitters of its location so that can avoid cutting the cables for example.

Width	50mm (2")
Reel length	50m (164ft)
Thickness	0.315mm
Backing	LDPE (low density polyethylene) coated cloth
Cloth composition	65% polyester, 35% cloth
Adhesive	Natural rubber and synthetic resin
Colour	White with blue printed warning text and hearing loop logo

### PVC Extrusion (ACEX01)

This is a high density PVC extrusion, supplied in 3 metre sections, for covering the copper tape in areas where a high level of physical protection is needed, such as exposed floors.

Colour is light grey. Normal fixing is by means of the extra heavy duty adhesive strip fitted to the edges of the extrusion, but in exceptional cases screws or special fixing pins can be used in addition.

It is essential that the fixing surface should be free of grease, polish or dust.



### Crimps and Crimp Tool

Cable crimps are used to connect feed cables from a hearing loop driver to flat copper tape loop(s) in a quick, easy and effective manner. Crimps also help to negate the requirement for a hot works permit, which can sometimes be a struggle to acquire onsite when you need to solder the copper tape to the feed cables.

The crimp tool compresses the connector to the round feed cable and clamps the teeth of the crimp onto the copper tape. There are three different types of crimps, two for different gauge wires (12-10AWG and 16-14AWG) and one for extending lengths of copper tape (Crimp -Splice Copper tape to Copper Tape).



GJ00002	Crimp Tool
FH50503	16-14 AWG (1.3mm <sup>2</sup> to 2.1mm <sup>2</sup> )
FH50502	Crimp - Splice Copper Tape to Copper Tape
FH50501	12-10 AWG (3.3mm <sup>2</sup> to 5.3mm <sup>2</sup> )

**AMPETRONIC**



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[www.ampetronic.com](http://www.ampetronic.com)  
[sales@ampetronic.com](mailto:sales@ampetronic.com)  
[support@ampetronic.com](mailto:support@ampetronic.com)  
phone +44 (0)1636 610062  
fax +44 (0)1636 610063