



Introduction to lightning protection

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Introduction to lightning protection

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When designing a structural lightning protection system using the Faraday Cage principle advocated by IEC/BS EN 62305, it is possible to use one or more types of conductor, such as flat tape, solid circular or cable and wire (stranded).

The decision about which type to use is often based more on country-specific historical preferences or aesthetic considerations than the superiority of one type over another. High quality Furse conductors, plus appropriate fittings, are available for all three systems.

Flat tape conductor system

Flat tape conductors are easy to install, with no need to straighten for a neat finish. Available in copper or aluminium, flat tape can be installed bare or with a choice of PVC coverings, to enable the tape to blend with modern building fabrics.

Tinned copper tape is also available for applications that require additional protection measures, and copper braid is available for use where flexibility is necessary, e.g. on moving installations like gates or doors.

Furse copper tape is approved to BS EN 13601, whilst Furse aluminium tape is manufactured to BS EN 755-5.



Solid circular conductor system

Solid circular conductors can be used in applications where aesthetic considerations are important.

The 8 mm diameter solid circular range is less conspicuous than the flat tape system, and lends itself much better to being concealed. Available in copper or aluminium, solid circular conductors can also have PVC coverings.

A coil of circular conductor can be quickly installed, being easy to bend in any plane, and only needing a straightening tool to give a very neat finish.

Furse copper solid circular conductor is manufactured to BS EN 13601, whilst Furse aluminium solid circular conductor is manufactured to BS EN 755-5.



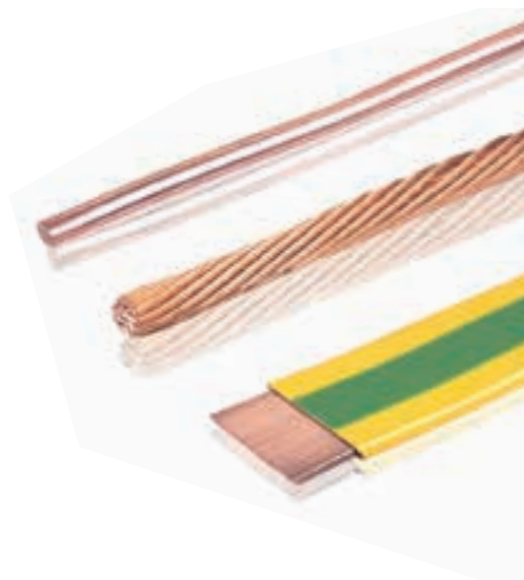
Stranded conductor system

The Furse range of soft drawn stranded conductors is available in copper, either bare or PVC insulated, and complies with the US standard NFPA 780.

Furse soft drawn stranded conductor is manufactured to BS EN 60228, whilst our PVC insulated stranded conductor is manufactured to BS EN 50525.

The Furse range of conductors is complemented by a complete range of fittings, including clips, clamps, holdfasts and bimetallic connectors.

Fittings are designed to conform to the IEC/BS EN 62561 series of product standards for lightning protection components, with those installed with the most common conductor types suitably tested.



Introduction to lightning protection

Product selection guide

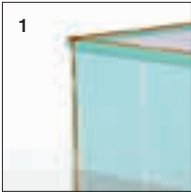
Product selection guide - Lightning protection

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Conductors

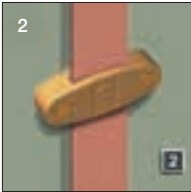
The first choice faced by the designer of a structural lightning protection system is the type of conductor system to be used:

- Choose the material required, i.e. copper or aluminium
- Choose the type of conductor required, i.e. flat tape, solid circular or stranded



1. Conductor network

The conductor network is the means of intercepting/carrying the current of a lightning strike safely to the earth termination network. Use the guidelines of IEC/BS EN 62305-1 & -3 for the correct placement of conductors.

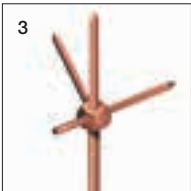


2. Fixings

Select the correct system of fixings for each part of the conductor system. Fixings are available for a wide range of modern construction materials, e.g. brick, stone, plastic and metal.

Air termination network

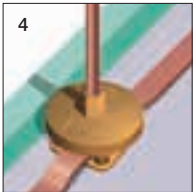
The air termination network is the point of connection for a lightning strike. It typically consists of a meshed conductor arrangement covering the roof of the structure. The mesh size is determined by Lightning Protection Level - LPL.



3. Air terminals

Use air terminals in the form of vertical air rods for the protection of prominent roof top features or equipment. Use strike pads to connect and thus expose concealed conductors.

Air termination network



4. Air rod bases

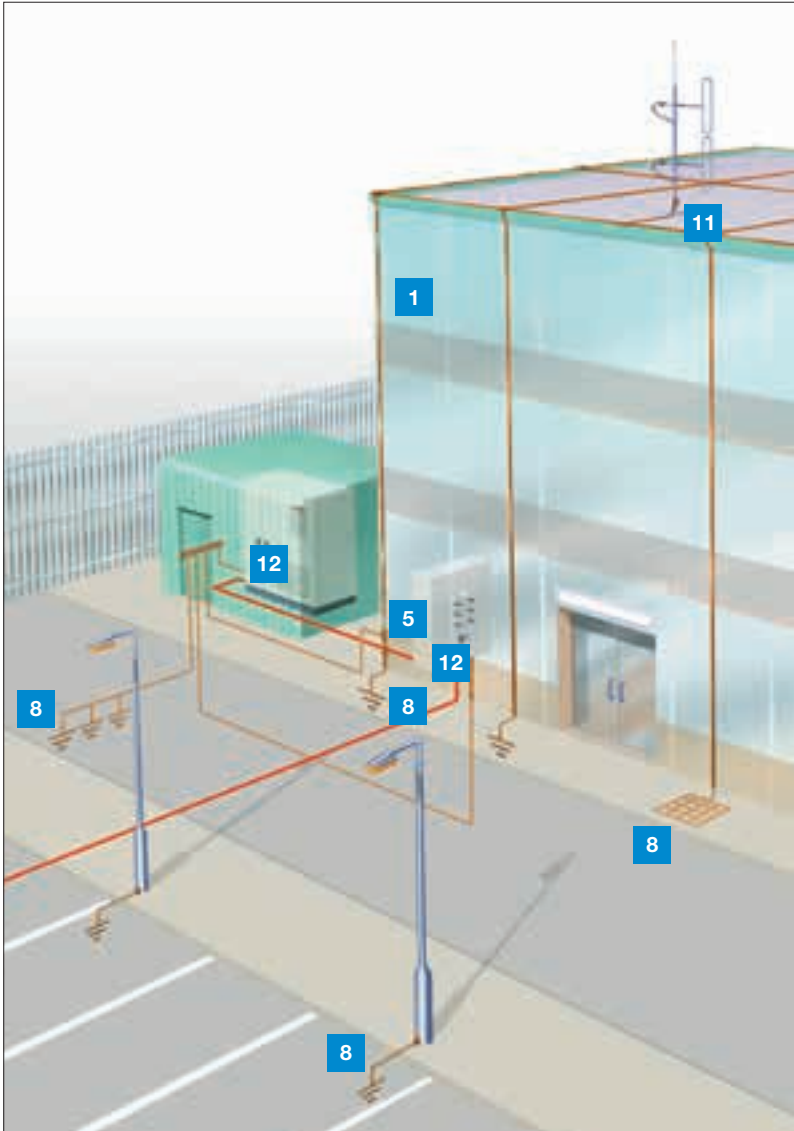
Choose the correct air rod base. This will ensure that the vertical air rods are both solidly fixed to the fabric of the structure and have a low resistance connection to the conductor network.



5. Interconnection components

Crossover clamps have been specially designed for use where conductors cross as part of a roof network.

Main aspects and individual components of an external lightning protection system



Down conductor network



6. Conductor jointing clamps

Select a component for the interconnection of multiple conductors or for changes of direction. Jointing clamps will ensure a low resistance, corrosion resistant connection between air termination and down conductors.



7. Test clamps

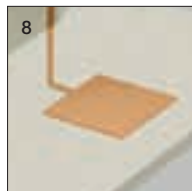
In order to allow periodic disconnection and testing of the earth termination network, select a test clamp to be placed within the run of each down conductor.

This illustration is designed to demonstrate the main aspects and individual components of an external lightning protection system. It is not intended to represent an actual scheme conforming to a particular code of practice. The drawing is not to scale.



Earth termination network

The means of dissipating the current to the general mass of earth.



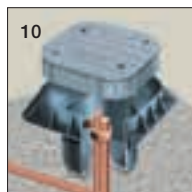
8. Earth electrodes

Choose an earth electrode to suit the system design i.e. Type A, Type B or foundation electrode. Electrodes can be constructed individually from earth rods, earth plates, flat tape, stranded cable or any combination of these.



9. Earth rod clamps

Select a high copper content alloy earth rod clamp for the connection of the earthing conductor to the earth rod. In this below ground application, the clamp must ensure a good electrical contact and resist corrosion throughout the lifetime of the installation.



10. Earth inspection pits

Select an earth inspection pit to protect the earth electrode connections. High strength pits are available in plastic and concrete.

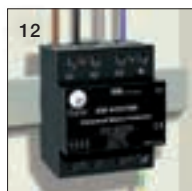
Equipotential bonding

Bonding is the most commonly employed method of avoiding the damaging effects of side flashing. All continuous metalwork should be considered for bonding. All metallic services, e.g. cable armouring, gas, water or steam piping, entering the building should also be bonded as directly as possible to the earth termination network.



11. Bonds to metalwork

Select the correct type of metalwork bond for the application, i.e. a flat column face, a circular rainwater pipe or a ribbed reinforcing bar.



12. Equipotential bonding SPDs

Designed to prevent dangerous sparking caused by flashover, lightning current or equipotential bonding SPDs must be fitted to all metallic service lines with 'live cores' entering or leaving the structure.



Conductors

Conductors

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Conductors

Introduction

By far the largest and most important component of any structural lightning protection or earthing system is the actual conductor.







Selection of the correct conductor type for the installation is highly important, and is likely to be the initial consideration of a lightning protection or earthing system designer.

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A comprehensive range of Furse copper and aluminium conductors is available in each of the main globally recognized standard formats, i.e. flat tape, solid circular and stranded (note, copper stranded only). Additionally each format is available in a variety of conductor sizes, to meet differing lightning protection and earthing requirements.

Specification will depend on whether the application is for an above ground structural lightning protection system, or a below ground earthing installation.



Conductor colour chart		
Colour	Standard	
Black	18B29*	
Green	BS 6746C	
Grey	00A07*	
Stone	08B23*	
White	10B15*	
Brown	06C39*	

*PVC colours to BS 5252

Conductors for structural lightning protection systems

Furse lightning protection conductors are available in copper and aluminium. Copper can be supplied bare, tinned, PVC, LSOH and lead covered. It is used for most installations due to its high conductivity, anticorrosive properties, and its flexibility for use in air, in earth and in concrete. Aluminium can be supplied bare or with PVC coating.

The following sizes are suitable for the majority of above ground lightning protection systems:

- **Flat tape conductor**
25 x 3 mm bare tape, or 25 x 3 mm PVC covered tape
- **Solid circular conductor**
8 mm diameter bare or PVC covered solid circular conductor
- **Stranded conductor**
70 mm² bare or PVC covered stranded conductor

Conductor colour chart

The choice of a lightning protection conductor is usually governed by its aesthetic impact on the structure to be protected. For many people the term lightning protection conductor conjures up an image of a discoloured copper strip running down the spire of a church. This would clearly be unacceptable to the owner/architect of a modern structure.

In order to reduce the impact of an external system Furse offer a range of UV stabilized PVC covered tapes and solid circular conductors in colours chosen to match most common building materials.

Standard PVC colours are shown in the chart above, with special colours available to order.

Conductors for earthing systems

For below ground earthing applications we offer a large range of bare copper tape, solid circular and stranded conductors thus offering the designer of the system the correctly rated conductor without the need to oversize.

Conductor Size (mm)	C.S.A. (mm ²)	kA for 1 Sec	kA for 3 Sec
12.5 x 1.5	18.75	3.3	1.9
12.5 x 3	37.5	6.6	3.8
20 x 1.5	30	5.3	3.0
20 x 3	60	10.6	6.1
25 x 1.5	37.5	6.6	3.8
25 x 3	75	13.2	7.6
25 x 2	50	8.8	5.1
25 x 4	100	17.6	10.2
25 x 6	150	26.4	15.2
30 x 2	60	10.6	6.1
30 x 3	90	15.8	9.1
30 x 4	120	21.1	12.2
30 x 5	150	26.4	15.2
31 x 3	93	16.4	9.5
31.5 x 4	126	22.2	12.8
31 x 6	186	32.7	18.9
38 x 3	114	20.1	11.6
38 x 5	190	33.4	19.3
38 x 6	228	40.1	23.2
40 x 3	120	21.1	12.2
40 x 4	160	28.2	16.3
40 x 5	200	35.2	20.3
40 x 6	240	42.2	24.4
40 x 6.3	252	44.4	25.6
50 x 3	150	26.4	15.2
50 x 4	200	35.2	20.3
50 x 5	250	44.0	25.4
50 x 6	300	52.8	30.5
50 x 6.3	315	55.4	32.0
50 x 7	350	61.6	35.5
50 x 8	400	70.4	40.6
50 x 10	500	88	50.8
60 x 10	600	105.6	61
80 x 6	480	84.4	48.8
100 x 6	600	105.6	61

These conductor ratings are based upon the recommendations of BS 7430 with an initial conductor temperature of 30°C and a maximum temperature of 250°C

Furse earthing conductors form an integral part of the single earthing arrangement for a structure, whether they provide the means of connection to the final earth electrode (earth rod or plate), or whether they comprise the earth electrode itself (through an earth grid or ring earth arrangement).

An earth conductor must be capable of carrying the maximum expected earth fault current and leakage current likely to occur at a structure. The size or minimum cross-sectional area of the conductor must therefore be gauged in accordance with these criteria.

A good earth conductor must also:

- Be able to withstand mechanical damage
- Be compatible with the material of the earth electrode
- Resist the corrosive effect of local soil conditions

Furse conductors effectively meet these requirements and are available in a range of sizes to meet differing current ratings (see table left). Copper conductor is recommended as, following BS 7430, aluminium should not be installed in contact with soil, nor in damp areas, and it should not be used to make the final connection to an earth electrode.



Conductors

Bare conductors

3



Standards

BS EN 13601
IEC/BS EN 62561-2

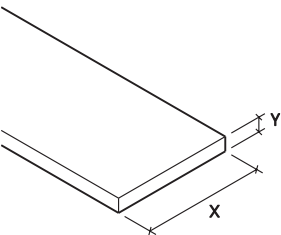
UL96 (TC030-UL, TC040-UL,
TC080)



Bare copper tape

Part no.	Conductor size (X x Y) (mm)	Standard coil size (m)	Weight per metre (kg)
TC005	12.5 x 1.5	100	0.17
TC010	12.5 x 3	100	0.33
TC015	20 x 1.5	100	0.27
TC020	20 x 3	50	0.53
TC020/100	20 x 3	100	0.53
TC025	25 x 1.5	100	0.33
TC026	25 x 2	50	0.49
TC030	25 x 3	25	0.67
TC030/50	25 x 3	50	0.67
TC030-UL	1" x 1/8"	25	0.67
TC035	25 x 4	50	0.89
TC040	25 x 6	40	1.33
TC040-UL	1" x 1/4"	40	1.33
TC039	30 x 2	50	0.53
TC042	30 x 3	50	0.80
TC044	30 x 4	40	1.07
TC043	30 x 5	40	1.33
TC045	31 x 3	50	0.83
TC048	31.5 x 4	40	1.13
TC050	31 x 6	30	1.65
TC055	38 x 3	50	1.01
TC060-FU	38 x 5	30	1.69
TC065	38 x 6	25	2.02
TC067	40 x 3	40	1.06
TC066	40 x 4	30	1.42
TC071	40 x 5	25	1.78
TC068	40 x 6	25	2.16
TC069	40 x 6.3	25	2.24
TC070	50 x 3	40	1.33
TC075	50 x 4	30	1.78
TC078	50 x 5	20	2.22
TC080	50 x 6	20	2.68
TC082	50 x 6.3	20	2.80
TC090	50 x 7	320	3.08
TC092	50 x 8	20	3.56
TC094	50 x 10	10	4.44
TC096	60 x 10	10	5.32
TC098	80 x 6	10	4.32
TC099	100 x 6	10	5.36

– All bare copper tape sold in full coil lengths only
– High conductivity annealed copper tape



Conductors

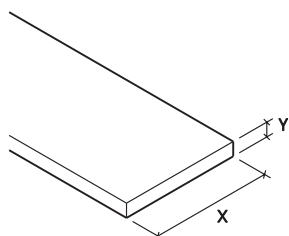
Bare conductors



Bare aluminium tape

Part no.	Conductor size (X x Y) (mm)	Standard coil size (m)	Weight per metre (kg)
TA005	12.5 x 1.5	50	0.05
TA020	20 x 3	50	0.17
TA030	25 x 3	50	0.21
TA042	30 x 3	50	0.25
TA040	25 x 6	50	0.42
TA068	40 x 6	50	0.67
TA080	50 x 6	50	0.85

– All bare aluminium tape sold in full coil lengths only



Standards

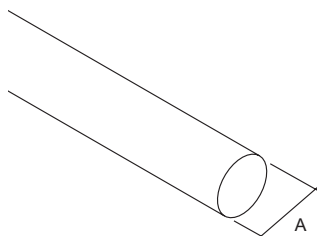
BS EN 755-5
IEC/BS EN 62561-2



Bare solid circular

Part no.	Conductor material	Diameter (A) (mm)	Cross-sectional area (mm²)	Standard coil size (m)	Weight per metre (kg)
Copper conductor					
CD035	Copper	Ø 8	50.27	50	0.44
Aluminium conductor					
CD080	Aluminium	Ø 8	50.27	50	0.12
Tinned copper conductor					
CD235	Copper	Ø 8	50.27	50	0.44

– All solid circular conductor sold in full coil lengths only



Standards

BS EN 13601 (copper)
BS EN 755-5 (aluminium)

Conductors

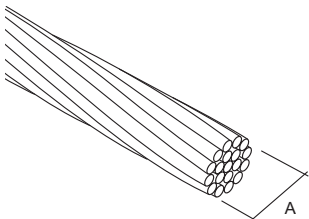
Bare stranded & tinned conductors

3



Standards

BS EN 60228 (soft drawn)
BS EN 7884 (hard drawn)



Standards

BS EN 13601
IEC/BS EN 62561-2

UL96 (TC230-UL)



Bare stranded copper cable

Part no.	Cross-sectional area (mm ²)	Stranding no. / mm Ø	Nominal diameter (A) (mm)	Weight per metre (kg)
Soft drawn stranded copper cable				
CB006	6	7/1.04	Ø 3.12	0.05
CB016	16	7/1.70	Ø 5.10	0.15
CB025	25	7/2.14	Ø 6.42	0.23
CB035	35	7/2.52	Ø 7.56	0.32
CB050-FU	50	19/1.78	Ø 8.90	0.43
CB070	70	19/2.14	Ø 10.70	0.62
CB095	95	19/2.52	Ø 12.60	0.86
CB120	120	37/2.03	Ø 14.21	1.09
CB150-FU	150	37/2.25	Ø 15.75	1.33
CB185	185	37/2.52	Ø 17.64	1.67
CB240	240	61/2.25	Ø 20.25	2.20
CB300-FU	300	61/2.52	Ø 22.68	2.76
CB400-FU	400	61/2.85	Ø 25.65	3.53

Tinned soft drawn stranded copper cable

CB070-T*	70	19/2.14	Ø 10.70	0.62
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Hard drawn stranded copper cable

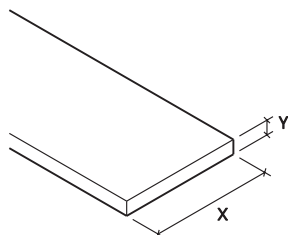
CB071*	70	7/3.55	Ø 10.70	0.64
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– *Additional sizes available on request

Tinned copper tape

Part no.	Conductor size (X x Y) (mm)	Standard coil size (m)	Weight per metre (kg)
TC220	20 x 3	50	0.53
TC225-FU	12.5 x 1.5	100	0.17
TC226	25 x 2	50	0.49
TC230	25 x 3	50	0.67
TC230-UL	1" x 1/8"	50	0.67
TC239	30 x 2	50	0.53
TC240	25 x 6	40	1.33
TC245	31 x 3	50	0.83
TC260	38 x 5	30	1.69
TC266	40 x 4	30	1.42
TC267	40 x 3	40	1.06
TC280	50 x 6	20	2.68

– All tinned copper tape sold in full coil lengths only
– High conductivity annealed tinned copper tape



Conductors

Bimetallic cable & hard drawn bar



Bimetallic cable

Part no.	AWG	Cross-sectional area (mm ²)	Nominal diameter (mm)	Stranding no. / AWG	Weight per metre (kg)
BC001	1/0	50	Ø 9.96	3/5	0.41
BC002	1	40	Ø 8.86	3/6	0.33
BC003	2	35	Ø 7.90	3/7	0.26
BC004	3	25	Ø 7.04	3/8	0.21
BC005	4	20	Ø 6.27	3/9	0.16
BC006	5	16	Ø 5.59	3/10	0.13
BC007	6	10	Ø 4.42	3/12	0.08
BC008	300	150	Ø 15.6	7/4	1.22
BC009	4/0	120	Ø 13.9	7/5	0.97
BC010	3/0	95	Ø 12.3	7/6	0.77
BC011	2/0	70	Ø 11.00	7/7	0.61
BC012	1/0	50	Ø 9.78	7/8	0.48
BC013	1	40	Ø 8.71	7/9	0.38
BC014	2	35	Ø 7.77	7/10	0.30

– 40% conductivity supplied as standard. Other sizes also available. Contact us for details

Standards



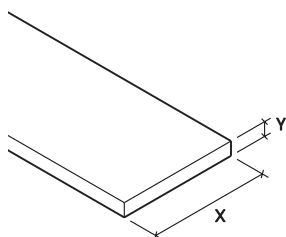
Hard drawn copper bar

Part no.	Overall nominal size (X x Y) (mm)	Approximate length (m)	Weight per metre (kg)
Bare hard drawn bar			
BA205	25 x 3	3	0.67
BA210	25 x 6	4	1.33
BA225	38 x 6	4	2.03
BA230	50 x 6	3	2.67
BA235	50 x 10	4	4.45
BA240	75 x 6	4	4.00
BA250-FU	100 x 6	4	5.38
Tinned hard drawn bar			
BA206	25 x 3	3	0.67
BA211	25 x 6	4	1.33
BA226	38 x 6	4	2.03
BA231	50 x 6	3	2.67
BA236	50 x 10	4	4.45
BA241	75 x 6	4	4.00
BA251-FU	100 x 6	4	5.38

– Other sizes available on request

Standards

BS EN 12163



Conductors

Flexible braid



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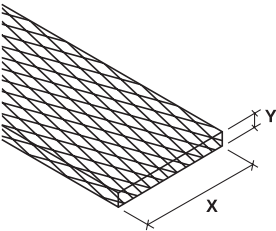
Standards

BS EN 13602

Flexible flat copper braid

Part no.	Overall nominal size (X x Y) (mm)	Cross-sectional area (mm ²)	Weight per metre (kg)
Bare flat braid			
BD020	12 x 1	6	0.06
BD025	15 x 1.5	10	0.10
BD026	19 x 2.5	16	0.16
BD028	25 x 3	25	0.25
BD030	25 x 3.5	35	0.34
BD031	30 x 5	50	0.49
BD027	32 x 6	70	0.63
BD032	37 x 6	95	0.93
BD033	45 x 6	120	1.15
BD034	50 x 8	150	1.45
Tinned flat braid			
BD020-T	12 x 1	6	0.06
BD025-T	15 x 1.5	10	0.10
BD026-T	19 x 2.5	16	0.16
BD028-T	25 x 3	25	0.25
BD035	25 x 3.5	35	0.34
BD031-T	30 x 5	50	0.49
BD027-T	32 x 6	70	0.63
BD032-T	37 x 6	95	0.93
BD033-T	45 x 6	120	1.15
BD034-T	50 x 8	150	1.45

- Suitable for earth bonding. Also supplied as standard pre-cut and drilled bonds
- Other sizes and types of braid can be made to order. Please contact us for details



Conductors

Flexible braid



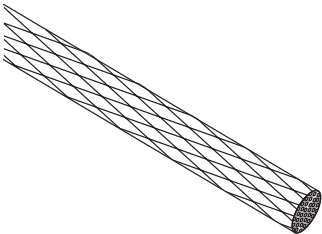
Standards

BS EN 13602

Flexible circular copper braid

Part no.	Overall nominal diameter (mm)	Cross-sectional area (mm²)	Weight per metre (kg)
Bare circular braid			
BD006-FU	Ø 4.2	6	0.06
BD010-FU	Ø 5.4	10	0.10
BD016-FU	Ø 7	16	0.16
BD025-FU	Ø 8.5	25	0.25
BD035-FU	Ø 10.5	35	0.34
BD050-FU	Ø 11.5	50	0.49
BD070-FU	Ø 14.5	70	0.63
BD095-FU	Ø 16	95	0.93
Tinned circular braid			
BD006-FU-T	Ø 4.2	6	0.06
BD010-FU-T	Ø 5.4	10	0.10
BD016-FU-T	Ø 7	16	0.16
BD025-FU-T	Ø 8.5	25	0.25
BD035-FU-T	Ø 10.5	35	0.34
BD050-FU-T	Ø 11.5	50	0.49
BD070-FU-T	Ø 14.5	70	0.63
BD095-FU-T	Ø 16	95	0.93

- Suitable for earth bonding. Also supplied as standard pre-cut and drilled bonds
- Other sizes and types of braid can be made to order. Please contact us for details



Conductors

PVC covered conductors

3



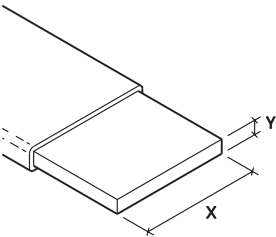
Standards

BS EN 13601 (copper)
BS 5252 (PVC colour,
*Green to BS 6746C)

PVC covered copper tape

Part no.	Conductor size (X x Y) (mm)	Standard coil size (m)	Weight per metre (kg)	Colour range
TC100	12.5 x 1.5	50	0.21	Black
TC105-FU	25 x 3	25	0.77	Black
TC105/50	25 x 3	50	0.77	Black
TC110	25 x 3	25	0.77	Green*
TC110/50	25 x 3	50	0.77	Green*
TC115-FU	25 x 3	25	0.77	Grey
TC115/50	25 x 3	50	0.77	Grey
TC120-FU	25 x 3	25	0.77	Stone
TC120/50	25 x 3	50	0.77	Stone
TC125-FU	25 x 3	25	0.77	White
TC125/50	25 x 3	50	0.77	White
TC130	25 x 3	25	0.77	Brown
TC130/50	25 x 3	50	0.77	Brown
TC140-FU	25 x 6	40	1.53	Green*
TC145	50 x 6	20	2.95	Green*

- Other colours and sizes are available to order
- Every precaution has been taken to ensure the UV stability of PVC coverings, but as with all plastics, colour variation will occur over time
- All PVC covered copper tape sold in full coil lengths only
- High conductivity annealed copper tape



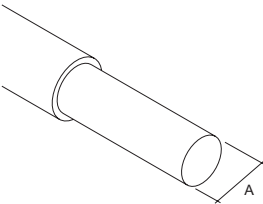
Standards

BS EN 13601 (copper)
BS 5252 (PVC colour,
*Green to BS 6746C)

PVC covered copper solid circular

Part no.	Conductor material	Diameter (A) (mm)	Cross-sectional area (mm ²)	Standard coil size (m)	Weight per metre (kg)	Colour range
CD036	Copper	Ø 8	50.27	50	0.49	Black
CD038	Copper	Ø 8	50.27	50	0.49	Grey
CD039	Copper	Ø 8	50.27	50	0.49	Stone
CD040	Copper	Ø 8	50.27	50	0.49	White
CD041	Copper	Ø 8	50.27	50	0.49	Brown

- Other colours and sizes are available to order
- Every precaution has been taken to ensure the UV stability of PVC coverings, but as with all plastics, colour variation will occur over time
- All PVC covered copper solid circular sold in full coil lengths only



Conductors

PVC covered conductors



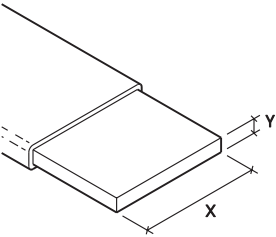
Standards

BS EN 755-5 (aluminium)
BS 5252 (PVC colour,
*Green to BS 6746C)

PVC covered aluminium tape

Part no.	Conductor size (X x Y) (mm)	Standard coil size (m)	Weight per metre (kg)	Colour range
TA100	12.5 x 1.5	50	0.09	Black
TA104	20 x 3	50	0.25	Black
TA105	25 x 3	50	0.30	Black
TA110	25 x 3	50	0.30	Green*
TA115	25 x 3	50	0.30	Grey
TA120	25 x 3	50	0.30	Stone
TA125	25 x 3	50	0.30	White
TA130	25 x 3	50	0.30	Brown
TA140	25 x 6	50	0.60	Green*

- Other colours and sizes are available to order
- Every precaution has been taken to ensure the UV stability of PVC coverings, but as with all plastics, colour variation will occur over time
- All PVC covered aluminium tape sold in full coil lengths only



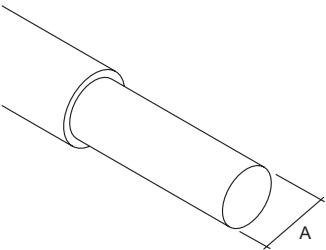
Standards

BS EN 755-5 (aluminium)
BS 5252 (PVC colour)

PVC covered aluminium solid circular

Part no.	Diameter (A) (mm)	Cross-sectional area (mm²)	Standard coil size (m)	Weight per metre (kg)	Colour range
CD081	Ø 8	50.27	50	0.18	Black
CD083	Ø 8	50.27	50	0.18	Grey
CD084	Ø 8	50.27	50	0.18	Stone
CD085	Ø 8	50.27	50	0.18	White
CD086	Ø 8	50.27	50	0.18	Brown

- Other colours and sizes are available to order
- Every precaution has been taken to ensure the UV stability of PVC coverings, but as with all plastics, colour variation will occur over time
- All PVC covered aluminium solid circular sold in full coil lengths only



Conductors

PVC covered conductors

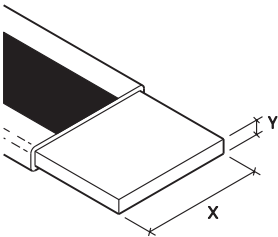
3



Green & yellow PVC insulated copper tape

Part no.	Conductor size (X x Y) (mm)	Standard coil size (m)	Weight per metre (kg)	Colour range
TC111-FU	25 x 3	25	0.79	Green & Yellow
TC111/50	25 x 3	50	0.79	Green & Yellow

- High conductivity annealed copper tape
- All PVC covered copper tape sold in full coil lengths only



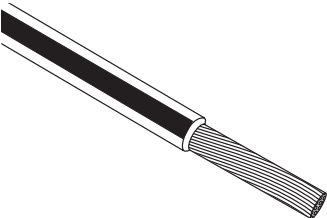
Standards

BS EN 13601 (copper)
BS 6746C (PVC colour)



Green & yellow PVC insulated stranded copper cable

Part no.	Cross-sectional area (mm²)	Stranding no. / mm ø	Weight per metre (kg)	Colour range
CC016	16	7/1.70	0.19	Green & Yellow
CC025	25	7/2.14	0.29	Green & Yellow
CC035	35	7/2.52	0.41	Green & Yellow
CC050	50	19/1.78	0.53	Green & Yellow
CC070	70	19/2.14	0.73	Green & Yellow
CC095	95	19/2.52	1.00	Green & Yellow
CC120-FU	120	37/2.03	1.27	Green & Yellow
CC150-FU	150	37/2.25	1.54	Green & Yellow
CC185	185	37/2.52	2.01	Green & Yellow
CC240	240	61/2.25	2.49	Green & Yellow
CC300	300	61/2.52	3.05	Green & Yellow
CC400-FU	400	61/2.85	3.90	Green & Yellow



Standards

BS EN 50525 (copper)
BS 6746C (PVC colour)

Conductors





LSOH & lead covered conductors



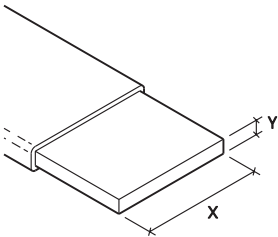
Standards

BS EN 13601 (copper)
BS 6746C (PVC colour)

LSOH covered copper tape

Part no.	Conductor size (X x Y) (mm)	Standard coil size (m)	Weight per metre (kg)	Colour range
TC910	25 x 3	25	0.77	 Green
TC910/50	25 x 3	50	0.77	 Green
TC940	25 x 6	40	1.53	 Green
TC980	50 x 6	20	2.95	 Green

- Other colours and sizes are available to order
- All LSOH covered copper tape sold in full coil lengths only



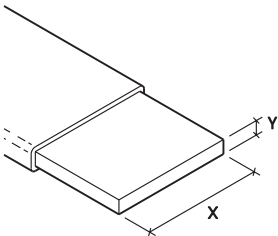
Standards

BS EN 13601

Lead covered copper tape

Part no.	Conductor size (X x Y) (mm)	Standard coil size (m)	Weight per metre (kg)
TC330	25 x 3	2.56	25

- All lead covered copper tape sold in full coil lengths only



Conductors

Conductor guards






3



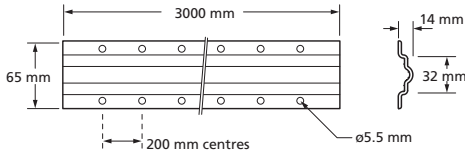
Standards

BS 1006 (PVC colour)

PVC protective down conductor guard

Part no.	Length (mm)	Weight each (kg)	Colour range
GC205	3000	1.00	 Black
GC215	3000	1.00	 Grey
GC220	3000	1.00	 Stone
GC225	3000	1.00	 White
GC230	3000	1.00	 Brown

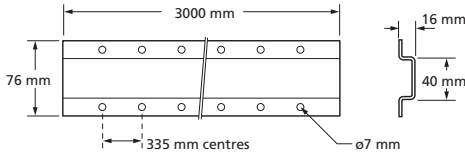
- Protects against vandalism and opportunity theft
- High impact PVC, UV stabilized to BS 1006 to reduce colour degradation
- Suitable to protect bare 25 x 3 mm flat tape, Ø 8 mm solid circular and 50 mm² stranded cable
- Fix using roundhead wood screws (Part no. SW405) and wall plugs (PS305)
- Other colours available to order



Anti-vandal down conductor guard

Part no.	Length (mm)	Weight each (kg)
AV005	3000	2.90

- Protects against vandalism and opportunity theft
- High impact PVC, UV stabilized to BS 1006 to reduce colour degradation
- Suitable to protect bare 25 x 3 mm flat tape, Ø 8 mm solid circular and 50 mm² stranded cable
- Fix using No. 10 x 1½" countersunk, roundhead or security screws and wall plugs





Air termination

Air termination	
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Air termination

Introduction

4



Air termination plays a critical role in the lightning protection system, capturing the fullness of the lightning strike current and channeling this current safely to the conductor network.

It is therefore highly important to install a correctly designed air termination system.

IEC/BS EN 62305-3 advocates the use of air rods or catenary conductors to provide a protective zone above the roof structure and any prominent parts, such as HVAC systems, plus a meshed conductor network to protect flat or slightly inclined roof areas.

Through use of air rods, raised conductor or mesh, a Lightning Protection System designer can achieve appropriate positioning of the air termination in line with the three methods proposed by IEC/BS EN 62305, namely:

- The rolling sphere method
- The protective angle method
- The mesh method

These methods are detailed within our technical reference section (p16/10).

Furse air termination products are specifically designed to provide highly effective protection against the risks and consequences from a direct lightning strike.

Our air rods are manufactured from high conductivity hard drawn copper or aluminium, and provide an excellent, durable strike point for lightning. Supplied with locknut and rolled threads, these air rods fix easily to our air rod bases.

Our comprehensive range of air rod bases, conductor fasteners and clamps is manufactured from high quality copper or aluminium alloys, to ensure that a high level of conductivity is maintained throughout the air termination system, and that these components are robust enough to last a significant number of years on exposed roof lines.

All these components link together with our copper or aluminium conductors, which provide the low resistance path for lightning current, from strike point safely to earth.

Air termination

Air rods



Air rod base and multiple point not included.

Standards

BS EN 50164-2

UL96 (RA215, RA225)



Air rod

Part no.	Rod length (mm)	Rod diameter (mm)	Thread size	Conductor material	Weight each (kg)
RA215	500	Ø 15	M16	Copper	0.73
RA225	1000	Ø 15	M16	Copper	1.51
RA230	1500	Ø 15	M16	Copper	2.35
RA240	2000	Ø 15	M16	Copper	3.00
RA250-FU	3000	Ø 15	M16	Copper	4.70
RA015	500	Ø 15	M16	Aluminium	0.29
RA025	1000	Ø 15	M16	Aluminium	0.53
RA030	1500	Ø 15	M16	Aluminium	0.80
RA040	2000	Ø 15	M16	Aluminium	1.06
RA050	3000	Ø 15	M16	Aluminium	1.60
RA400-FU	500	Ø 10	M10	Copper	0.33
RA402	1000	Ø 10	M10	Copper	0.65
RA080	500	Ø 10	M10	Aluminium	0.11
RA085	1000	Ø 10	M10	Aluminium	0.22

– Manufactured from high conductivity hard drawn copper or aluminium, with rolled threads. Supplied complete with locknut

Note: during high winds and extreme weather conditions air rods over 1000 mm long can be subjected to fatigue mechanisms. It is therefore recommended that additional supports are considered before installation

“Field Trials in the United States, carried out over many years of research have confirmed that blunt air rods are struck by lightning in preference to taper pointed air rods.”

Lightning rod improvement studies
by C B Moore, W Rison, J Mathis, G Aulich,
Journal of Applied Meteorology, May 2000.

Air termination

Air rod bases & saddles

4



Air rod base

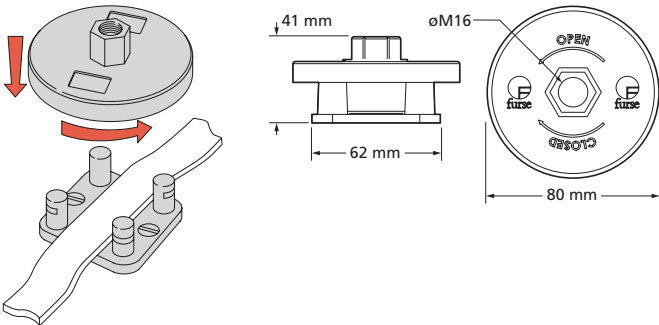
Part no.	Air rod diameter (mm)	Thread size	Maximum conductor width (mm)	Conductor material	Weight each (kg)
SD105-H	Ø 15	M16	25	Copper	0.43
SD003-H	Ø 15	M16	25	Aluminium	0.14
SD120	Ø 15	M16	50	Copper	0.7

- Manufactured from high quality alloys of either copper or aluminium
- Simple to install, providing an effective connection between air rod and air termination tape
- Fix using countersunk wood screws (Part no. SW005 or SW105) and wall plugs (Part no. PS305)
- SD120 not as illustrated (drawing available on request)

Standards

IEC/BS EN 62561-1 Class H

UL96 (SD105-H)



SD307



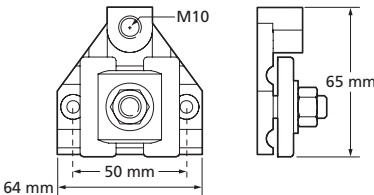
SD305



Horizontal or vertical air rod base

Part no.	Air rod diameter (mm)	Thread size	Conductor size (mm)	Conductor material	Mounting plane	Weight each (kg)
SD305	Ø 10	M10	Ø 8	Copper	Horizontal	0.30
SD307	Ø 10	M10	Ø 8	Copper	Vertical	0.30
SD005	Ø 10	M10	Ø 8	Aluminium	Horizontal	0.11
SD007	Ø 10	M10	Ø 8	Aluminium	Vertical	0.11

- Manufactured from high quality alloys of either copper or aluminium
- Simple to install, providing an effective connection between air rod and solid circular air termination conductor, in either the horizontal or vertical plane
- Fix using countersunk wood screws 1½" No. 10 or M6 (Part no. SW005 or SW105) and wall plugs (Part no. PS305)
- Tightening torque 15 Nm

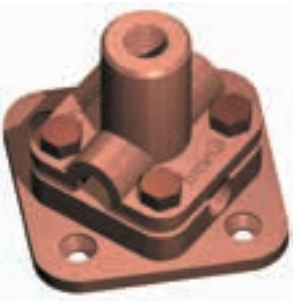


Standards

BS EN 62561-1 Class H

Air termination

Air rod bases & saddles



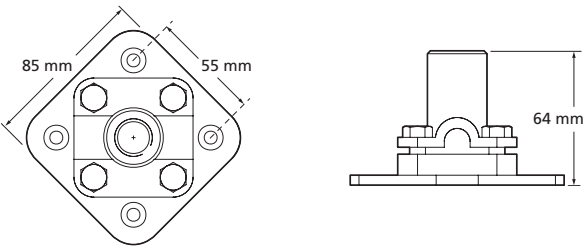
Standards

IEC/BS EN 62561-1 Class H

Flat saddle

Part no.	Air rod diameter (mm)	Thread size	Conductor size (mm²)	Conductor material	Weight each (kg)
SD155	Ø 15	M16	50	Copper	1.03
SD160	Ø 15	M16	70	Copper	0.95
SD165	Ø 15	M16	95	Copper	0.95

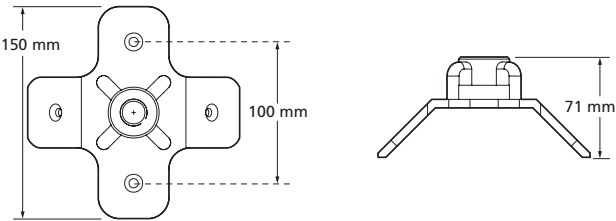
- Manufactured from high quality copper alloy
- Simple to install, providing an effective connection between air rod and stranded conductor
- Fix using countersunk wood screws 1½" No. 10 or M6 (Part no. SW005) and wall plugs (Part no. PS305)
- Tightening torque 12 Nm



Ridge saddle

Part no.	Air rod diameter (mm)	Thread size	Max. conductor width (mm)	Conductor material	Weight each (kg)
SD015	Ø 15	M16	31	Aluminium	0.45
SD115	Ø 15	M16	31	Copper	1.07

- Manufactured from high quality alloys of either copper or aluminium
- Simple to install, providing an effective fixing for lightning conductor air rods on ridges
- Fix using countersunk wood screws 1½" No. 10 or M6 (Part no. SW005 or SW105) and wall plugs (Part no. PS305)
- Tightening torque 15 Nm



Standards

BS EN 62561-1 Class H

Air termination

Air rod brackets & rod to conductor coupling

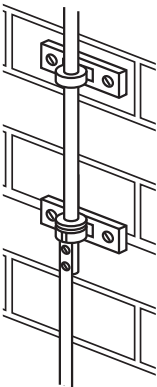
4



Rod brackets

Part no.	Air rod diameter (mm)	Air rod material	Weight each (kg)
BR105	Ø 15	Copper	0.90
BR005	Ø 15	Aluminium	0.28

- Manufactured from high quality alloys of either copper or aluminium
- Simple to install, providing an effective means of mounting an air rod on to a vertical surface e.g. chimney stack
- Use in conjunction with a rod to tape or rod to stranded conductor coupling
- Fix using roundhead wood screws 1½" x No. 12 or M8 and wall plugs



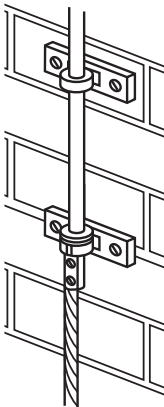
Rod to conductor coupling

Part no.	Air rod diameter (mm)	Thread size	Conductor size (mm)	Air rod material	Weight each (kg)
For use with flat tape conductor					
CG600	Ø 15	M16	25 x 3	Copper	0.23
CG500	Ø 15	M16	25 x 3	Aluminium	0.08
For use with stranded conductor					
CG705	Ø 15	M16	50-70 mm ²	Copper	0.25
CG710	Ø 15	M16	95 mm ²	Copper	0.25

- Manufactured from high quality alloys of either copper or aluminium
- Provides an effective connection between air rod and air termination tape or stranded air termination conductor
- Tightening torque 7 Nm (tape); 6 Nm (stranded)

Standards

BS EN 62561-1 Class H



Air termination

Multiple point & strike pad



RA600



RA500

Multiple point

Part no.	Air rod diameter (mm)	Air rod material	Weight each (kg)
RA600	Ø 15	Copper	0.27
RA500	Ø 15	Aluminium	0.10

- Manufactured from high conductivity hard drawn copper or aluminium
- Suitable for use with 15 mm diameter air rods (see page 4/3)



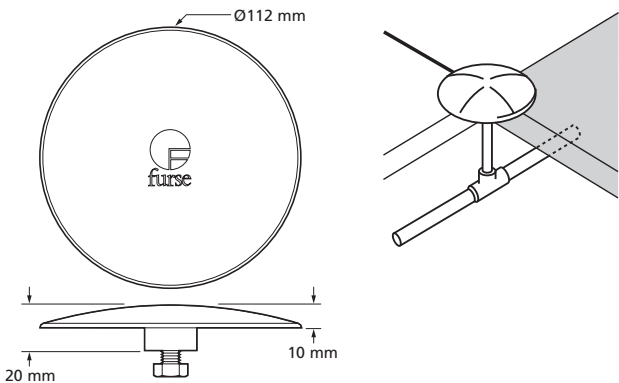
Strike pad

Part no.	Conductor material	Weight each (kg)
PL010	Copper	0.41
PL005	Aluminium	0.13

Accessories

SM005	Stainless steel stem for use with PL005	0.06
SM010	Copper stem for use with PL010	0.07

- Strike pads manufactured from high quality alloys of either copper or aluminium
- Provides an exposed attractive point on conductor systems hidden/embedded in the building's fabric, e.g. below the tiles of a pitched roof
- Supplied with setscrew for attachment of lightning conductors



Air termination

Free-standing air termination

Furse free-standing interception air rods are designed to protect rooftop mounted or exposed equipment, such as air conditioning units or photovoltaic panels, from a direct lightning strike.

Free-standing interception air rods are easily constructed from a small range of components including air rod or interception pole, support frame and concrete base, to create a complete unit which when connected to the air termination network provides a highly versatile and effective lightning protection solution.

Features & benefits

- Protects rooftop mounted equipment from direct lightning strikes
- Complies with IEC/BS EN 62305 standard
- Lightweight construction
- Corrosion resistant
- Quick and easy to assemble
- Available in a range of heights from 0.5 m to 10 m
- Range of frames and concrete weights for different wind zones
- Large protection zones
- Modular, versatile and robust

Note: installed interception air rods must have sufficient height to provide a clear zone of protection around the equipment to be protected, as defined by IEC/BS EN 62305-3 (see page 16/11). Further information can be found in the Furse Guide to BS EN 62305.

Interception air rod (0.5 m to 2 m height)

- Copper or aluminium air rod
- Circular concrete base
- Rod connects directly into base

Interception air rod (3 m to 4 m height)

- 2 piece interception pole with square support frame
- 4 square concrete bases (or 8 doublestacked for higher wind speeds)

Interception air rod (4.5 m to 5.5 m height)

- 2 piece interception pole with tripod support frame
- 3 circular concrete bases

Interception air rod (6 m to 8 m height)

- 3 piece interception pole with tripod support frame
- 6 circular concrete bases

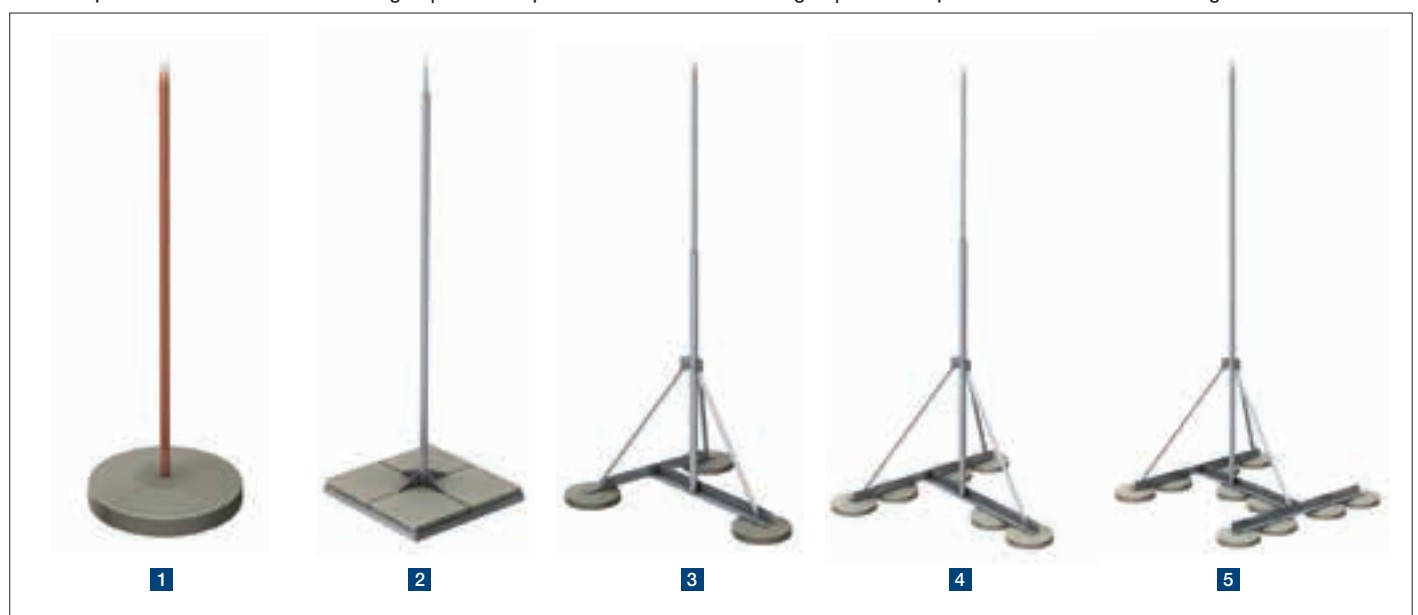
Interception air rod (8 m to 10 m height)

- 3 piece interception pole with 'H' shaped support frame
- 10 circular concrete bases

All items sold as separates to form a complete free-standing air rod when combined at installation (see product selection guide on following page).

1 Interception air rod - 0.5 m to 2 m height | 2 Interception air rod - 3 m to 4 m height

3 Interception air rod - 4.5 m to 5.5 m height | 4 Interception air rod - 6 m to 8 m height | 5 Interception air rod - 8 m to 10 m height



Product selection

Free-standing air rod selection is based on two factors:

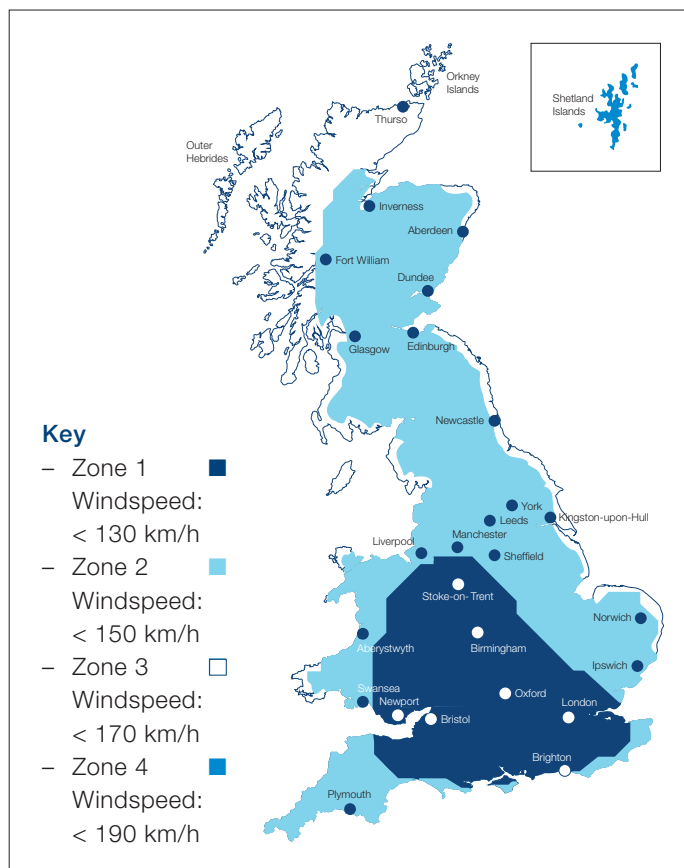
- Air rod height required to create the necessary protective zone around the equipment
- Anticipated wind loading at the installation

Wind loading is an important factor, especially for taller interception air rods as extreme weather can subject them to fatigue mechanisms.

For UK installations, the map featured right highlights four key wind zones from which the appropriate free-standing air rod can be established.

Relevant part numbers can then be determined through cross referencing wind loading with the height of air rod required in the table below.

For non-UK installations, please refer to available data for local wind conditions or contact your Furse representative to discuss your particular requirements.



UK wind zone map

Product selection guide - Free-standing air termination

Rod height (m)	Interception pole Part no.	Frame (where required) and base part no. for windspeeds			
		< 130 km/h	< 150 km/h	< 170 km/h	< 190 km/h
0.5	RA215 or RA015	103101-FU	103101-FU	103101-FU	103101-FU
1	RA225 or RA025	103101-FU	103101-FU	103101-FU	103101-FU
1.5	RA230 or RA030	103110-FU	103110-FU	103110-FU	103110-FU
2	RA240 or RA040	103110-FU	103110-FU	103110-FU	103110-FU
3	912000-FU	499000-FU / 4 x 499100-FU	499000-FU / 4 x 499100-FU	499000-FU / 4 x 499100-FU	499000-FU / 4 x 499100-FU
3.5	912001-FU	499000-FU / 4 x 499100-FU	499000-FU / 4 x 499100-FU	499000-FU / 4 x 499101-FU	499000-FU / 4 x 499101-FU
4	912002-FU	499000-FU / 4 x 499100-FU	499000-FU / 4 x 499101-FU	499000-FU / 8 x 499100-FU	499000-FU / 8 x 499101-FU
4.5	912003-FU	499005-FU / 3 x 103101-FU	499005-FU / 3 x 103110-FU	499005-FU / 3 x 103118-FU	499006-FU / 3 x 103103-FU
5	912004-FU	499005-FU / 3 x 103101-FU	499005-FU / 3 x 103110-FU	499005-FU / 3 x 103118-FU	499006-FU / 3 x 103103-FU
5.5	912005-FU	499005-FU / 3 x 103110-FU	499005-FU / 3 x 103118-FU	499006-FU / 6 x 103103-FU	499006-FU / 3 x 103103-FU
6	912006-FU	499006-FU / 6 x 103103-FU	499006-FU / 6 x 103103-FU	499006-FU / 6 x 103103-FU	499006-FU / 6 x 103101-FU
6.5	912007-FU	499006-FU / 6 x 103103-FU	499006-FU / 6 x 103103-FU	499006-FU / 6 x 103101-FU	499006-FU / 6 x 103118-FU
7	912008-FU	499006-FU / 6 x 103103-FU	499006-FU / 6 x 103101-FU	499006-FU / 6 x 103110-FU	On request
7.5	912009-FU	499006-FU / 6 x 103101-FU	499006-FU / 6 x 103110-FU	499006-FU / 6 x 103118-FU	On request
8	912010-FU	499006-FU / 6 x 103110-FU	499006-FU / 6 x 103118-FU	499007-FU / 10 x 103118-FU	On request
9	912011-FU	499007-FU / 10 x 103118-FU	499007-FU / 10 x 103118-FU	499007-FU / 10 x 103118-FU	On request
10	912013-FU	499007-FU / 10 x 103118-FU	499007-FU / 10 x 103118-FU	On request	On request

Air termination

Free-standing air termination

4



Free-standing interception pole

Part no.	Pole height (m)	Pole diameter (mm)	Pole construction	Weight each (kg)
912000-FU	3	Ø 10-42	2 piece	5.0
912001-FU	3.5	Ø 10-42	2 piece	5.5
912002-FU	4	Ø 10-42	2 piece	7.0
912003-FU	4.5	Ø 10-42	2 piece	9.2
912004-FU	5	Ø 10-42	2 piece	10.0
912005-FU	5.5	Ø 10-42	2 piece	10.6
912006-FU	6	Ø 10-60	3 piece	18.0
912007-FU	6.5	Ø 10-60	3 piece	19.0
912008-FU	7	Ø 10-60	3 piece	23.5
912009-FU	7.5	Ø 10-60	3 piece	26.0
912010-FU	8	Ø 10-60	3 piece	28.7
912011-FU	9	Ø 10-60	3 piece	30.5
912013-FU	10	Ø 10-60	3 piece	35.5

- Interception poles manufactured from stainless steel 304 with aluminium interception tip
- For construction of interception air rods from 3 to 10 m in height comprising interception pole, support frame and concrete bases
- Multi-component, stackable system with screw retention. Supplied with 3 terminal lugs for base frame connection

Air termination

Free-standing air termination



499000-FU



499005-FU

Interception pole position shown for illustration purposes. Pole not included.

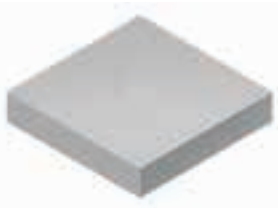
Free-standing interception pole base frame

Part no.	Frame type	Frame dimension (mm)	Weight each (kg)
499000-FU	Square base	650 x 650	7
499005-FU	Tripod base	1350 x 1350	8
499006-FU	Tripod base	1850 x 1850	24.5
499007-FU	H shaped base	1850 x 1850	39.5

- Manufactured from 304 grade stainless steel
- Dimensions are approximate and include holding down bases.



103103-FU



499100-FU

Free-standing interception pole base

Part no.	Description	Weight each (kg)
499100-FU	Square concrete base 300 x 300 x 60 mm	12
499101-FU	Square concrete base 300 x 300 x 80 mm	16
103103-FU	Circular concrete base with M16 insert	12
103101-FU	Circular concrete base with M16 insert	16
103110-FU	Circular concrete base with M16 insert	20
103118-FU	Circular concrete base with M16 insert	25

Accessories

103102-FU	Protective polyethylene tray for circular concrete blocks	0.4
919828-FU	Stainless steel clamp for connecting 25 x 3 mm copper tape to 5-19 mm thickness steel	0.55



Conductor network

Metallic conductor clips

Swing lid DC tape clip	5/2
Adjustable DC tape clip	5/2
DC tape clip	5/3
Tape clip	5/3
One hole cable clip	5/4
Heavy duty cast cable saddle	5/4

Non-metallic conductor clips

Non-metallic DC tape clip	5/5
Non-metallic push-in clip	5/5

Glue down conductor clips

Glue down DC tape clip	5/6
Glue down push-in clip	5/6

Self adhesive non-metallic conductor clips

Self adhesive DC tape clip	5/7
Self adhesive push-in clip	5/7

Solvent weldable non-metallic conductor clips

Solvent weldable DC tape clip	5/8
Solvent weldable push-in clip	5/8

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Heat weldable DC tape clip for T.P.O. roofing	5/10
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Slate holdfast with non-metallic DC tape clip	5/13
Slate holdfast with non-metallic push-in clip	5/13

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Puddle flange	5/15
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Crossover clamp	5/16
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Bimetallic connector	5/22
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Expansion braid bond	5/23
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Accessories

Expansion braid bond	5/23
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Conductor network

Metallic conductor clips



Standards

IEC/BS EN 62561-4 (CP210-H, CP110-H)

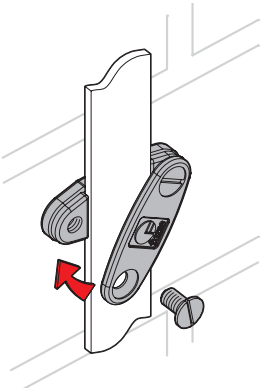
UL96 (CP2610-H, CP-220H)



Swing lid DC tape clip

Part no.	Conductor size (mm)	Weight each (kg)
For use with bare copper		
CP210-H	25 x 3	0.07
CP220-H	25 x 6	0.08
For use with bare aluminium		
CP110-H	25 x 3	0.03
CP120-H	25 x 6	0.04
For use with PVC covered copper		
CP215-H	25 x 3	0.08

- DC tape clips manufactured from high quality alloys of either copper or aluminium for excellent corrosion resistance and high pull off loads
- Fix using countersunk wood screws 1½" No. 10 or M6 (Part no. SW005 or SW105) and wall plugs (Part no. PS305)



Standards

IEC/BS EN 62561-4

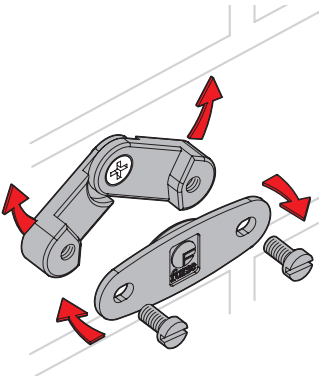
UL96 (CP260-H)



Adjustable DC tape clip

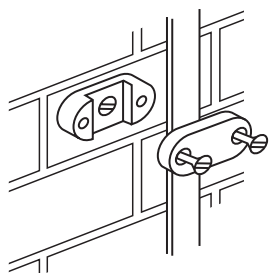
Part no.	Conductor size (mm)	Weight each (kg)
For use with bare copper		
CP230-H	31 x 3 and 31 x 6	0.12
CP240-H	38 x 3, 38 x 6 and 40 x 6	0.14
CP260-H	50 x 3 and 50 x 6	0.16

- DC tape clips manufactured from high quality copper alloy for excellent corrosion resistance and high pull off loads
- Variable thicknesses of conductor are accommodated by a reversible lid
- Fix using countersunk wood screws 1½" No. 10 or M6 (Part no. SW005 or SW105) and wall plugs (Part no. PS305)



Conductor network

Metallic conductor clips



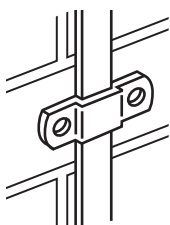
Standards

IEC/BS EN 62561-4 (CP115)

DC tape clip

Part no.	Conductor size (mm)	Weight each (kg)
For use with bare copper		
CP205	20 x 3	0.06
CP216	25 x 4	0.07
CP227	30 x 5	0.10
CP245	38 x 5	0.12
CP241	40 x 4	0.14
CP256	50 x 4	0.15
For use with PVC covered copper		
CP225	25 x 6	0.13
CP265	50 x 6	0.26
For use with lead covered copper		
CP305	25 x 3	0.20
For use with bare aluminium		
CP105	20 x 3	0.02
CP125	50 x 6	0.05
For use with PVC covered aluminium		
CP115	25 x 3	0.04
CP130	50 x 6	0.06

- High quality alloys of either copper or aluminium down conductor clip for securing flat tape
- Other sizes available to order
- Fix using countersunk wood screws 1½" No. 10 or M6 (Part no. SW005 or SW105) and wall plugs (Part no. PS305)



Tape clip

Part no.	Conductor size (mm)	Weight each (kg)
For use with bare copper		
CP510	20 x 3	0.02
CP515	25 x 3	0.02
For use with bare aluminium		
CP405	20 x 3	0.01
CP410	25 x 3	0.01
CP415	25 x 6	0.01
For use with PVC covered tape		
CP517	25 x 3	0.02

- Manufactured from pure copper or aluminium, these pressed clips are available in a range of sizes to suit bare and PVC covered copper and aluminium tapes
- Fix using roundhead wood screws 1½" No. 10 or M6 (Part no. SW305 or SW405) and wall plugs (Part no. PS305)

Conductor network

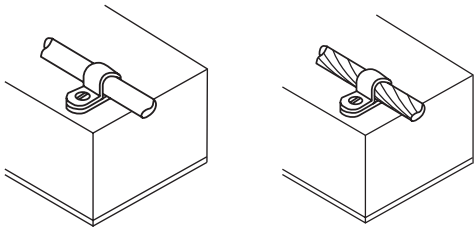
Metallic conductor clips



One hole cable clip

Part no.	Conductor size (mm)	Conductor material	Weight each (kg)
For use with solid circular conductor			
CP905	Ø 8	Copper	0.01
CP925	Ø 8	Aluminium	0.01
CP915	Ø 10*	Copper	0.01
CP935	Ø 10*	Aluminium	0.01
For use with stranded conductor			
CP910	50 mm ²	Copper	0.01
CP915	70 mm ²	Copper	0.01
CP920	95 mm ²	Copper	0.01

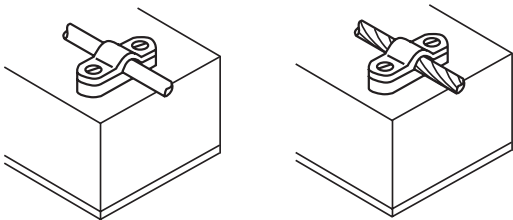
- Manufactured from pure copper or aluminium, these pressed clips are available to suit bare and PVC covered copper and aluminium solid circular conductor, and bare copper stranded conductor
- Fix using roundhead wood screws 1½" No. 10 or M6 (Part no. SW305 or SW405) and wall plugs (Part no. PS305)
- *PVC covered Ø8 mm conductor
- Clip supplied in open position



Heavy duty cast cable saddle

Part no.	Conductor size (mm)	Conductor material	Weight each (kg)
For use with solid circular conductor			
CP805	Ø 8	Copper	0.09
CP806	Ø 8	Aluminium	0.03
CP815	Ø 10*	Copper	0.10
CP816	Ø 10*	Aluminium	0.04
For use with stranded conductor			
CP810	50 mm ²	Copper	0.10
CP815	70 mm ²	Copper	0.10
CP835	95 mm ²	Copper	0.10
CP855	120 mm ²	Copper	0.10

- Manufactured from high quality alloys of either copper or aluminium for excellent corrosion resistance and high pull off loads
- Fix using countersunk wood screws 1½" No. 10 or M6 (Part no. SW005 or SW105) and wall plugs (Part no. PS305)
- *For use with PVC covered Ø8 mm conductor or for supporting air terminals when used in conjunction with wall mounted air rod bases.
- Can also be used with glazing bar holdfast and back plate holdfast stem



Standards

IEC/BS EN 62561-4

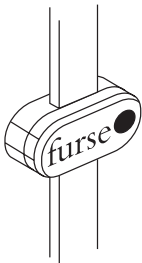
Conductor network

Non-metallic conductor clips



Standards

IEC/BS EN 62561-4



Non-metallic DC tape clip

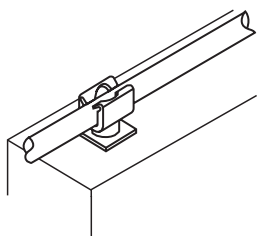
Part no.	Conductor size (mm)	Colour	Weight each (kg)
For use with bare tape			
CP005	20 x 3	Brown	0.01
CP010	20 x 3	Grey	0.01
CP015	25 x 3	Brown	0.01
CP020	25 x 3	Grey	0.01
CP060*	38 x 5	Brown	0.01
CP065*	50 x 6	Brown	0.02
For use with PVC covered tape			
CP025	25 x 3	Brown	0.01
CP030	25 x 3	Black	0.01
CP035	25 x 3	Green	0.01
CP040	25 x 3	Grey	0.01
CP045	25 x 3	Stone	0.01
CP050	25 x 3	White	0.01

- High grade Polypropylene, UV stabilized against degradation by sunlight and non-brittle to prevent cold weather damage
- Available in six colours to match bare and PVC covered copper and aluminium tapes
- Fix using countersunk wood screws 1½" No. 10 or M6 (Part no. SW005 or SW105) and wall plugs (Part no. PS305)
- *Not as illustrated (drawing available on request)

Non-metallic push-in clip

Part no.	Conductor size (mm)	Colour	Weight each (kg)
For use with bare solid circular conductor			
CP887	Ø 8	Brown	0.01
CP872	Ø 8	Grey	0.01
For use with PVC covered solid circular conductor			
CP886	Ø 10*	Brown	0.01
CP861	Ø 10*	Black	0.01
CP871	Ø 10*	Grey	0.01
CP876	Ø 10*	Stone	0.01
CP881	Ø 10*	White	0.01

- High grade Polypropylene, UV stabilized against degradation by sunlight and non-brittle to prevent cold weather damage
- Available in five colours to match bare and PVC covered copper and aluminium solid circular conductors
- Fix using countersunk wood screws 1½" No. 10 or M6 (Part no. SW005 or SW105) and wall plugs (Part no. PS305)
- *PVC covered Ø8 mm conductor



Conductor network

Glue down non-metallic conductor clips



Standards

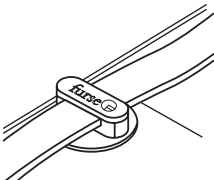
IEC/BS EN 62561-4

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Glue down DC tape clip

Part no.	Conductor size (mm)	Colour	Weight each (kg)
For use with bare tape			
GD015	25 x 3	Brown	0.03
GD020	25 x 3	Grey	0.03
For use with PVC covered tape			
GD025	25 x 3	Brown	0.03
GD030	25 x 3	Black	0.03
GD040	25 x 3	Grey	0.03
GD045	25 x 3	Stone	0.03
GD050	25 x 3	White	0.03

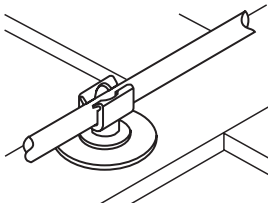
- Use on clay roof tiles. Supplied in a box of 50 complete with adhesive. Additional glue gun is required
- Disc Ø 85 mm
- Dressing tool accessory (DT100) enables flat tape to be set at roof level



Glue down push-in clip

Part no.	Conductor size (mm)	Colour	Weight each (kg)
For use with bare solid circular conductor			
GD887	Ø 8	Brown	0.03
GD872	Ø 8	Grey	0.03
For use with PVC covered solid circular conductor			
GD886	Ø 10*	Brown	0.03
GD861	Ø 10*	Black	0.03
GD871	Ø 10*	Grey	0.03
GD876	Ø 10*	Stone	0.03
GD881	Ø 10*	White	0.03

- Use on clay roof tiles. Supplied in a box of 50 complete with adhesive. Additional glue gun is required
- Disc Ø 85 mm
- *PVC covered Ø 8 mm conductor



Conductor network

Self adhesive non-metallic conductor clips



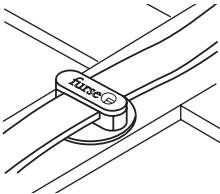
Standards

IEC/BS EN 62561-4

Self adhesive DC tape clip

Part no.	Conductor size (mm)	Colour	Weight each (kg)
For use with bare tape			
CA015-FU	25 x 3	Brown	0.03
CA020-FU	25 x 3	Grey	0.03
For use with PVC covered tape			
CA025-FU	25 x 3	Brown	0.03
CA030-FU	25 x 3	Black	0.03
CA040-FU	25 x 3	Grey	0.03
CA045-FU	25 x 3	Stone	0.03
CA050-FU	25 x 3	White	0.03

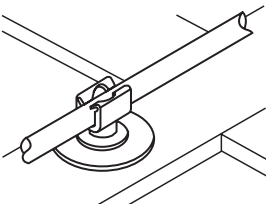
- Designed to secure conductors to surfaces that cannot be penetrated by a screw. Ideal for aluminium, spangled galvanized steel, colour coated steel, glass, perspex, enamel and stainless steel etc.
- Manufactured from high grade synthetic polymers, UV stabilized against degradation by sunlight and non-brittle to prevent cold weather damage. Use on surfaces other than PVC roofing
- Disc Ø 64 mm
- Dressing tool accessory (DT100) enables flat tape to be set at roof level.



Self adhesive push-in clip

Part no.	Conductor size (mm)	Colour	Weight each (kg)
For use with bare solid circular conductor			
CA887	Ø 8	Brown	0.02
CA872	Ø 8	Grey	0.02
For use with PVC covered solid circular conductor			
CA886	Ø 10*	Brown	0.02
CA861	Ø 10*	Black	0.02
CA871	Ø 10*	Grey	0.02
CA876	Ø 10*	Stone	0.02
CA881	Ø 10*	White	0.02

- Designed as a means of securing conductors to surfaces that cannot be penetrated by a screw. Ideal for aluminium, spangled galvanized steel, colour coated steel, glass, perspex, enamel and stainless steel.
- Manufactured from high grade synthetic polymers, UV stabilized against degradation by sunlight and non-brittle to prevent cold weather damage. Use on surfaces other than PVC roofing
- Disc Ø 64 mm
- *PVC covered Ø 8 mm conductor



Conductor network

Solvent weldable non-metallic conductor clips



Standards

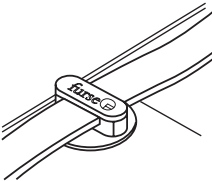
IEC/BS EN 62561-4

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Solvent weldable DC tape clip

Part no.	Conductor size (mm)	Colour	Weight each (kg)
For use with bare tape			
CW015-FU	25 x 3	Brown	0.03
CW020-FU	25 x 3	Grey	0.03
For use with PVC covered tape			
CW025-FU	25 x 3	Brown	0.03
CW030-FU	25 x 3	Black	0.03
CW040-FU	25 x 3	Grey	0.03
CW045-FU	25 x 3	Stone	0.03
CW050-FU	25 x 3	White	0.03

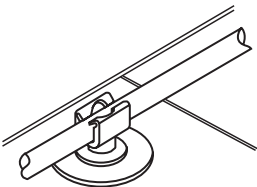
- Provides a secure means of fixing conductors to single ply PVC roof membranes
- Manufactured from high grade synthetic polymers, UV stabilized against degradation by sunlight and non-brittle to prevent cold weather damage
- Use with welding solvent CW905. Dressing tool accessory (DT100) enables flat tape to be set at roof level
- Disc Ø 64 mm



Solvent weldable push-in clip

Part no.	Conductor size (mm)	Colour	Weight each (kg)
For use with bare solid circular conductor			
CW887	Ø 8	Brown	0.03
CW872	Ø 8	Grey	0.03
For use with PVC covered solid circular conductor			
CW886	Ø 10*	Brown	0.03
CW871	Ø 10*	Grey	0.03

- Provides a secure means of fixing conductors to single ply PVC roof membranes
- Manufactured from high grade synthetic polymers, UV stabilized against degradation by sunlight and non-brittle to prevent cold weather damage
- Disc Ø 64 mm
- *PVC covered Ø8 mm conductor



Conductor network

Heat weldable non-metallic conductor clips



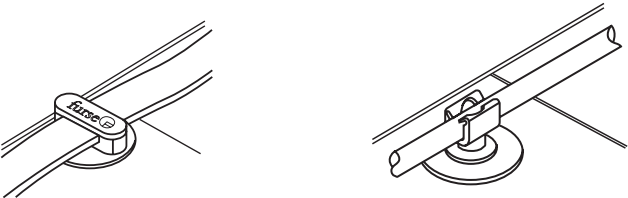
Standards

IEC/BS EN 62561-4

Heat weldable clips for PVC roofing

Part no.	Conductor size (mm)	Colour	Weight each (kg)
For use with bare tape			
HW015-FU	25 x 3	Brown	0.03
HW020-FU	25 x 3	Grey	0.03
For use with PVC covered tape			
HW025-FU	25 x 3	Brown	0.03
HW030-FU	25 x 3	Black	0.03
HW040-FU	25 x 3	Grey	0.03
HW045-FU	25 x 3	Stone	0.03
HW050-FU	25 x 3	White	0.03
For use with bare solid circular conductor			
HW887	Ø 8	Brown	0.03
HW872	Ø 8	Grey	0.03
For use with PVC covered solid circular conductor			
HW886	Ø 10*	Brown	0.03
HW871	Ø 10*	Grey	0.03

- Provides a secure means of fixing flat tape conductors to single ply, PVC roof membranes using an industrial heat gun, where solvent welding is not applicable
- Manufactured from high grade synthetic polymers, UV stabilized against degradation by sunlight and non-brittle to prevent cold weather damage
- Dressing tool accessory (DT100) enables flat tape to be set at roof level
- Disc Ø 85 mm
- *PVC covered Ø 8 mm conductor



Conductor network

Heat weldable non-metallic conductor clips



Standards

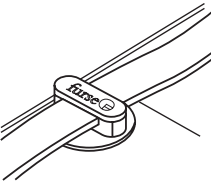
IEC/BS EN 62561-4

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Heat weldable clips for TPO/FPO roofing

Part no.	Conductor size (mm)	Colour	Weight each (kg)
For use with bare tape			
HW315-FU	25 x 3	Brown	0.03
HW320-FU	25 x 3	Grey	0.03
For use with PVC covered tape			
HW325-FU	25 x 3	Brown	0.03
HW330-FU	25 x 3	Black	0.03
HW340-FU	25 x 3	Grey	0.03
HW345-FU	25 x 3	Stone	0.03
HW350-FU	25 x 3	White	0.03

- Provides a secure means of fixing flat tape conductors to single ply polypropylene roof membranes using an industrial heat gun, where solvent welding is not applicable
- Manufactured from high grade PVC, UV stabilized against degradation by sunlight and non-brittle to prevent cold weather damage
- Dressing tool accessory (DT100) enables flat tape to be set at roof level
- Disc Ø 85 mm



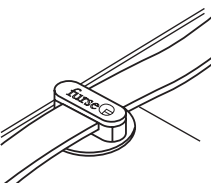
Standards

IEC/BS EN 62561-4

Heat weldable clips for polyethylene roofing

Part no.	Conductor size (mm)	Colour	Weight each (kg)
For use with bare tape			
HW415-FU	25 x 3	Brown	0.03
HW420-FU	25 x 3	Grey	0.03
For use with PVC covered tape			
HW425-FU	25 x 3	Brown	0.03
HW430-FU	25 x 3	Black	0.03
HW440-FU	25 x 3	Grey	0.03
HW445-FU	25 x 3	Stone	0.03
HW450-FU	25 x 3	White	0.03

- Provides a secure means of fixing flat tape conductors to single ply, polyethylene roof membranes using an industrial heat gun, where solvent welding is not applicable
- Manufactured from high grade synthetic polymers, UV stabilized against degradation by sunlight and non-brittle to prevent cold weather damage
- Dressing tool accessory (DT100) enables flat tape to be set at roof level
- Disc Ø 85 mm



Conductor network

Non-metallic clip accessories & felt roof clip



Non-metallic clip accessories

Part no.	Description	Weight each (kg)
CW905	Universal welding solvent - 500 ml spray applicator (sufficient for application of approx 200 clips) Use with Furse solvent weldable clips only	0.57
CW999	Cleaning solution (Acetone) - 500 ml spray applicator For cleaning lacquered roofing membranes	0.62
CA900	Surface primer - 250 ml spray applicator (sufficient for application of approx 500 clips) Use with Furse adhesive clips only	0.24
DT100	Dressing tool - For use with adhesive and weldable DC tape clips	0.31

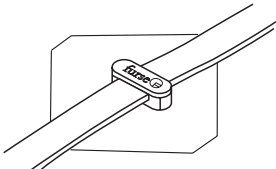
– Solvent and surface primer cannot be supplied outside the UK. For overseas projects, please contact us for advice
– CoSHH Datasheets available on request



Bitumen felt roof clip

Part no.	Conductor size (mm)	Clip colour	Weight each (kg)
For use with bare tape			
FP015	25 x 3	Brown	0.09
FP020	25 x 3	Grey	0.09
For use with PVC covered tape			
FP025	25 x 3	Brown	0.09
FP030	25 x 3	Black	0.09
FP035	25 x 3	Green	0.09
FP040	25 x 3	Grey	0.09
FP045	25 x 3	Stone	0.09
FP050	25 x 3	White	0.09

– Use on bitumen felt roofing only



Standards

IEC/BS EN 62561-4

Conductor network

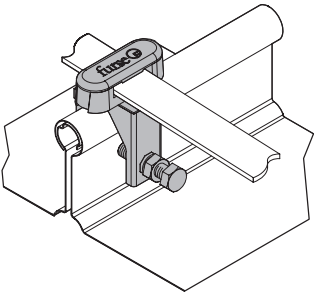
Standing seam roof fixings



Standing seam roof fixing with DC tape clip

Part no.	Conductor size (mm)	Colour	Conductor material	Weight each (kg)
Non-metallic clip for use with bare tape				
SC015	25 x 3	Brown	Copper	0.076
SC020	25 x 3	Grey	Aluminium	0.076
Metallic clip for use with bare tape				
SC210-H	25 x 3	–	Copper	0.08
SC110-H	25 x 3	–	Aluminium	0.07
Non-metallic clip for use with PVC covered tape				
SC025	25 x 3	Brown	Copper/Aluminium	0.076
SC030	25 x 3	Black	Copper/Aluminium	0.076
SC035	25 x 3	Green	Copper/Aluminium	0.076
SC040	25 x 3	Grey	Copper/Aluminium	0.076
SC045	25 x 3	Stone	Copper/Aluminium	0.076
SC050	25 x 3	White	Copper/Aluminium	0.076
Metallic clip for use with PVC covered tape				
SC215-H	25 x 3	–	Copper	0.09

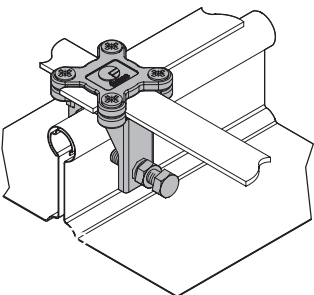
- Highly versatile, innovative standing seam roof fixing including DC tape clip, suitable for use on multi-profiled seam roofing structures up to 22 mm thickness. Use with bare and PVC covered copper and aluminium conductors. Separate datasheet available on request
- Metallic clips not illustrated. Drawing available on request



Standing seam roof fixing with square tape clamp

Part no.	Conductor size (mm)	Conductor material	Weight each (kg)
SC105-H	25 x 3	Copper	0.18
SC005-H	25 x 3	Aluminium	0.12

- Highly versatile, innovative standing seam roof fixing including square tape clamp, suitable for use on multi-profiled seam roofing structures up to 22 mm thickness. Use with bare and PVC covered copper and aluminium conductors. Separate datasheet available on request.



Conductor network

Slate holdfasts



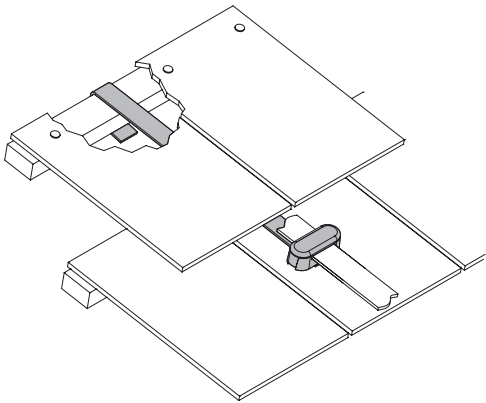
Standards

IEC/BS EN 62561-4

Slate holdfast with non-metallic DC tape clip

Part no.	Conductor size (mm)	Clip colour	Weight each (kg)
For use with bare tape			
HF015	25 x 3	Brown	0.06
HF020	25 x 3	Grey	0.06
For use with PVC covered tape			
HF025	25 x 3	Brown	0.06
HF030	25 x 3	Black	0.06
HF040	25 x 3	Grey	0.06
HF045	25 x 3	Stone	0.06

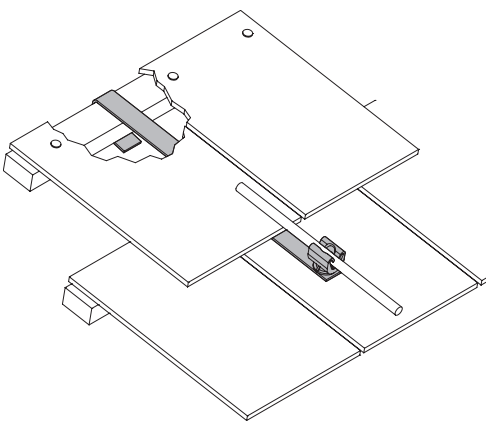
– Designed to allow tape conductors to be fixed to tiled roofs without compromising the waterproofing nature of the roof. The 500 mm tail fits neatly between overlapping tiles and is wrapped around/fixed to the tile lathe for secure fitting



Slate holdfast with non-metallic push-in clip

Part no.	Conductor size (mm)	Clip colour	Weight each (kg)
HF176	Ø 8	Brown	0.03
HF191	Ø 8	Grey	0.03

– Designed to allow circular conductors to be fixed to tiled roofs without compromising the waterproofing nature of the roof. The 500 mm tail fits neatly between overlapping tiles and is wrapped around/fixed to the tile lathe for secure fitting



Conductor network

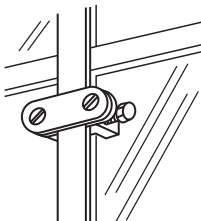
Holdfasts



Glazing bar holdfast

Part no.	Conductor material	Maximum glazing bar width (mm)	Weight each (kg)
HF705	Copper	12	0.11
HF710	Aluminium	12	0.05

- Manufactured from high quality alloys of either copper or aluminium. Simple to install, providing secure anchorage to thin metallic sections that cannot be drilled e.g. window mullions, angle iron etc. Once fixed any metallic or non-metallic conductor clip can be attached with the screw provided
- Conductor clip sold separately



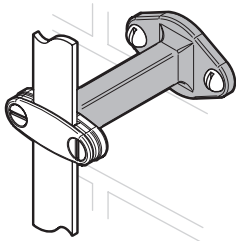
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Back plate holdfast stem

Part no.	Conductor material	Weight each (kg)
HF320	Copper	0.30
HF325-FU	Aluminium	0.10

- Supplied with M6 fixing screw to secure appropriate conductor clip
- Fix using roundhead wood screws 1½" No. 10 or M6 (Part no. SW305 or SW405) and wall plugs (Part no. PS305)



Conductor network

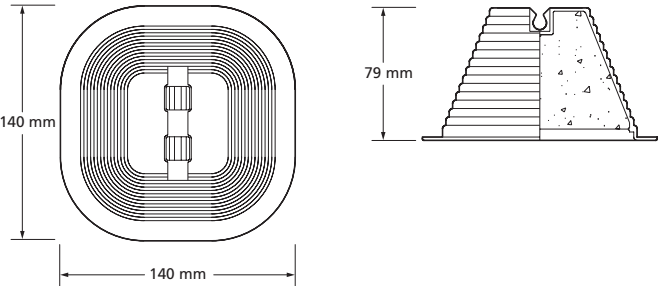
Holdfast & puddle flange



Pyramid holdfast

Part no.	Conductor size (mm)	Weight each (kg)
HF975	Ø 8 mm solid circular	0.97

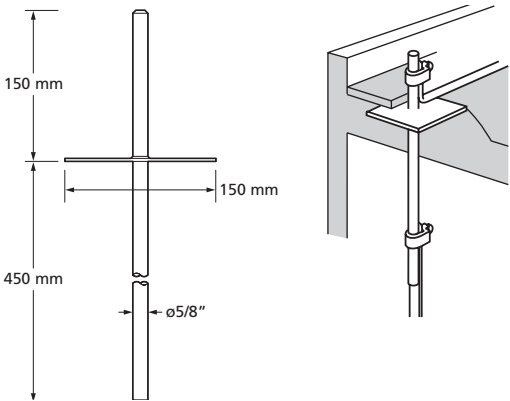
- Designed to secure bare, 8 mm diameter, circular conductors to flat roofs
- Supplied filled with concrete the conductor is held in place by the weight of the holdfast
- The lip around the base of the product permits the holdfast to be built into bitumen type roofs



Puddle flange

Part no.	Conductor material	Weight each (kg)
PF105	Copper	1.54
PF005	Aluminium	0.50

- Permits lightning conductors to pass through flat roofs without damaging the waterproof nature of the roof



Conductor network

Conductor clamps



Square tape clamp

Part no.	Conductor size (mm)	Conductor material	Weight each (kg)
CT105-H	25 x 3	Copper	0.12
CT110-H	25 x 6	Copper	0.30
CT115-H	50 x 6	Copper	0.60
CT005-H	25 x 3	Aluminium	0.06
CT010-H	25 x 6	Aluminium	0.17

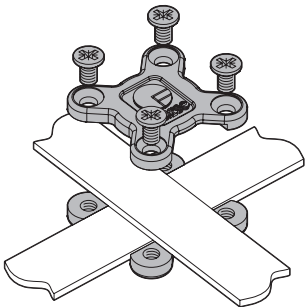
- Manufactured from high quality alloys of either copper or aluminium. Simple to install, providing an effective low resistance connection between overlapping tapes to allow cross, tee, through and right angle joints to be formed
- Fix using countersunk wood screws 1½" No. 10 or M6 (Part no. SW005 or SW105) and wall plugs (Part no. PS305)
- Tightening torque 5 Nm

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Standards

IEC/BS EN 62561-1 Class H

UL96 (CT105-H, CT110-H, CT115-H)



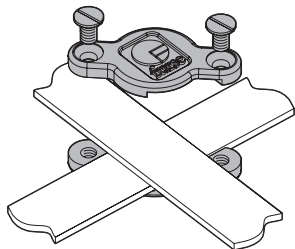
Crossover tape clamp

Part no.	Conductor size (mm)	Conductor material	Weight each (kg)
CX105-H	25 x 3	Copper	0.09
CX005-H	25 x 3	Aluminium	0.03

- Manufactured from high quality alloys of either copper or aluminium. Simple to install, providing an effective low resistance connection between overlapping tapes to allow cross joints to be formed
- Fix using countersunk wood screws 1½" No. 10 or M6 (Part no. SW005 or SW105) and wall plugs (Part no. PS305)
- Tightening torque 5 Nm

Standards

IEC/BS EN 62561-1 Class H



Conductor network

Conductor clamps



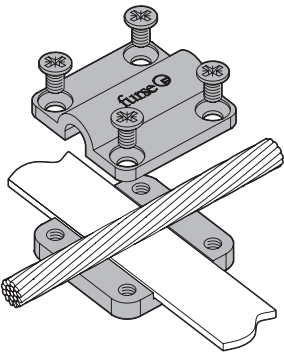
Cable to tape square clamp

Part no.	Conductor size	Conductor material	Weight each (kg)
CT125	25 x 3 mm to 50 mm²	Copper	0.32
CT130	25 x 3 mm to 70 mm²	Copper	0.30
CT135	25 x 3 mm to 95 mm²	Copper	0.28

- Manufactured from high quality copper alloy. Simple to install, providing an effective low resistance connection between conductor tape and stranded copper conductor, allowing cross, tee, through and right angle joints to be formed
- Fix using countersunk wood screws 1½" No. 10 or M6 (Part no. SW005 or SW105) and wall plugs (Part no. PS305)
- Tightening torque 5 Nm

Standards

IEC/BS EN 62561-1 Class H



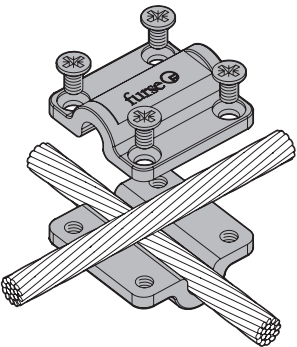
Cable to cable square clamp

Part no.	Conductor size (mm²)	Conductor material	Weight each (kg)
CR810	50	Copper	0.32
CR815	70	Copper	0.29
CR820	95	Copper	0.25

- Manufactured from high quality copper alloy. Simple to install, providing an effective low resistance connection between overlapping stranded conductors allowing cross, tee, through and right angle joints to be formed
- Tightening torque 5 Nm

Standards

BS EN 62561-1 Class H



Conductor network

Conductor clamps



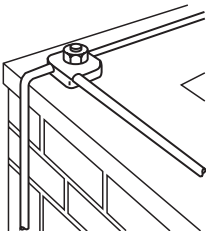
Square clamp

Part no.	Conductor size (mm)	Conductor material	Weight each (kg)
CS605	Ø 8	Copper	0.17
CS610	Ø 8	Aluminium	0.07

- Designed to provide low resistance cross joints in solid circular conductor networks. Manufactured from high quality alloys of either copper or aluminium for excellent corrosion resistance
- Tightening torque 12 Nm

Standards

BS EN 62561-1 Class H



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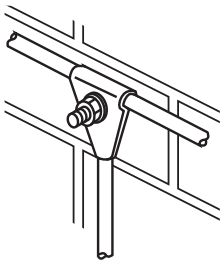
Tee clamp

Part no.	Conductor size (mm)	Conductor material	Weight each (kg)
CS505	Ø 8	Copper	0.17
CS510	Ø 8	Aluminium	0.07

- Designed to provide low resistance tee joints in solid circular conductor networks. Manufactured from high quality alloys of either copper or aluminium for excellent corrosion resistance
- Tightening torque 12 Nm

Standards

BS EN 62561-1 Class H



Conductor network

Conductor clamps



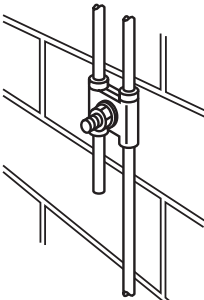
Joining clamp

Part no.	Conductor size (mm)	Conductor material	Weight each (kg)
CS405	Ø 8	Copper	0.17
CS410	Ø 8	Aluminium	0.08

- Designed to provide low resistance parallel joints in solid circular conductor networks. Manufactured from high quality alloys of either copper or aluminium for excellent corrosion resistance
- Tightening torque 12 Nm

Standards

BS EN 62561-1 Class H




Test / Junction clamp

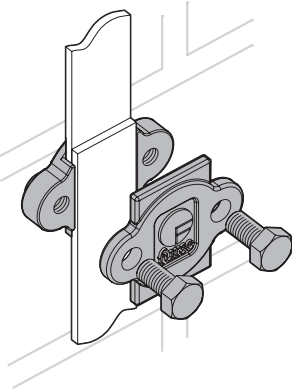
Part no.	Conductor size (mm)	Conductor material	Weight each (kg)
CN105-H	26 x 8	Copper	0.29
CN005*	26 x 8	Aluminium	0.12

- Manufactured from high quality alloys of either copper or aluminium. Simple to install, providing an effective low resistance connection between overlapping tapes. The clamped connection is easily made/remade to allow for periodic testing
- Tightening torque CN005 15 Nm; CN105-H 13 Nm
- * Not as illustrated (drawing available on request)

Standards

IEC/BS EN 62561-1 Class H

UL96 (CN105-H) 



Conductor network

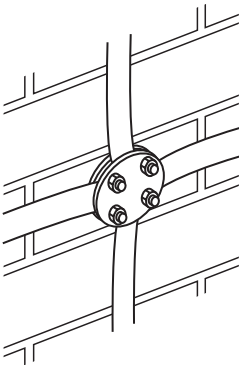
Conductor clamps



Plate type test clamp

Part no.	Conductor size (mm)	Conductor material	Weight each (kg)
CT405	26 x 12 max	Copper	0.62

- Manufactured from a high quality copper alloy. Simple to install, providing an effective low resistance connection between overlapping tapes.
- The clamped connection is easily made/remade to allow for periodic testing. Enables cross, tee, through and right angle joints to be formed
- Fix using countersunk wood screws 1½" No. 10 or M6 (Part no. SW005) and wall plugs (Part no. PS305)
- Tightening torque 15 Nm



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Standards

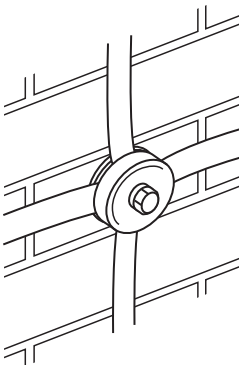
BS EN 62561-1 Class H



Screwdown test clamp

Part no.	Conductor size (mm)	Conductor material	Weight each (kg)
CT305	26 x 8 max	Copper	0.84

- Manufactured from a high quality copper alloy. Simple to install, providing an effective low resistance connection between overlapping tapes.
- The clamped connection is easily made/remade to allow for periodic testing. Enables cross, tee, through and right angle joints to be formed
- Fix using countersunk wood screws 1½" No. 10 or M6 (Part no. SW005) and wall plugs (Part no. PS305)
- Tightening torque 20 Nm



Standards

BS EN 62561-1 Class H

Conductor network

Conductor clamps



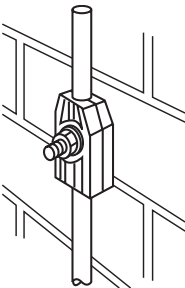
Test clamp

Part no.	Conductor size (mm)	Conductor size (mm)	Conductor material	Weight each (kg)
CN305	Ø 8	25 x 3	Copper	0.20
CN310	Ø 8	25 x 3	Aluminium	0.09

- Designed to provide low resistance tee joints in solid circular conductor networks. These multi-purpose clamps can produce circular to circular or circular to tape connection in both through and tee configurations
- Manufactured from high quality alloys of either copper or aluminium for excellent corrosion resistance
- Tightening torque 12 Nm

Standards

BS EN 62561-1 Class H



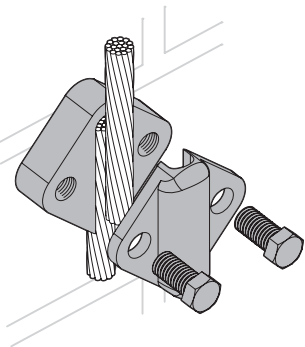
Square test clamp

Part no.	Conductor diameter (mm²)	Conductor material	Weight each (kg)
CR855	50	Copper	0.39
CR860	70	Copper	0.40
CR865	95	Copper	0.40

- Manufactured from high quality copper alloy
- Simple to install, providing an effective low resistance overlap connection between stranded copper cables
- Fix using countersunk wood screws 1½" No. 10 or M6 (Part no. SW005) and wall plugs (Part no. PS305)
- Tightening torque 12 Nm

Standards

BS EN 62561-1 Class H



Conductor network

Bimetallic connectors



CN910



CN915

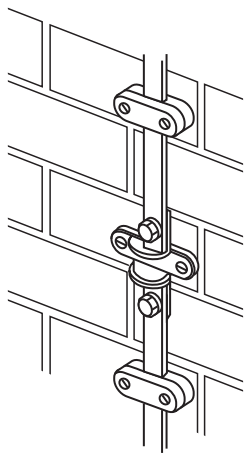


CN925

Bimetallic connector

Part no.	Conductor size	Weight each (kg)
CN910	25 x 3 mm aluminium tape to 25 x 3 mm copper tape	0.19
CN910-UL	1½" x ⅜" aluminium tape to 1" x ⅜" copper tape	0.19
CN915	8 mm Ø aluminium conductor to 8 mm Ø copper conductor	0.25
CN920	8 mm Ø aluminium conductor to 25 x 3 mm copper tape	0.19
CN925	25 x 3 mm aluminium tape to 25 x 3 mm copper tape	0.20

- Manufactured from a friction welded joint between high conductivity copper and aluminium to provide the ideal means of interconnecting copper and aluminium conductors whilst avoiding bimetallic corrosion
- Fix using countersunk wood screws 1½" No. 10 or M6 (Part no. SW005 or SW105) and wall plugs (Part no. PS305)
- Tightening torque 12 Nm



Standards

IEC/BS EN 62561-1 Class H

UL96 (CN910-UL) 

Conductor network

Expansion braid bond & oxide inhibitor



Expansion braid bond

Part no.	Type	Conductor material	Length (mm)	Cross-sectional area (mm²)	Weight each (kg)
BN101	Single length	Copper	200	50	0.17
BN001	Single length	Aluminium	200	50	0.07
BN102	Cross-over	Copper	300	50	0.53
BN002	Cross-over	Aluminium	300	50	0.23

– Designed to remove the risk of damage or distortion to long conductor runs caused by thermal expansion and contraction



Oxide inhibiting compound

Part no.	Description	Weight each (kg)
CM005	Plastic 8 oz bottle	0.23

– When installing mechanical and compression connectors, use oxide inhibiting compound to reduce risk of corrosion

Conductor network

Accessories

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Countersunk wood screws

Part no.	Material	Size	Weight per 100 (kg)
SW105	Zinc plated steel	1½" x No.10	0.50
SW110	Zinc plated steel	1½" x No.12	0.60
SW005	Brass	1½" x No.10	0.50
SW010	Brass	1½" x No.12	0.60



Countersunk set screws

Part no.	Material	Size (mm)	Weight Per 100 (kg)
SS160	Stainless Steel 316	M6 x 30	0.60
SS260	Stainless Steel 316	M6 x 30	0.61



Roundhead wood screws

Part no.	Material	Size	Weight per 100 (kg)
SW405	Zinc plated steel	1½" x No.10	0.50
SW305	Brass	1½" x No.10	0.50



Hexagon head set screws

Part no.	Material	Size (mm)	Weight per 100 (kg)
SS635	Phosphor bronze	M10 x 25	2.85
SS640	Phosphor bronze	M10 x 35	3.40
SS650	Phosphor bronze	M12 x 25	4.50
SS655	Phosphor bronze	M12 x 35	5.00
SS165	Brass	M8 x 16	1.75
SS140	Brass	M10 x 25	2.50
SS145	Brass	M10 x 35	3.20
SS150	Brass	M12 x 25	3.80
SS155	Brass	M12 x 35	4.70
SS235	Stainless Steel 316	M8 x 20	1.23
SS240	Stainless Steel 316	M10 x 25	2.57
SS245	Stainless Steel 316	M10 x 35	3.07
SS250	Stainless Steel 316	M12 x 25	3.66
SS255	Stainless Steel 316	M12 x 35	4.38

Conductor network

Accessories



Plastic wall plugs

Part no.	Colour	Size	Weight per 100 (kg)
PS305	Red	No.10	0.06
PS310	Brown	No.12	0.06



Hexagon nuts

Part no.	Material	Size	Weight per 100 (kg)
NU367	Phosphor bronze	M10	1.25
NU370	Phosphor bronze	M12	1.80
NU165	Brass	M6	0.25
NU166	Brass	M8	0.80
NU167	Brass	M10	1.15
NU170	Brass	M12	1.65
NU265	Stainless Steel 316	M6	0.25
NU266	Stainless Steel 316	M8	0.52
NU267	Stainless Steel 316	M10	1.16
NU270	Stainless Steel 316	M12	1.73



Roundhead rivets

Part no.	Material	Size (mm)	Weight per 100 (kg)
RV105	Copper	5 x 12	0.35
RV110	Copper	5 x 20	0.45
RV005	Aluminium	5 x 12	0.12
RV010	Aluminium	5 x 20	0.15

Spring washers

Part no.	Material	Size (mm)	Weight per 100 (kg)
WS365	Phosphor bronze	6	0.04
WS367	Phosphor bronze	10	0.20
WS370	Phosphor bronze	12	0.20
WS265	Stainless steel 316	6	0.04
WS266	Stainless steel 316	8	0.10
WS267	Stainless steel 316	10	0.20
WS270	Stainless steel 316	12	0.23

Conductor network

Accessories



Masonry drills

Part no.	Size	Weight each (kg)
DL005	No.10	0.02
DL010	No.12	0.02



Roundhead copper nails

Part no.	Length (mm)	Weight per 100 (kg)
NA005	50	0.70

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Plain washers

Part no.	Material	Size (mm)	Weight per 100 (kg)
WR365	Phosphor bronze	6	0.05
WR367	Phosphor bronze	10	0.25
WR370	Phosphor bronze	12	0.50
WR165	Brass	6	0.05
WR175	Brass	8	0.15
WR167	Brass	10	0.25
WR170	Brass	12	0.50
WR265	Stainless Steel 316	6	0.06
WR266	Stainless Steel 316	8	0.11
WR267	Stainless Steel 316	10	0.21
WR270	Stainless Steel 316	12	0.34



Insulating tape

Part no.	Size	Weight each (kg)
TP120-FU	25 mm x 33 m	0.14

– Green/yellow general purpose insulating tape

Conductor network

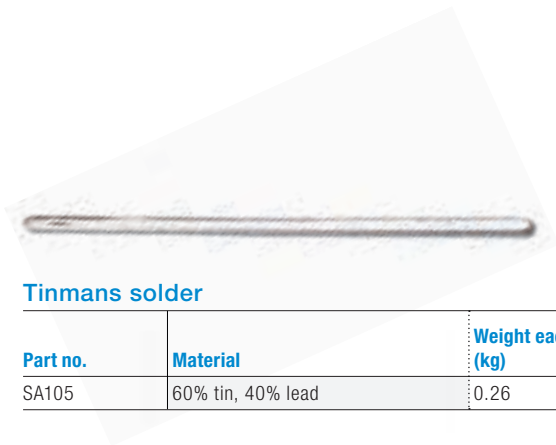
Accessories



Denso tape

Part no.	Size	Weight each (kg)
TD005	50 mm x 10 m	0.76

- A waterproof tape for wrapping underground joints
- COSHH datasheet available on request



Tinmans solder

Part no.	Material	Weight each (kg)
SA105	60% tin, 40% lead	0.26



Silfos

Part no.	Coil size	Thickness (mm)	Weight each (kg)
FS005	50 mm x 8 m	0.12	0.50

- An alloy of silver, phosphorous and copper. Used to braze copper in air without the use of Flux
- CoSHH datasheet available on request



Flux

Part no.	Material	Weight each (kg)
SA115	Flux	0.08

- Use with tinmans solder for general purpose soldering of copper products
- CoSHH datasheet available on request