



# LIGHTNING PROTECTION



Lightning is a natural phenomenon that occurs during an electrical storm. This electrostatic discharge occurs inside the clouds or between two clouds or between cloud and ground. In all the cases due to enormous potential in the clouds, the atoms in that regions are ionised piloting a strike with light in the form of plasma and sound in the form of thunder. The rise time of the negative lightning current is typically 1-10 microseconds to reach the peak with amperes ranging from 30 kA to 120 kA.

Lightning protection systems act as a Faraday Cage for structures which protect the building and its contents from external electric fields by transferring that energy around the cage instead of passing through the structures. The ultimate aim of lightning protection system is to offers a low resistance path to the ground where the enormous energy is safely dispersed without affecting the structure.

A conventional lightning protection system includes Air terminals, conductors and ground electrodes to offer a low resistance path to the earth as current has a tendency to flow through low resistance path. Proper grounding is essential for efficiently and safely dispersing enormous energy from the lightning strike.

### **Our Offerings**

Bahra offers a comprehensive solution for lightning protection that includes,

- Soil Resistivity Testing
- Risk Assessment as per BS EN/IEC 62305
- Design
- Product supplies

### **Soil Resistivity Testing:**

It is important to understand the soil resistivity before designing a lightning protection system as the ground resistance or impedance is one of the key factors in risk assessment and design. Our expert engineers with periodically calibrated instruments conduct soil resistivity tests at the site and offer solutions based on the report.





# LIGHTNING

## GENERAL INTRODUCTION

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### **Risk Assessment:**

Our team of experts will make a complete risk assessment for projects as per IEC 62305 with the site survey or project reports. Information on geographical location, soil resistivity, structure dimensions, the frequency of thunderstorms, wind speed, people population, etc., are critical for assessing the risks and selecting the right level of protection.

### **Design:**

Upon selecting the level of protection, a detailed design for the project can be offered with bill of materials, recommended practices, and installation guidelines. It ensures optimum level of safety and protection for the people, equipment and structures.



# LIGHTNING

## GENERAL INTRODUCTION

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### **Product Supplies:**

Bahra manufactures conductors and components for Earthing and lightning protection in its state of the art manufacturing facilities.

### **Raw Materials & Manufacturing**

Copper & Aluminium plays a significant role in earthing and lightning protection as all the conductors and accessories are either made from Copper, Aluminium and its alloys. Bahra manufactures all its conductors from 99.99% pure copper/aluminium cathodes. Accessories are made from copper and aluminium alloys ensuring higher mechanical strength and conductivity. Most of the accessories are made from bronze by the casting process and a few are made by the forging process for applications that need higher mechanical strength.

### **Approvals & Testing**

- Bahra conductors and accessories are tested as per BS EN 50164 and IEC 62561.
- Earth rods and accessories are tested as per UI 467.

### **Product Portfolio**

Our wide range of conductors and accessories ensures that every project need is fulfilled to achieve the complete earthing and lightning protection. This catalog lists all the standard products, In addition to this Bahra offers customized products designed for particular applications.

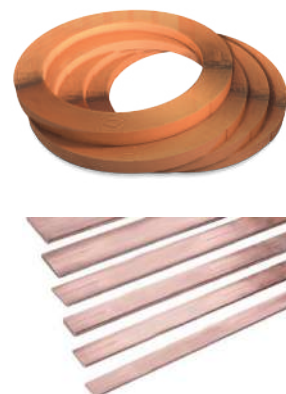


# LIGHTNING CONDUCTORS

## Conductors:

### Bare Copper Tape:

Bare copper soft drawn tapes are the most commonly used down conductors in the Middle East for lightning protection. Bahra copper tapes are soft drawn from 99.99% pure copper cathodes ensuring higher conductivity. These tapes are radially edged making it easier to install and are tested as per IEC 62561, BS EN 50164 & UL 96 with harsh atmospheric conditions and impulse current of 100000 Amperes.



Part No.	Conductor size (X x Y)	Weight per metre	Standard coil size
BCT12.51.5100	12.5 x 1.5 mm	0.17 Kg	100 m
BCT12.503100	12.5 x 3 mm	0.33 Kg	100 m
BCT201.5100	20 x 1.5 mm	0.27 Kg	100 m
BCT200350	20 x 3 mm	0.53 Kg	50 m
BCT2003100	20 x 3 mm	0.53 Kg	100 m
BCT251.5100	25 x 1.5 mm	0.33 Kg	100 m
BCT250250	25 x 2 mm	0.49 Kg	50 m
BCT250325	25 x 3 mm	0.67 Kg	25 m
BCT250350	25 x 3 mm	0.67 Kg	50 m
BCT1-1/4-25	1" x 1/4 "	0.67 Kg	25 m
BCT250450	25 x 4 mm	0.89 Kg	50 m
BCT250640	25 x 6 mm	1.33 Kg	40 m
BCT1-1/4-40	1" x 1/4 "	1.33 Kg	40 m
BCT300250	30 x 2 mm	0.53 Kg	50 m
BCT300350	30 x 3 mm	0.83 Kg	50 m
BCT300440	30 x 4 mm	1.07 Kg	40 m
BCT300540	30 x 5 mm	1.33 Kg	40 m
BCT310350	31 x 3 mm	0.83 Kg	50 m
BCT31.50440	31.5 x 4 mm	1.13 Kg	40 m
BCT310630	31 x 6 mm	1.65 Kg	30 m
BCT380350	38 x 3 mm	1.01 Kg	50 m
BCT380530	38 x 5 mm	1.69 Kg	30 m
BCT380625	38 x 6 mm	2.02 Kg	25 m
BCT400340	40 x 3 mm	1.06 Kg	40 m
BCT400430	40 x 4 mm	1.42 Kg	30 m
BCT400525	40 x 5 mm	1.78 Kg	25 m
BCT400625	40 x 6 mm	2.16 Kg	25 m
BCT406.325	40 x 6.3 mm	2.24 Kg	25 m
BCT500340	50 x 3 mm	1.33 Kg	40 m
BCT500430	50 x 4 mm	1.78 Kg	30 m
BCT500520	50 x 5 mm	2.22 Kg	20 m
BCT500620	50 x 6 mm	2.68 Kg	20 m
BCT506.320	50 x 6.3 mm	2.80 Kg	20 m
BCT500720	50 x 7 mm	3.08 Kg	20 m

## Bare Aluminium Tape:

Bahra bare aluminium tapes are alternatives to copper tapes.

Part No.	Conductor size (X x Y)	Standard coil size
BAT12.51.5100	12.5 x 1.5 mm	100 m
BAT12.503100	12.5 x 3 mm	100 m
BAT201.5100	20 x 1.5 mm	100 m
BAT200350	20 x 3 mm	50 m
BAT2003100	20 x 3 mm	100 m
BAT251.5100	25 x 1.5 mm	100 m
BAT250250	25 x 2 mm	50 m
BAT250325	25 x 3 mm	25 m
BAT250350	25 x 3 mm	50 m
BAT1-1/4-25	1" x 1/4 "	25 m
BAT250450	25 x 4 mm	50 m
BAT250640	25 x 6 mm	40 m
BAT1-1/4-40	1" x 1/4 "	40 m
BAT300250	30 x 2 mm	50 m
BAT300350	30 x 3 mm	50 m
BAT300440	30 x 4 mm	40 m
BAT300540	30 x 5 mm	40 m
BAT310350	31 x 3 mm	50 m
BAT31.50440	31.5 x 4 mm	40 m
BAT310630	31 x 6 mm	30 m
BAT380350	38 x 3 mm	50 m
BAT380530	38 x 5 mm	30 m
BAT380625	38 x 6 mm	25 m
BAT400340	40 x 3 mm	40 m
BAT400430	40 x 4 mm	30 m
BAT400525	40 x 5 mm	25 m
BAT400625	40 x 6 mm	25 m
BAT406.325	40 x 6.3 mm	25 m
BAT500340	50 x 3 mm	40 m
BAT500430	50 x 4 mm	30 m
BAT500520	50 x 5 mm	20 m
BAT500620	50 x 6 mm	20 m
BAT506.320	50 x 6.3 mm	20 m
BAT500720	50 x 7 mm	20 m

Complies BS EN 755-5



# LIGHTNING CONDUCTORS

## Tinned Copper Tape:

Bahra tinned copper tapes are made from state of the art continuous tin plating facility. Tin plating prevents from oxidization and is recommended to avoid copper thefts. Below weights for tin plated tapes are with a +2% tolerance.

Complied with IEC 62561 & BS EN 50164 and UL 96



Part No.	Conductor Size (X x Y)	Weight per metre	Standard coil size
TCT12.51.5100	12.5 x 1.5 mm	0.17 Kg	100 m
TCT12.503100	12.5 x 3 mm	0.33 Kg	100 m
TCT201.5100	20 x 1.5 mm	0.27 Kg	100 m
TCT200350	20 x 3 mm	0.53 Kg	50 m
TCT2003100	20 x 3 mm	0.53 Kg	100 m
TCT251.5100	25 x 1.5 mm	0.33 Kg	100 m
TCT250250	25 x 2 mm	0.49 Kg	50 m
TCT250325	25 x 3 mm	0.67 Kg	25 m
TCT250350	25 x 3 mm	0.67 Kg	50 m
TCT1-1/4-25	1" x 1/4 "	0.67 Kg	25 m
TCT250450	25 x 4 mm	0.89 Kg	50 m
TCT250640	25 x 6 mm	1.33 Kg	40 m
TCT1-1/4-40	1" x 1/4 "	1.33 Kg	40 m
TCT300250	30 x 2 mm	0.53 Kg	50 m
TCT300350	30 x 3 mm	0.83 Kg	50 m
TCT300440	30 x 4 mm	1.07 Kg	40 m
TCT300540	30 x 5 mm	1.33 Kg	40 m
TCT310350	31 x 3 mm	0.83 Kg	50 m
TCT31.50440	31.5 x 4 mm	1.13 Kg	40 m
TCT310630	31 x 6 mm	1.65 Kg	30 m
TCT380350	38 x 3 mm	1.01 Kg	50 m
TCT380530	38 x 5 mm	1.69 Kg	30 m
TCT380625	38 x 6 mm	2.02 Kg	25 m
TCT400340	40 x 3 mm	1.06 Kg	40 m
TCT400430	40 x 4 mm	1.42 Kg	30 m
TCT400525	40 x 5 mm	1.78 Kg	25 m
TCT400625	40 x 6 mm	2.16 Kg	25 m
TCT406.325	40 x 6.3 mm	2.24 Kg	25 m
TCT500340	50 x 3 mm	1.33 Kg	40 m
TCT500430	50 x 4 mm	1.78 Kg	30 m
TCT500520	50 x 5 mm	2.22 Kg	20 m
TCT500620	50 x 6 mm	2.68 Kg	20 m
TCT506.320	50 x 6.3 mm	2.80 Kg	20 m
TCT500720	50 x 7 mm	3.08 Kg	20 m

## Bare Copper Conductor:

Item Numbers	Conductor				Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Number and Nominal Diameter of Wires mm	Overall Diameter Approx mm	Max. DC Resistance at 20°C ohm/km	Net Weight Approx kg/km	Standard Package m +/-5%
14110020	2.5 rm	7x0.66	2.0	7.4100	21	2000
14110030	4 rm	7x0.84	2.5	4.6100	34	2000
14110040	6 rm	7x1.02	3.1	3.0800	51	2000
14110050	10 rm	7x1.33	4.0	1.8300	86	2000
14110060	16 rm	7x1.68	5.1	1.1500	137	2000
14110070	25 rm	7x2.11	6.4	0.7270	217	2000
14110080	35 rm	7x2.48	7.5	0.5240	312	2000
14110090	50 rm	19x1.75	8.8	0.3870	408	1000
14110100	70 rm	19x2.11	10.6	0.2680	589	1000
14110110	95 rm	19x2.48	12.4	0.1930	818	1000
14110120	120 rm	37x2.00	14.0	0.1530	1032	1000
14110130	150 rm	37x2.22	15.5	0.1240	1273	1000
14110140	185 rm	37x2.48	17.4	0.0991	1593	1000
14110150	240 rm	61x2.22	20.3	0.0754	2094	1000
14110160	300 rm	61x2.48	22.9	0.0601	2650	1000
14110170	400 rm	61x2.81	25.7	0.0470	3400	500
14110180	500 rm	61x3.18	28.8	0.0366	4314	500
14110190	630 rmc	61x3.75	30.5	0.0283	5650	500

Copper grade "CU-ETP1" with nominal conductivity (IACS) 101% complying with EN 1977:1998. Fusing temperature not be less than 1083°C.





# LIGHTNING

## CONDUCTORS

### Bare Solid Circular:

Bare solid circular used on lightning protection applications.

Part No.	Conductor material	Diameter (A)	Cross-sectional area	Standard coil size
BCSR008	Copper	8 mm	50.27 mm <sup>2</sup>	50 m
BASR008	Aluminium	8 mm	50.27 mm <sup>2</sup>	50 m



### Tinned Soft Drawn Stranded Copper Cable:

Tin plated conductors are highly resistant to oxidation recommended for harsh environments.

Part No.	Cross-sectional area	Stranding No./mm Ø	Weight per metre
BCST020	20 mm <sup>2</sup>	19/2.14	0.62 Kg



# LIGHTNING CONDUCTORS

## Bare Busbar:

The multipurpose bare Busbars are used as Earth Bar/ Ground Busbar for connecting equipment's ground terminals / Telecommunication grounding etc., For Busbars with insulation base and with connection terminals refer to Earth Bars section.



Part No.	Conductor Size (X x Y)	Weight per metre	Length per Bar
BCB01	12.5 x 1.5 mm	0.17 Kg	4 m
BCB02	12.5 x 3 mm	0.33 Kg	4 m
BCB03	20 x 1.5 mm	0.27 Kg	4 m
BCB04	20 x 3 mm	0.53 Kg	4 m
BCB05	20 x 3 mm	0.53 Kg	4 m
BCB06	25 x 1.5 mm	0.33 Kg	4 m
BCB07	25 x 2 mm	0.49 Kg	4 m
BCB08	25 x 3 mm	0.67 Kg	4 m
BCB09	25 x 3 mm	0.67 Kg	4 m
BCB10	1" x 1/4 "	0.67 Kg	4 m
BCB11	25 x 4 mm	0.89 Kg	4 m
BCB12	25 x 6 mm	1.33 Kg	4 m
BCB13	1" x 1/4 "	1.33 Kg	4 m
BCB14	30 x 2 mm	0.53 Kg	4 m
BCB15	30 x 3 mm	0.83 Kg	4 m
BCB16	30 x 4 mm	1.07 Kg	4 m
BCB17	30 x 5 mm	1.33 Kg	4 m
BCB18	31 x 3 mm	0.83 Kg	4 m
BCB19	31.5 x 4 mm	1.13 Kg	4 m
BCB20	31 x 6 mm	1.65 Kg	4 m
BCB21	38 x 3 mm	1.01 Kg	4 m
BCB22	38 x 5 mm	1.69 Kg	4 m
BCB23	38 x 6 mm	2.02 Kg	4 m
BCB24	40 x 3 mm	1.06 Kg	4 m
BCB25	40 x 4 mm	1.42 Kg	4 m
BCB26	40 x 5 mm	1.78 Kg	4 m
BCB27	40 x 6 mm	2.16 Kg	4 m
BCB28	40 x 6.3 mm	2.24 Kg	4 m
BCB29	50 x 3 mm	1.33 Kg	4 m
BCB30	50 x 4 mm	1.78 Kg	4 m
BCB31	50 x 5 mm	2.22 Kg	4 m
BCB32	50 x 6 mm	2.68 Kg	4 m
BCB33	50 x 6.3 mm	2.80 Kg	4 m
BCB34	50 x 7 mm	3.08 Kg	4 m

# LIGHTNING CONDUCTORS

## Tinned Busbar:



Part No.	Conductor Size (X x Y)	Weight per metre	Length per Bar
TCB01	12.5 x 1.5 mm	0.17 Kg	4 m
TCB02	12.5 x 3 mm	0.33 Kg	4 m
TCB03	20 x 1.5 mm	0.27 Kg	4 m
TCB04	20 x 3 mm	0.53 Kg	4 m
TCB05	20 x 3 mm	0.53 Kg	4 m
TCB06	25 x 1.5 mm	0.33 Kg	4 m
TCB07	25 x 2 mm	0.49 Kg	4 m
TCB08	25 x 3 mm	0.67 Kg	4 m
TCB09	25 x 3 mm	0.67 Kg	4 m
TCB10	1" x 1/4 "	0.67 Kg	4 m
TCB11	25 x 4 mm	0.89 Kg	4 m
TCB12	25 x 6 mm	1.33 Kg	4 m
TCB13	1" x 1/4 "	1.33 Kg	4 m
TCB14	30 x 2 mm	0.53 Kg	4 m
TCB15	30 x 3 mm	0.83 Kg	4 m
TCB16	30 x 4 mm	1.07 Kg	4 m
TCB17	30 x 5 mm	1.33 Kg	4 m
TCB18	31 x 3 mm	0.83 Kg	4 m
TCB19	31.5 x 4 mm	1.13 Kg	4 m
TCB20	31 x 6 mm	1.65 Kg	4 m
TCB21	38 x 3 mm	1.01 Kg	4 m
TCB22	38 x 5 mm	1.69 Kg	4 m
TCB23	38 x 6 mm	2.02 Kg	4 m
TCB24	40 x 3 mm	1.06 Kg	4 m
TCB25	40 x 4 mm	1.42 Kg	4 m
TCB26	40 x 5 mm	1.78 Kg	4 m
TCB27	40 x 6 mm	2.16 Kg	4 m
TCB28	40 x 6.3 mm	2.24 Kg	4 m
TCB29	50 x 3 mm	1.33 Kg	4 m
TCB30	50 x 4 mm	1.78 Kg	4 m
TCB31	50 x 5 mm	2.22 Kg	4 m
TCB32	50 x 6 mm	2.68 Kg	4 m
TCB33	50 x 6.3 mm	2.80 Kg	4 m
TCB34	50 x 7 mm	3.08 Kg	4 m

# LIGHTNING CONDUCTORS

## Coated Copper Tapes:

### Lead Covered Copper Tapes

Lead covered copper tapes are widely used in power stations, all lead covered copper tapes are made with a lead thickness of 2.1 mm.

Order with part numbers replaced with first digit "X" by color code.

### Pvc Covered Copper Tape:

In modern structures, Bahra PVC covered tapes maintains the aesthetics of the building, with the wide color range available in PVC coating it becomes much easier to match the building color.

The thickness of PVC is minimum 1.2 to 1.5 mm on each side over the tape, and Green Yellow PVC covered tapes are available for easier identification of earthing or down conductors.

### Color Codes:

Y- Green Yellow

G- Green

N-Black

W-White

R-Red

B-Blue

E-Grey

L-Lead covered

T-Tin plated





# LIGHTNING

## CONDUCTORS

### Pvc Covered Copper Tape:

Part No.	Conductor Size (X x Y)	Standard coil size
XCT12.51.5100	12.5 x 1.5 mm	100 m
XCT12.503100	12.5 x 3 mm	100 m
XCT201.5100	20 x 1.5 mm	100 m
XCT200350	20 x 3 mm	50 m
XCT2003100	20 x 3 mm	100 m
XCT251.5100	25 x 1.5 mm	100 m
XCT250250	25 x 2 mm	50 m
XCT250325	25 x 3 mm	25 m
XCT250350	25 x 3 mm	50 m
XCT1-1/4-25	1" x 1/4 "	25 m
XCT250450	25 x 4 mm	50 m
XCT250640	25 x 6 mm	40 m
XCT1-1/4-40	1" x 1/4 "	40 m
XCT300250	30 x 2 mm	50 m
XCT300350	30 x 3 mm	50 m
XCT300440	30 x 4 mm	40 m
XCT300540	30 x 5 mm	40 m
XCT310350	31 x 3 mm	50 m
XCT31.50440	31.5 x 4 mm	40 m
XCT310630	31 x 6 mm	30 m
XCT380350	38 x 3 mm	50 m
XCT380530	38 x 5 mm	30 m
XCT380625	38 x 6 mm	25 m
XCT400340	40 x 3 mm	40 m
XCT400430	40 x 4 mm	30 m
XCT400525	40 x 5 mm	25 m
XCT400625	40 x 6 mm	25 m
XCT406.325	40 x 6.3 mm	25 m
XCT500340	50 x 3 mm	40 m
XCT500430	50 x 4 mm	30 m
XCT500520	50 x 5 mm	20 m
XCT500620	50 x 6 mm	20 m
XCT506.320	50 x 6.3 mm	20 m
XCT500720	50 x 7 mm	20 m

# LIGHTNING CONDUCTORS

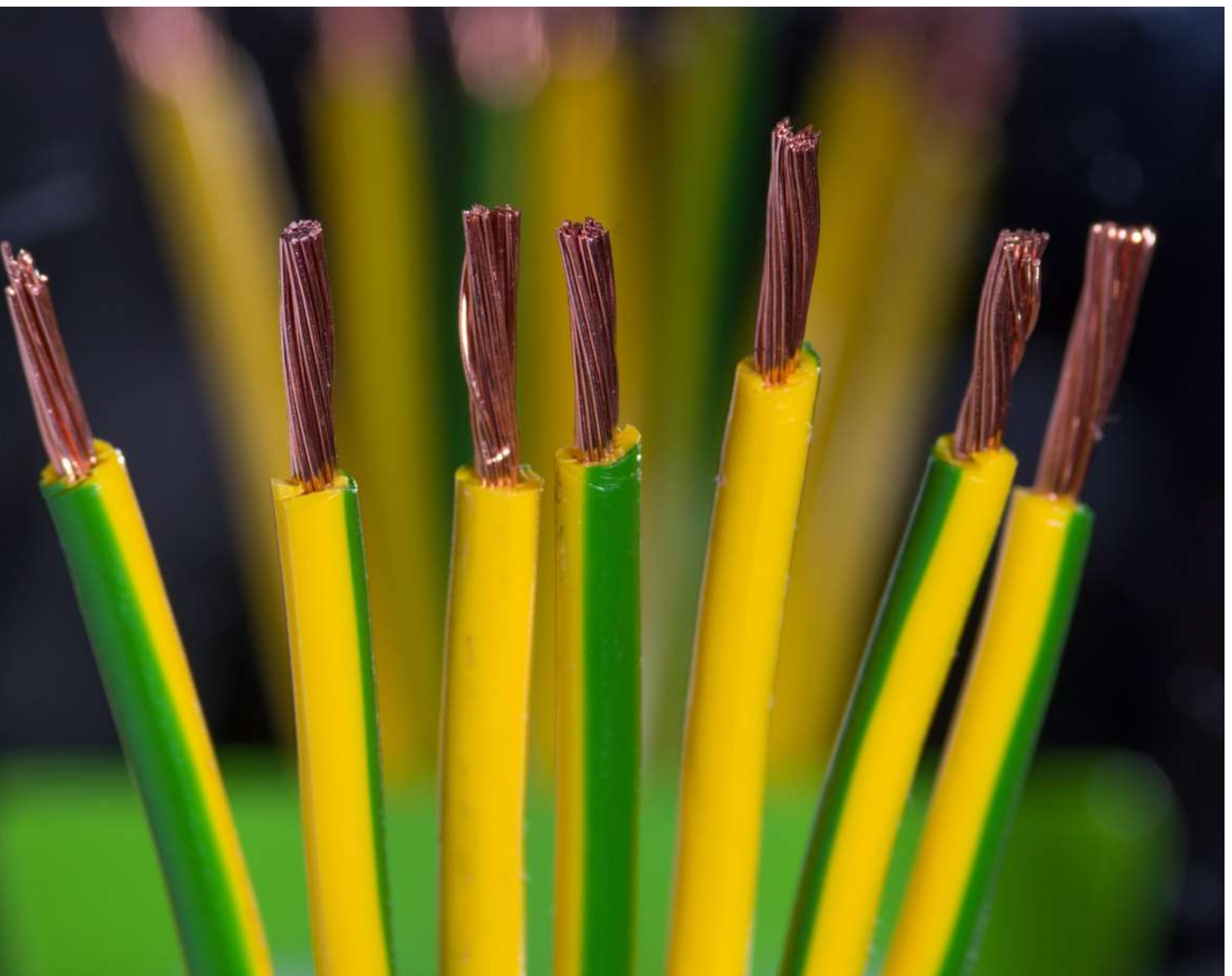
## Pvc Covered Copper Solid Circular:

Offered from the portfolio of Bahra Cables, wires and conductors specially made for earthing and lightning protection applications.



Part No.	Diameter (A)	Cross-sectional area	Weight per metre	Standard coil size	Colour range
XCSS08	Copper	8 mm	50.27 mm <sup>2</sup>	0.49 Kg	50 m

Available in all the color mentioned above codes.



# LIGHTNING

## AIR RODS

### Conventional Air Termination Systems:

#### Air Rods :

Air rods on the roof are selected and positioned based on the design and class of protection required, a group of air rods make the air termination network for the lightning protection system. Hard drawn externally threaded rods with knurling to fix multi points. (multi points are supplied as separate accessories).



Part No.	Rod length	Rod diameter	Thread size	Conductor material
AR01	500 mm	15 mm	M16	Copper
AR01A	600 mm	15 mm	M16	Copper
AR02	1000 mm	15 mm	M16	Copper
AR03	1500 mm	15 mm	M16	Copper
AR04	2000 mm	15 mm	M16	Copper

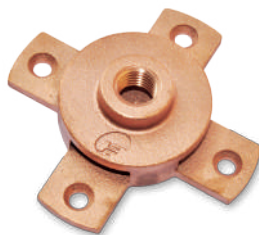
Complies with IEC 62561, UL 467

#### Accessories:

##### Air Rod Base:

Air rod bases are mechanical connectors between air rods and Copper/ Aluminium tapes on flat roof surfaces.

Part No.	Rod diameter	Thread size	Maximum conductor width
CAB01	15 mm	M16	25 mm
CAB02	15 mm	M16	50 mm



Complies with IEC 62561, UL 467

##### Multiple Points:

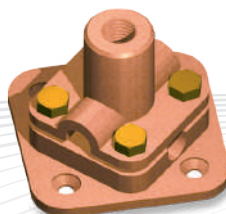
Multi points are packed as a kit of 3 rods and a multipoint base. Additional fasteners are not required ergonomically fixes on the knurling of air rods.

Part No.	Rod diameter	Conductor material
ARM01	15 mm	Copper

##### Flat Conductor Saddle:

Flat conductor saddles are used for connecting air rods with stranded conductors.

Part No.	Conductor size	Rod diameter	Thread size	Conductor material
CAF01	50 mm	15 mm	M16	Copper
CAF02	70 mm	15 mm	M16	Copper
CAF03	95 mm	15 mm	M16	Copper
CAT04	120 mm	15 mm	M16	Copper



Air Terminal

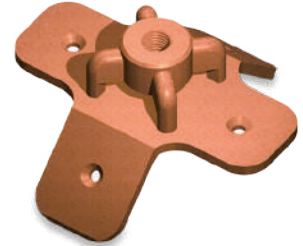
# LIGHTNING

## AIR RODS - ACCESSORIES

### Ridge Saddle:

Suitable to install on ridges or uneven surfaces where standard air rod bases are not feasible to fix.

Part No.	Rod diameter	Thread size	Maximum conductor width	Conductor material
CAR01	15 mm	M16	31x6 mm	Copper
CAR02	15 mm	M16	55x10 mm	Copper



### Rod to Conductor Coupling:

Air rods when mounted on vertical planes with CARB01

Down conductors such as tapes or stranded conductors can be connected with a rod to conductor couplings.

### For Connecting Stranded Conductor:

Part No.	Conductor size	Rod diameter	Thread size	Rod material
CAS01	50-70 mm <sup>2</sup>	15 mm	M16	Copper
CAS02	95-120 mm <sup>2</sup>	15 mm	M16	Copper



### For Connecting Copper Tapes:

Part No.	Conductor size	Rod diameter	Thread size	Rod material
CAT01	25 x 3 mm	15 mm	M16	Copper



### Rod Brackets:

Suitable for applications where air rods need to be mounted on vertical planes.

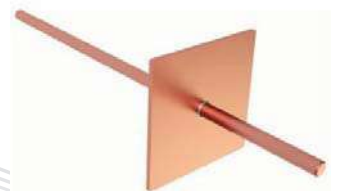
Part No.	Rod diameter	Rod material
CARB01	15 mm	Copper



### Puddle Flanges:

Puddle flanges are highly suitable in conditions to provide continuous connection where down conductor should pass through the waterproof roof layer.

Part No	Material Used
PF01	Copper
PF02	Aluminum





# LIGHTNING

## AIR RODS - ACCESSORIES

### Strike Pads:

An innovative solution to replace air terminal rods at situations such as complex roof structure, roof car park buildings, etc.

Part No	Description	Material Used
SP01	Copper Strike Pad	Copper
SP02	Aluminum Strike Pad	Aluminum
ST01	Stem for Strike Pad	Copper



### Free Standing Air Terminal Rods:

Free standing Air Terminal Rods are perfect solution to achieve greater height and where no penetration of the roof structure is allowed.

These air terminal rods are designed to withstand the wind speed up to 190 kmh.



FSAT01



FSAT03



FSAT07



FSAT05

Part No	Height	Base	Description
FSAT01	3	Square support frame	4 Nos Square Concrete Base
FSAT02	4	Square support frame	4 Nos Square Concrete Base
FSAT03	5	Tripod Support Frame	3 Nos Circular Concrete Base
FSAT04	6	Tripod Support Frame	3 Nos Circular Concrete Base
FSAT05	7	Tripod Support Frame	6 Nos Circular Concrete Base
FSAT06	8	Tripod Support Frame	6 Nos Circular Concrete Base
FSAT07	9	H Shaped Support Frame	10 Nos Circular Concrete Base
FSAT08	10	H Shaped Support Frame	10 Nos Circular Concrete Base

### Supporting Accessories:

Part No	Description
SUP01	Square Support Frame
SUP02	Tripod Support Frame
SUP03	H Shaped Support Frame

### Bases:

Part No	Description
CB01	Square Concrete Base
CB02	Circular Concrete Base

### DC Tape Clip:

DC tape clip mechanically fixes the tapes on to a wall, supplied with countersunk screws.

### For Bare Copper Tapes:

Part No.	Conductor Size
CDC01	20 x 3 mm
CDC02	25 x 3 mm
CDC03	25 x 6 mm
CDC04	30 x 5 mm
CDC05	38 x 5 mm
CDC06	40 x 4 mm
CDC07	40 x 6 mm
CDC08	50 x 4 mm
CDC09	50 x 6 mm



Note: Tinned item product codes ending with "T"

Complies with IEC 62561, UL 467

### For use with PVC Covered Copper:

The sizes mentioned as conductor size are only the bare conductor, The PVC extra thickness of 3 mm on the width and 3 mm on thickness is not added in the conductor size.

Part No.	Conductor Size
CDP02	25 x 3 mm
CDP03	25 x 6 mm
CDP09	50 x 6 mm



### For use with Lead Covered Copper:

Part No.	Conductor Size
CDL02	25 x 3 mm



### For use with Bare Aluminium:

Part No.	Conductor Size
CDA01	20 x 3 mm
CDA09	50 x 6 mm



# LIGHTNING

## AIR RODS - ACCESSORIES

**For use with PVC Covered Aluminum:**

Part No.	Conductor Size
CDM01	25 x 3 mm
CDM02	50 x 6 mm



### **Tape Clip:**

Made from 99.99% pure copper, used for fixing tapes on flat surfaces or the walls. Additional screws are required for fixing.

Part No.	Conductor Size
CTC01	20 x 3 mm
CTC02	25 x 3 mm
CTC09	50 x 6 mm



**Note:** Tinned item product codes ending with "T"

### **One Hole Clip:**

Made from 99.99% pure copper, used for fixing conductors on flat surfaces or the walls. An additional screw is required for fixing.

Part No.	Conductor	Conductor material
CHC01	8 mm dia	Copper
CHC02	10 mm dia	Copper
CHC03	50 mm <sup>2</sup>	Copper
CHC04	70 mm <sup>2</sup>	Copper
CHC05	95 mm <sup>2</sup>	Copper
CHC06	120 mm <sup>2</sup>	Copper
CHC07	150 mm <sup>2</sup>	Copper



**Note:** Tinned item product codes ending with "T"  
For PVC Cables product code ending with "P"

### **Cable Saddle:**

Part No.	Conductor	Conductor material
CCS01	8 mm dia	Copper
CCS02	10 mm dia	Copper
CCS03	50 mm <sup>2</sup>	Copper
CCS04	70 mm <sup>2</sup>	Copper
CCS05	95 mm <sup>2</sup>	Copper
CCS06	120 mm <sup>2</sup>	Copper
CCS07	150 mm <sup>2</sup>	Copper



**Note:** Tinned item product codes ending with "T"  
For PVC Cables product code ending with "P"

# LIGHTNING

## AIR RODS - ACCESSORIES

### Non-metallic DC Tape Clip:

Made from heavy duty PVC compound. A screw is needed for fixing the base, no additional screws required for closing the clip.

#### For Bare Copper Tape:

Part No.	Conductor Size
CXDC02	25 x 3 mm
CXDC03	25 x 6 mm
CXDC09	50 x 6 mm

#### For PVC Covered Copper Tape:

Part No.	Conductor Size
CXDP02	25 x 3 mm
CXDP03	25 x 6 mm
CXDP09	50 x 6 mm



Available in different color variants,  
Order with part numbers replaced with the second digit "X" by color code.  
Color codes:

G- Green, N-Black, W-White, R-Red, B-Blue, E-Grey, O-Brown

### Adhesive Non-Metallic DC Tape Clips:

It serves a perfect solution to hold the copper tapes in surfaces which cannot be penetrated by a screw. Manufactured from high grade plastic which can withstand hot and cold weather.

#### For Bare Copper Tape:

Part No	Tape Size
CXNM01	25x3 mm
CXNM11	25x6 mm
CXNM21	50x6 mm

#### For PVC Covered Copper Tape:

Part No	Tape Size
CXNP01	25x3 mm
CXNP11	25x6 mm
CXNP21	50x6 mm



Available in different color variants,  
Order with part numbers replaced with the second digit "X" by color code.  
Color codes:

G- Green, N-Black, W-White, R-Red, B-Blue, E-Grey, O-Brown

### Weldable DC Tape Clips:

These items are designed to use on PVC roofing membrane.

#### For Bare Copper Tape:

Part No	Tape Size
CXW01	25x3 mm
CXW02	25x6 mm
CXW03	50x6 mm

#### For PVC Covered Copper Tape:

Part No	Tape Size
CXWP01	25x3 mm
CXWP02	25x6 mm
CXWP03	50x6 mm



Available in different color variants,  
Order with part numbers replaced with the second digit "X" by color code.  
Color codes:

G- Green, N-Black, W-White, R-Red, B-Blue, E-Grey, O-Brown



# LIGHTNING

## AIR RODS - ACCESSORIES

### Oblong Test Clamp:

Used as test clamp by overlapping copper tapes while using copper tape as down conductors.

Part No	Tape Size
OTC-01	25 x 3 mm
OTC-02	30 x 6 mm
OTC-03	40 x 4 mm
OTC-04	50 x 6 mm



### Bi Metallic Connectors:

Bi metallic Connectors are used to join either aluminum & copper tapes or aluminum & copper conductors without affecting the conductivity.

Part No	Tape Size / conductor Size
BMT01	25 x 3 mm
BMC01	8 mm



### Square Tape Clamp:

Clamps are supplied with countersunk screws, Additional screws are required for fixing the bases for all square clamps.

Part No.	Conductor	Conductor material
CSTT02	25 x 3 mm	Copper
CSTT03	25 x 6 mm	Copper
CSTT09	50 x 6 mm	Copper

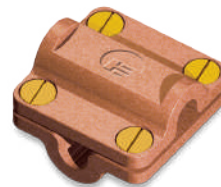


Complies with IEC 62561, UL 467

### Tape to Conductor Square Clamp:

These clamps are suitable for making connection between copper tapes and copper conductors.

Part No.	Conductor size	Conductor material
CSTC01	25 x 3 mm to 50 mm <sup>2</sup>	Copper
CSTC02	25 x 3 mm to 70 mm <sup>2</sup>	Copper
CSTC03	25 x 3 mm to 95 mm <sup>2</sup>	Copper
CSTC04	25 x 3 mm to 120 mm <sup>2</sup>	Copper
CSTC05	25 x 3 mm to 150 mm <sup>2</sup>	Copper



### Cable to Cable Square Clamp:

Part No.	Conductor size	Conductor material
CSCC01	50 mm <sup>2</sup>	Copper
CSCC02	70 mm <sup>2</sup>	Copper
CSCC03	95 mm <sup>2</sup>	Copper
CSCC04	120 mm <sup>2</sup>	Copper
CSCC05	150 mm <sup>2</sup>	Copper



Note: Tinned item product codes ending with "T"

# LIGHTNING

## AIR RODS - ACCESSORIES

### Inter Face Test Clamp:

These clamps provide the connection between copper tapes and copper conductors in the lightning protection system.

Part No	Tape Size	Conductor Size
CITC01	25x3 mm	8 sq mm
CITC02	25x3 mm	10 sq mm
CITC03	25x3 mm	16 sq mm



### Conductor Test Clamp:

These clamps serve as a test clamp for the copper cable down conductors in the lightning protection system.

Part No	Conductor Size
CCTC01	50 sq mm
CCTC02	70 sq mm
CCTC03	95 sq mm



### Universal Cable Clamp:

These clamps serve as a cable connector and test clamp as per below range in Lightning Protection System

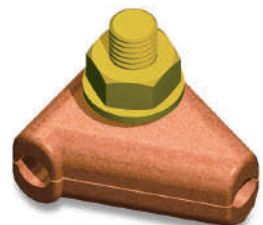
Part No	Conductor Size
UC050	50 sq mm
UC070	70 sq mm
UC095	95 sq mm
UC120	120 sq mm
UC150	150 sq mm



### Cable to Cable T Clamp:

These clamps will provide T shape connection between below range of cables

Part No.	Conductor size	Conductor material
CICC01	50 mm <sup>2</sup>	Copper
CICC02	70 mm <sup>2</sup>	Copper
CICC03	95 mm <sup>2</sup>	Copper
CICC04	120 mm <sup>2</sup>	Copper
CICC05	150 mm <sup>2</sup>	Copper



### Denso Tape:

A tape used for wrapping to obtain waterproof property in joints.

Part No	Tape Size
TD005	50mm x 10 m

