



AMIABLE



Earthing Products, Clamps &
Compression Connectors



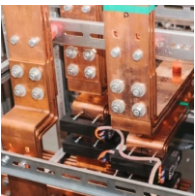
Lightning
Protection



Copper Clad Conductors &
Copper Conductors



Exothermic
Welding



Fasteners &
Fixings

Product
Catalog



INTRODUCTION PAGE

AMIABLE are a Manufacturer of Earthing & Lightning Products, Exothermic Welding and Thermit Welding. Our Firm **AMIABLE** is more than a decade old company and is well established organization in India and Middle East markets.

We have earned good reputation amongst our international customers with our Quality Assurance, On time delivery and High Customer Satisfaction. To ensure consistent product quality, we work within a quality system that is approved with ISO 9001 - 2014 certification. Our Products meets the International Standard of IEC 62561 and BS EN Standard.

Strict quality checks are carried out at different stages of manufacturing and only that material which passes stringent norms finds its way in the market around the Globe.

AMIABLE was founded with the goal of being at the forefront in the Electrical Metal Industry & Thermit Welding in both India and overseas market. Since our foundation, the company has grown through continuous development. The company now supplies the world not only for its electrical and mechanical performance but its reliability for end user applications. As a company, **AMIABLE** always strives to set its own agenda, rather than pursuing the business as a follower of existing market leader.

We will always endeavour to be a "more dynamic and competitive company" in order to respond appropriately to increasingly sophisticated and diverse customer requirements, and to provide superior value-added products through our innovation. We have very actively engaged in R&D activities to further improve of our product reliability and performance.

OUR VISION

The four pillars of our vision set out the long term direction for the company where we want to go and how we are going to get there:

- We work to create a better future every day.
- We help our customers feel good, have good and get more out of life with our brands and services that are good for them and good for others.
- Whilst the company has ambitious plans for the future for its product range and its manufacturing abilities, our greatest objective will always be to maintain the highest level of quality assurance & service to the customer.
- We will develop new ways of doing business with the aim of doubling the size of our company while reducing our environmental impact.

Purpose & principles

The secret of our success is sincerity and the passion towards everyone we work with, the communities we touch, and the environment on which we have an impact. We understand our Customers Values"

Always working with integrity

Conducting our operations with integrity and with respect for the many people, organizations and environments our business touches has always been at the heart of our customer's responsibility and Satisfaction towards our quality assurance.

Positive impact

We aim to make a positive impact in many ways: through our brands, our commercial operations and relationships, through voluntary contributions, and through the various other ways in which we engage with our international and local customers.

Continuous commitment

We're also committed to continuously improving the way we manage our environmental impacts and are working towards our longer-term goal of developing a sustainable business and higher customer satisfaction through our unmatched service.

Setting out our aspirations

Our purpose sets out our aspirations in running our business. It's underpinned by our code of business Principles which describes the operational standards that everyone at AMAIBLE follows, wherever they are in the world.

Future possibilities

We are proud of our reputation and Brand image through our continuous innovation and renovation.

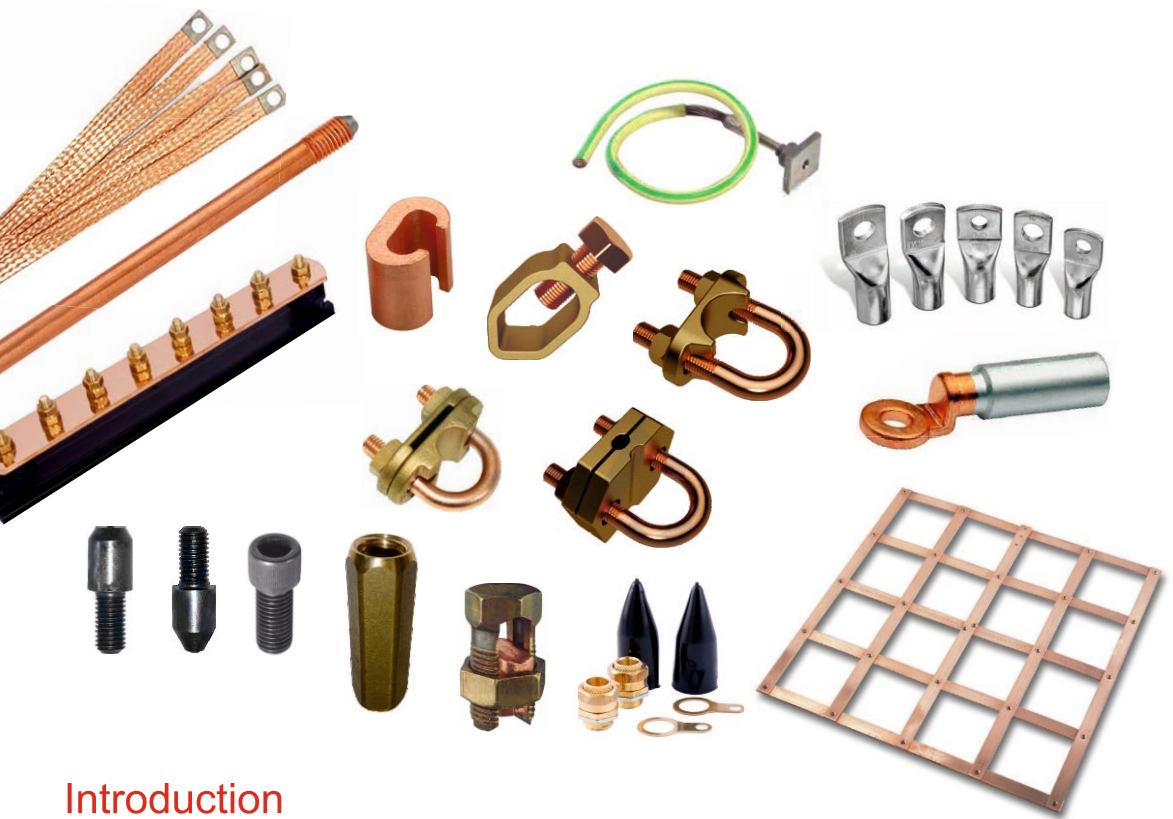
We always believe in the power of our brands to improve the quality of people's lives and in doing the right thing.



Index

Introduction	1 - 2
Earthing	4 - 52
Lightning Protection	53 - 75
Conductors & Copper Clad Conductors	76 - 106
Fasteners & Fixings	107 - 115
Exothermic Welding.....	116 - 159
Disclaimer.....	160

Earthing



Introduction

The combination of **AMIALE** earth electrodes, clamps, conductors and Equipotential bonding bars which provide lightning and transient over voltage energy with an effective, low resistance route from lightning protection system to earth.

Including: 1. Earth rods & conductor systems, 2. Mechanical earth clamps & bonds
3. Amiable exothermic welding, 4. Earth bars & Equipotential bonding

Benefit of earthing system in electrical system

1. It protects user from shock if metal body of equipment comes in contact with live wire,
2. It protects property from damage/fire which may occur due to unearthed or inadequate earthing.
3. It helps in detecting ground fault when occurs in the system,
4. To keep system voltage constant with the help of neutral grounding,
5. To protect High Rise Buildings from Lightning,
6. To protect electrical system from Lightning etc.

Earthing is to connect metallic parts of an electrical device/equipment/apparatus with the ground (which is a buried metal piece) through a conducting material like Copper, Aluminum, GI etc is called Earthing or Grounding.



Earthing

Earth Rods & Accessories 6 - 10

Earthing Products 11 - 37

Compression Connections 38 - 50

Industrial Cable Glands ... 51 - 52



Copper bonded Earth Rods

Each Copper bonded Earth Rod has high tensile strength, low carbon steel core. 99.95% Copper is applied electrolytically and forms a metallurgical bond up to 254 micron.

The threads are formed by a cold rolling process which ensures strength and maintains the molecularly bonded copper covering along the full length of the threads, cold rolled threads are stronger than cut threads.

Driving Studs are used as impact bearing head when deep driving of earth electrode is required.

Threaded

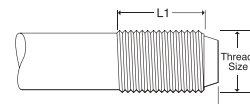
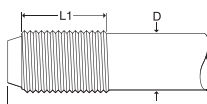
Material: Copper molecularly bonded onto a steel core

Nominal Size	L mm	Thread Size (UNC-2A)	Shank D mm	L1 mm	Unit Weight kg	Part Number
1/2 "	1200	9/16 "	12.7	30	1.18	CER 412
	1500				1.55	CER 415
	1800				1.76	CER 418
	2400				2.36	CER 424
5/8 "	1000	5/8 "	14.2	30	1.28	CER 110
	1200				1.53	CER 112
	1200			40	1.53	CER 112S
	1500			30	1.95	CER 115
	1800				2.23	CER 118
	2400				3.00	CER 124
	2400			40	3.00	CER 124S
	3000			30	3.70	CER 130
3/4 "	1000	3/4 "	17.2	35	1.65	CER 200
	1200				2.20	CER 212
	1500				2.76	CER 215
	1800				3.26	CER 218
	2400				4.45	CER 224
	3000				5.48	CER 230
1 "	2400	1 "	23.0	50	2.43	CER 324
	3000				3.04	CER 330

Unthreaded

Material: Copper molecularly bonded onto a steel core.

Nominal Size	L mm	Shank D mm	Unit Weight kg	Part Number
3/8 "	1200	9.5	0.62	CER 012
1 "	3000	25.4	22.50	CER 930





Threaded Couplings

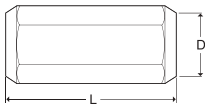
Threaded Couplings made from copper alloy used to connect copper bond and threaded earth rods together – the copper alloy couplings ensure constant contact between the earth rods both during and after installation of the Earthing & Lighting Protection system. The copper alloy coupling also protects the copper earth rod threads during installation with the driving head.

Material: Copper Alloy

Type	L mm	D mm	Unit Weight kg	Part Number
1/2 "	68	18	0.07	TC 12
5/8 "	68	20	0.12	TC 16
3/4 "	78	25	0.14	TC 20
1 "	100	31	0.25	TC 25

Material: Silicon Bronze.

Type	L mm	D mm	Unit Weight kg	Part Number
5/8 "	80	21	0.08	TC 16S



Threaded Driving Heads

While driving the rods into the ground, Driving Heads protect both the internal thread and the top of the Solid Copper or Stainless Steel Earth Rod. threaded driving heads are suitable for driving copper bonded threaded earth rods by hand or with a power hammer

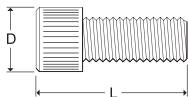
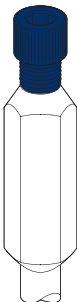
Material: Steel.

Type	L mm	D mm	Unit Weight kg	Part Number
1/2 "	50	20	0.08	TDH 12
5/8 "	55	22	0.08	TDH 16
3/4 "	60	25	0.13	TDH 20
3/4 "	120	22	0.30	TDH 21*
3/4 "	60	30	0.15	TDH 25

*The TDH 21 is a driving head with a 3/4" thread and a 5/8" head.

Material: Copper Coated Steel.

Type	L mm	D mm	Unit Weight kg	Part Number
5/8 "	47	27	0.08	TDH 16S



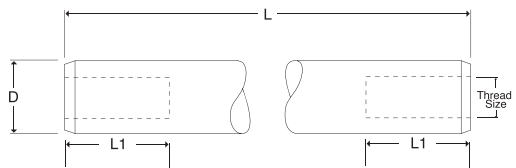


Solid Copper Earth Rods

Solid copper earth rods are made from the solid copper bar and have an internally threaded jointing thread. While deep driving a solid copper earth rod, the rod is typically inserted into a borehole and backfilled either by Auragem Chemical Earthing Compound or Bentonite.

Material: Copper to BS EN 13601.

Shank D mm	L mm	Thread Size	L1 mm	Unit Weight kg	Part Number
15	1200	M10	20	1.88	SCER 112
16	1500	M10	20	2.66	SCER 115
	1800			3.20	SCER 118
	2400			4.28	SCER 124
	3000			5.36	SCER 130
20	1200	M10	20	3.34	SCER 212
	1500			4.18	SCER 215
	1800			5.03	SCER 218
	2400			6.71	SCER 224
	2500			7.00	SCER 225
	3000			8.40	SCER 230
25	1000	M12	25	4.37	SCER 310
	1200			5.25	SCER 312
	1500			6.54	SCER 315
	1800			7.86	SCER 318
	2000			8.73	SCER 320
	2400			10.50	SCER 324
	2500			10.90	SCER 325
	3000			13.10	SCER 330
	3600			15.90	SCER 336

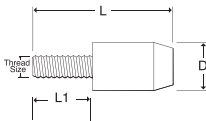
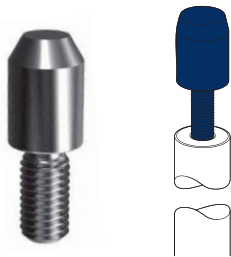


Driving Heads

The driving head screws into the threaded coupling to allow deep driving of the earth rods. While driving the rods into the ground, Driving Heads protect both the internal thread and the top of the Solid Copper or Stainless Steel Earth Rod.

Material: Steel.

D mm	L mm	Thread Size	L1 mm	Unit Weight kg	Part Number
16	38	M10	20	0.03	DH 16
20	41	M10	20	0.06	DH 20
25	45	M12	25	0.10	DH 25

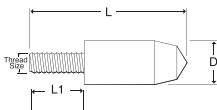
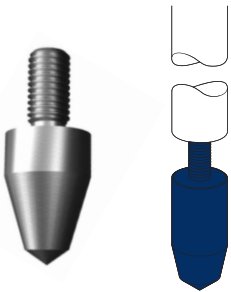


Driving Spikes

Driving Spikes for use with our copperbond Earth Rods. They enable rods to be driven into hard/compacted ground with ease and are internally threaded for screwing directly onto the Earth Rod.

Material: Steel.

D mm	L mm	Thread Size	L1 mm	Unit Weight kg	Part Number
16	42	M10	20	0.03	DS 16
20	51	M10	20	0.06	DS 20
25	60	M12	25	0.10	DS 25

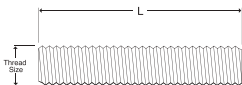
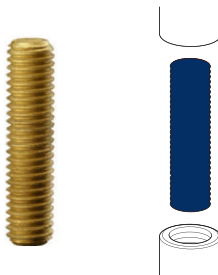


Coupling Dowels

These Dowels are used to join copper rods to get variable length. With a focus on the ever-evolving demands of our customers.

Material: Phosphor Bronze.

Thread Size	L mm	Unit Weight kg	Part Number
M10	40	0.02	CD 01
M12	50	0.04	CD 02



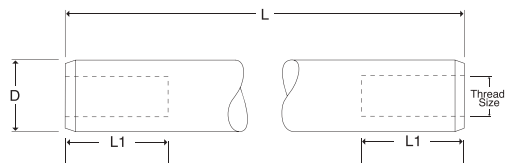
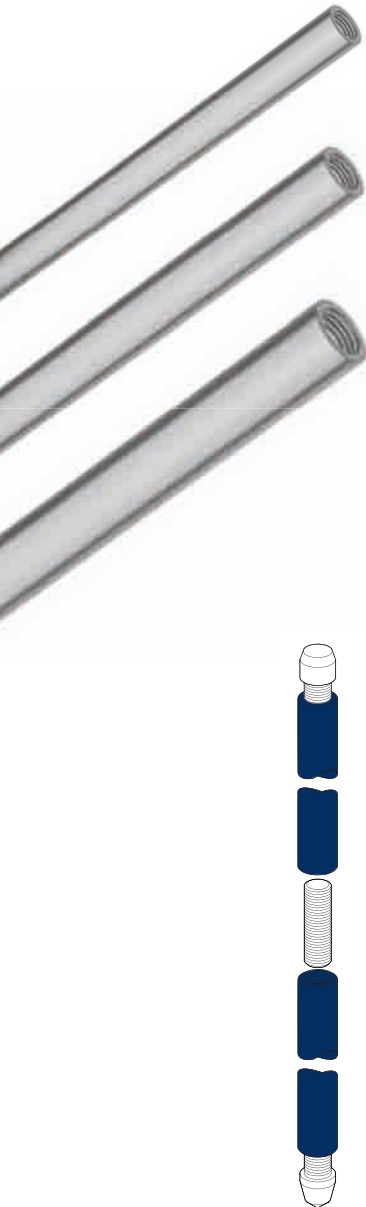


Tinned Solid Copper Earth Rods

Tinned Solid Copper Earth Rods – used where extremely high corrosion resistance and exceptionally long life are required. Made from solid copper bar and are internally threaded for jointing of rods. While deep driving a solid copper earth rod, the rod is typically inserted into a borehole and backfilled either by Auragem Chemical Earthing Compound or Bentonite.

Material: Copper to BS EN 13601.

Shank D mm	L mm	Thread Size	L1 mm	Unit Weight kg	Part Number
15	1200	M10	20	1.88	SCER 112T
16	1500	M10	20	2.66	SCER 115T
	1800			3.20	SCER 118T
	2400			4.28	SCER 124T
	3000			5.36	SCER 130T
20	1200	M10	20	3.34	SCER 212T
	1500			4.18	SCER 215T
	1800			5.03	SCER 218T
	2400			6.71	SCER 224T
	2500			7.00	SCER 225T
	3000			8.40	SCER 230T
25	1000	M12	25	4.37	SCER 310T
	1200			5.23	SCER 312T
	1500			6.54	SCER 315T
	1800			7.86	SCER 318T
	2000			8.73	SCER 320T
	2400			10.50	SCER 324T
	2500			10.90	SCER 325T
	3000			13.10	SCER 330T
	3600			15.90	SCER 336T



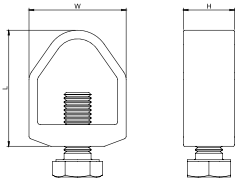
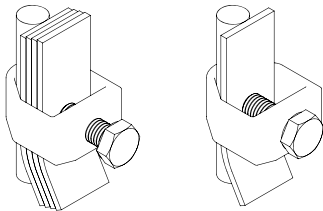
Earth Rod to Tape 'A' Clamps

These clamps are Suitable for joining flat earthing tapes to copper bonded or solid copper earth rods. Rod to tape clamps are designed to join various sizes of conductor tape to the earth electrode, the clamps have a high resistance to corrosion and are mechanically strong to ensure a lasting connection.

Material: Copper Alloy with Stainless Steel Screw Set /
Copper Plated mild Steel Screw Set.



Earth Rod Shank Ø mm	Maximum Tape Size mm	L mm	W mm	H mm	Unit Weight kg	Part Number
12.7	26 x 15	43	36	19	0.12	ERTAC 1625
	32 x 15	42	44	18	0.13	ERTAC 1631
	39 x 15	46	52	23	0.20	ERTAC 1638
14.2	26 x 14	43	36	19	0.12	ERTAC 1625
	32 x 14	42	44	18	0.13	ERTAC 1631
	39 x 14	46	52	23	0.20	ERTAC 1638
	51 x 16	48	63	20	0.20	ERTAC 1650
15.0	26 x 13	43	36	19	0.12	ERTAC 1625
	32 x 13	42	44	18	0.13	ERTAC 1631
	39 x 13	46	52	23	0.20	ERTAC 1638
	51 x 15	48	63	20	0.20	ERTAC 1650
16.0	26 x 12	43	36	19	0.12	ERTAC 1625
	32 x 12	42	44	18	0.13	ERTAC 1631
	39 x 12	46	52	23	0.20	ERTAC 1638
	51 x 14	48	63	20	0.20	ERTAC 1650
17.2	26 x 11	43	36	19	0.12	ERTAC 1625
	32 x 11	42	44	18	0.13	ERTAC 1631
	39 x 11	46	52	23	0.20	ERTAC 1638
	51 x 13	48	63	20	0.20	ERTAC 1650
	26 x 18	54	38	22	0.17	ERTAC 2525
20.0	26 x 8	43	36	19	0.12	ERTAC 1625
	32 x 8	42	44	18	0.13	ERTAC 1631
	39 x 8	46	52	23	0.20	ERTAC 1638
	51 x 10	48	63	20	0.20	ERTAC 1650
	26 x 16	54	38	22	0.17	ERTAC 2525
25.0	26 x 11	54	38	22	0.17	ERTAC 2525



*The ERTAC 1625 comes with a Stainless Steel Screw Set.

The Aluminium version is mainly used for connecting Aluminium tape to a puddle Flange rod as part of a lightning protection system.

Material: Aluminium with M10 x 25mm Stainless Steel Screw Set /
Copper Plated mild Steel Screw Set.

Earth Rod Shank Ø mm	Maximum Tape Size mm	L mm	W mm	H mm	Unit Weight kg	Part Number
16.0	26 x 12	45	37	19	0.06	ERTAC 1625A



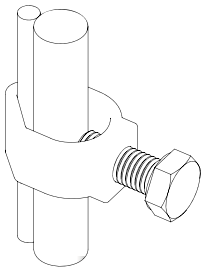
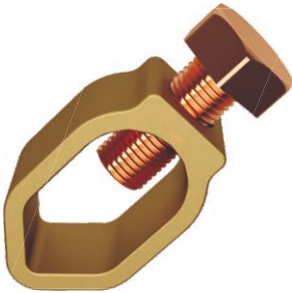


Earth Rod to Cable 'G' Clamps

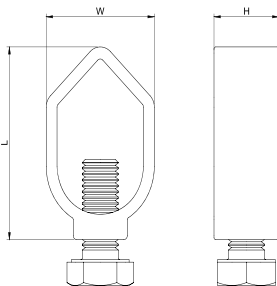
These earth clamps are referred to as 'G' clamps and are used for joining earth rods to different sizes of stranded copper conductor. The clamps have a high resistance to corrosion and are mechanically strong to ensure a lasting connection.

Material: Copper Alloy with M10 x 25mm Phosphor Bronze Screw Set / Stainless Steel / Copper Plated Mild Steel Screw Set .

* Suitable for use with 8mm Ø solid circular copper conductor.



Earth Rod Shank Ø mm	Conductor Range mm	L mm	W mm	H mm	Unit Weight kg	Part Number
9.5	6 - 35	30	20	15	0.05	ERCGC 1035
12.7	6 - 35	36	28	18	0.07	ERCGC 1635
	35 - 70	41	26	20	0.08	ERCGC 1670*
14.2	6 - 16	36	28	18	0.07	ERCGC 1635
	16 - 70	41	26	20	0.08	ERCGC 1670*
	35 - 150	48	30	18	0.09	ERCGC 2095*
15.0	6 - 16	36	28	18	0.07	ERCGC 1635
	16 - 70	41	26	20	0.08	ERCGC 1670*
	25 - 150	48	30	18	0.09	ERCGC 2095*
16.0	6 - 70	41	26	20	0.08	ERCGC 1670*
	16 - 150	48	30	18	0.09	ERCGC 2095*
17.2	6 - 95	48	30	18	0.09	ERCGC 2095*
20.0	16 - 95	48	30	18	0.09	ERCGC 2095*





‘U’ Bolt Clamps

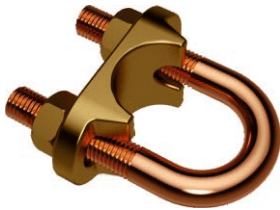
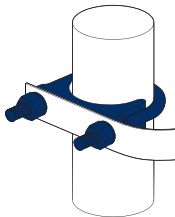
'U' bolt clamps can be use to connect flat tapes and stranded cables to earth rods, reinforcing bars (Rebar), hand rails etc. These 'U' bolts are used to connect flat tapes in a vertical position on the rod.

Single Plate Type for Horizontal Flat Tapes

Used to connect flat tapes in a horizontal position on the rod.

Maximum Rod Ø mm	Hole Centres mm	L mm	W mm	H mm	Unit Weight kg	Part Number
16	30	58	62	33	0.17	UBC 016
25	37	72	62	33	0.19	UBC 025
31	41	82	68	33	0.25	UBC 031
38	46	90	75	33	0.29	UBC 038
50	63	95	90	33	0.39	UBC 050

Material: Copper Alloy Plate with M10 threaded Copper ‘U’ Bolt With Copper Plated mild Steel.

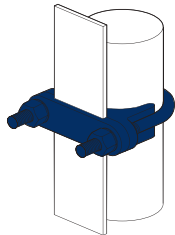


Double Plate Type for Vertical Flat Tapes

Used to connect lat tapes in a vertical position on the rod.

Maximum Rod Ø mm	Tape Width mm	L mm	W mm	H mm	Unit Weight kg	Part Number
16	25	58	62	33	0.23	UBC 216
25		73	60	33	0.23	UBC 225
31		85	68	33	0.32	UBC 231
38		80	75	33	0.34	UBC 238
50		103	90	33	0.53	UBC 250

Material: Copper Alloy Plate with M10 threaded Copper ‘U’ Bolt With Copper Plated mild Steel.



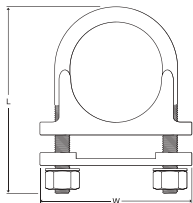
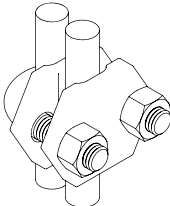
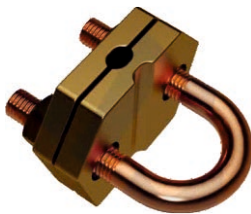
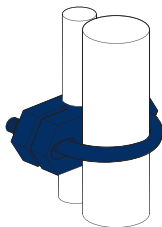
Double Plate Type for Vertical Stranded Cables

Used to connect stranded cables in a vertical and horizontal position on the rod.

Maximum Rod Ø mm	Conductor Range mm ²	L mm	W mm	H mm	Unit Weight kg	Part Number
16	16 - 150	57	52	40	0.21	UBC 470
	150 - 300	69	70		0.30	UBC 570
20	16 - 70	57	52	40	0.21	UBC 470
	70 - 300	69	70		0.30	UBC 570
25	16 - 70	75	87	55	0.52	UBC 670
	185 - 300	89	70		0.46	UBC 770

Material: Copper Alloy Plate with M10 threaded Copper ‘U’ Bolt With Copper Plated mild Steel.

The UBC470 has an M8 threaded Copper ‘U’ bolt.





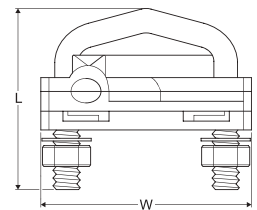
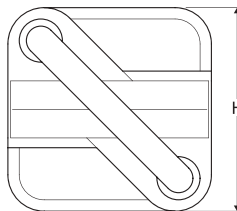
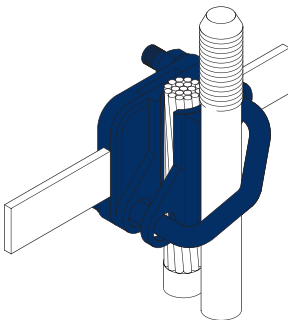
Multi-Purpose Rod to Cable & Tape Clamp

These products are made from copper alloy. These clamps are exclusively used for joining earth rods to copper cables. Our numerous customers praise like this range for having features like excellent resistance to corrosion, sturdy construction and longer service life. Our quality controllers use superior quality raw material and cutting edge technology to fabricate this range of products.

With the inclusion of slots in the backplate on both plates, customers have the ability to install the copper tape either horizontally or vertically without the need to punch the tape to accept the fixing bolts.

Material: Copper Alloy plates with M10 threaded Copper 'U' Bolt
With Copper Plated mild Steel.

Maximum Rod Ø mm	Conductor Range mm²	Conductor Size mm	L mm	W mm	H mm	Unit Weight kg	Part Number
5/8"	6 - 185	25 x 4	72	83	66	0.55	RCTC 254

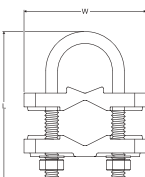


Rebar Clamps

This multifunctional range of **Amiable** rebar clamps are used to connect rebar to rebar or rebar to stranded cable. They provide a strong mechanical connection along with excellent resistance to corrosion.

Material: Copper Alloy plates with Copper 'U' Bolt
With Copper Plated mild Steel.

Maximum Rebar Ø mm	Rebar Range Ø mm	L mm	W mm	Part Number
10	6 - 10	59	60	RBC 010
20	12 - 20	83	62	RBC 020
25	20 - 25	100	67	RBC 025
32	25 - 32	101	80	RBC 032
40	32 - 40	118	95	RBC 040



Pipe Clamps

This heavy duty pipe clamps are ideal for bonding and connecting cable conductor to larger diameter pipe works they are suitable for use with copper steel or stainless steel pipes

Material: Copper Alloy Tinned.

Pipe Diameter	Conductor Range mm²	Unit Weight kg	Part Number
1/2" - 1" (13 - 25mm)	25 - 95	0.03	PC 025
1 1/4" - 2" (32 - 50mm)	25 - 95	0.04	PC 050
2 1/2" - 3 1/2" (65 - 90mm)	25 - 95	0.08	PC 090
4" - 5" (100 - 125mm)	25 - 95	0.06	PC 125
6" (150mm)	25 - 95	0.08	PC 150
8" (200mm)	25 - 95	0.10	PC 200
10" (250mm)	25 - 95	0.11	PC 250
12" (300mm)	25 - 95	0.15	PC 300



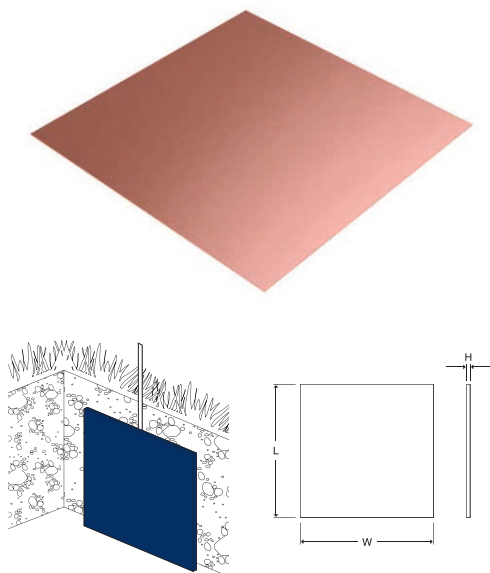


Solid Copper Earth Plates

Solid Copper Earth Plates Suitable for corrosive soil conditions like soil with salt and moisture. Solid Earth Plate is ideally suited for soil conditions which are very corrosive due to high salt and moisture content. Copper earth plates are used as grounding electrodes in places where deep driving of grounding rod is not possible. they are often installed in conjunction with Auragem earthing compound or bentonite.

Material: Copper to BS EN 1652:1998.

L x W mm	H mm	Surface Area m ²	Unit Weight kg	Part Number
600 x 600	1.5	0.73	4.80	SCEP 601
	3.0		9.60	SCEP 603
900 x 900	1.5	1.63	10.80	SCEP 901
	3.0		21.60	SCEP 903
1000 x 500	5.0	1.02		SCEP 10005005



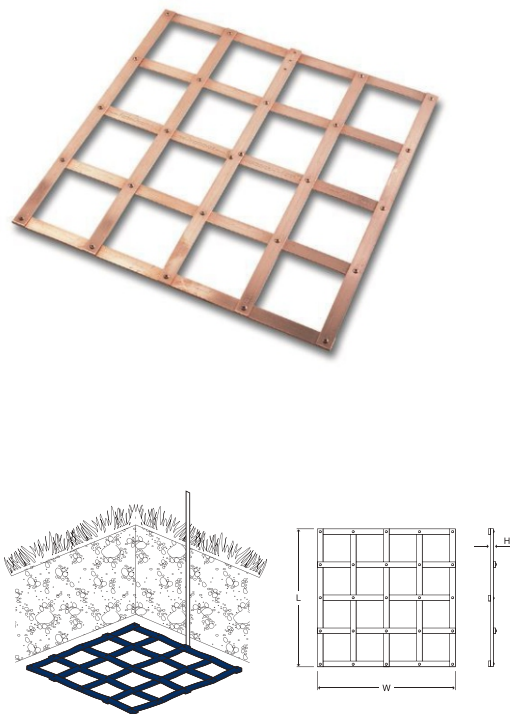
Solid Copper Lattice Mats

Solid copper lattice mats gives long-life grounding protection specially design for telecommunication towers, lightning protection systems and renewable power grounding applications. These solid mats can easily installation.

We offers solid copper lattice mats a more long lasting permanently grounding solutions. Solid copper lattice mats used in areas where driving earth rods might be impractical, unable to attain an effective earth in shallow soil with underlying rocks or where poor soil conditions are found.

Material: Copper to BS EN 13601 (formerly BS 1432).

L x W mm	H mm	Surface Area m ²	Grid	Unit Weight kg	Part Number
600 x 600	3.0	0.31	5 Bar	4.00	SCLM 603
		0.65	6 Bar	7.20	SCLM 903
900 x 900	3.0	0.46	6 Bar	6.10	SCLM 903 SPC





Auragem

Amiable’s ground enhancing material AURAGEM is an effective and economical solution to reduce the resistivity of soil for improving grounding effectiveness. It permanently reduces earth resistivity and chemically inert to subsoil. AURAGEM provides a stable environment in terms of physical and chemical properties. AURAGEM is noncorrosive to earth electrode being used.

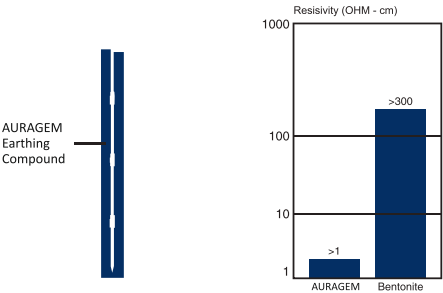
Features :

- AURAGEM have a resistivity of not more than 2 ohm-cm.
- It is permanent and maintenance-free (no recharging with salts or chemicals which may be corrosive) and maintain its earth resistance with time.
- It must set up firmly and not dissolve or decompose.
- Not depend on the continuous presence of water to maintain its conductivity.
- Must conform to IEC 62561-7 Standard.

AURAGEM is a low-resistance, non-corrosive, carbon concrete that improves grounding effectiveness, especially in areas of poor conductivity. The resistivity of AURAGEM is less than 2 ohm-cm; which is less than 1% the resistivity for bentonite clay. AURAGEM is maintenance free and simple to install material.

Shipping :

- AURAGEM is shipped in fifty (50) lb (22.7 kg) coated, moisture proof bags. Pallets are available with fifty
- bags per pallet. Proven export packaging is available. Bulk bags are also available.



AURAGEM is the permanent effective and simple solution.

Type	Unit Weight kg	Part Number
AURAGEM Earthing Compound Only	25	LR 25
AURAGEM Earthing Compound Pre Mixed with Cement	25	LR 26

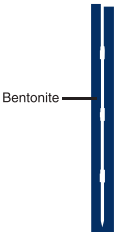
Bentonite

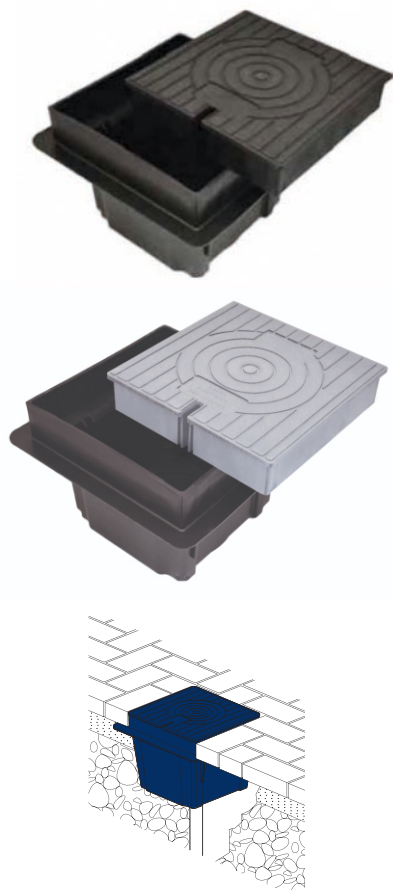
Bentonite expands when wet, absorbing as much as several times its dry mass in water. Because of its excellent colloidal properties, this clay is sodium activated montmorillonite, which when mixed with water swells to many times its original dry volume.

Bentonite can be supplied in granular or powder form. The granular form is easier to handle as the powder can cause dust in windy conditions. granular is the preferred option for filling trenches as the substance can be mixed in the trench.



Type	Unit Weight kg	Part Number
Bentonite Granular Form	25	B 25
Bentonite Powder Form		B 25P





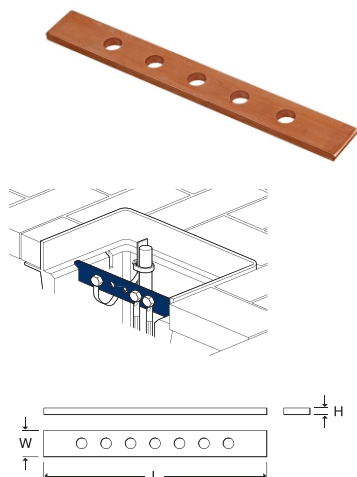
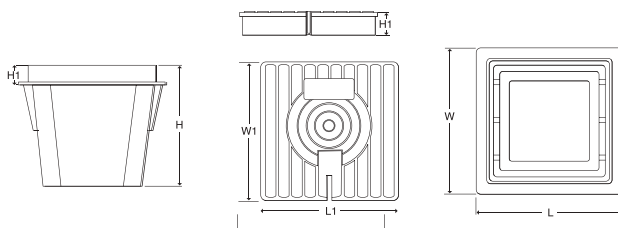
Heavy Duty Earth Inspection Housings

We are one of the largest manufacturer , supplier, distributor of Earth Pit covers and possesses large number of satisfied customers as best quality raw material is used for making these products. Pit cover manufactured by us have excellent durability , and optimal strength to withstand substantial load of any kind.

Earth housing pit is fabricated from overwhelming high-review polypropylene for high quality and anxiety levels to assimilate a most extreme heap of 5000 kg. The light weight highlight permits simple taking care of, capacity and transportation, along these lines expanding establishment proficiency. End zone is expanded by 100% because of basic locking of two units together, permitting further earth anode associations with be made and diminishing the impacts from hurtful voltage angles..

Material: Polypropylene base with GRP lid.

Lid Colour	L x W mm	H mm	L1 x W1 mm	H1 mm	Unit Weight kg	Part Number
Black	306 x 306	216	260 x 260	55	3.0	HDEIH 001 W
Grey						HDEIH 002 W
Green						HDEIH 100 W
Terracotta						HDEIH 200 W



Inspection Housing Earth Bars (for Heavy Duty Earth Inspection Housings)

Inspection Earth Bars are used to facilitate testing of the earth electrode or earthing system.

The Earth Bar can be fitted into slots, to provide for multiple conductor connections.

For installing lightning earthing system applications, We recommend the use of Copper earth electrode systems due to their inherent low resistivity and corrosion resistance.

Material: Copper to BS EN 13601.

No. Holes	Hole Ø mm	L mm	W mm	H mm	Unit Weight kg	Part Number
5	11	203	25	6	0.24	IHEB 35
7					0.22	IHEB 37



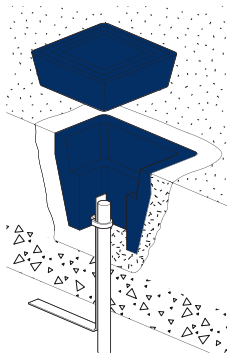
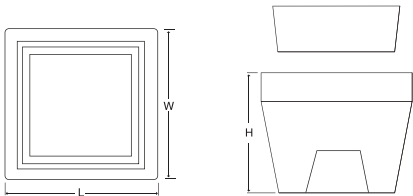
Concrete Earth Inspection Housing

Heavy duty concrete Earthing inspection housing Chamber 10 Tons capable of load. design concrete inspection housing chambers for higher load capabilities we tested internally as per the test procedure for concrete earth pits in BS EN 50164-5-2009. The required load is 40kN but our test passed 84 kN without any defection, breaks, deformation or failure. We could test only to 84 kN as our hydraulic power pack is limited to that load. with such a superior product which far exceeds the specification for heavy weight capable of 45 kN by about 1.8 times due to loading limitations. Its also easy lifting available with a central hook, its suitable for all earthing and lightning protection installation



Material: Concrete.

Lid Type	L mm	W mm	H mm	Unit Weight kg	Part Number
Non Trip Plain Lid	315	315	160	24	CEIH 01W
Central Lifting Eye			185	26	CEIH 02W
Central Lifting Eye	315	315	185	26	CEIH 07W
Non Trip Plain Lid	450	450	450	72	CEIH 450

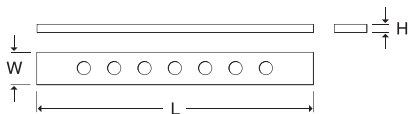
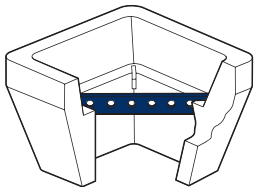
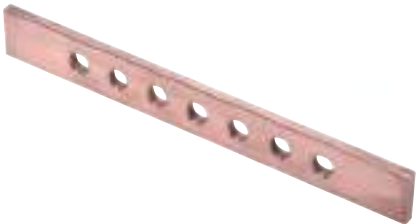


Inspection Housing Earth Bars
(for Concrete Earth Inspection Housings)

These earth bars put into the slots provided in the concrete inspection housing and are used when multiple connection to the earth rod required.

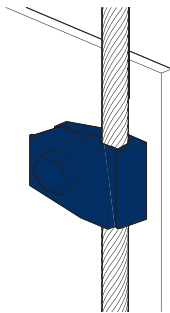
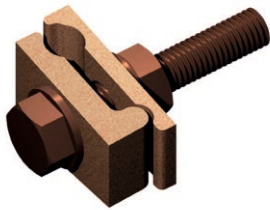
Material: Copper to BS EN 13601.

No. Holes	Hole Ø mm	L mm	W mm	H mm	Unit Weight kg	Part Number
5	11	285	30	6	0.49	IHEB 05
7					0.50	IHEB 07





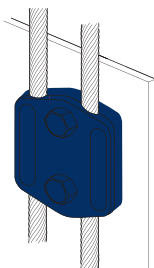
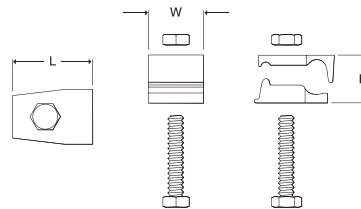
Tower Earth Clamps



An Tower Earth Clamp connects the lead-out cable from the energizer to an earth rod. The earth clamp guarantees a secure connection between the energizer and earthing system for optimum electrical conductivity. An earth clamp connects the lead-out cable from the energizer to an earth rod. The earth clamp guarantees a secure connection between the energizer and earthing system for optimum electrical conductivity. Ensures optimum electrical conductivity.

Material: Copper Alloy.

Conductor Range mm ²	L mm	W mm	H mm	Set Screw	Unit Weight kg	Part Number
16 - 70	45	30	17	M10 x 50mm	0.12	TEC 070
70 - 120	48	35	22	M12 x 60mm	0.23	TEC 120
120 - 185	55	40	28	M12 x 75mm	0.30	TEC 185
185 - 240	63	45	35	M12 x 80mm	0.40	TEC 240
240 - 300	70	53	42	M12 x 90mm	0.60	TEC 300

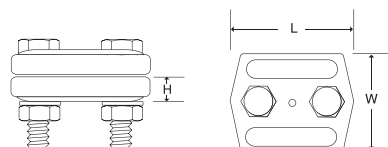


Parallel Groove Clamps

Parallel groove clamps provide electrical connection between two conductors, and mainly used in jumper loops with wedge type suspension clamps. Other applications include branch connection in substations, and ground wire earth continuity connections.

Material: Copper Alloy.

Conductor Range mm ²	L mm	W mm	H mm	Set Screw	Unit Weight kg	Part Number
25 - 70	50	40	7	M8 x 35mm	0.38	PGC 070
70 - 95	54	45	8.5	M10 x 45mm	0.46	PGC 095
95 - 185	65	57	12.5	M10 x 55mm	0.55	PGC 185
185 - 240	78	71	14	M10 x 55mm	0.66	PGC 240
240 - 300	94	85	16	M10 x 60mm	0.78	PGC 300





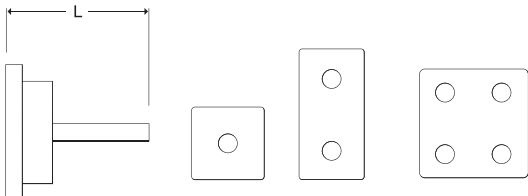
Earth Bonding Points

These earth bonding points are installed to provide a convenient earth system connection point in concrete structures. when cast into concrete they connect the re-bar to the earthing or lightning protection system.

Earth Bonding Points only

Material: Copper Alloy.

No. Holes	Hole Size mm	Plate Size mm	Stem Ø mm	L mm	Unit Weight kg	Part Number
1	M10 x 18	38 x 38	10.7 (70mm²)	75	0.14	EBP 01
2		70 x 35			0.29	EBP 02
4		63 x 63			0.54	EBP 04
4	M8 x 1.25	100 x 100		73		EBP 041

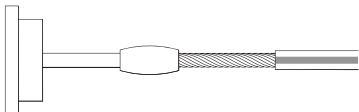
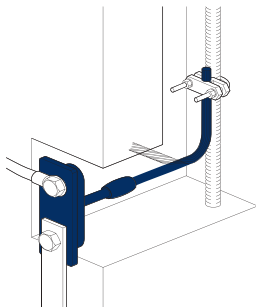


Earth Bonding Points with Pre-welded Tails

Earth bonding points are available with pre-welded tails consisting of green/yellow insulated earth cables with stranded copper conductors

Material: Copper Alloy body with PVC insulated copper cable tail.

No. Holes	Type	Unit Weight kg	Part Number
1	EBPWT 01 with pre-welded 500mm long tail of 70mm² PVC insulated cable	0.64	EBPWT 01 500
2	EBPWT 02 with pre-welded 500mm long tail of 70mm² PVC insulated cable	0.77	EBPWT 02 500
	EBPWT 02 with pre-welded 1000mm long tail of 70mm² PVC insulated cable	1.14	EBPWT 02 1000
	EBPWT 02 with pre-welded 1500mm long tail of 70mm² PVC insulated cable	1.50	EBPWT 02 1500
4	EBPWT 04 with pre-welded 500mm long tail of 70mm² PVC insulated cable	1.02	EBPWT 04 500
	EBPWT 04 with pre-welded 1000mm long tail of 70mm² PVC insulated cable	1.39	EBPWT 04 1000
	EBPWT 04 with pre-welded 1500mm long tail of 70mm² PVC insulated cable	1.75	EBPWT 04 1500





Earth Bonding Points with Double Pre-welded Tails



Material: Copper Alloy body with 2 x PVC insulated copper cable tails.

No. Holes	Type	Unit Weight kg	Part Number
1	EBPWT 01 with 2 x pre-welded 500mm long tails of 70mm ² PVC insulated cable	0.93	EBPWT 01 D
2	EBPWT 02 with 2 x pre-welded 500mm long tails of 70mm ² PVC insulated cable	1.08	EBPWT 02 D
	EBPWT 02 with 2 x pre-welded 1000mm long tails of 70mm ² PVC insulated cable	1.81	EBPWT 021 D
	EBPWT 02 with 2 x pre-welded 1500mm long tails of 70mm ² PVC insulated cable	2.54	EBPWT 025 D
4	EBPWT 04 with 2 x pre-welded 500mm long tails of 70mm ² PVC insulated cable	1.33	EBPWT 04 D
	EBPWT 04 with 2 x pre-welded 1000mm long tails of 70mm ² PVC insulated cable	2.06	EBPWT 041 D
	EBPWT 04 with 2 x pre-welded 1500mm long tails of 70mm ² PVC insulated cable	2.79	EBPWT 045 D

Earth Bars

An earthing bar is too simply a solid metal plate with multiple holes to which wiring is connected to using crimp lugs and bolts. Regarding the variety of roles that it can play, **Amiable** have offered several designs to meet the requirements of the protective systems in any given installation.the pvc base makes our earth bars lighter and easier to handle as well as being entirely corrosion proof. Special earth bars manufactured to customer requirements are also available.

Material:

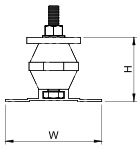
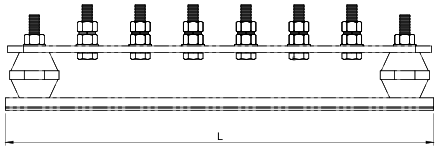
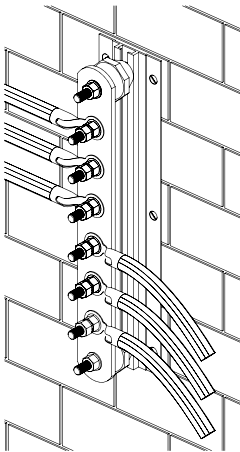
Bar: 50 x 6mm hard drawn copper bar to BS EN 13601.

Base: Plastic.

Fittings: M10 Hexagon Head Set Screws, Nuts & Washers..

Standard: BS 7430

No Terminations	L mm	W mm	H mm	Unit Weight kg	Part Number
2	200	90	60	1.00	EB 002
3	250			1.22	EB 003
4	300			1.45	EB 004
6	400			2.00	EB 006
8	500			2.30	EB 008
9	600			2.75	EB 009
10	650			3.20	EB 010
12	750			4.00	EB 012
14	850			4.90	EB 014
16	950			5.80	EB 016
18	1100			6.70	EB 018
20	1250			7.60	EB 020
22	1300			8.50	EB 022
24	1400			9.40	EB 024
26	1550			10.30	EB 026
28	1650			11.20	EB 028
30	1800			12.10	EB 030





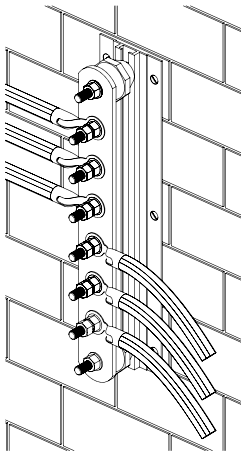
Tinned Earth Bars

Tinning an Earth Bar is an excellent solution practically speaking, because it protects the copper, increases longevity and has reasonably low resistance.

Tinned Earth Bars may be used in external applications or where atmospheric conditions are more severe and aggressive than normal ie high moisture content areas, high humidity etc.

A tinned Earth Bar resists corrosion from water.

Special earth bars manufactured to customer requirements are also available.



No Terminations	L mm	W mm	H mm	Unit Weight kg	Part Number
2	200	90	60	1.00	TEB 002T
3	250			1.22	TEB 003T
4	300			1.45	TEB 004T
6	400			2.00	TEB 006T
8	500			2.30	TEB 008T
9	600			2.75	TEB 009T
10	650			3.20	TEB 010T
12	750			4.00	TEB 012T
14	850			4.90	TEB 014T
16	950			5.80	TEB 016T
18	1100			6.70	TEB 018T
20	1250			7.60	TEB 020T
22	1300			8.50	TEB 022T
24	1400			9.40	TEB 024T
26	1550			10.30	TEB 026T
28	1650			11.20	TEB 028T
30	1800			12.10	TEB 030T

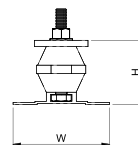
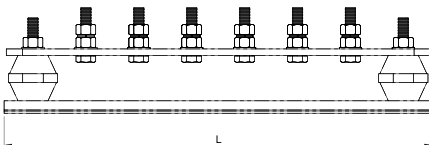
Material:

Bar: 50 x 6mm tinned hard drawn copper bar to BS EN 13601

Base: Plastic.

Fittings: M10 Hexagon Head Set Screws, Nuts & Washers.

Standard: BS 7430



Earth Bars with Single Disconnecting Link

Available with Single Disconnecting Link for isolation for testing purpose. Earth Bars are made of High Conductivity hard drawn ETP Grade Copper. The Earth Bars are pre-drilled with M10 holes to facilitate/bond multiple connections to main electrical rooms, Genset & Tx Rooms. Earth Bars with swan neck disconnecting link are provided as a complete assembly mounted on pre-drilled UPVC channel base with spacers manufactured from Specially Filled & Reinforced Polypropylene Compound. Special earth bars manufactured to customer requirements are also available.



Special earth bars manufactured to customer requirements are also available.

Recommended fixing by countersunk wood screw 1 ½" x No. 12 and No. 12 wall plug.

Earth Bars with Single Disconnecting Link

Material:

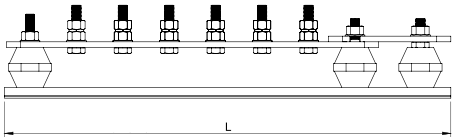
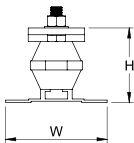
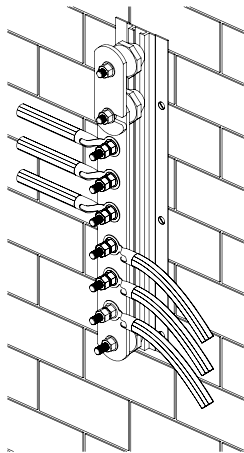
Bar: 50 x 6mm hard drawn copper bar to BS EN 13601.

Base: Plastic.

Fittings: M10 Hexagon Head Set Screws, Nuts & Washers.

Standard: BS 7430

No Terminations	L mm	W mm	H mm	Unit Weight kg	Part Number
2	285	90	60	1.55	EBSDL 102
3	330			1.77	EBSDL 103
4	375			2.00	EBSDL 104
6	475			2.50	EBSDL 106
8	575			3.00	EBSDL 108
9	685			3.45	EBSDL 109
10	725			3.90	EBSDL 110
12	825			4.70	EBSDL 112
14	925			5.60	EBSDL 114
16	1025			6.50	EBSDL 116
18	1175			7.40	EBSDL 118
20	1325			8.30	EBSDL 120
22	1375			9.20	EBSDL 122
24	1475			10.10	EBSDL 124
26	1625			11.00	EBSDL 126
28	1725			11.90	EBSDL 128
30	1875			12.80	EBSDL 130





Earth Bars with Single Disconnecting Link

- Tinning a copper bar protects against atmospheric corrosion providing longer life when exposed to corrosive atmospheres
- Tinning protects the earth bar against the formation of copper oxide (oxidisation)
- Tinned earth bars are an excellent solution to extend longevity and have reasonably low resistance
- Special earth bars manufactured to customer requirements are also available.

Special earth bars manufactured to customer requirements are also available.

Recommended fixing by countersunk wood screw 1 ½" x No. 12 and No. 12 wall plug.

Tinned Earth Bars with Single Disconnecting Link

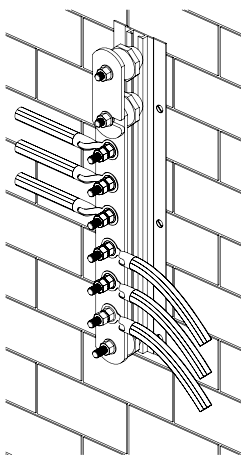
Material:

Bar: 50 x 6mm tinned hard drawn copper bar to BS EN 13601.

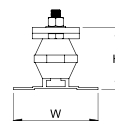
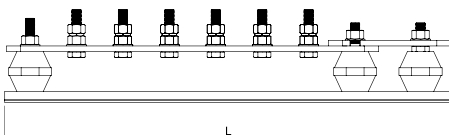
Base: Plastic.

Fittings: M10 Hexagon Head Set Screws, Nuts & Washers.

Standard: BS 7430



No Terminations	L mm	W mm	H mm	Unit Weight kg	Part Number
2	285	90	60	1.55	EBSDL 102T
3	330			1.77	EBSDL 103T
4	375			2.00	EBSDL 104T
6	475			2.50	EBSDL 106T
8	575			3.00	EBSDL 108T
9	685			3.45	EBSDL 109T
10	725			3.90	EBSDL 110T
12	825			4.70	EBSDL 112T
14	925			5.60	EBSDL 114T
16	1025			6.50	EBSDL 116T
18	1175			7.40	EBSDL 118T
20	1325			8.30	EBSDL 120T
22	1375			9.20	EBSDL 122T
24	1475			10.10	EBSDL 124T
26	1625			11.00	EBSDL 126T
28	1725			11.90	EBSDL 128T
30	1875			12.80	EBSDL 130T





Earth Bars with Double Disconnecting Links

The Twin Disconnecting Links are mainly used to offer a temporary break in the connection to the earth allowing the inspection and testing of multiple Earth Rods/systems while disconnecting them from the Lightning Protection and Earthing system.

Standard Earth Bars meet the requirements of most applications. However, we can design and manufacture an Earth Bar to suit special applications. Send your specification to us and we will design a bespoke Earth Bar. This design is checked and confirmed by you before work commences.

Special earth bars manufactured to customer requirements are also available.



Material:

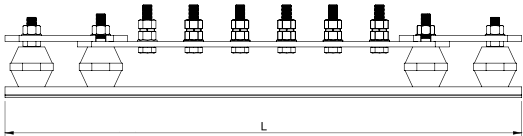
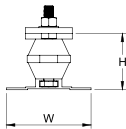
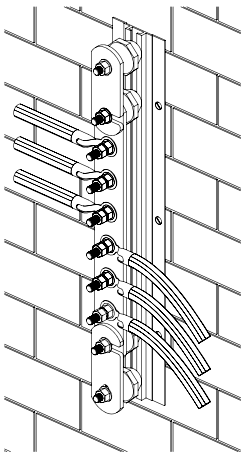
Bar: 50 x 6mm hard drawn copper bar to BS EN 13601.

Base: Plastic.

Fittings: M10 Hexagon Head Set Screws, Nuts & Washers.

Standard: BS 7430

No Terminations	L mm	W mm	H mm	Unit Weight kg	Part Number
2	350	90	60	2.10	EBDDL 202
3	400			2.32	EBDDL 203
4	450			2.55	EBDDL 204
6	550			3.10	EBDDL 206
8	650			3.70	EBDDL 208
9	725			4.10	EBDDL 209
10	800			4.50	EBDDL 210
12	900			5.30	EBDDL 212
14	1000			6.20	EBDDL 214
16	1100			7.10	EBDDL 216
18	1250			8.00	EBDDL 218
20	1400			8.90	EBDDL 220
22	1450			10.50	EBDDL 222
24	1550			10.70	EBDDL 224
26	1700			11.60	EBDDL 226
28	1800			12.50	EBDDL 228
30	1950			13.40	EBDDL 230





Tinned Earth Bars with Double Disconnecting Links



The thin layer of tin effectively shields the copper surface of the earth bar inhibiting oxidation – preventing air from reacting with the copper in the presence of atmospheric moistures. Put simply – no air, no oxide, no corrosion.

Tinned copper handles wet conditions, high temperatures and humidity to maintain the conductive integrity of the earth bar for electrical engineering applications.

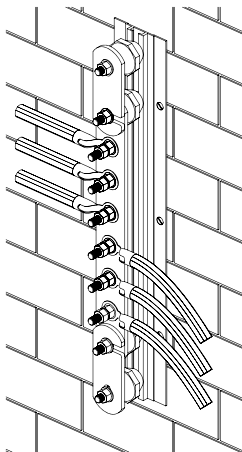
Material:

Bar: 50 x 6mm tinned hard drawn copper bar to BS EN 13601.

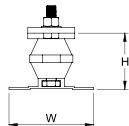
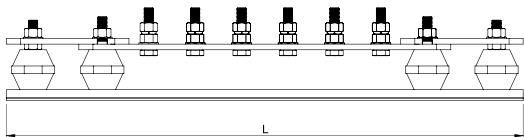
Base: Plastic.

Fittings: M10 Hexagon Head Set Screws, Nuts & Washers.

Standard: BS 7430



No Terminations	L mm	W mm	H mm	Unit Weight kg	Part Number
2	350	90	60	2.10	EBDDL 202T
3	400			2.32	EBDDL 203T
4	450			2.55	EBDDL 204T
6	550			3.10	EBDDL 206T
8	650			3.70	EBDDL 208T
9	725			4.10	EBDDL 209T
10	800			4.50	EBDDL 210T
12	900			5.30	EBDDL 212T
14	1000			6.20	EBDDL 214T
16	1100			7.10	EBDDL 216T
18	1250			8.00	EBDDL 218T
20	1400			8.90	EBDDL 220T
22	1450			10.50	EBDDL 222T
24	1550			10.70	EBDDL 224T
26	1700			11.60	EBDDL 226T
28	1800			12.50	EBDDL 228T
30	1950			13.40	EBDDL 230T



Disconnecting Link

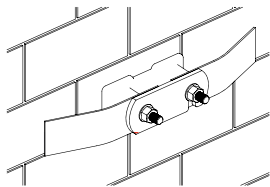
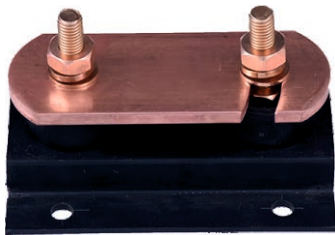
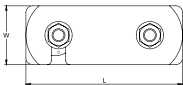
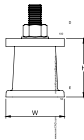
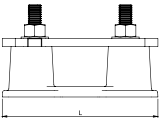
The Disconnecting Links are mainly used to offer a temporary break in the connection to the earth allowing the inspection and testing of multiple Earth Rods/systems while disconnecting them from the Lightning Protection and Earthing system.

Material:

Bar: 50 x 6mm hard drawn copper bar to BS EN 13601.

Base: Plastic.

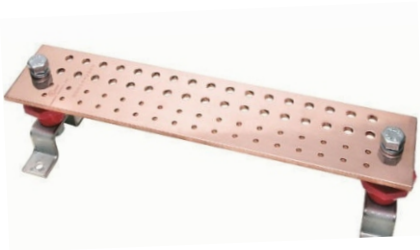
L mm	W mm	H mm	Unit Weight kg	Part Number
120	45	45	0.60	DL 100

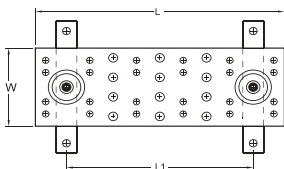
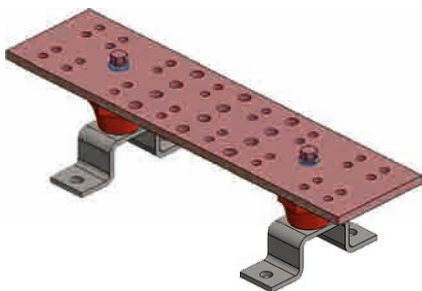


Double Row Telecommunication Earth Bars

Provides common grounding point within the telecommunications room and located on data room walls. Telecommunication grounding earth bar is manufactured according to TIA 607C: 2015. The grounding earth bar provides a common grounding point within the telecommunications room and is typically located on walls within a data room.

Our Earth Bar and Disconnecting Link products are tested at several parameters, our products are known for their excellent conduction towards heat and electricity.



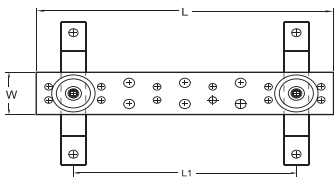


Tele communications Main Ground in
Earth Bar

The grounding earth bar provides a common grounding point within the telecommunications room and is typically located on walls within a data room.

Earth Bars

L mm	L1 mm	W mm	Unit Weight kg	Part Number
305	229	102	2.13	TMGEB 12
305	229	102	3.49	TMGEB 12K
508	229	102	3.22	TMGEB 20
508	229	102	4.58	TMGEB 20K



Telecommunications Grounding Earth Bar

The telecommunication earth bar provides a common grounding point within the telecommunications room and is typically located on walls within a data room.

Earth Bars

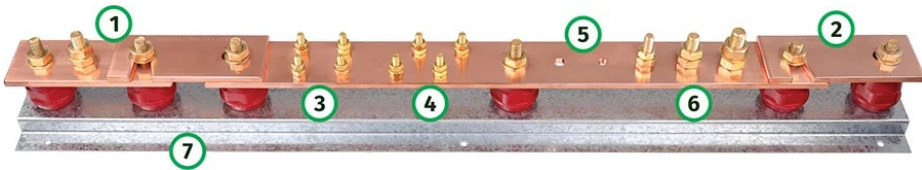
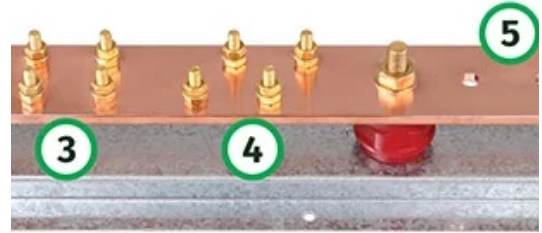
L mm	L1 mm	W mm	Unit Weight kg	Part Number
305	229	51	1.32	TGEB
305	229	51	2.23	TGEB

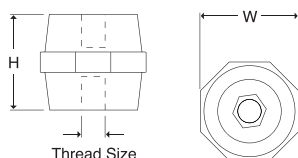
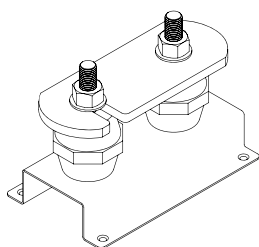
Special Earth Bars

We are manufacturing Copper Earth Bars from high-quality copper, high conductive copper, electrolytic copper, and many other copper compositions based on customer specifications. By following a quality management system and international quality standards, we provide highly precise copper earth bars. The range of copper earth bars is highly acclaimed among the clients for its unique attributes like perfect finish, lightweight, etc.

To meet various industrial, commercial and residential electrical application, we provide the highest quality and standard copper earth bars in various dimensions, packing, tolerance, hardness, and configuration. Our range of copper earth bars are also available in multiple connection options such as 6-way copper earth bars, 8-way copper earth bars, 12-way copper earth bars, and custom options.

We provide all types of copper earth bars as per customer and industrial needs and specifications.





Insulators

Insulators are supplied with or without studs and locking nuts.

Material: Reinforced Polyester.

Type	Thread Size	W mm	H mm	Unit Weight kg	Part Number
Insulator	M10	40	40	0.08	I 001
	M10	40			I 003
	M6	18	20		I 009
	M6	32	30		I 011
	M8	38	40		I 012
	M10	46	50		I 013
	M10	50	60		I 014
	M12	55	70		I 015

The maximum working voltage of all insulators is 690v, the insulators can withstand a continuous temperature of 155- 160 c. Or intermittent temperature of 220-225 c.

Material: Reinforced Polyester with brass fittings.

The maximum working voltage of all insulators is 690V, these insulators can withstand a continuous temperature of 155-160°C or intermittent temperature of 220-225°C.

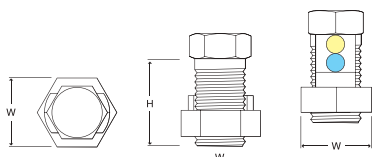
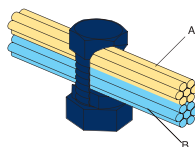
Insulator with 2 studs and 3 nuts

Type	Thread Size	W mm	H mm	Unit Weight kg	Part Number
Insulator with 2 studs & 3 nuts	M10	40	40	0.16	I 002

Split Bolt Connectors

We manufacture Split Bolt Connectors from High-quality Standard Material or Customized Material. Here you can find the Right Split Bolt Connectors for your application. We provide Split Bolt Connectors as per Customer Drawings and specifications. Split Bolt Connectors are designed and developed by our Engineers with following Customer Specifications and Critical Dimensions.

Material: Copper Alloy.



Main Conductor A mm²	Tap Conductor B mm²	H mm	W mm	Unit Weight kg	Part Number
10	1.5 - 10	20	4	0.02	SBC 010
16	2.5 - 16	23	5	0.03	SBC 016
25	2.5 - 25	28	7	0.04	SBC 025
35	2.5 - 35	29	8	0.05	SBC 035
50	2.5 - 50	35	10	0.08	SBC 050
70	2.5 - 70	39	11	0.12	SBC 070
95	2.5 - 95	45	14	0.15	SBC 095
120	10 - 120	47	15	0.18	SBC 120
150	10 - 150	51	16	0.23	SBC 150
185	50 - 185	57	18	0.35	SBC 185
240	95 - 240	64	19	0.46	SBC 240

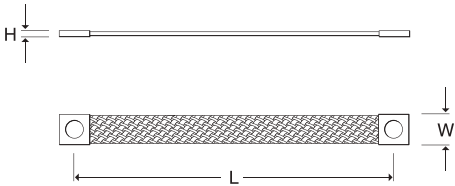
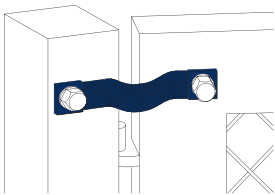
Flexible Copper Braid Bonds

The flexible braid bond is suitable for bonding gates, doors, fences and more, ensuring maximum electrical contact with minimum earth resistance.

Other length and size are available in orders

Material: Copper.

Size W x H mm	Hole Centres L mm	Hole Size mm	Unit Weight kg	Part Number
10 x 2	100	6	0.01	FCBB 1021
	200		0.01	FCBB 1022
	300		0.01	FCBB 1023
12 x 2	100	6	0.01	FCBB 121
	200		0.01	FCBB 122
	300		0.02	FCBB 123
19 x 2.5	100	10	0.01	FCBB 191
	200		0.03	FCBB 192
	300		0.05	FCBB 193
25 x 3	100	10	0.02	FCBB 2531
	200		0.05	FCBB 2532
	400		0.10	FCBB 2534
25 x 3.5	200	11	0.09	FCBB 200
	300		0.13	FCBB 300
	400		0.16	FCBB 400
30 x 4.5	200	10	0.10	FCBB 302
	400		0.20	FCBB 304
32 x 5	200		0.14	FCBB 322
	400		0.28	FCBB 324





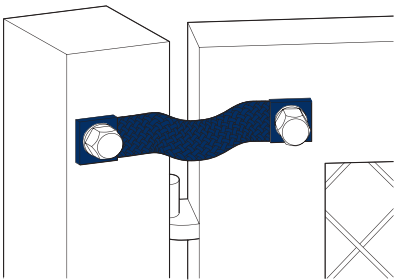
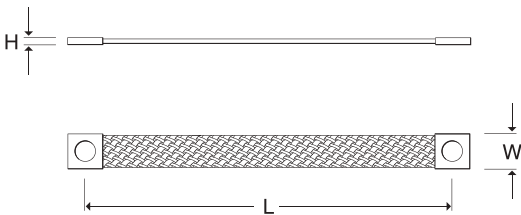
Tinned Flexible Copper Braid Bonds

Tinned flexible braid bond is suitable for bonding gates, doors, fences and more, ensuring maximum electrical contact with minimum earth resistance. tinned flexible Other length and size are available in orders



Material: Tinned Copper.

Size W x H mm	Hole Centres L mm	Hole Size mm	Unit Weight kg	Part Number
10 x 2	100	6	0.01	FCBB 1021T
	200		0.01	FCBB 1022T
	300		0.01	FCBB 1023T
12 x 2	100	6	0.01	FCBB 121T
	200		0.01	FCBB 122T
	300		0.02	FCBB 123T
19 x 2.5	100	10	0.01	FCBB 191T
	200		0.03	FCBB 192T
	300		0.05	FCBB 193T
25 x 3	100	10	0.02	FCBB 2531T
	200		0.05	FCBB 2532T
	400		0.10	FCBB 2534T
25 x 3.5	200	11	0.09	FCBB 200T
	300		0.13	FCBB 300T
	400		0.16	FCBB 400T
30 x 4.5	200	10	0.10	FCBB 302T
	400		0.20	FCBB 304T
32 x 5	200		0.14	FCBB 322T
	400		0.28	FCBB 324T



Flexible Circular Copper Braid Bonds

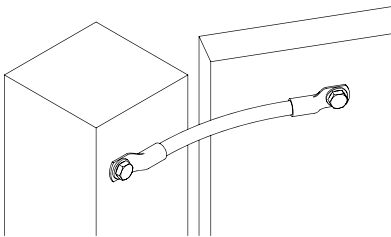
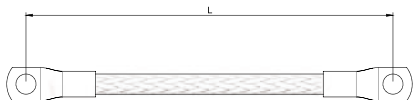
Flexible Circular Copper Braid Bonds are terminated with cable lugs at each end.

The Flexible Copper Braid Bond is suitable for bonding gates, doors, fences and more, ensuring maximum electrical contact with minimum earth resistance.

Other lengths and size are available on request.

Material: Copper.

Nominal Area mm²	Hole Centres L mm	Hole Size mm	Unit Weight kg	Part Number
4	100	M6	0.01	FCCBB 410
	200		0.01	FCCBB 420
	300		0.01	FCCBB 430
6	100		0.01	FCCBB 610
	200		0.01	FCCBB 620
	300		0.02	FCCBB 630
10	100		0.01	FCCBB 101
	200		0.02	FCCBB 102
	300		0.03	FCCBB 103
16	100		0.01	FCCBB 1616
	200		0.03	FCCBB 1626
	300		0.05	FCCBB 1636
	100	M10	0.01	FCCBB 161
	200		0.03	FCCBB 162
	300		0.05	FCCBB 163
25	200		0.03	FCCBB 252
	400		0.05	FCCBB 254
35	200		0.07	FCCBB 352
	400		0.14	FCCBB 354
50	200		0.10	FCCBB 502
	400		0.20	FCCBB 504
70	200		0.14	FCCBB 702
	400		0.28	FCCBB 704





Tinned Flexible Circular Copper Braid Bonds

Tinned copper braid is a type of copper coated with a thin layer of tin used to provide protection against the tarnishing and corrosive effects of oxidation, commonly referred to as rusting.

Flexible Circular Copper Braid Bonds are terminated with cable lugs at each end.

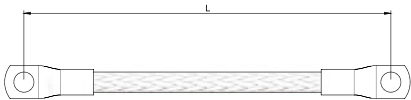
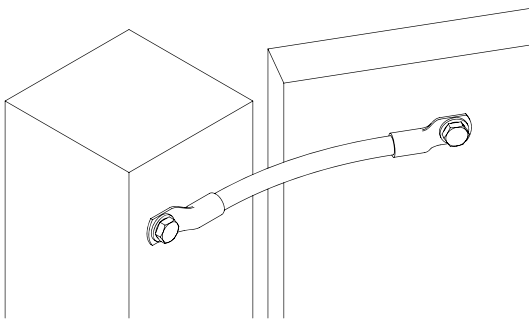
The Flexible Copper Braid Bond is suitable for bonding gates, doors, fences and more, ensuring maximum electrical contact with minimum earth resistance.

Other lengths and size are available on request.



Material: Tinned Copper.

Nominal Area mm²	Hole Centres L mm	Hole Size mm	Unit Weight kg	Part Number
4	100	M6	0.01	FCCBB 410T
	200		0.01	FCCBB 420T
	300		0.01	FCCBB 430T
6	100		0.01	FCCBB 610T
	200		0.01	FCCBB 620T
	300		0.02	FCCBB 630T
10	100		0.01	FCCBB 101T
	200		0.02	FCCBB 102T
	300		0.03	FCCBB 103T
16	100		0.01	FCCBB 1616T
	200		0.03	FCCBB 1626T
	300		0.05	FCCBB 1636T
	100	M10	0.01	FCCBB 161T
	200		0.03	FCCBB 162T
	300		0.05	FCCBB 163T
25	200		0.03	FCCBB 252T
	400		0.05	FCCBB 254T
35	200		0.07	FCCBB 352T
	400		0.14	FCCBB 354T
50	200		0.10	FCCBB 502T
	400		0.20	FCCBB 504T
70	200		0.14	FCCBB 702T
	400		0.28	FCCBB 704T

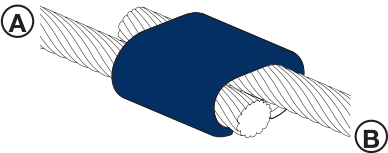


'C' Crimp Connectors

These range-taking C Crimp Connectors are specifically designed for tap and parallel connections of stranded copper cables in earthing applications.

Material: Copper.

Main Conductor A mm ²	Tap Conductor B mm ²	L mm	W mm	H mm	Unit Weight kg	Pack Quantity	Part Number
10	4 - 10	13	12	9	0.01	100	CCC 010
10 - 16	10 - 16	19	17	12	0.01	100	CCC 016
16	4	19	17	12	0.01	100	CCC 016
16 - 25	1.5 - 10	20	12	13	0.02	100	CCC 25-10
25	10 - 16	21	19	12	0.02	50	CCC 25PM
25	10 - 25	24	20	15	0.04	50	CCC 025
35	1.5 - 16	24	20	15	0.04	50	CCC 025
35	25 - 35	27	20	15	0.05	50	CCC 035
50	4 - 16	27	20	15	0.05	50	CCC 035
50	16 - 50	27	20	17	0.07	50	CCC 050
70	1.5 - 25	27	20	17	0.07	25	CCC 050
50 - 70	4 - 35	33	28	21	0.09	25	CCC 70-35
50 - 70	35 - 70	34	28	21	0.10	25	CCC 070
70 - 95	35 - 70	41	30	26	0.10	25	CCC 075
95	4 - 35	41	30	26	0.11	25	CCC 95-35
70 - 95	95	41	30	26	0.12	25	CCC 095
120	35 - 120	45	30	28	0.12	25	CCC 120
150	6 - 70	45	30	28	0.12	25	CCC 120
150	95 - 150	45	30	28	0.15	10	CCC 150
120 - 185	95 - 185	54	35	33	0.20	10	CCC 185
150 - 185	70 - 150	54	35	33	0.20	10	CCC 185
240	10 - 70	54	35	34	0.25	10	CCC 240-70
240	95 - 120	54	37	34	0.24	10	CCC 240-120
240	150 - 240	54	40	43	0.24	10	CCC 240





Cable Terminals

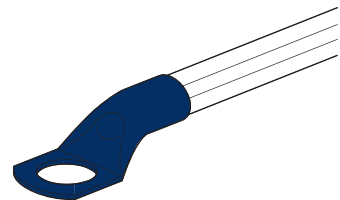
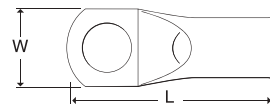
A cable lug is a component of an electrical device that connects the cable to the device terminals that simplifies the assembly of personnel, maintenance, and repair processes. A cable lug or connector is used when a permanent connection is required, but a direct one is inconvenient or impossible to achieve.

Cable lugs are connectors that are used to connect/terminate cables together, and they form an important part of an electrical system. Cable lugs are annealed to avoid cracking and splitting when crimped.

we have wide range of cable lugs,we can fulfil your special requirements if you give diagram is given by customer.

Material:Tin Plated Copper.

Conductor Size mm ²	Palm Hole Size mm	L mm	W mm	Unit Weight kg	Part Number
6	4	21	9	0.01	AMI 64
	5	24	10		AMI 65
	6	24	11		AMI 66
	8	25	12		AMI 68
	10	26	12		AMI 610
10	5	26	11	0.01	AMI 105
	6	26	11		AMI 106
	8	29	13		AMI 108
	10	39	16		AMI 1010
	12	39	18		AMI 1012
16	6	30	11	0.01	AMI 166
	8	30	13		AMI 168
	10	35	15		AMI 1610
	12	42	18		AMI 1612
25	6	32	14	0.01	AMI 256
	8	32	14		AMI 258
	10	38	16		AMI 2510
	12	38	18		AMI 2512
35	6	35	15	0.01	AMI 356
	8	35	15		AMI 358
	10	40	15		AMI 3510
	12	40	18		AMI 3512
	14	43	20		AMI 3514
50	6	37	17	0.02	AMI 506
	8	37	17		AMI 508
	10	42	17		AMI 5010
	12	42	17		AMI 5012
	14	45	20		AMI 5014
70	6	40	21	0.04	AMI 706
	8	40	21		AMI 708
	10	46	21		AMI 7010
	12	46	21		AMI 7012
	14	50	21		AMI 7014
	16	50	21		AMI 7016

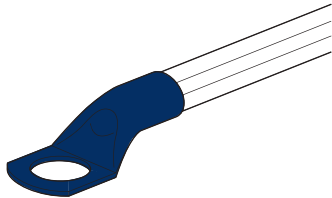
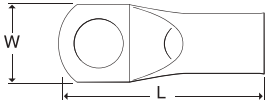




Cable Terminals (continued)

Material: Tin Plated Copper.

Conductor Size mm ²	Palm Hole Size mm	L mm	W mm	Unit Weight kg	Part Number
95	6	47	25	0.06	AMI 956
	8	49	25		AMI 958
	10	49	25		AMI 9510
	12	49	25		AMI 9512
	14	56	25		AMI 9514
	16	56	25		AMI 9516
120	8	50	27	0.07	AMI 1208
	10	56	27		AMI 12010
	12	56	27		AMI 12012
	14	56	27		AMI 12014
	16	60	27		AMI 12016
	20	66	27		AMI 12020
150	8	66	30	0.09	AMI 1508
	10	68	30		AMI 15010
	12	68	30		AMI 15012
	14	68	30		AMI 15014
	16	70	30		AMI 15016
	20	75	30		AMI 15020
185	10	67	33	0.10	AMI 18510
	12	68	33		AMI 18512
	14	68	33		AMI 18514
	16	70	33		AMI 18516
	20	75	33		AMI 18520
240	10	88	38	0.14	AMI 24010
	12	88	38		AMI 24012
	14	88	38		AMI 24014
	16	88	38		AMI 24016
	20	88	38		AMI 24020
300	10	97	41	0.17	AMI 30010
	12	97	41		AMI 30012
	14	97	41		AMI 30014
	16	97	41		AMI 30016
	20	97	41		AMI 30020
400	12	108	47	0.20	AMI 40012
	14	108	47		AMI 40014
	16	108	47		AMI 40016
	20	108	47		AMI 40020
500	16	117	53	0.50	AMI 50016
	18	117	53		AMI 50018
	20	117	53		AMI 50020
630	16	127	63	0.80	AMI 63016
	18	127	63		AMI 63018
	20	127	63		AMI 63020
800	16	164	70	1.00	AMI 80016
	18	164	70		AMI 80018
	20	164	70		AMI 80020
1000	18	164	77	1.30	AMI 100018
	20	164	77		AMI 100020



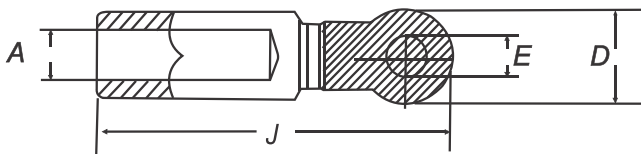


BI-METALLIC TERMINALS (FRICTION WELDED)

Material: Copper & Aluminium.



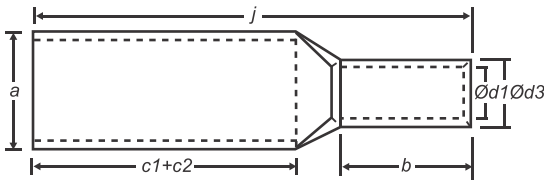
Size Sq. mm	STUD	D	A	J	Cat No.
16	M 8	24	6.0	86.0	AMI 16-8BM
16	M 10	24	6.0	86.0	AMI 16-10BM
25	M 8	24	7.0	86.0	AMI 25-8BM
25	M 10	24	7.0	86.0	AMI 25-10BM
25	M 12	24	7.0	86.0	AMI 25-12BM
35	M 8	24	8.5	86.0	AMI 25-10BM
35	M 10	24	8.5	86.0	AMI 35-10BM
35	M 12	24	8.5	86.0	AMI 35-12BM
50	M 8	25	9.8	95.0	AMI 50-8BM
50	M 10	25	9.8	95.0	AMI 50-10BM
50	M 12	25	9.8	95.0	AMI 50-12BM
70	M 10	25	11.6	95.0	AMI 70-10BM
70	M12	25	11.6	95.0	AMI 70-12BM
95	M 10	25	13.8	95.0	AMI 95-10BM
95	M 12	25	13.8	95.0	AMI 95-12BM
95	M 16	25	13.8	95.0	AMI 95-16BM
120	M 12	28	15.5	120.0	AMI 120-12BM
120	M 16	28	15.5	120.0	AMI 120-16BM
150	M 12	35	17.0	120.0	AMI 150-12BM
150	M 16	35	17.0	120.0	AMI 150-16BM
150	M 20	35	17.0	120.0	AMI 150-20BM
185	M 10	35	18.5	135.0	AMI 185-10BM
185	M 12	35	18.5	135.0	AMI 185-12BM
185	M 16	35	18.5	135.0	AMI 185-16BM
185	M 20	35	18.5	135.0	AMI 185-20BM
240	M 10	35	21.5	135.0	AMI 240-10BM
240	M 12	35	21.5	135.0	AMI 240-12BM
240	M 16	35	21.5	135.0	AMI 240-16BM
240	M 20	35	21.5	135.0	AMI 240-20BM
300	M 12	35	24.0	140.0	AMI 300-12BM
300	M 16	35	24.0	140.0	AMI 300-16BM
300	M 20	35	24.0	140.0	AMI 300-20BM
400	M 12	36	27.5	160.0	AMI 400-12BM
400	M 16	36	27.5	160.0	AMI 400-16BM





COPPER HEAVY DUTY TERMINALS WITH LONG PALM (BLANK)

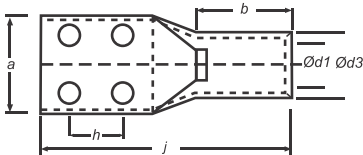
Material: Tin Plated Copper



Size mm2	b	a	c1+c2	ød1	ød3	f	j	CAT NO.
50	16	17.8	42	9.5	12.4	2.9	64	AMI 50B
70	18	21.0	50	11.2	14.7	3.5	75	AMI 70B
95	20	25.0	52	13.5	17.4	3.9	81	AMI 95B
120	22	28.0	56	15.0	19.4	4.4	88	AMI 120B
150	26	30.0	64	16.5	21.2	4.7	101	AMI 150B
185	32	34.0	68	18.5	23.5	5.0	112	AMI 185B
240	38	30.0	80	21.0	26.5	5.5	132	AMI 240B
300	42	43.0	88	23.5	30.0	6.5	145	AMI 300B
400	44	50.0	104	28.5	36.5	8.0	166	AMI 400B
500	48	56.0	112	30.0	39.0	9.0	180	AMI 500B
630	56	65.0	130	35.0	45.0	10.0	208	AMI 630B

COPPER TUBULAR TERMINALS WITH FOUR HOLES

Material: Tin Plated Copper

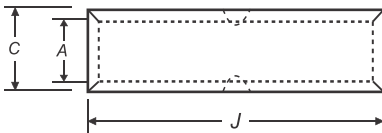


Size mm2	ØE	b	a	ød1	ød3	k	h	j	CAT NO.
300	8.5	42	58	23.5	30.0	17	20	115	AMI 300FH
400	8.5	44	58	28.5	36.0	17	20	120	AMI 400FH
500	8.5	48	58	30.0	39.0	17	20	124	AMI 500FH
630	8.5	56	65	35.0	45.0	17	25	144	AMI 630FH
630	10.5	56	65	35.0	45.0	17	25	144	AMI 630FH
800	8.5	78	73	39.0	50.0	20	30	170	AMI 800FH
1000	8.5	90	81	43.0	56.0	25	40	200	AMI 1000FH



COPPER TUBULAR INLINE CONNECTORS

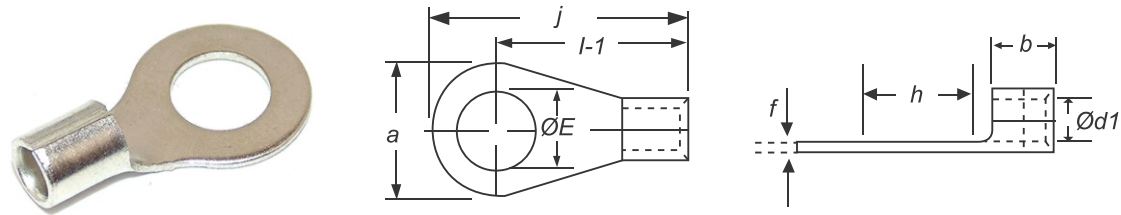
Material: Tin Plated Copper



CABLE mm2	A	C	J	CAT. NO.
4	3.1	4.8	15	AMI 4-15
			25	AMI 4-25
6	3.8	5.5	15	AMI 6-15
			22	AMI 6-22
			25	AMI 6-25
10	4.5	6.2	20	AMI 10-20
			22	AMI 10-22
			30	AMI 10-30
16	5.4	7.1	20	AMI 16-20
			35	AMI 16-35
25	6.8	8.8	32	AMI 25-32
			40	AMI 25-40
			47	AMI 25-47
35	8.2	10.6	36	AMI 35-36
			45	AMI 35-45
50	9.5	12.4	40	AMI 50-40
			47	AMI 50-47
			50	AMI 50-50
70	11.2	14.7	40	AMI 70-40
			45	AMI 70-45
			50	AMI 70-50
95	13.5	17.4	45	AMI 95-45
			50	AMI 95-50
			60	AMI 95-60
120	15.0	19.4	45	AMI 120-45
			65	AMI 120-65
150	16.5	21.2	55	AMI 150-55
			65	AMI 150-65
185	18.5	23.5	65	AMI 185-65
			75	AMI 185-75
240	21.0	26.5	80	AMI 240-80
			85	AMI 240-85
			89	AMI 240-89
300	23.5	30.0	85	AMI 300-85
			90	AMI 300-90
400	26.8	34.8	90	AMI 400-90
			100	AMI 400-100
500	30.0	39.0	100	AMI 500-100
			110	AMI 500-110
630	35.0	45.0	110	AMI 630-110
			120	AMI 630-120
800	39.0	50.6	150	AMI 800-150
1000	43.0	56.2	170	AMI 1000-170



COPPER RING TONGUE TYPE TERMINALS (BRAZED)
(BRAZED, INSULATED & PRE-INSULATED)



Material: Tin Plated Copper | Flared PVC

Size mm ²	ØE	Ød1	a	b	h	l-1	j	f	CAT NO.
1.5	M2	1.6	6.0	5	4.0	11.0	14.0	0.8	AMI-7103
1.5	M2.5	1.6	6.0	5	4.0	11.0	14.0	0.8	AMI-7000
1.5	M3	1.6	6.0	5	4.0	11.0	14.0	0.8	AMI-7001
1.5	M3.5	1.6	6.0	5	4.0	11.0	14.0	0.8	AMI-7002
1.5	M4	1.6	6.0	5	4.0	11.0	14.0	0.8	AMI-7003
1.5	M3	1.6	6.8	5	3.6	9.6	13.0	0.8	AMI-7153
1.5	M3.5	1.6	6.8	5	3.6	9.6	13.0	0.8	AMI-7048
1.5	M4	1.6	6.8	5	3.6	9.6	13.0	0.8	AMI-7049
1.5	M3	1.6	8.0	5	5.0	12.0	16.0	0.8	AMI-7104
1.5	M4	1.6	8.0	5	5.0	12.0	16.0	0.8	AMI-7004
1.5	M5	1.6	8.0	5	5.0	12.0	16.0	0.8	AMI-7005
1.5	M4	1.6	7.0	5	5.0	11.0	14.5	0.8	AMI-7154
1.5	M4	1.6	10.0	5	6.0	13.0	18.0	0.8	AMI-7105
1.5	M5	1.6	10.0	5	6.0	13.0	18.0	0.8	AMI-7006
1.5	M6	1.6	10.0	5	6.0	13.0	18.0	0.8	AMI-7007
1.5	M6	1.6	12.0	5	6.0	12.0	18.0	0.8	AMI-7106
2.5	M3	2.3	6.5	5	3.5	9.5	12.7	0.8	AMI-7107
2.5	M3.5	2.3	6.5	5	3.5	9.5	12.7	0.8	AMI-7008
2.5	M3.5	2.3	8.0	5	5.0	12.0	16.0	0.8	AMI-7108
2.5	M4	2.3	8.0	5	6.0	12.0	16.0	0.8	AMI-7009
2.5	M5	2.3	8.0	5	5.0	12.0	16.0	0.8	AMI-7010
2.5	M5	2.3	10.0	5	7.0	13.0	18.0	0.8	AMI-7109
2.5	M6	2.3	10.0	5	7.0	13.0	18.0	0.8	AMI-7011



COPPER RING TONGUE TYPE TERMINALS (BRAZED) (BRAZED, INSULATED & PRE-INSULATED)

Material: Tin Plated Copper | Flared PVC

Size mm ²	ØE	Ød1	a	b	h	l-1	j	f	CAT NO.
2.5	M5	2.3	12.0	5	9.0	16.0	22.0	0.8	AMI-7110
2.5	M6	2.3	12.0	5	9.0	16.0	22.0	0.8	AMI-7012
2.5	M8	2.3	12.0	5	9.0	16.0	22.0	0.8	AMI-7013
2.5	M6	2.3	16.0	5	10.0	17.0	25.0	0.8	AMI-7111
2.5	M8	2.3	16.0	5	10.0	17.0	25.0	0.8	AMI-7014
2.5	M10	2.3	16.0	5	10.0	17.0	25.0	0.8	AMI-7015
2.5	M10	2.3	18.0	5	14.0	20.0	29.0	0.8	AMI-7151
2.5	M12	2.3	18.0	5	14.0	20.0	29.0	0.8	AMI-7047
4.6	M4	3.5	8.0	6	5.0	13.0	17.0	1.0	AMI-7155
4.6	M5	3.5	8.0	6	5.0	13.0	17.0	1.0	AMI-7050
4.6	M4	3.5	10.0	6	5.0	14.0	19.0	1.0	AMI-7112
4.6	M5	3.5	10.0	6	5.0	14.0	19.0	1.0	AMI-7016
4.6	M5	3.5	8.0	6	9.8	1.8	22.8	1.0	AMI-7157
4.6	M5	3.5	12.0	6	6.0	14.0	20.0	1.0	AMI-7113
4.6	M6	3.5	12.0	6	6.0	14.0	20.0	1.0	AMI-7017
4.6	M8	3.5	12.0	6	6.0	14.0	20.0	1.0	AMI-7018
4.6	M5	3.5	12.0	6	7.0	16.0	22.0	1.0	AMI-7114
4.6	M6	3.5	12.0	6	7.0	16.0	22.0	1.0	AMI-7019
4.6	M6	3.5	14.0	6	10.5	18.5	25.5	1.0	AMI-7115
4.6	M8	3.5	14.0	6	10.5	18.5	25.5	1.0	AMI-7020
4.6	M0	3.5	14.0	6	10.5	18.5	25.5	1.0	AMI-7021
4.6	M8	3.5	16.0	6	13.0	22.0	30.0	1.0	AMI-7116
4.6	M10	3.5	16.0	6	13.0	22.0	30.0	1.0	AMI-7022
4.6	M8	3.5	18.0	6	12.0	21.0	30.0	1.0	AMI-7117
4.6	M10	3.5	18.0	6	12.0	21.0	30.0	1.0	AMI-7023
4.6	M12.5	3.5	18.0	6	12.0	21.0	30.0	1.0	AMI-7024
10	M4	4.3	10	8	7	17	22	1.0	AMI-7118
10	M5	4.3	10	8	7	17	22	1.0	AMI-7025
10	M4	4.3	10	8	4	15	20	1.0	AMI-7119
10	M5	4.3	10	8	4	15	20	1.0	AMI-7026



COPPER RING TONGUE TYPE TERMINALS (BRAZED)
(BRAZED, INSULATED & PRE-INSULATED)

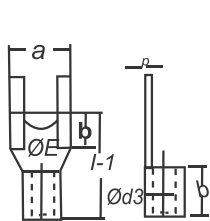
Material: Tin Plated Copper | Flared PVC

Size mm ²	ØE	ød1	a	b	h	l-1	j	f	CAT NO.
10	M6	4.3	12	8	7	17	23	1.0	AMI-7120
10	M8	4.3	16	8	7	19	27	1.0	AMI-7121
10	M8	4.3	18	8	9	21	30	1.0	AMI-7122
10	M10	4.3	18	8	9	21	30	1.0	AMI-7027
10	M10	4.3	22	8	10	23	34	1.0	AMI-7123
10	M12	4.3	22	8	10	23	34	1.0	AMI-7028
16	M5	5.6	10	10	6	19	24	1.2	AMI-7124
16	M5	5.6	12	10	6	20	26	1.2	AMI-7125
16	M6	5.6	12	10	6	20	26	1.2	AMI-7029
16	M6	5.6	16	10	8	22	30	1.2	AMI-7126
16	M8	5.6	16	10	8	22	30	1.2	AMI-7030
16	M10	5.6	16	10	8	22	30	1.2	AMI-7031
16	M8	5.6	18	10	10	24	33	1.2	AMI-7127
16	M10	5.6	18	10	10	24	33	1.2	AMI-7032
16	M10	5.6	22	10	8	24	35	1.2	AMI-7128
16	M12	5.6	22	10	8	24	35	1.2	AMI-7033
25	M6	7.5	12	11	10	25	31	1.8	AMI-7156
25	M8	7.5	12	11	10	25	31	1.8	AMI-7051
25	M6	7.5	16	11	6	22	30	1.8	AMI-7129
25	M8	7.5	16	11	6	22	30	1.8	AMI-7034
25	M10	7.5	16	11	6	22	30	1.8	AMI-7035
25	M6	7.5	16	11	10	25	33	1.8	AMI-7130
25	M8	7.5	16	11	10	25	33	1.8	AMI-7036
25	M10	7.5	18	11	9	25	34	1.8	AMI-7131
25	M10	7.5	22	11	14	31	42	1.8	AMI-7132
25	M12	7.5	22	11	14	31	42	1.8	AMI-7037
35	M6	9.0	16	12	6	23	31	1.8	AMI-7133
35	M8	9.0	16	12	6	23	31	1.8	AMI-7038
35	M8	9.0	18	12	10	27	36	1.8	AMI-7134

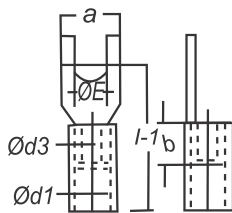


COPPER RING TONGUE TYPE TERMINALS (BRAZED)
(BRAZED, INSULATED & PRE-INSULATED)

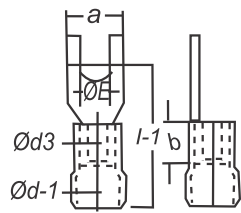
Material: Tin Plated Copper | Flared PVC



NON-INSULATED



INSULATED



PRE-INSULATED

Size, mm²	ØE	ød3	a	b	h	l-1	f	CAT NO.	ød1	l-1	CAT NO.	ød1	l-1	CAT NO.
1.0	M3	1.3	6.0	5	5.2	11.0	0.8	AMI 100	2.6	16.0	AMI 100	3.0	16.0	AMI 100
1.5	M3	1.6	6.0	5	5.2	11.0	0.8	AMI 1.5DS	3.0	16.0	AMI 1.5DS	3.0	16.0	AMI 1.5DS
1.5	M3.5	1.6	6.8	5	4.8	11.1	0.8	AMI 7249	3.2	16.1	AMI 7926	3.6	16.1	AMI 7935
2.5	M3.5	2.3	6.5	5	4.3	11.8	0.8	AMI 7251	3.9	21.8	AMI 7928	4.4	16.8	AMI 7937
2.5	M5.0	2.6	10.6	6.2	6.2	12.4	1.0	AMI 7280	4.6	20.0	AMI 7929	4.4	16.2	AMI 7938
4.6	M3	3.5	6.0	6	5.5	11.5	1.0	AMI 7252	5.5	27.5	AMI 7930	6.4	20.5	AMI 7939
4.6	M3.5	3.5	6.0	6	5.0	11.0	1.0	AMI 7253	5.5	27.0	AMI 7931	6.4	20.0	AMI 7940

PIN TYPE INSULATED TERMINALS

Material: Tin Plated Copper | Flared PVC

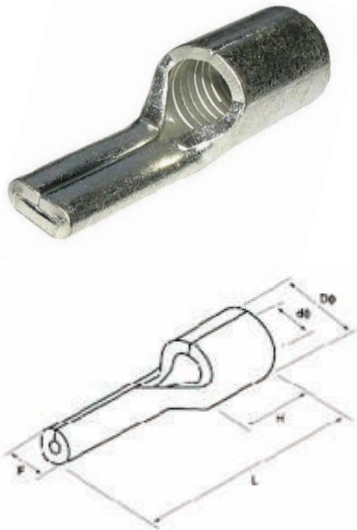
Part No.	Dimension(mm)				Color
	F	L	H	D	
AMI 1.5-9	1.9	19.0	10.0	4.3	Red
AMI 1.5-10	1.9	20.0			
AMI 1.5-12	1.9	22.0			
AMI 1.5-13	1.9	23.0			
AMI 1.5-18	1.9	28.0			
AMI 2.5-9	1.9	19.0	10.0	4.9	Blue
AMI 2.5-10	1.9	20.0			
AMI 2.5-12	1.9	22.0			
AMI 2.5-13	1.9	23.0			
AMI 2.5-18	1.9	28.0			
AMI 4-6-13	2.8	25.5	13.0	6.7	Yellow

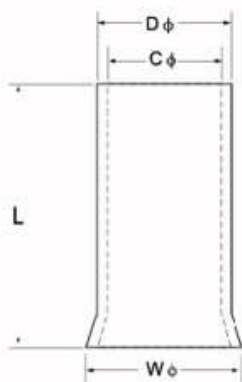


PIN TYPE BRAZED TERMINALS

Material: Tin Plated Copper | Flared PVC

Part No.	Dimension(mm)				
	F	L	H	D	d
AMI 1.5-9	1.9	13.8	4.8	3.4	1.7
AMI 1.5-10	1.9	14.8			
AMI 1.5-12	1.9	16.8			
AMI 1.5-13	1.9	17.8			
AMI 1.5-18	1.9	22.8			
AMI 2.5-9	1.9	13.8	4.8	4.1	2.3
AMI 2.5-10	1.9	14.8			
AMI 2.5-12	1.9	16.8			
AMI 2.5-13	1.9	17.8			
AMI 2.5-18	1.9	22.8			
AMI 4-10	2.8	14.8	6.0	5.0	3.0
AMI 4-13	2.8	19.8		5.6	3.4
AMI 6-13	2.8	19.8		5.6	3.4



**NON-INSULATED CORD
END SLEEVES****Material:** Tin Plated Copper

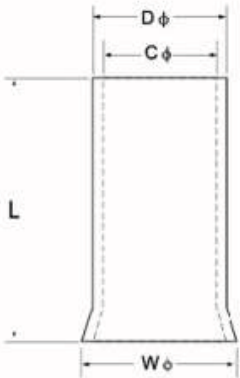
Part No.	Dimension(mm)				Wire range	
	L	D	C	W	A.W.G.	mm ²
EH 0306	6.0	1.1	0.8	1.5	24	0.3
EH 0308	8.0					
EH 0505	5.0	1.3	1.0	1.7	22	0.5
EH 0506	6.0					
EH 0508	8.0					
EH 0510	10.0					
EH 0512	12.0	1.5	1.2	1.9	20	0.75
EH 7506	6.0					
EH 7508	8.0					
EH 7510	10.0					
EH 7512	12.0					
EH 7515	15.0					
EH 1006	6.0	1.7	1.4	2.9	18	1.0
EH 1008	8.0					
EH 1010	10.0					
EH 1012	12.0					
EH 1015	15.0					
EH 1018	18.0					
EH 1507	7.0	2.0	1.7	2.5	16	1.5
EH 1508	8.0					
EH 1510	10.0					
EH 1512	12.0					
EH 1515	15.0					
EH 1518	18.0					
EH 2506	6.0	2.6	2.3	3.3	14	2.5
EH 2507	7.0					
EH 2508	8.0					
EH 2510	10.0					
EH 2512	12.0					
EH 2515	15.0					
EH 2518	18.0	3.2	2.8	3.9	12	4
EH 4009	9.0					
EH 4010	10.0					
EH 4012	12.0					
EH 4015	15.0					
EH 4018	18.0					



Part No.	Dimension(mm)				Wire range	
	L	D	C	W	A.W.G.	mm ²
EH 6010	10.0	3.9	3.5	4.7	10	6
EH 6012	12.0					
EH 6015	15.0					
EH 6018	18.0					
EH 10-12	12.0	4.9	4.5	5.8	8	10
EH 10-15	15.0					
EH 10-16	16.0					
EH 10-18	18.0					
EH 16-12	12.0	6.2	5.8	7.2	6	16
EH 16-15	15.0					
EH 16-16	16.0					
EH 16-18	18.0					
EH 16-20	20.0					
EH 16-22	22.0					
EH 16-25	25.0					
EH 16-30	30.0					
EH 25-12	12.0	7.9	7.5	9.1	4	25
EH 25-15	15.0					
EH 25-16	16.0					
EH 25-18	18.0					
EH 25-20	20.0					
EH 25-22	22.0					
EH 25-25	25.0					
EH 25-30	30.0	8.7	8.3	10.2	2	35
EH 35-12	12.0					
EH 35-15	15.0					
EH 35-16	16.0					
EH 35-18	18.0					
EH 35-20	20.0					
EH 35-25	25.0					
EH 35-30	30.0	10.9	10.3	12.7	1/0	50
EH 50-12	12.0					
EH 50-18	18.0					
EH 50-22	22.0					
EH 50-25	25.0					
EH 50-30	30.0	14.3	13.5	15.8	2/0	70
EH 70-22	22.0					
EH 70-25	25.0					
EH 70-30	30.0	15.6	14.3	17.3	3/0	95
EH 90-25	25.0					
EH 90-30	30.0					
EH 90-32	32.0	17.7	16.7	20.2	4/0	120
EH 120-30	30.0					
EH 120-32	32.0					
EH 120-34	34.0					
EH 120-38	38.0	20.6	19.6	23.0	250/300 MCM	150
EH 150-32	32.0					
EH 150-34	34.0					
EH 150-38	38.0	21.4	20.2	23.9	300/350 MCM	185
EH 185-32	32.0					
EH 185-40	40.0					

NON-INSULATED CORD
END SLEEVES

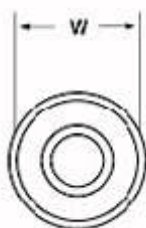
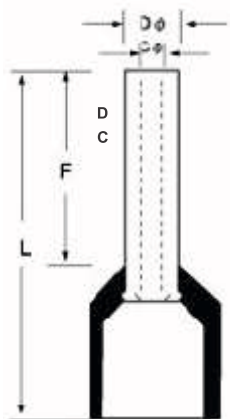
Material: Tin Plated Copper





INSULATED CORD END SLEEVES

Material: Tin Plated Copper



Part No.	Dimension(mm)					Wire range		Available Colors		
	F	L	W	D	C	A.W.G	mm ²			
EH1 0505	5.0	11.0	2.6	1.3	1.0	22	0.5	White	Orange	White
EH1 0506	6.0	12.0								
EH1 0508	8.0	14.0								
EH1 0510	10.0	16.0								
EH1 0512	12.0	18.0								
EH1 7506	6.0	12.3	2.8	1.5	1.2	20	0.75	Blue	White	Gray
EH1 7508	8.0	14.3								
EH1 7510	10.0	16.3								
EH1 7512	12.0	18.3								
EH1 7518	18.0	24.3								
EH1 1006	6.0	12.3	3.0	1.7	1.4	18	1.0	Red	Yellow	Red
EH1 1008	8.0	14.3								
EH1 1010	10.0	16.3								
EH1 1012	12.0	18.3								
EH1 1018	18.0	24.3								
EH1 1508	8.0	14.3	3.5	2.0	1.7	16	1.5	Black	Red	Black
EH1 1510	10.0	16.3								
EH1 1512	12.0	18.3								
EH1 1515	15.0	21.3								
EH1 1518	18.0	21.3								
EH1 2508	8.0	15.4	4.0	2.6	2.3	14	2.5	Gray	Blue	Blue
EH1 2510	10.0	17.4								
EH1 2512	12.0	19.4								
EH1 2518	18.0	25.4								
EH1 2525	25.0	32.4								
EH1 4009	9.0	16.4	4.5	3.2	2.8	12	4.0	Orange	Gray	Gray
EH1 4010	10.0	17.4								
EH1 4012	12.0	19.4								
EH1 4018	18.0	25.4								
EH1 6012	12.0	20.5	6.0	3.9	3.5	12	6.0	Green	Black	Yellow
EH1 6018	18.0	26.5								
EH1 10-12	12.0	20.8	7.5	4.9	4.5	8	10	Brown	Ivory	Red
EH1 10-18	18.0	26.8								
EH1 16-12	12.0	22.0	8.7	6.2	5.8	6	16	Ivory	Green	Blue
EH1 16-18	18.0	28.0								
EH1 25-12	12.0	24.0	11.0	7.9	7.5	4	25	Black	Brown	Yellow
EH1 25-16	16.0	28.0								
EH1 25-18	18.0	30.0								
EH1 25-22	22.0	34.0								
EH1 35-16	16.0	30.0	12.5	8.7	8.3	2	35	Red	Beige	Red
EH1 35-18	18.0	32.0								
EH1 35-22	22.0	36.0								
EH1 35-25	25.0	39.0								
EH1 50-12	20.0	28.0	15.0	10.9	10.3	1/0	50	Blue	Olive	Blue
EH1 50-20	12.0	36.0								
EH1 70-20	20.0	37.0	16.0	14.3	13.5	2/0	70	Yellow	Yellow	Yellow
EH1 70-25	25.0	42.0								
EH1 70-27	27.0	44.0	18.5	15.6	14.8	3/0	95	Red	Red	Red
EH1 95-25	25.0	44.0	20.3	17.7	16.7	4/0	120	Blue	Blue	Blue
EH1 120-27	27.0	47.6								
EH1 120-32	32.0	52.6								
EH1 150-25	25.0	50.6	23.4	20.6	19.6	250/300 MCM	150	Yellow	Yellow	Yellow
EH1 150-27	27.0	52.6								
EH1 150-32	32.0	57.6								

Industrial Cable Glands

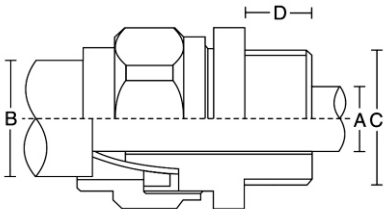
Cable glands are defined as 'mechanical cable entry devices' which are used in conjunction with cable and wiring for electrical, instrumentation & control, and automation systems, including lighting, power, data and telecoms.

Material: Brass

Gland Size	Thread Size 'C'		Minimum Length of Thread 'D'	Cable Range		Part Number
	Metric	NPT		Max 'A'	Max 'B'	
BW 20S	M20	1/2"	10	11.50	15.50	CGBW20S
BW 20L	M20	1/2"	10	14.00	20.50	CGBW20L
BW 25S	M25	3/4"	10	18.00	24.00	CGBW25S
BW 25L	M25	3/4"	10	20.00	27.20	CGBW25L
BW 32S	M32	1"	10	26.30	33.50	CGBW32S
BW 32L	M32	1"	10	26.30	33.50	CGBW32L
BW 40S	M40	1-1/4"	13	31.50	39.50	CGBW40S
BW 40L	M40	1-1/4"	13	32.00	40.00	CGBW40L
BW 50S	M50	1-1/2"	13	38.20	46.30	CGBW50S
BW 50L	M50	2"	13	44.00	52.60	CGBW50L
BW 63S	M63	2"	14	50.10	59.00	CGBW63S
BW 63L	M63	2-1/2"	14	56.00	65.30	CGBW63L
BW 75S	M75	2-1/2"	15	62.00	71.60	CGBW75S
BW 75L	M75	3"	15	68.00	78.00	CGBW75L
BW 90S	M90	3"	18	80.50	91.00	CGBW90S
BW 90L	M90	3"	18	80.50	91.00	CGBW90L



BW Glands





Material: Brass



A2 Glands

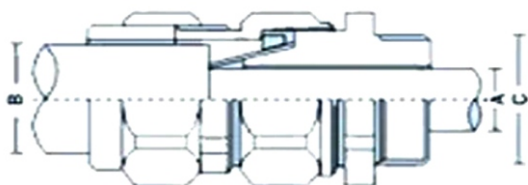
GLAND SIZES	STANDARD ENTRY THREADS OTHER OPTIONS			THREAD LENGTH			CABLE DIMANTION (MM) CABLE DIA		Part Number
	Metric (iso)	NPT/BSP	ET	Metric (iso)	NPT/BSP	ET	MIN	MAX	
A2 M20S/16	M16	1/2	3/4	15	19	16.5	8	11.5	CGA216L
A2 M20S	M20S	1/2"	3/4"	15	19	16.5	8	11.5	CGA220S
A2 M20L	M20	1/2"	3/4"	15	19	16.5	11	13.5	CGA220L
A2 M25S	M25S	3/4"	1"	15	20	16.5	13	16.5	CGA225S
A2 M25L	M25	3/4"	1"	15	20	16.5	16	19.5	CGA225L
A2 M32S	M32S	1"	1-1/4"	15	20	16.5	19	25.5	CGA232S
A2 M32L	M32	1"	1-1/4"	15	20	16.5	19	25.5	CGA232L
A2 M40S	M40S	1-1/4"	1-1/2"	15	22	16.5	23	29	CGA240S
A2 M40L	M40	1-1/4"	1-1/2"	15	22	16.5	23	32	CGA240L
A2 M50S	M50S	1-1/2"	2"	20	22	20	31.5	37	CGA250S
A2 M50L	M50	2"	2"	20	22	20	36.5	43	CGA250L
A2 M63S	M63S	2"	2-1/2"	20	22	20	42.5	50	CGA263S
A2 M63L	M63	2-1/2"	2-1/2"	20	22	20	49.5	55	CGA263L
A2 M75S	M75S	2-1/2"	3"	20	29	20	54.5	61	CGA275S
A2 M75L	M753	3"	3"	20	29	20	60.5	67	CGA275L
A2 M90L	M90	3"	3-1/2"	20	29	20	65	78	CGA290L

Material: Brass



CW Glands

Gland Size	Thread Size 'C'		Minimum Lengthh of Thread 'D'	Cable Range		Part Number
	Metric	NPT		Max 'A'	Max 'B'	
CW 20S	M20	1/2"	10	11.50	15.50	CGCW20S
CW 20L	M20	1/2"	10	14.00	20.50	CGCW20L
CW 25S	M25	3/4"	10	18.00	24.00	CGCW25S
CW 25L	M25	3/4"	10	20.00	27.20	CGCW25L
CW 32S	M32	1"	10	26.30	33.50	CGCW32S
CW 32L	M32	1"	10	26.30	33.50	CGCW32L
CW 40S	M40	1-1/4"	13	31.50	39.50	CGCW40S
CW 40L	M40	1-1/4"	13	32.00	40.00	CGCW40L
CW 50S	M50	1-1/2"	13	38.20	46.30	CGCW50S
CW 50L	M50	2"	13	44.00	52.60	CGCW50L
CW 63S	M63	2"	14	50.10	59.00	CGCW63S
CW 63L	M63	2-1/2"	14	56.00	65.30	CGCW63L
CW 75S	M75	2-1/2"	15	62.00	71.60	CGCW75S
CW 75L	M75	3"	15	68.00	78.00	CGCW75L
BW 90S	M90	3"	18	80.50	91.00	CGCW90S
BW 90L	M90	3"	18	80.50	91.00	CGCW90L



[illegible]

The **AMIA** Total Solution for lightning protection For many years, amiable has been providing specialist lightning protection advice to customers in some of the most lightning prone areas of the world. Air termination systems including air rods and strike plates to capture lightning strikes, through our comprehensive range of down conductors and lightning protection components.

- Air termination systems
- Lightning protection conductors
- Conductor clips, clamps & holdfasts
- Bimetallic connection components



Lightning Protection

Flat Tape System	55 - 65
Solid Circular System	66 - 67
Cable & Wire System	68 - 71
Miscellaneous Products	72 - 72
Free-Standing Air Terminals	73 - 75

Taper Pointed Air Rods

Taper Pointed Air Rod is a part of Air Termination Network of a Lightning Protection System. All of Air Rods are supplied with Nuts enabling the rod to be locked tight against the conductor. These Taper Pointed Air Rods are Made Of high quality copper

Copper Air Rods

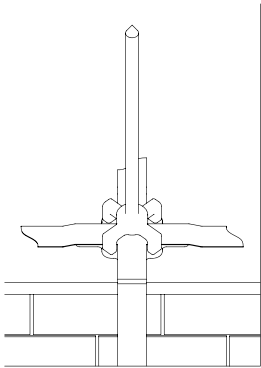
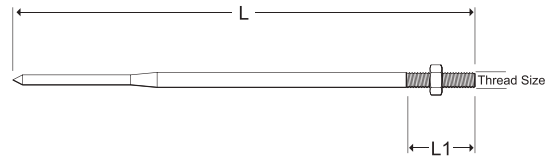
Material: Copper.

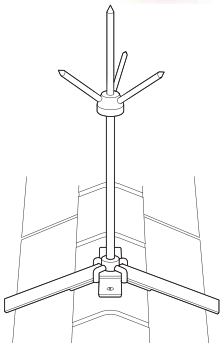
Thread Size	L mm	L1 mm	Unit Weight kg	Part Number
M16	300	41	0.53	CAR 112M
	500		0.85	CAR 120M
	600		1.00	CAR 124M
	1000		1.70	CAR 139M
	1500		2.59	CAR 160M
	2000		3.47	CAR 179M
	3000		5.10	CAR 192M
M20	300	41	0.80	CAR 212M
	500		1.34	CAR 220M
	1000		2.68	CAR 239M
	1500		4.02	CAR 260M
	2000		5.36	CAR 279M
	3000		8.04	CAR 292M

Aluminium Air Rods

Material: Aluminium.

Thread Size	L mm	L1 mm	Unit Weight kg	Part Number
M16	300	41	0.18	AAR 112M
	500		0.29	AAR 120M
	1000		0.57	AAR 139M
	1500		0.98	AAR160M
	2000		1.09	AAR 179M



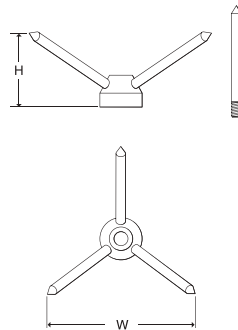


Multi-Point

Multiple Point is used in Cojunction with the Taper Pointed Air Rods. Made from high quality copper

Material: Copper Alloy base with Copper Spikes.

Air Rod Ø mm	H mm	W mm	Unit Weight kg	Part Number
16 & 20	156	72	0.32	MPAR 16



Light Duty Air Rod Saddles

These Air Rod Base are used to support Air Rods on Flat roof surfaces. Air Rod Base are made from Copper Alloy and Aluminium.

For use with Copper Air Rods

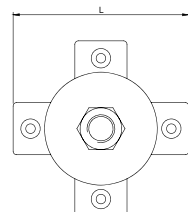
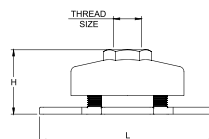
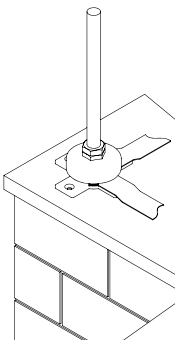
Material: Copper Alloy.

Thread Size	Conductor Size mm	L mm	H mm	Unit Weight kg	Part Number
M16	25 x 3	101	37	0.22	CARS 16M
M20				0.43	CARS 20M

For use with Aluminium Air Rods

Material: Aluminium.

Thread Size	Conductor Size mm	L mm	H mm	Unit Weight kg	Part Number
M16	25 x 3	101	37	0.15	AARS 16M



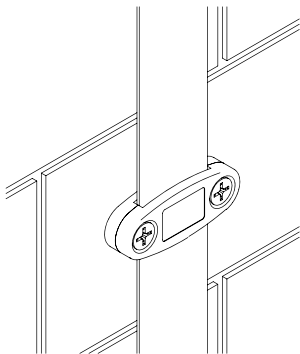
Metallic DC Clips

Metallic DC Clips are designed for securing lightning conductors to flat surfaces. They are suitable for use in Lightning Protection System. They can be used with bare or PVC insulated conductors.

For use with Bare Copper Tapes

Material: Copper Alloy.

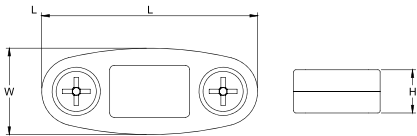
Conductor Size mm	L mm	W mm	H mm	Unit Weight kg	Part Number
20 x 3	50	21	10	0.06	MDCC 203
25 x 3	51		10	0.05	MDCC 253
25 x 4	51		11	0.05	MDCC 254
25 x 6	51		12	0.05	MDCC 256
30 x 2	56		9	0.05	MDCC 302
30 x 5	56		12	0.06	MDCC 305
31 x 3	60		10	0.07	MDCC 313
31 x 4	56		11	0.07	MDCC 314
31.5 x 4	56		11	0.06	MDCC 3154
31 x 6	56		12	0.06	MDCC 316
38 x 3	69		10	0.06	MDCC 383
38 x 5	64		12	0.09	MDCC 385
38 x 6	69		12	0.08	MDCC 386
40 x 3	70		10	0.07	MDCC 403
40 x 4	69		11	0.07	MDCC 404
40 x 5	69		12	0.07	MDCC 405
40 x 6	69		12	0.08	MDCC 406
50 x 3	76		10	0.06	MDCC 503
50 x 4	76		11	0.09	MDCC 504
50 x 6	76		12	0.06	MDCC 506
50 x 8	76		14	0.08	MDCC 508
60 x 5	90		11	0.10	MDCC 605
63 x 10	102	25	16	0.13	MDCC 6310
70 x 5	110		13	0.14	MDCC 705
75 x 6	110		14	0.14	MDCC 756
80 x 5	110		11	0.14	MDCC 805
80 x 6	110		14	0.14	MDCC 806



For use with PVC Covered Copper Tapes

Material: Copper Alloy.

Conductor Size mm	L mm	W mm	H mm	Unit Weight kg	Part Number
25 x 3	56	21	12	0.06	MDCCP 253
25 x 6	56		15	0.07	MDCCP 256
50 x 6	90	25	16	0.13	MDCCP 506





Metallic DC Clips (continued)

For use with Bare Aluminium Tapes

Material: Aluminium.

Conductor Size mm	L mm	W mm	H mm	Unit Weight kg	Part Number
25 x 3	52	21	10	0.02	MDCCA 253
25 x 6	50		13	0.03	MDCCA 256
50 x 6	76		12	0.03	MDCCA 506
60 x 6	90		17	0.05	MDCCA 606

For use with PVC Covered Aluminium Tapes

Material: Aluminium.

Conductor Size mm	L mm	W mm	H mm	Unit Weight kg	Part Number
25 x 3	55	20	20	0.03	DAP 253
50 x 6	85		23	0.04	DAP 506

Tape Clips

Made of high quality alloys of either copper or aluminium, these metallic clips help to keep flat tape conductors securely fixed, whether for an electrical installation or a structural lightning protection system.

For use with Bare Copper Tapes

Material: Copper.

Conductor Size mm	L mm	W mm	H mm	Unit Weight kg	Part Number
20 x 3	68	20	7	0.03	TCC 203
25 x 3	70		7	0.03	TCC 253
50 x 6	73		8	0.05	TCC 506



For use with PVC Covered Copper Tapes

Material: Copper.

Conductor Size mm	L mm	W mm	H mm	Unit Weight kg	Part Number
25 x 3	70	20	7	0.03	TCCP 253

For use with Bare Aluminium Tapes

Material: Aluminium.

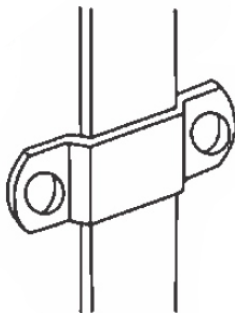
Conductor Size mm	L mm	W mm	H mm	Unit Weight kg	Part Number
20 x 3	68	20	7	0.01	TCA 203
25 x 3	70				TCA 253
25 x 6	73				TCA 256



For use with PVC Covered Aluminium Tapes

Material: Aluminium.

Conductor Size mm	L mm	W mm	H mm	Unit Weight kg	Part Number
25 x 3	70	20	7	0.01	TCAP 253





Square Tape Clamps

These four way connectors are suitable for crossing over tapes, making straight joint or T connections in continuous network of tapes. The base has a countersunk hole in the middle for securing the clamp in place; the lid is secured by four screws.

For use with Bare Copper Tapes

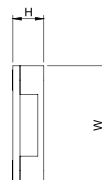
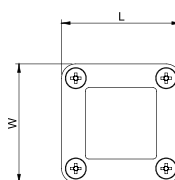
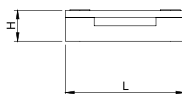
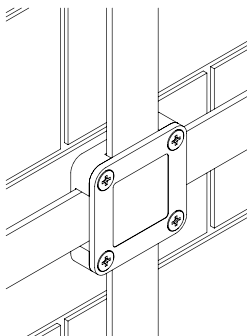
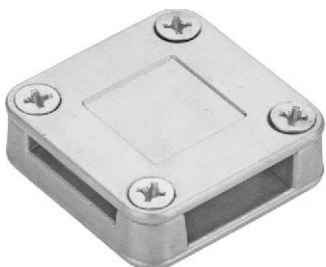
Material: High Copper Alloy.

Conductor Size mm	L mm	W mm	H mm	Unit Weight kg	Part Number
25 x 3	50	50	13	0.15	STC 253
25 x 4	50	50	15	0.16	STC 254
25 x 6	50	50	20	0.25	STC 256
30 x 2	56	56	12	0.18	STC 302
30 x 5	56	56	17	0.20	STC 305
31 x 3	60	60	14	0.22	STC 313
31 x 6	56	56	19		STC 316
38 x 3					STC 383
38 x 6	71	71	22	0.59	STC 386
40 x 3	66	66	13	0.26	STC 403
40 x 4	66	66	15	0.25	STC 404
40 x 5	66	66	18	0.28	STC 405
50 x 3	80	80	16	0.50	STC 503
50 x 4					STC 504
50 x 6	80	80	22	0.52	STC 506
50 x 8	80	80	27	0.68	STC 508

For use with Bare Aluminium Tape

Material: Aluminium.

Conductor Size mm	L mm	W mm	H mm	Unit Weight kg	Part Number
25 x 3	50	50	13	0.07	STCA 253
40 x 6	67	67	18	0.10	STCA 406
50 x 6	77	77	20	0.15	STCA 506



Oblong Junction Clamps

These clamps are used for straight connection of tapes. Being joints, it can also used as testing points for the network by disconnecting the joints.

For use with Bare Copper Tapes

Material: Copper Alloy.

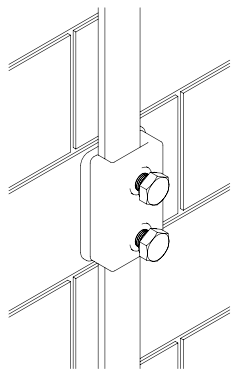
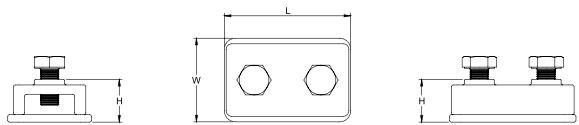
Maximum Conductor Size mm	L mm	W mm	H mm	Unit Weight kg	Part Number
26 x 8	60	51	24	0.27	OJCC 253 W
					OJCC 256 W
33 x 11	70	45	30	0.39	OJCC 316
51 x 10	90	63	26	0.58	OJCC 506

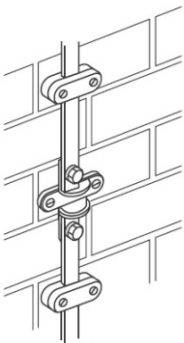
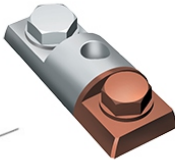
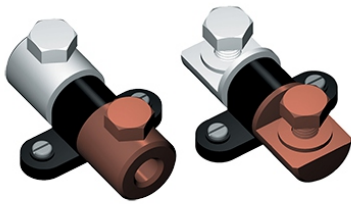


For use with Bare Aluminium Tape

Material: Aluminium.

Maximum Conductor Size mm	L mm	W mm	H mm	Unit Weight kg	Part Number
26 x 8	68	40	23	0.11	OJCA 253



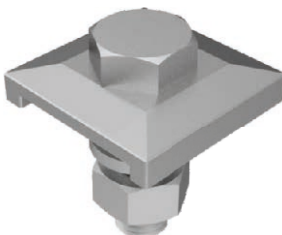
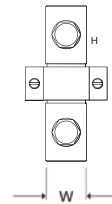


Bimetallic Connectors

Bimetallic connectors are manufactured from a friction welded joint between high conductivity copper and aluminium. Available in a range of sizes, these bimetallic connectors provide the ideal means of interconnecting copper and aluminium conductors, whilst avoiding any bimetallic corrosion

Fix using countersunk wood screws 1½" No. 10 or M6 and wall plugs

Conductor Size mm	Material Type	L mm	W mm	H mm	Unit Weight kg	Part Number
25 x 3	Aluminium & Copper	85	28	27	0.20	BC 253
	Aluminium & Copper	80	37	17	0.20	BC 253 FB
	Stainless Steel	75	32	11	0.16	BC 253
50 x 6	Aluminium & Copper	143	50	20	0.63	BC 506



'B' Bonds

'B' Type Bond connections are designed to bond either copper or aluminium conductor to flat metal surfaces.

For use with Copper Tapes

Material: Copper Alloy with M10 x 35mm Stainless Steel Screw Set .

Conductor Size mm	L mm	W mm	H mm	Unit Weight kg	Part Number
25 x 3	35	35	10	0.03	BBC 253 SS

For use with Aluminium Tapes

Material: Aluminium with M10 x 35mm Stainless Steel Screw Set.

Conductor Size mm	L mm	W mm	H mm	Unit Weight kg	Part Number
25 x 3	35	35	10	0.01	BBA 253

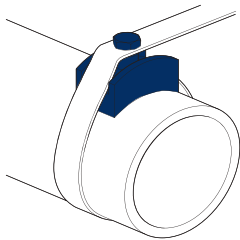
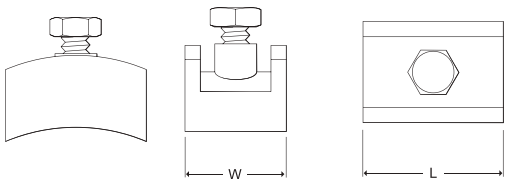
Watermain Pipe Bond

Water Main Pipe Bonds are used for bonding metallic main water pipes and copper tapes to earthing systems. They are suitable for bonding large diameter pipes.

For use with Bare Copper Tapes

Material: Copper Alloy with M10 x 35mm Phosphor Bronze Screw Set .

Maximum Conductor Width mm	L mm	W mm	Unit Weight kg	Part Number
26	45	36	0.21	WPB 253



Rainwater Pipe Bond

They are widely used for bonding the tapes on the rainwater pipes in residents, commercial building and various industries. Further, we Provide the range of Rain Water Pipe Bonds in various specifications as per the need and designs of customers.

For use with Bare Copper Tapes

Material: High Copper Alloy with M10 x 40mm Stainless Steel Screw Set .

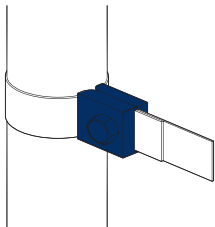
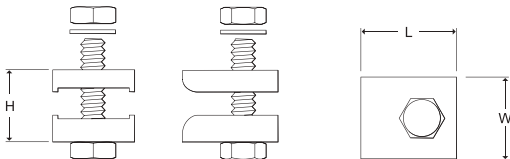
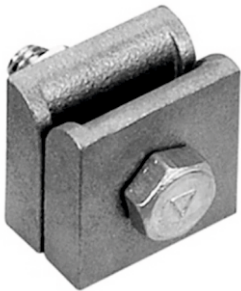
Maximum Conductor Width mm	L mm	W mm	H mm	Unit Weight kg	Part Number
26	32	32	16	0.20	RPBC 253



For use with Bare Aluminium Tapes

Material: Aluminium with M10 x 40mm Stainless Steel Screw Set.

Maximum Conductor Width mm	L mm	W mm	H mm	Unit Weight kg	Part Number
26	32	32	16	0.10	RPBA 253





Air Rods

A lightning air rod is a metal rod, usually of copper or conductive material, used as part of lightning safety to protect tall or isolated structures (such as the roof of a building or the mast of a vessel) from lightning damage.

Copper Air Rods

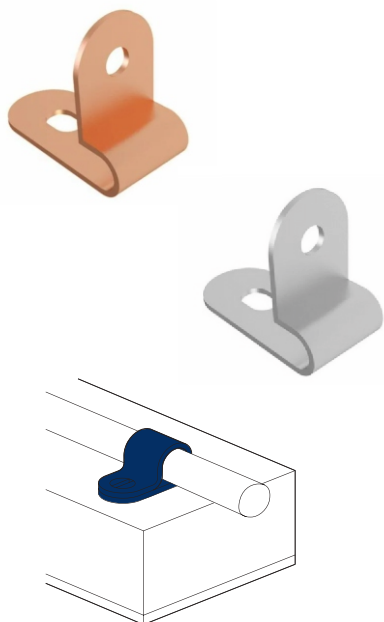
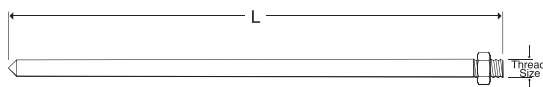
Material: Copper.

Thread Size	L mm	Unit Weight kg	Part Number
M10	500	0.35	ARC 102
	1000	0.70	ARC 105

Aluminium Air Rods

Material: Aluminium.

Thread Size	L mm	Unit Weight kg	Part Number
M10	500	0.11	ARA 102
	1000	0.22	ARA 105



One Hole Conductor Clips

One Hole Cable Clips are a simple solution for fixing circular lightning protection conductors to flat surfaces.

For use with Solid Circular Copper Conductors

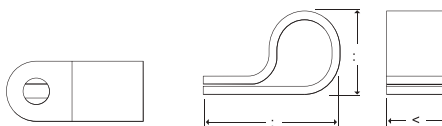
Material: Copper.

Conductor Size & Type	L mm	W mm	H mm	Unit Weight kg	Part Number
8mm Bare	31	12	12	0.01	OHCCC 001
8mm PVC	41	20	15		OHCCC 002

For use with Solid Circular Aluminium Conductors

Material: Aluminium.

Conductor Size & Type	L mm	W mm	H mm	Unit Weight kg	Part Number
8mm Bare	31	12	12	0.01	OHCCA 001
8mm PVC	41	20	15		OHCCA 002



Metallic Conductor Clips

Made of high quality alloys of either copper or aluminium, these metallic clips help to keep flat tape conductors securely fixed, whether for an electrical installation or a structural lightning protection system.

For use with Solid Circular Copper Conductors

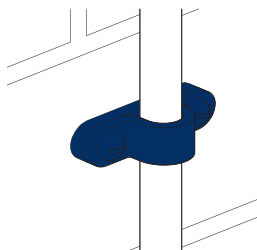
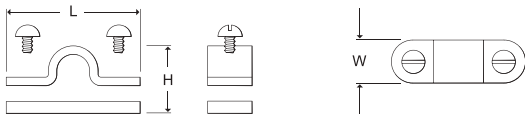
Material: Copper Alloy.

Conductor Size & Type	L mm	W mm	H mm	Unit Weight kg	Part Number
8mm Bare	48	17	20	0.06	MCCC 810
8mm PVC					MCCC 815

For use with Solid Circular Aluminium Conductors

Material: Aluminium.

Conductor Size & Type	L mm	W mm	H mm	Unit Weight kg	Part Number
8mm Bare	48	17	20	0.03	MCCA 810
8mm PVC					MCCA 815



‘MV’ Clamps

Multi-purpose connecting clamp for universal use as a cross clamp, T clamp and parallel clamp; two-piece.

For use with Bare Solid Circular Copper Conductor

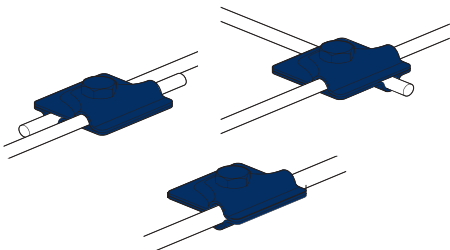
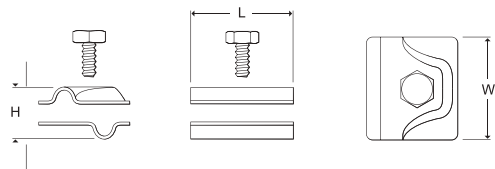
Material: Copper.

Conductor Size mm	L mm	W mm	H mm	Unit Weight kg	Part Number
8	40	40	18	0.05	MVCC 08

For use with Bare Solid Circular Aluminium Conductor

Material: Aluminium.

Conductor Size mm	L mm	W mm	H mm	Unit Weight kg	Part Number
8	40	40	18	0.01	MVCA 08





'T' Connector Clamps

This is used to connect the grounding rod to the earth line. These can also be used to secure copper cables or wire to steel structures. In addition to normal sizes, they are available in bespoke sizes and forms. Because of their corrosion resistance, conductivity, and mechanical strength, they are frequently employed.

For use with Bare Solid Circular Copper Conductor

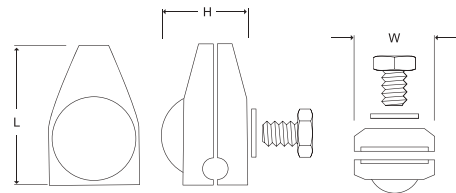
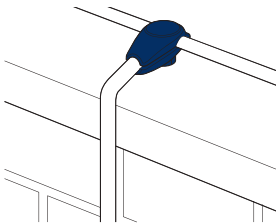
Material: Copper Alloy.

Conductor Size mm	L mm	W mm	H mm	Unit Weight kg	Part Number
8	45	45	19	0.26	TCCC 08

For use with Bare Solid Circular Aluminium Conductor

Material: Stainless Steel.

Conductor Size mm	L mm	W mm	H mm	Unit Weight kg	Part Number
8	44	25	20	0.06	TCCA 08



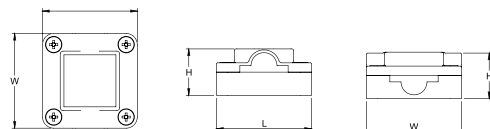
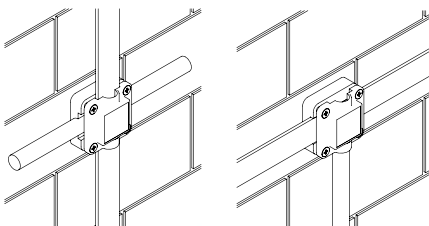
Solid Circular to Tape Connectors

This Earthmet four-way connector is suitable for crossing over flat tape and solid circular conductor. It will also serve for making straight through joints and tee connections.

For use with Bare Copper Conductors

Material: Copper Alloy.

Conductor Size mm	L mm	W mm	H mm	Unit Weight kg	Part Number
50, 8 & 25 x 3	51	51	25	0.27	SCTCC 050
	51	51	31	0.30	SCTCC 070
	51	51	34	0.31	SCTCC 095
	51	51	37	0.32	SCTCC 120



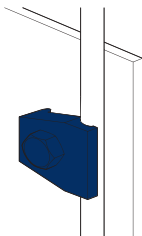
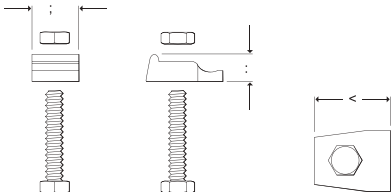
Tower Earth Clamps

Tower Earth Clamps are used for bonding copper conductors onto steel surfaces. These single plate design provides robust fixing in areas where there is cladding, or entire surface covered with cement.

For use with Bare Solid Circular Copper Conductor

Material: Copper Alloy,

Conductor Size mm	L mm	W mm	H mm	Set Screw	Unit Weight kg	Part Number
8	34	23	33	M10 x 50mm	0.09	TECC 008



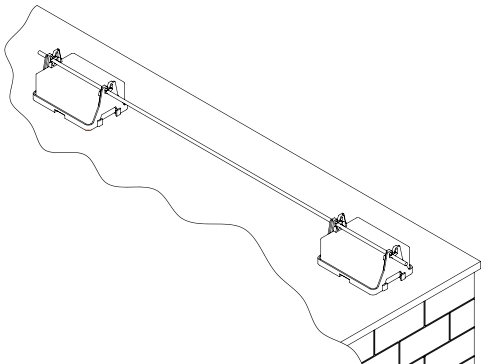
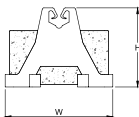
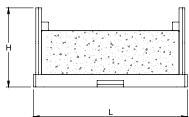
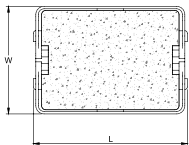
Pyramid Holdfast

Pyramid holdfast is designed to secure 8 mm diameter, solid circular conductors securely to flat roofs. Supplied filled with concrete, the conductor is held firmly in place by the weight of the holdfast.

For use with Bare Solid Circular Conductors

Material: Plastic base with a Concrete Insert.

Conductor Size mm	mm	W mm	H mm	Unit Weight kg	Part Number
8	120	95	72	0.98	PH 008





One Hole Cable Clips

One hole cable clips provide an easy method of fixing stranded copper conductors to surfaces.

For use with Bare Stranded Copper Conductors

Material: Copper.



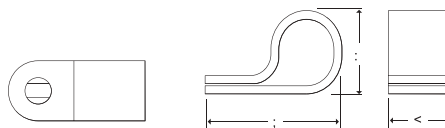
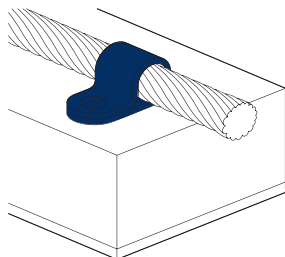
Conductor Size mm ²	L mm	W mm	H mm	Unit Weight kg	Part Number
6	10	10	5	0.01	OHCCC 006
10	10	10	5	0.01	OHCCC 010
16	15	10	5	0.01	OHCCC 016
25	15	10	8	0.01	OHCCC 025
35	18	10	8	0.01	OHCCC 035
50	18	10	10	0.01	OHCCC 050
70	22	10	10	0.01	OHCCC 070
95	22	10	13	0.01	OHCCC 095
120	25	15	15	0.01	OHCCC 120
150	25	15	15	0.02	OHCCC 150
185	30	15	20	0.02	OHCCC 185
240	30	20	20	0.02	OHCCC 240
300	35	20	25	0.02	OHCCC 300

For use with PVC Insulated Stranded Copper Conductors

Material: Copper.



Conductor Size mm ²	L mm	W mm	H mm	Unit Weight kg	Part Number
6	10	10	5	0.01	OHCCP 006
10	10	10	7	0.01	OHCCP 010
16	15	10	7	0.01	OHCCP 016
25	15	10	10	0.01	OHCCP 025
35	18	10	10	0.01	OHCCP 035
50	18	10	15	0.01	OHCCP 050
70	22	10	15	0.01	OHCCP 070
95	22	10	15	0.01	OHCCP 095
120	25	15	20	0.01	OHCCP 120
150	25	15	20	0.02	OHCCP 150
185	30	15	25	0.02	OHCCP 185
240	30	20	25	0.02	OHCCP 240
300	35	20	30	0.02	OHCCP 300



Metallic Cable Clips

These clips secure the stranded copper conductor to the building surface. For use with Bare Stranded Copper Conductors.

For use with Bare Stranded Copper Conductors

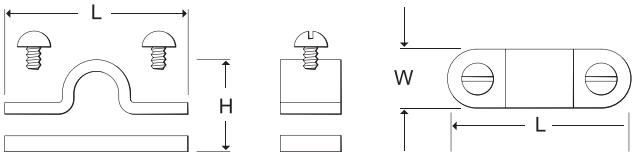
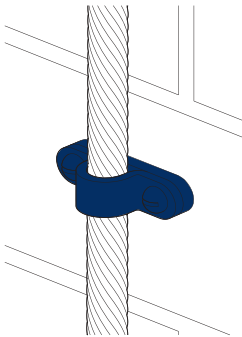
Material: Copper Alloy.

Conductor Size mm ²	L mm	W mm	H mm	Unit Weight kg	Part Number
6	46	17	12	0.04	MCCC 006
10	46	17	12	0.04	MCCC 010
16	46	17	17	0.05	MCCC 016
25	46	17	17	0.06	MCCC 025
35	60	20	22	0.07	MCCC 035
50	60	20	22	0.07	MCCC 050
70	60	20	22	0.08	MCCC 070
95	60	20	22	0.08	MCCC 095
120	60	20	23	0.09	MCCC 120
150	60	20	28	0.09	MCCC 150
185	60	20	26	0.09	MCCC 185
240	60	20	29	0.10	MCCC 240
300	60	20	31	0.10	MCCC 300
400					MCCC 400

For use with PVC Insulated Stranded Copper Conductors

Material: Copper Alloy.

Conductor Size mm ²	L mm	W mm	H mm	Unit Weight kg	Part Number
6	46	17	14	0.04	MCCP 006
10	46	17	14	0.04	MCCP 010
16	46	17	19	0.05	MCCP 016
25	46	17	19	0.06	MCCP 025
35	60	20	24	0.07	MCCP 035
50	60	20	24	0.07	MCCP 050
70	60	20	24	0.08	MCCP 070
95	60	20	24	0.08	MCCP 095
120	60	20	25	0.09	MCCP 120
150	60	20	30	0.09	MCCP 150
185	60	20	28	0.09	MCCP 185
240	60	20	31	0.10	MCCP 240
300	60	20	33	0.10	MCCP 300





Square Cable Clamps

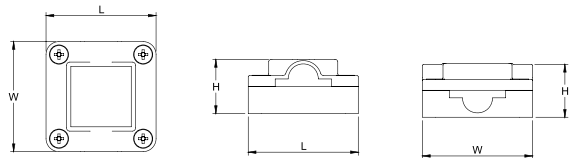
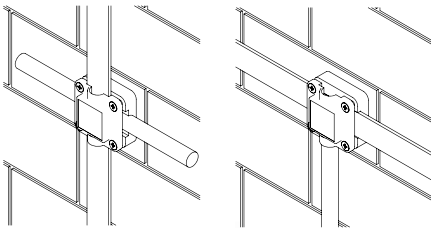


Cable to cable clamps are manufactured from high quality copper alloy, providing an effective low resistance connection between overlapping stranded conductors. These four-way connectors are suitable for making cross, straight through or tee joints in stranded conductors.

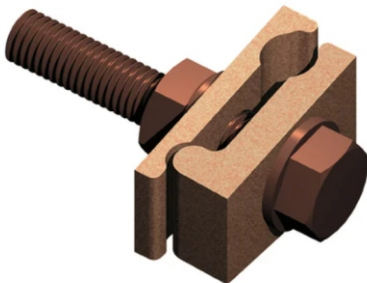
Cable to cable square clamps are available for a range of different conductor sizes.

Material: High Copper Alloy.

Cable Size mm ²	L mm	W mm	H mm	Unit Weight kg	Part Number
50	51	51	25	0.27	SCC 050
70	51	51	31	0.30	SCC 070
95	51	51	34	0.31	SCC 095
120	51	51	38	0.32	SCC 120



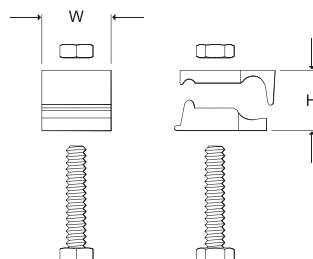
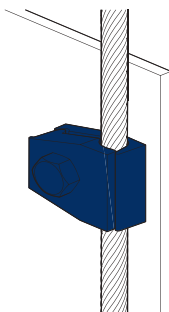
Tower Earth Clamps



Tower Earth Clamps are used for bonding copper conductors onto steel surfaces. The double plate design provides robust fixing in areas where there is cladding, or entire surface covered with cement.

Material: Copper Alloy.

Conductor Range mm ²	L mm	W mm	H mm	Set Screw	Unit Weight kg	Part Number
16 - 70	45	30	17	M10 x 50mm	0.12	TEC 070
70 - 120	48	35	22	M12 x 60mm	0.23	TEC 120
120 - 185	55	40	28	M12 x 75mm	0.30	TEC 185
185 - 240	63	45	35	M12 x 80mm	0.40	TEC 240
240 - 300	70	53	42	M12 x 90mm	0.60	TEC 300

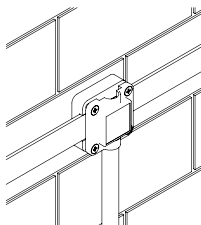
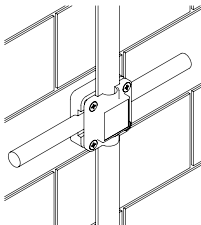
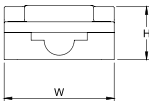
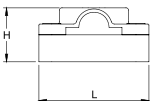
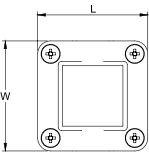


Cable to Tape Connectors

Cable to Tape Connectors by This four-way connector is suitable for crossing over flat copper tape and bare stranded copper cable. It will also serve for making straight through joints and tee connections.

Material: Copper Alloy.

Cable Size mm²	Tape Size mm	L mm	W mm	H mm	Unit Weight kg	Part Number
50	25 x 3	51	51	25	0.27	CTC 050
70		51	51	31	0.30	CTC 070
95		51	51	34	0.31	CTC 095
120		51	51	37	0.34	CTC 120





Bitumen Felt Roll

These Bitumen Felt Rolls are vastly used for anti-corrosive treatment and waterproofing applications. All these are highly recommended for their high covering area.

Description	Unit Weight kg	Part Number
100mm wide x 10m length roll	2.64	BFR



Green & Yellow PVC Insulating Tape

Our green / yellow PVC electrical insulation tape is flexible and easy to apply to wires, circuits and connections. The premium PVC material provides long lasting protection against abrasion, extreme temperatures and moisture.

Description	Unit Weight kg	Part Number
25mm wide x 33m length roll	0.14	GYPT



Anti-corrosion Sealing Tape

Sealing Tapes for Electrical Applications Moisture and Corrosion Protection In addition to low-voltage electrical insulation, mastic tape creates a barricade around splices and terminations.

Description	Unit Weight kg	Part Number
50mm wide x 10m length roll	0.70	ST



Silfos

An alloy of silver, phosphorous and copper, Silfos is used to braze copper in air without the use of Flux.

Description	Unit Weight kg	Part Number
50mm x 0.12 x 8m length roll	0.50	SILFOS

CoSHH datasheet available on request.



Free-Standing Air Terminal Supports

Free-Standing Air Terminals by Earthmet A range of free-standing lightning interception terminals for the protection of roof-mounted equipment on surfaces where no penetration of the roof structure for anchoring is allowed. We recommend that all concrete bases are installed using the Protective Roof Pads. FREE STANDING AIR TERMINAL SUPPORTS

Square Plate Support

For use with air terminals up to 4m. Used in conjunction with square concrete bases.

Material: Stainless Steel.

Terminal Height m	Terminal Barrel Ø mm	Required Mounting Space mm	Number of Concrete Supports	Unit Weight kg	Part Number
Up to 4.0m	42	650 x 650	4 or 8	7.00	ATSS 001



Tripod Supports

For use with air terminals between 4.5m and 10m. Used in conjunction with round concrete bases.

Material: Stainless Steel.

Terminal Height m	Terminal Barrel Ø mm	Required Mounting Space mm	Number of Concrete Supports	Unit Weight kg	Part Number
4.5 - 5.5	42	1350 x 1350	3	8.00	ATST 001
6.0 - 8.0	60	1850 x 1850	6	25.00	ATST 002
9.0 - 10.0	60	1850 x 1850	10	40.00	ATST 003



Quad Support

For use with air terminals between 11m and 12m. This item comes with 36 concrete bases (32 x 16kgs + 4 x 12kgs).

Material: Stainless Steel.

Terminal Height m	Terminal Barrel Ø mm	Required Mounting Space mm	Number of Concrete Supports	Unit Weight kg	Part Number
11.0 - 12.0	60	3400 x 3400	36	697.00*	ATSQ 001

*The unit weight is including the concrete supports.
The weight of the base frame is 137KGS



Wall Mounting Bracket

For use with air terminals up to 12m.

Material: Stainless Steel.

Terminal Height m	Terminal Barrel Ø mm	Required Mounting Space mm	Number of Concrete Supports	Unit Weight kg	Part Number
Up to 12.0m	60	300 x 300	200	8.55	ATSW 002





Free-Standing Air Terminals

This heavy duty stainless steel earthing clamps is primarily used for the earthing 205 litre drums

This product is supplied complete with chemically resistant Cen-Stat 5m spiral cable and 10mm ring terminal.

Material: Stainless Steel with Aluminium tip.

Terminal Height m	Components m	Unit Weight kg	Part Number
3.0	Two-piece: 1.5 + 1.5	5.00	FSAT 030
3.5	Two-piece: 2.0 + 1.5	5.50	FSAT 035
4.0	Two-piece: 2.5 + 1.5	7.00	FSAT 040
4.5	Two-piece: 3.5 + 1.0	9.20	FSAT 045
5.0	Two-piece: 3.5 + 1.5	10.00	FSAT 050
5.5	Two-piece: 4.0 + 1.5	10.60	FSAT 055
6.0	Three-piece: 2.0 + 2.0 + 2.0	18.00	FSAT 060
6.5	Three-piece: 2.5 + 2.0 + 2.0	21.20	FSAT 065
7.0	Three-piece: 3.0 + 2.0 + 2.0	23.50	FSAT 070
7.5	Three-piece: 3.5 + 2.0 + 2.0	26.00	FSAT 075
8.0	Three-piece: 4.0 + 2.0 + 2.0	28.70	FSAT 080
9.0	Three-piece: 4.0 + 2.5 + 2.5	30.50	FSAT 090
10.0	Three-piece: 5.0 + 2.5 + 2.5	35.50	FSAT 010
11.0	Three-piece: 5.0 + 3.5 + 2.5	37.80	FSAT 011
12.0	Three-piece: 6.0 + 3.5 + 2.5	42.90	FSAT 012





Concrete Bases

Square

Used in conjunction with the Square Plate Support.

Material: Concrete.

Base Weight kg	Size mm	Height mm	Part Number
12	300 x 300	60	CBS 012
16		80	CBS 016

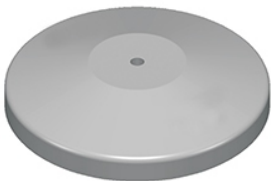


Round

Used in conjunction with the Tripod and Quad Supports.

Material: Concrete.

Base Weight kg	Ø mm	Height mm	Part Number
12	380	75	CBR 012
16	380	93	CBR 016
20	380	105	CBR 020
25	420	105	CBR 025

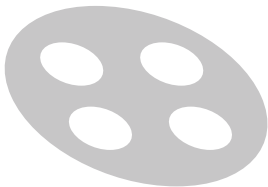


Protective Roof Pad

Suit all sizes of round and square concrete bases. Protects waterproof roofing membrane from damage.

Material: Rubber.

Size mm	Part Number
Ø 445 / 300 x 300	PRR 001



Conductors



Introduction

A conductor is a substance or material that allows electricity to flow through it. In a conductor, electrical charge carriers usually electrons or ions, move easily from atom to atom when voltage is applied. Selection of the correct conductor type for the installation is highly important, This conductor is important for initial consideration of a earthing and lightning protection system.

AMIALE offers complete range of conductor products in aluminium and copper design for earthing and lightning protection.

Conductors are available in a variety of sizes to meet differing lightning protection and earthing requirements. Specification will depend on whether the conductor is for an above ground structural lightning protection system or a below ground earthing installation.

- Bare Copper Tape
- Bare Stranded Copper Conductor
- Copper Clad Wire
- Bare Aluminium Tap
- Bare Solid Circular Copper Conductor
- Flexible Copper Braid Flat/Round

Conductors

Introduction 78 - 79

Flat Tape System 80 - 92

Solid Circular System 93 - 94

Cable & Wire System 95 - 99

Copper Clad Conductor 100 - 106

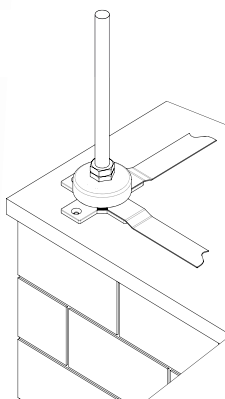
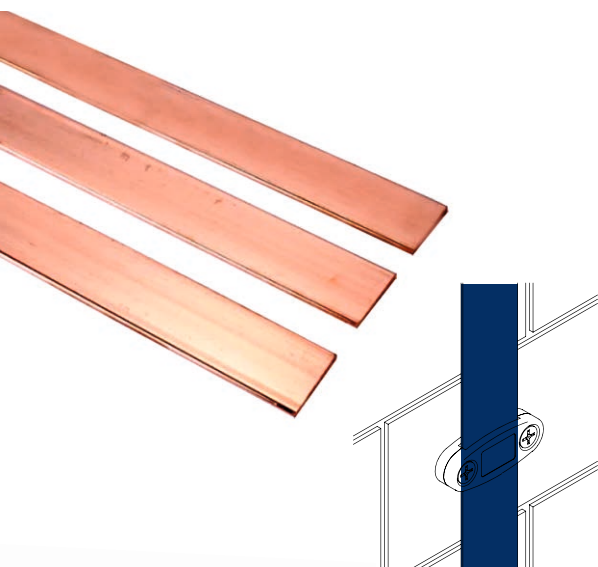
Products	Bare	Tinned	PVC	PVC+ Tinned
1. Bare Copper Tape	✓	✓	✓	✓
2. Bare Stranded Copper Conductor	✓	✓	✓	✓
3. Bare Aluminium Tap	✓	✗	✓	✗
4. Bare Solid Circular Copper Conductor	✓	✓	✓	✓
5. Flexible Copper Braid Flat/Round	✓	✓	✗	✗
6. Copper Clad Wire	✓	✗	✗	✗



Introduction

The conductor must be resilient to the environmental conditions in which it is installed, in particular it should be capable of withstanding mechanical damage and corrosion. It should also be compatible with the material of other connected components.

Fault current capacities, for one and three second durations, for a wide selection of standard sizes of copper tapes are shown in table below these conductor ratings are based upon the table below. These conductor temperature of 30 c and a maximum temperature of 250° c.

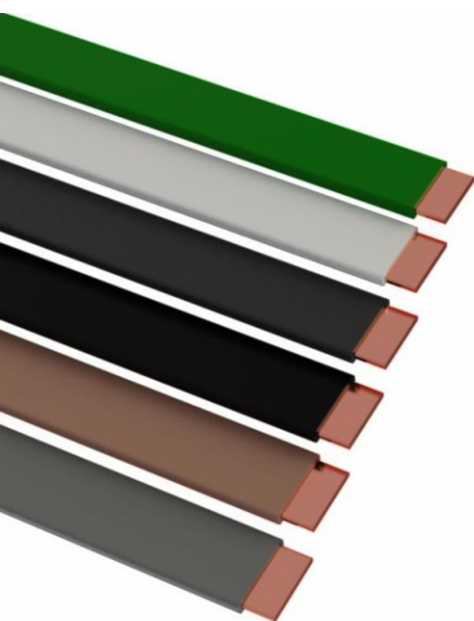


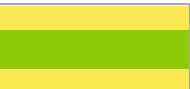
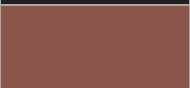
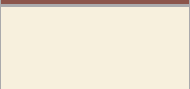
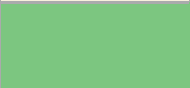
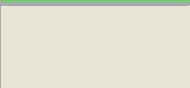
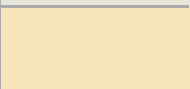
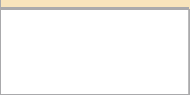
Conductor Size mm	C.S.A. mm ²	kA for 1 second	kA for 3 seconds
12.5 x 1.5	18.75	3.3	1.9
12.5 x 3	37.5	6.6	3.8
20 x 1.5	30	5.3	3.0
20 x 3	60	10.6	6.1
25 x 1.5	37.5	6.6	3.8
25 x 3	75	13.2	7.6
25 x 4	100	17.6	10.2
25 x 6	150	26.4	15.2
30 x 2	60	10.6	6.1
30 x 3	90	15.8	9.1
30 x 4	120	21.1	12.2
30 x 5	150	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 8	400	70.4	40.6

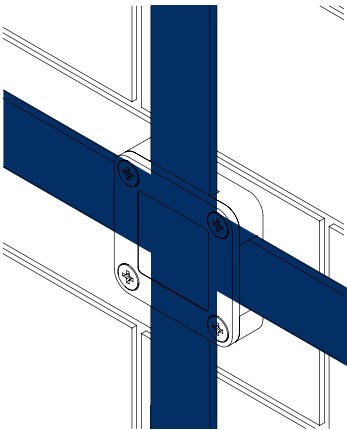
PVC Covered Conductors

Earthing & Lightning Protection Distributors PVC covered copper earth tapes are used as down conductors on a buildings structural earthing and lightning protection system. The copper earth tape is manufactured to BS EN 13601 and is annealed for ease of use.

These colour have been chosen to match the most common structural materials and will reduce the visual impact of a lightning protection conductor.



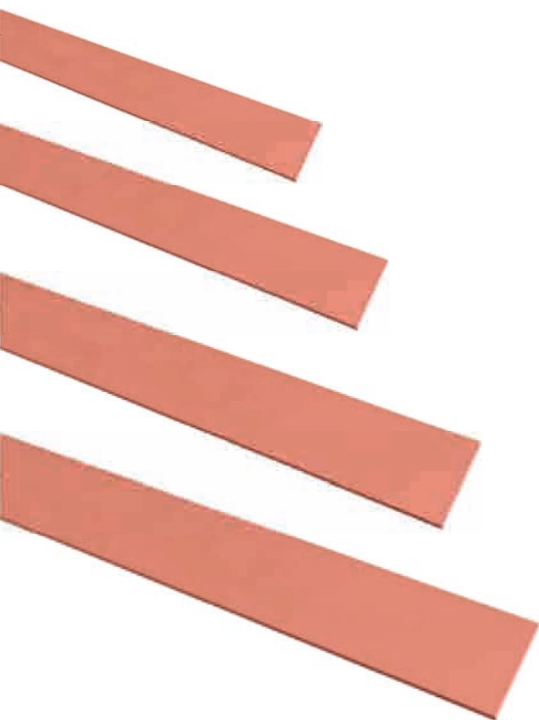
	YELLOW GREEN	
	BLACK	
	BROWN	
	CREAM	
	GREEN	
	GREY	
	LIGHT IVORY	
	WHITE	





Bare Copper Tapes

Copper earth tapes are used as down conductors on a buildings structural earthing and lightning protection system. The copper earth tape is manufactured to BS EN 13601 and is annealed for ease of use.



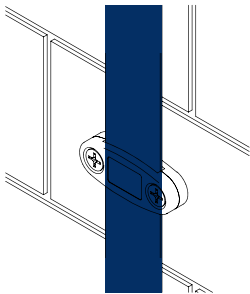
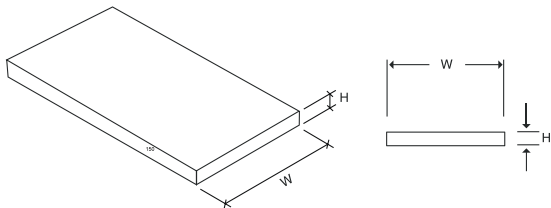
Size W x H mm	C.S.A. mm ²	Weight per Metre kg	Standard Coil Size m	Part Number
12.5 x 1.5	18.75	0.17	100	BCT 121
12.5 x 3	37.5	0.33	100	BCT 123
20 x 1.5	30	0.27	100	BCT 201
20 x 3	60	0.54	100	BCT 203
20 x 4	80	0.71	70	BCT 204
20 x 5	100	0.89	60	BCT 205
25 x 1.5	37.5	0.33	100	BCT 251
25 x 2	50	0.45	50	BCT 252
25 x 2.5	62.5	0.56	90	BCT 2525
25 x 3	75	0.67	25 & 50	BCT 253
25 x 4	100	0.89	50	BCT 254
25 x 5	125	1.12	40	BCT 255
25 x 6	150	1.34	40	BCT 256
30 x 2	60	0.54	50	BCT 302
30 x 3	90	0.80	50	BCT 303
30 x 3.5	105	0.94	50	BCT 3035
30 x 4	120	1.07	40	BCT 304
30 x 5	150	1.34	40	BCT 305
30 x 10	300	2.68	20	BCT 3010
31 x 3	93	0.83	50	BCT 313
31.5 x 1.8	56.7	0.51	100	BCT 31518
31.5 x 4	126	1.12	40	BCT 3154
31 x 6	186	1.66	30	BCT 316
32 x 6	192	1.71	30	BCT 326
35 x 6	210	1.87	25	BCT 356
38 x 3	114	1.02	50	BCT 383
38 x 5	190	1.69	30	BCT 385
38 x 6	228	2.03	25	BCT 386
40 x 3	120	1.07	40	BCT 403
40 x 4	160	1.43	30	BCT 404
40 x 5	200	1.78	25	BCT 405
40 x 6	240	2.14	25	BCT 406
40 x 6.3	252	2.25	25	BCT 4063
40 x 8	320	2.85	20	BCT 408
50 x 3	150	1.34	40	BCT 503
50 x 4	200	1.78	30	BCT 504
50 x 5	250	2.23	20	BCT 505
50 x 6	300	2.68	10 & 20	BCT 506

Table continues.

Bare Copper Tapes (continued)

Size W x H mm	C.S.A. mm ²	Weight per Metre kg	Standard Coil Size m	Part Number
50 x 6.3	315	2.81	20	BCT 5063
50 x 7	350	3.12	20	BCT 507
50 x 8	400	3.57	20	BCT 508
50 x 10	500	4.46	10	BCT 5010
50 x 12	600	5.35	10	BCT 5012
60 x 5	300	2.68	20	BCT 605
60 x 6	360	3.21	15	BCT 606
60 x 8	480	4.28	12	BCT 608
63 x 10	630	5.62	10	BCT 6310
65 x 6	390	3.48	15	BCT 656
70 x 6	420	3.75	15	BCT 706
75 x 6	450	4.01	7	BCT 756
75 x 12	900	8.03	8	BCT 7512
80 x 6	480	4.28	12	BCT 806

Material: Copper to BS



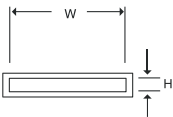
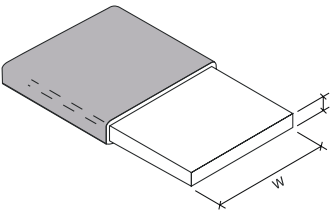
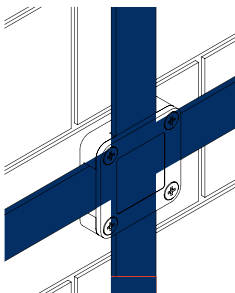
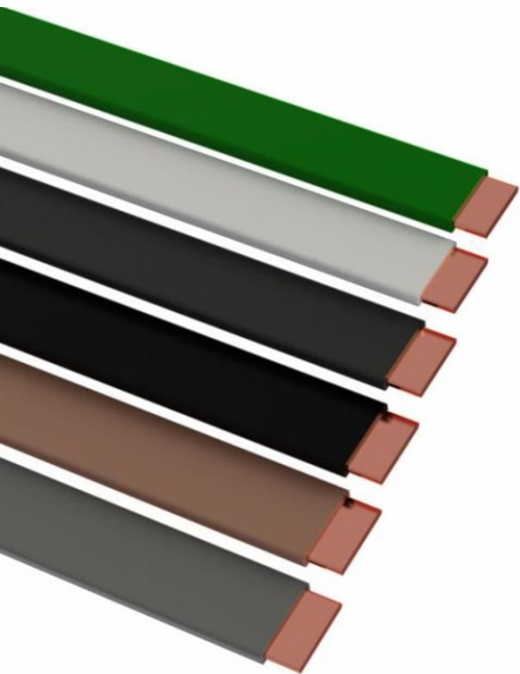


PVC Covered Copper Tapes

Copper is used for most installations due to its high conductivity, anti-corrosive properties, and its flexibility for use in-air, in-earth and in-concrete. PVC covered copper tape is available in a range of sizes and colours to meet differing current ratings (see product information table). Every precaution has been taken to ensure the UV stability of PVC coverings but, as with all plastics, colour variation will occur over time.

Material: Copper to BS EN 13601 (formerly BS 1432).
PVC colors to BS 5252 Green to BS 6746C

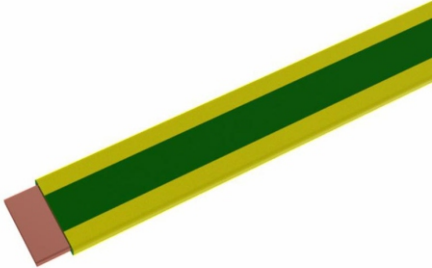
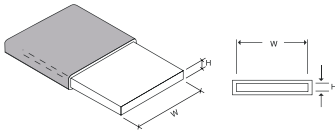
Size W x H mm	Colour	C.S.A. mm ²	Weight per Metre kg	Standard Coil Sizes m	Part Number
12.5 x 1.5	Black	18.75	0.21	100	PCCT 121 BL
25 x 3	Sand	75	0.725	25 & 50	PCCT 253 AS
	Brown				PCCT 253 B
	Black				PCCT 253 BL
	Cream				PCCT 253 C
	Grey				PCCT 253 G
	Green				PCCT 253 GR
	Light Ivory				PCCT 253 LI
	Stone				PCCT 253 S
	Terracotta				PCCT 253 T
	White				PCCT 253 W
25 x 6	Green	150	1.53	40	PCCT 256 GR
50 x 3	Green	150	1.59	40	PCCT 503 GR
50 x 6	Green	300	2.95	20	PCCT 506 GR



Green & Yellow PVC Insulated Copper Tape

Material: Copper to BS EN 13601 (formerly BS 1432).
PVC colours to BS 6746C

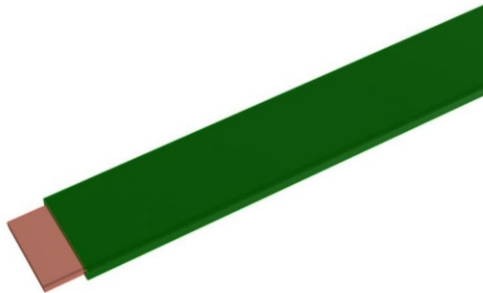
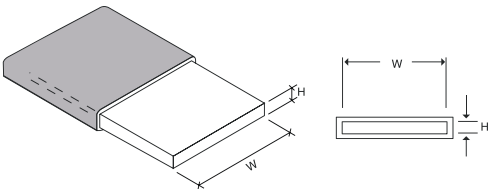
Size W x H mm	C.S.A. mm²	Weight per Metre kg	Standard Coil Size m	Part Number
25 x 3	75	0.79	25 & 50	PCT 253 GY
25 x 6	150	1.60	40	PCT 256 GY



LSOH Covered Copper Tapes

Material: Copper to BS EN 13601 (formerly BS 1432)
PVC Colours to BS 5252 Green to BS 6746C.

Size W x H mm	Colour	C.S.A. mm²	Weight per Metre kg	Standard Coil Size m	Part Number
25 x 3	Black	75	0.77	50	LSOHCT 253 BLLSF
25 x 3	Grey	75	0.77	25 & 50	LSOHCT 253 GLSF
25 x 3	Green	75	0.77	25 & 50	LSOHCT 253 GRLSF
25 x 3	White	75	0.77	50	LSOHCT 253 WLSF
25 x 6	Green	150	1.53	40	LSOHCT 256 GRLSF
40 x 6	Green	240	2.90	25	LSOHCT 406 GRLSF
50 x 6	Grey	300	2.95	20	LSOHCT 506 GLSF
50 x 6	Green	300	2.95	20	LSOHCT 506 GRLSF

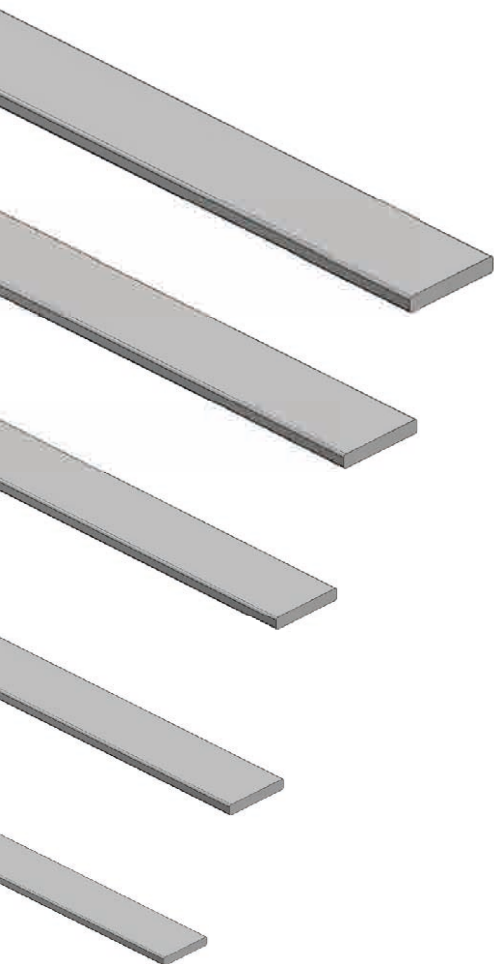




Tinned Copper Tapes

Size W x H mm	C.S.A. mm ²	Weight per Metre kg	Standard Coil Size m	Part Number
12.5 x 1.5	18.75	0.17	100	TCT 121
12.5 x 3	37.5	0.33	100	TCT 123
20 x 1.5	30	0.27	100	TCT 201
20 x 3	60	0.54	100	TCT 203
20 x 4	80	0.71	70	TCT 204
20 x 5	100	0.89	60	TCT 205
25 x 1.5	37.5	0.33	100	TCT 251
25 x 2	50	0.45	50	TCT 252
25 x 2.5	62.5	0.56	90	TCT 2525
25 x 3	75	0.67	25 & 50	TCT 253
25 x 4	100	0.89	50	TCT 254
25 x 5	125	1.12	40	TCT 255
25 x 6	150	1.34	40	TCT 256
30 x 2	60	0.54	50	TCT 302
30 x 3	90	0.80	50	TCT 303
30 x 3.5	105	0.94	50	TCT 3035
30 x 4	120	1.07	40	TCT 304
30 x 5	150	1.34	40	TCT 305
30 x 10	300	2.68	20	TCT 3010
31 x 3	93	0.83	50	TCT 313
31.5 x 1.8	56.7	0.51	100	TCT 31518
31.5 x 4	126	1.12	40	TCT 3154
31 x 6	186	1.66	30	TCT 316
32 x 6	192	1.71	30	TCT 326
35 x 6	210	1.87	25	TCT 356
38 x 3	114	1.02	25	TCT 383
38 x 5	190	1.69	30	TCT 385
38 x 6	228	2.03	25	TCT 386
40 x 3	120	1.07	40	TCT 403
40 x 4	160	1.43	30	TCT 404
40 x 5	200	1.78	25	TCT 405
40 x 6	240	2.14	25	TCT 406
40 x 6.3	252	2.25	25	TCT 4063
40 x 8	320	2.85	20	TCT 408
50 x 3	150	1.34	40	TCT 503
50 x 4	200	1.78	30	TCT 504
50 x 5	250	2.23	20	TCT 505
50 x 6	300	2.68	10 & 20	TCT 506

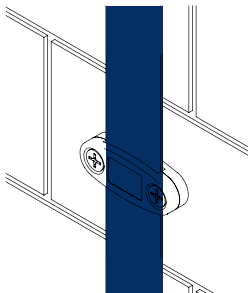
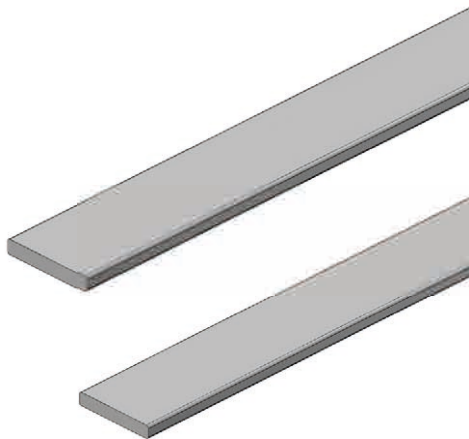
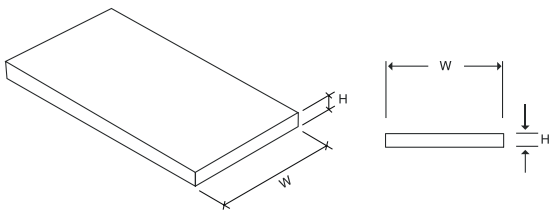
Table continues



Tinned Copper Tapes (continued)

Size W x H mm	C.S.A. mm ²	Weight per Metre kg	Standard Coil Size m	Part Number
50 x 6.3	315	2.81	20	TCT 5063
50 x 7	350	3.12	20	TCT 507
50 x 8	400	3.57	15	TCT 508
50 x 10	500	4.46	10	TCT 5010
50 x 12	600	5.35	10	TCT 5012
60 x 5	300	2.68	20	TCT 605
60 x 6	360	3.21	15	TCT 606
60 x 8	480	4.28	12	TCT 608
63 x 10	630	5.62	10	TCT 6310
65 x 6	390	3.48	15	TCT 656
70 x 6	420	3.75	15	TCT 706
75 x 6	450	4.01	7	TCT 756
75 x 12	900	8.03	8	TCT 7512
80 x 6	480	4.28	12	TCT 806

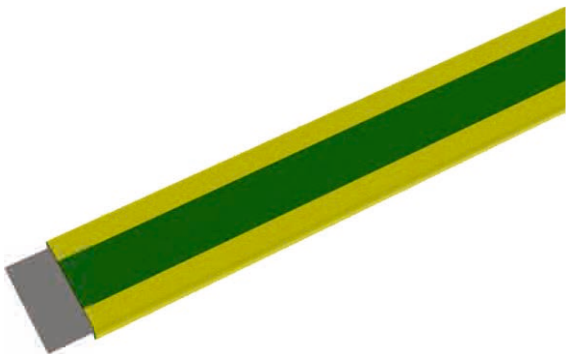
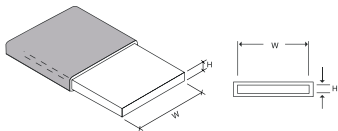
Material: Tinned Copper to BS EN 13601 (formerly BS 1432)



Green & Yellow PVC Insulated Tinned Copper Tape

Size W x H mm	C.S.A. mm ²	Weight per Metre kg	Standard Coil Size m	Part Number
25 x 3	75	0.79	50	TCT 253 GY

Material: Copper to BS EN 13601 (formerly BS 1432)
PVC colors to BS 6746C

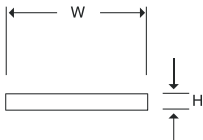
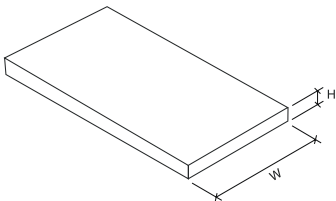




Bare Hard Drawn Copper Bars

Material: Copper to BS EN 13601.

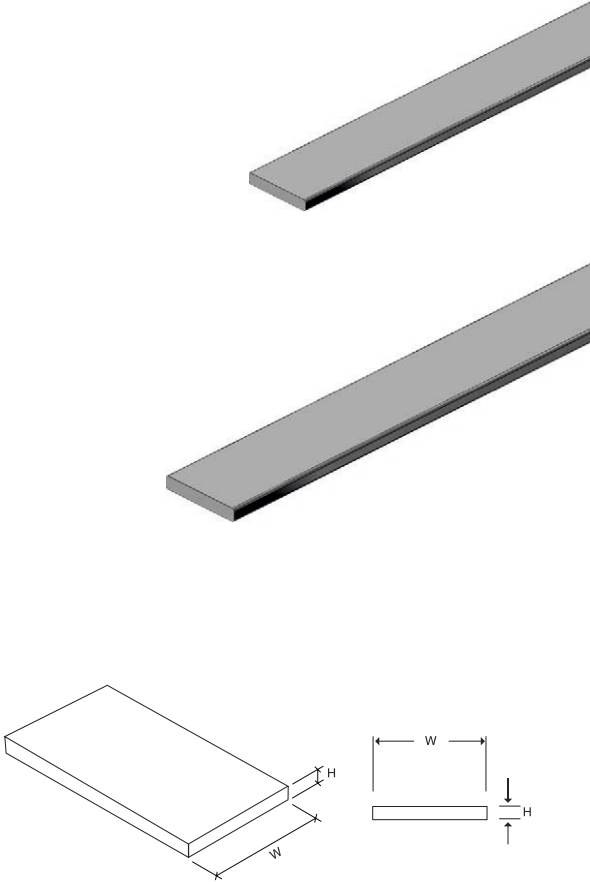
Size W x H mm	C.S.A. mm ²	Weight per Metre kg	Standard Length m	Part Number
10 x 5	50	0.45	4	BHCB 1005
15 x 5	75	0.67		BHCB 1505
16 x 6	96	0.86		BHCB 1606
20 x 3	60	0.54		BHCB 2003
20 x 4	80	0.71		BHCB 2004
20 x 5	100	0.89		BHCB 2005
20 x 10	200	1.78		BHCB 2010
25 x 3	75	0.67		BHCB 2503
25 x 4	100	0.89		BHCB 2504
25 x 5	125	1.11		BHCB 2505
25 x 6	150	1.34		BHCB 2506
30 x 5	150	1.33		BHCB 3005
30 x 6	180	1.61		BHCB 3006
30 x 10	300	2.67		BHCB 3010
32 x 6	192	1.61		BHCB 3206
38 x 6	228	2.03		BHCB 3806
40 x 3	120	1.07		BHCB 4003
40 x 5	200	1.78		BHCB 4005
40 x 6	240	2.16		BHCB 4006
40 x 10	400	3.56		BHCB 4010
50 x 4	200	1.78		BHCB 5004
50 x 5	250	2.24		BHCB 5005
50 x 6	300	2.68		BHCB 5006
50 x 8	400	3.57		BHCB 5008
50 x 10	500	4.48		BHCB 5010
60 x 5	300	2.67		BHCB 6005
60 x 10	600	5.36		BHCB 6010
75 x 5	375	3.35		BHCB 7505
75 x 6	450	4.01		BHCB 7506
80 x 6	480	4.29		BHCB 8006
80 x 8	640	5.71		BHCB 8008
80 x 10	800	7.12		BHCB 8010
100 x 4	400	3.57		BHCB 10004
100 x 5	500	4.46		BHCB 10005
100 x 6	600	5.35		BHCB 10006
100 x 10	1000	8.94		BHCB 10010
100 x 12	1200	10.70		BHCB 10012



Tinned Hard Drawn Copper Bars

Material: Tinned Copper to BS EN 13601.

Size W x H mm	C.S.A. mm ²	Weight per Metre kg	Standard Length m	Part Number
10 x 5	50	0.45	4	THCB 1005
15 x 5	75	0.67		THCB 1505
16 x 6	96	0.86		THCB 1606
20 x 3	60	0.54		THCB 2003
20 x 4	80	0.71		THCB 2004
20 x 5	100	0.89		THCB 2005
20 x 10	200	1.78		THCB 2010
25 x 3	75	0.67		THCB 2503
25 x 4	100	0.89		THCB 2504
25 x 5	125	1.11		THCB 2505
25 x 6	150	1.34		THCB 2506
30 x 5	150	1.33		THCB 3005
30 x 6	180	1.61		THCB 3006
30 x 10	300	2.67		THCB 3010
32 x 6	192	1.61		THCB 3206
38 x 6	228	2.03		THCB 3806
40 x 3	120	1.07		THCB 4003
40 x 5	200	1.78		THCB 4005
40 x 6	240	2.16		THCB 4006
40 x 10	400	3.56		THCB 4010
50 x 4	200	1.78		THCB 5004
50 x 5	250	2.24		THCB 5005
50 x 6	300	2.68		THCB 5006
50 x 8	400	3.57		THCB 5008
50 x 10	500	4.48		THCB 5010
60 x 5	300	2.67		THCB 6005
60 x 10	600	5.36		THCB 6010
75 x 5	375	3.35		THCB 7505
75 x 6	450	4.01		THCB 7506
80 x 6	480	4.29		THCB 8006
80 x 8	640	5.71		THCB 8008
80 x 10	800	7.12		THCB 8010
100 x 4	400	3.57		THCB 10004
100 x 5	500	4.46		THCB 10005
100 x 6	600	5.35		THCB 10006
100 x 10	1000	8.94		THCB 10010
100 x 12	1200	10.70		THCB 10012



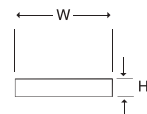


Bare Copper Flat Braids

They are used as earthing straps and are also used in numerous electrical components. All types can be supplied in non-rolled form, as multiple tubes and for screening. It is Highly copper flexible pressed, Bare. Flat Braid is mainly used for Earthing Connection & terminals etc.

Material: Copper wire to BS EN 13602 (formerly BS 4109).

Nominal C.S.A mm ²	Nominal Size W x H mm	Current Rating Amps	Weight per Metre kg	Standard Coil Size m	Part Number
6	12 x 1.0	66	0.06	100	BCFB 121
10	15 x 1.5	90	0.10	50	BCFB 151
16	19 x 2.5	120	0.16		BCFB 192
25	23 x 2.0	160	0.25		BCFB 232
35	25 x 3.5	200	0.34		BCFB 253
50	30 x 5.0	250	0.48		BCFB 305
70	32 x 6.0	300	0.63		BCFB 326
95	37 x 6.0	350	0.93		BCFB 376
120	45 x 6.0	400	1.15		BCFB 456
150	50 x 8.0	500	1.45		BCFB 508

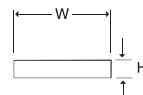


Tinned Copper Flat Braids

Tinned Copper Flat Braid for Shielding or Performance Both durable and flexible, it can be used to create a low resistance point-to-point ground strap. The braid is also an ideal solution to providing additional shielding to cables in retrofit applications.

Material: Tinned Copper Wire to BS EN 13602 (formerly BS 4109).

Nominal C.S.A mm ²	Nominal Size W x H mm	Current Rating Amps	Weight per Metre kg	Standard Coil Size m	Part Number
6	12 x 1.0	66	0.06	100	TCFB 121
10	15 x 1.5	90	0.10	50	TCFB 151
16	19 x 2.5	120	0.16		TCFB 192
25	23 x 2.0	160	0.25		TCFB 232
35	25 x 3.5	200	0.34		TCFB 253
50	30 x 5.0	250	0.48		TCFB 305
70	32 x 6.0	300	0.63		TCFB 326
95	37 x 6.0	350	0.93		TCFB 376
120	45 x 6.0	400	1.15		TCFB 456
150	50 x 8.0	500	1.45		TCFB 508

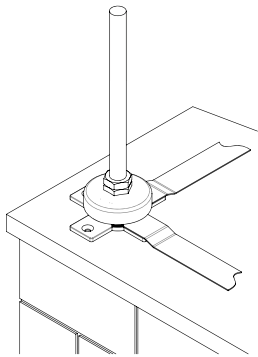
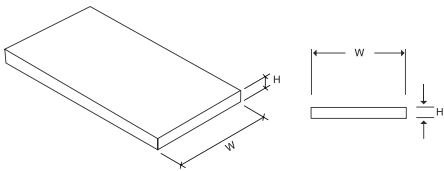


Bare Aluminium Tapes

Bare aluminium tape is available in a range of sizes to meet differing current ratings (see product information table).the aluminium is annealed for ease of use and has radiused edges.

Material: Aluminium to BS EN 755-5.

Size W x H mm	C.S.A. mm ²	Weight per Metre kg	Standard Coil Size m	Part Number
12.5 x 1.5	18.75	0.05	50	BAT 121
19 x 2	38	0.10		BAT 192
20 x 1	20	0.05		BAT 201
20 x 3	60	0.17		BAT 203
25 x 3	75	0.21		BAT 253
25 x 4	100	0.28		BAT 254
25 x 6	150	0.42		BAT 256
30 x 3	90	0.25		BAT 303
40 x 3	120	0.34		BAT 403
40 x 6	240	0.68		BAT 406
50 x 3	150	0.42		BAT 503
50 x 4	200	0.56		BAT 504
50 x 6	300	0.85		BAT 506
50 x 8	400	1.13		BAT 508
60 x 3	180	0.51		BAT 603
60 x 4	240	0.68		BAT 604
60 x 6	360	1.02		BAT 606
80 x 6	480	1.36		BAT 608



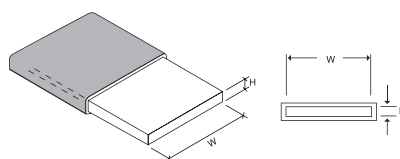
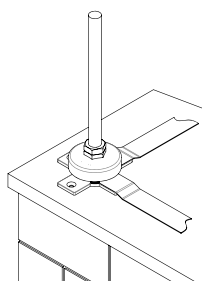


PVC Covered Aluminium Tapes

PVC covering of aluminium tape provides an aesthetically pleasing product and it also protects the product from corrosion. We offers UV-stabilised PVC Covered Aluminium Tape in a range of colours. Colours match the most common structural materials and will reduce the visual impact of a Lightning Protection conductor. other pvc colours are also available to order. These may be subject to minimum order quantities and lead times. please contact our sales office to further information.

Material: Aluminium to BS EN 755-5,
PVC colours to BS 5252 Green to BS 6746C

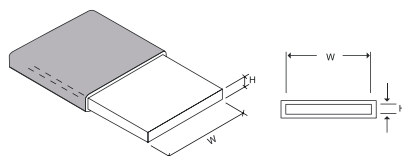
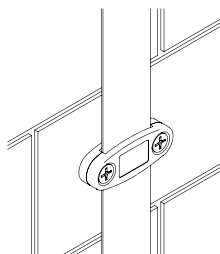
Size W x H mm	Colour	C.S.A. mm ²	Weight per Metre kg	Standard Coil Size m	Part Number
12.5 x 1.5	Black	18.75	0.09	50	ATPVC 121 BL
20 x 3	Black	60	0.25		ATPVC 203 BL
25 x 3	Brown	75	0.30		ATPVC 253 B
	Black				ATPVC 253 BL
	Grey				ATPVC 253 G
	Green				ATPVC 253 GR
	Stone				ATPVC 253 S
	Terracotta				ATPVC 253 T
	White				ATPVC 253 W



LSOH Covered Aluminium Tape

Material: Aluminium to BS EN 755-5,
PVC colours to BS 5252 Green to BS 6746C

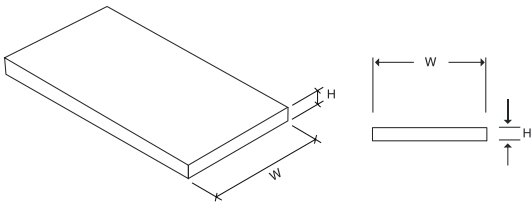
Size W x H mm	Colour	C.S.A. mm ²	Weight per Metre kg	Standard Coil Size m	Part Number
25 x 3	Grey	75	0.30	50	ATLSOH 253
	Green				ATLSOH 253 R

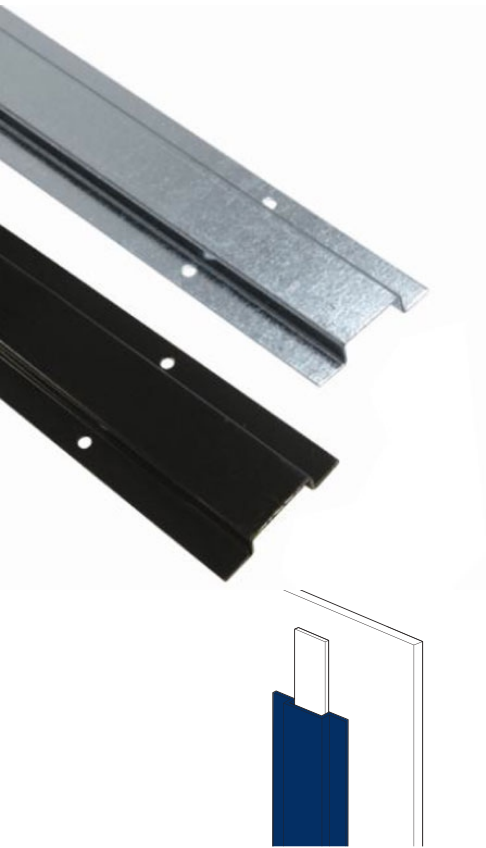


Bare Hard Drawn Aluminium Bars

Material: Aluminium to BS EN 755-5.

Size W x H mm	C.S.A. mm²	Weight per Metre kg	Standard Length m	Part Number
25 x 3	75	0.21	4	BHDAB 2503
25 x 6	150	0.42		BHDAB 2506
30 x 5	150	0.42		BHDAB 3005
30 x 10	300	0.85		BHDAB 3010
38.91 x 9.5	369	1.04		BHDAB 3809
40 x 6	240	0.68		BHDAB 4006
50 x 6	300	0.85		BHDAB 5006
50 x 12.5	625	1.77		BHDAB 50125
60 x 3	180	0.51		BHDAB 6003
60 x 6	360	1.02		BHDAB 6006
80 x 6	480	1.36		BHDAB 8006
100 x 6	600	1.70		BHDAB 1006
127 x 6	762	2.15		BHDAB 12706





Anti-Vandal Tape Guards

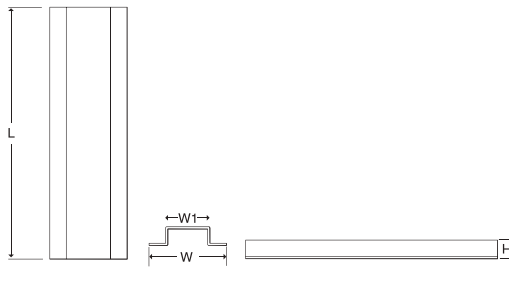
Steel Tape Guards protect against accidental damage, vandalism, and theft. Suitable for 25 x 3mm lightning protection conductor (including fixing clip). Easy to affix, with a low profile. A galvanized finish gives this product a long-lasting resistance to corrosion. Powder Coated Steel Tape Guards blend to a building's aesthetics.

Material: Galvanised Steel

L mm	W mm	W1 mm	H mm	Unit Weight kg	Pack Quantity	Part Number
2000	72	40	17	1.98	1	AVTG
3000				2.72		AVTG 3

Material: Mild Steel with black powder coating.

L mm	W mm	W1 mm	H mm	Unit Weight kg	Pack Quantity	Part Number
2000	72	40	17	1.98	1	AVTGP

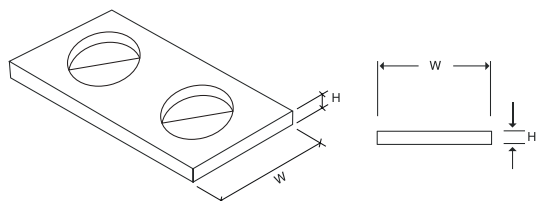
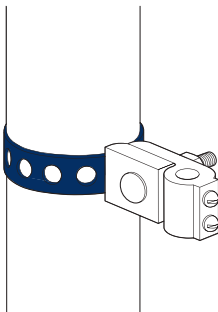


Bare Perforated Copper Tape

perforated copper tape is used for the bonding of lightning protection systems. It is annealed for ease of use and has radiused edges.

Material: Copper to BS EN 13601 (formerly BS 1432)

Size W x H mm	C.S.A. mm ²	Weight per Metre kg	Standard Coil Size m	Part Number
25 x 1.5	37.5	0.33	100	BPCT 251

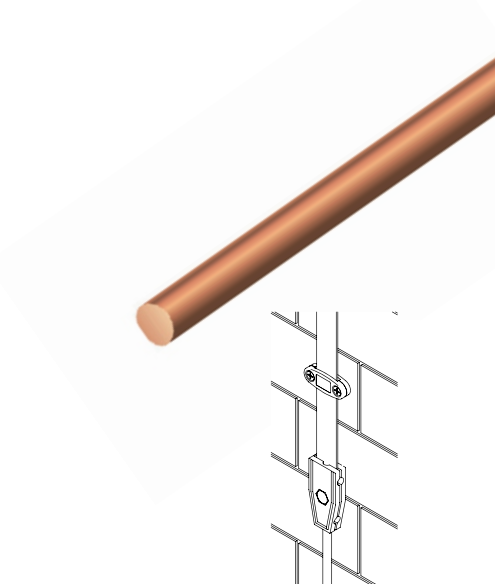
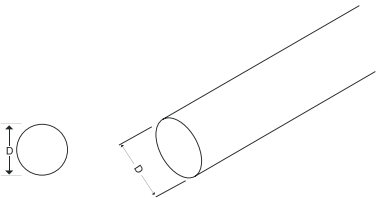


Bare Solid Circular Copper Conductor

Bare solid circular copper conductor is produced according to IEC and BS standards and used on lightning protection systems. It is annealed for ease installation.

Material: Copper to BS EN 13601 (formerly BS 1432).

D mm	C.S.A. mm²	Weight per Metre kg	Standard Coil Size m	Part Number
8	50.27	0.44	50	BSCCC 08
10	78.55	0.70	40	BSCCC 10
11	95.05	0.85		BSCCC 11

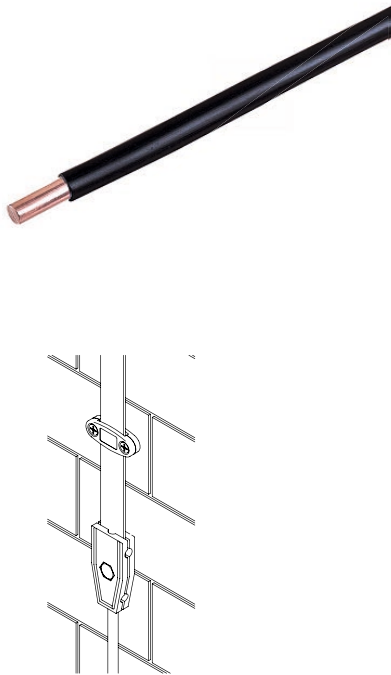
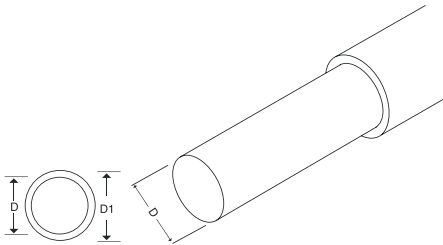


PVC Covered Solid Circular Copper Conductors

Bare solid circular copper conductor is produced according to IEC and BS standards and used on lightning protection systems. It is annealed for ease installation.

Material: Copper to BS EN 13601 (formerly BS 1432)
PVC colours to BS 5252.

D mm	Colour	C.S.A. mm²	D1 mm	Weight per Metre kg	Standard Coil Size m	Part Number
8	Brown	50.27	10	0.49	50	SCCCP 08 B
	Black					SCCCP 08 BL
	Grey					SCCCP 08 G
	Stone					SCCCP 08 S
	White					SCCCP 08 W



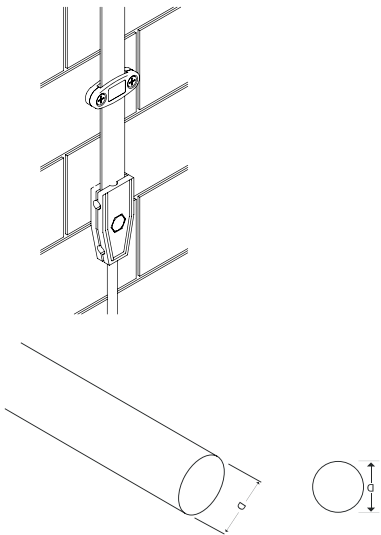


Tinned Solid Circular Copper Conductor

Tinned 8mm diameter solid circular conductor is used on lightning protection systems. It is annealed for ease of use.

Material: Copper to BS EN 13601 (formerly BS 1432).

D mm	C.S.A. mm ²	Weight per Metre kg	Standard Coil Size m	Part Number
8	50.27	0.44	50	SCCC 08 T



Bare Stranded Copper Conductors

Bare stranded copper conductor is used on both lightning protection and Earthing systems. Available as soft drawn (copper wire that has been heat treated) and hard drawn (copper wire that has not been annealed after drawing).

Soft Drawn

Material: Copper to BS EN 60228:2005.

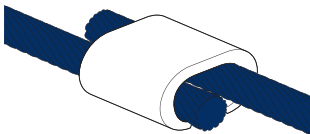
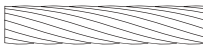
C.S.A. mm ²	Stranding No. x Ø mm	Nominal Ø mm	Maximum Resistance @ 20°C Ω/km	Weight per Metre kg	Part Number
6	7 x 1.04	3.12	3.080	0.05	BSCCS 006
10	7 x 1.35	4.05	1.830	0.09	BSCCS 010
16	7 x 1.70	5.10	1.150	0.15	BSCCS 016
25	7 x 2.14	6.42	0.727	0.23	BSCCS 025
34	19 x 1.53				BSCCS 034
35	7 x 2.52	7.56	0.524	0.32	BSCCS 035
50	19 x 1.78	8.90	0.387	0.43	BSCCS 050
70	19 x 2.14	10.70	0.268	0.62	BSCCS 070
95	19 x 2.52	12.60	0.193	0.86	BSCCS 095
120	37 x 2.03	14.21	0.153	1.09	BSCCS 120
150	37 x 2.25	15.75	0.124	1.33	BSCCS 150
185	37 x 2.52	17.64	0.099	1.67	BSCCS 185
240	61 x 2.25	20.25	0.075	2.20	BSCCS 240
300	61 x 2.52	22.68	0.060	2.76	BSCCS 300
400	61 x 2.85	25.65	0.047	3.53	BSCCS 400



Hard Drawn

Material: Copper to BS EN 60228:2005.

C.S.A. mm ²	Stranding No. x Ø mm	Nominal Ø mm	Maximum Resistance @ 20°C Ω/km	Weight per Metre kg	Part Number
35	7 x 2.52	7.56	0.540	0.32	BSCCH 035
50	7 x 3.00	8.90	0.399	0.43	BSCCH 050
70	7 x 3.55	10.70	0.276	0.62	BSCCH 070
95	37 x 1.78	12.60	0.199	0.86	BSCCH 095

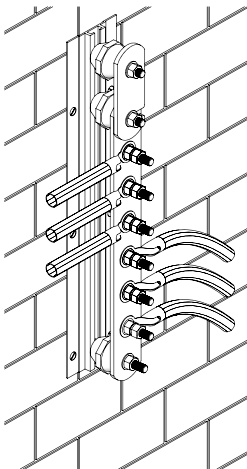
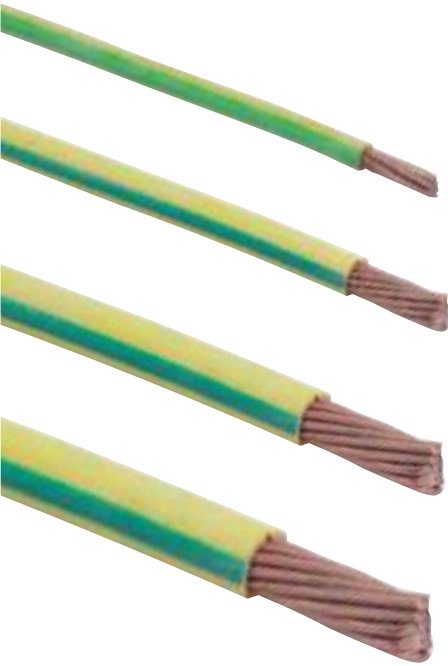




Green & Yellow PVC Insulated Stranded Copper Conductors

Material: Copper to BS EN 60228:2005
PVC Colour to BS 6746C.

C.S.A. mm ²	Stranding No. x Ø mm	Nominal Ø mm	Maximum Resistance @ 20C Ω/km	Weight per Metre kg	Part Number
6	7 x 1.04	4.8	3.080	0.07	SCCP 006
10	7 x 1.35	6.1	1.830	0.12	SCCP 010
16	7 x 1.70	7.1	1.150	0.19	SCCP 016
25	7 x 2.14	8.9	0.727	0.29	SCCP 025
35	7 x 2.52	10.1	0.524	0.41	SCCP 035
50	19 x 1.78	11.8	0.387	0.53	SCCP 050
70	19 x 2.14	13.6	0.268	0.73	SCCP 070
95	19 x 2.52	15.9	0.193	1.00	SCCP 095
120	37 x 2.03	17.5	0.153	1.16	SCCP 120
150	37 x 2.25	19.4	0.124	1.54	SCCP 150
185	37 x 2.52	21.7	0.099	2.01	SCCP 185
240	61 x 2.25	24.5	0.075	2.49	SCCP 240
300	61 x 2.52	27.5	0.060	3.05	SCCP 300
400	61 x 2.85	30.9	0.047	3.90	SCCP 400

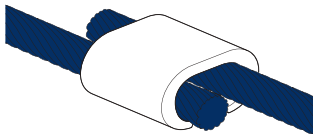


Tinned Stranded Copper Conductors

Stranded Bare & Tinned copper conductors are used in overhead electrical transmission and distribution for grounding electrical systems where high conductivity and flexibility is required.

Material: Copper to BS EN 60228:2005.

C.S.A. mm ²	Stranding No. x Ø mm	Nominal Ø mm	Maximum Resistance @ 20°C Ω/km	Weight per Metre kg	Part Number
6	7 x 1.04	3.12	3.110	0.05	TSCC 006
10	7 x 1.35	4.05	1.840	0.09	TSCC 010
16	7 x 1.70	5.10	1.160	0.15	TSCC 016
25	7 x 2.14	6.42	0.734	0.23	TSCC 025
35	7 x 2.52	7.65	0.529	0.32	TSCC 035
50	19 x 1.78	8.90	0.391	0.43	TSCC 050
70	19 x 2.14	10.70	0.270	0.62	TSCC 070
95	19 x 2.52	12.60	0.195	0.86	TSCC 095
120	37 x 2.03	14.21	0.154	1.09	TSCC 120
150	37 x 2.25	15.75	0.126	1.33	TSCC 150
185	37 x 2.52	17.64	0.100	1.67	TSCC 185
240	61 x 2.25	20.25	0.076	2.20	TSCC 240
300	61 x 2.52	22.68	0.061	2.76	TSCC 300
400	61 x 2.85	25.65	0.048	3.53	TSCC 400





Anti-Vandal Cable Guards

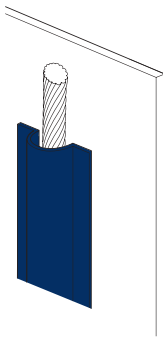
Anti-vandal cable provide protection from accidental damage, vandalism and theft for cables up to 50mm diameter.

For the installation on walls etc.

These guards have flat langes and are supplied with screw fixing holes for ease of installation.

Material: Plastic.

L mm	W mm	D mm	Colour	Unit Weight kg	Part Number
3000	105	50	Grey	2.40	AVCG 001

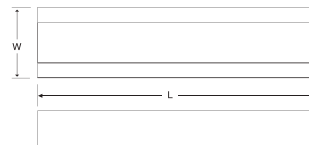


For installation on wooden telegraph poles

These gurads have angled langes and are supplied with screw fixing holes for ease of installation.

Material: Plastic.

L mm	W mm	D mm	Colour	Unit Weight kg	Part Number
3000	95	50	Black	2.40	AVCG 002

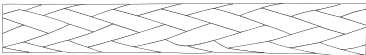


Bare Copper Round Braids

Braided copper strip is in demand in the electrical industry because it is tough and can be handled easily. It is used for a wide variety of applications such as bonding straps, grounding, for protective coverings, and for cable shielding.

Material: Copper wire to BS EN 13602 (formerly BS 4109).

Normal C.S.A. mm ²	Nominal Ø mm	Wire Strand Ø mm	Current Rating Amps	Weight per Metre kg	Standard Coil Size m	Part Number
6	5.0	0.15	69	0.05	100	BCRB 006
10	7.0		97	0.08	50	BCRB 010
16	8.0		132	0.13	50	BCRB 016
25	10.0		178	0.22	50	BCRB 025
35	12.0		223	0.30	50	BCRB 035
50	15.0		282	0.44	50	BCRB 050

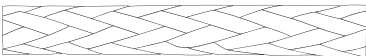


Tinned Copper Round Braids

Round tinned copper braids are typically used to protect against electrostatic overloads, for grounding and earthing of electrical equipment and lightning protection as a dilatation joint between conductors.

Material: Copper wire to BS EN 13602 (formerly BS 4109).

Normal C.S.A. mm ²	Nominal Ø mm	Wire Strand Ø mm	Current Rating Amps	Weight per Metre kg	Standard Coil Size m	Part Number
6	5.0	0.15	69	0.05	100	TCRB 006
10	7.0		97	0.08	50	TCRB 010
16	8.0		132	0.13	50	TCRB 016
25	10.0		178	0.22	50	TCRB 025
35	12.0		223	0.30	50	TCRB 035
50	15.0		282	0.44	50	TCRB 050





Copper Clad Conductor

Copper clad Conductor is the ideal solution for grounding Conductor for power type applications. Composed of a steel core with copper cladding, the steel wire gives the wire its strength and the consistent layer of copper provides electrical conductivity and resistance to corrosion. To manufacture Copper clad Conductor, carbon steel (low, high strength and extra high strength) is bonded with a uniform layer of oxygen-free copper cladding to achieve 30% and 40% IACS (International Annealed Copper Standard) conductivities. The material is available in a single wire, 3, 7 and 19 cable strands with some sizes jacketed to give the wire a different appearance to copper.

Features

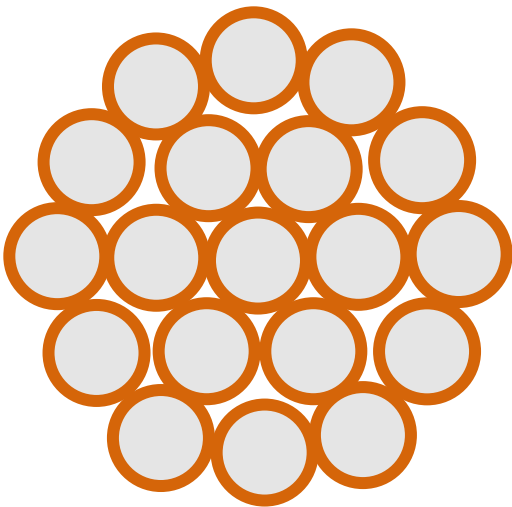
Demonstrates the same corrosion-resistant properties as copper while maintaining the high strength of steel

- Reduces damage caused during installation or fatigue from vibration or bending
- Special heat treat process results in a very malleable wire called Dead Soft Annealed (DSA)
- Copper permanently bonded to the steel core prevents corrosion of the steel core.
- Very little scrap value, discouraging theft and leaving the grounding system intact
- Compliant with IEEE 80, ASTM B258, ASTM B910/B910M, ASTM B339, ASTM B227



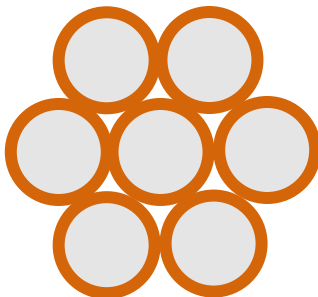
Selecting the right size for the Application

When selecting a conductor for a ground grid, it must meet the maximum fault current for the identified duration and meet a minimum breaking load as required by the substation design. The key to properly sizing copper clad steel wire is the actual fault current requirement. Often copper is physically oversized to gain the physical strength needed in the application. With Copper clad, the physical strength is in here into the products other primary consideration electrical Table To below compares the ampacity ratings of copper and Copper clad.



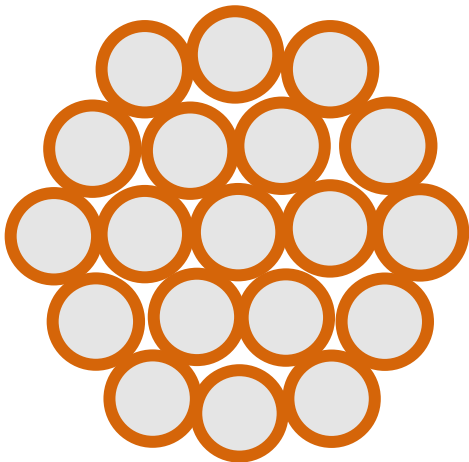
Cable Description		40% COPPER CLAD STEEL 19 STRANDS OF 5 AWG (.1819”) LOW CARBON ANNEALED	
Cable Specifications		ASTM B910-10 – Standard Specification for Annealed Copper-Clad Steel Wire ASTM B228-11 – Standard Specification for Concentric-Lay-Stranded Copper-Clad Steel Conductors	
Catalog Number		19#5	
PHYSICAL DATA	Diameter of Individual Wires	4.62 (0.1819)	mm (inch)
Number of Wires		19	
Overall diameter	23.1 (0.91)	mm (inch)	
Cross Section of Area	318.6 (628.9)	mm2 (kcmil)	
Linear Weight	2660 (1788)	kg/km (lb/1000 ft)	
Minimum Break Load	76.7 (17246)	kN (lbf)	
ELECTRICAL DATA	Max. Conductor DC Resistance at 20°C	0.14 (0.0427)	Ω/km (Ω/1000 ft)
Conductivity	40	%	
When selecting a conductor for a ground grid, it must meet the maximum fault current for the identified duration and meet a minimum breaking load as required by the substation design (typically 5,000 pounds). The key to properly sizing copper clad steel wire is the actual fault current requirement. Often copper is physically oversized to gain the physical strength needed in the application. With Copper clad, the physical strength is inherent to the product so the primary consideration electrical Table to below compares the ampacity ratings of copper and Copper clad Steel Wire which allows the user to visually select the Copper clad equivalent. Forexample:			

Requirements: The equivalent to 4/0 copper per the IEEE Fusing Chart is 19#940%. A typical maximum fault current for a distribution substation is ~18 kA at 30 cycles



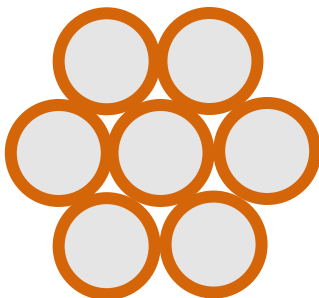
Cable Description		40% COPPER CLAD STEEL 7 STRANDS OF 5 AWG (.1819”) LOW CARBON ANNEALED	
Cable Specifications		ASTM B910-10 – Standard Specification for Annealed Copper-Clad Steel Wire ASTM B228-11 – Standard Specification for Concentric-Lay-Stranded Copper-Clad Steel Conductors	
Catalog Number		7#5	
PHYSICAL DATA	Diameter of Individual Wires	4.62 (0.1819)	mm (inch)
Number of Wires		7	
Overall diameter	13.86 (0.546)	mm (inch)	
Cross Section of Area	117.4 (231.6)	mm2 (kcmil)	
Linear Weight	974.8 (655)	kg/km (lb/1000 ft)	
Minimum Break Load	28.26 (6354)	kN (lbf)	
ELECTRICAL DATA	Max. Conductor DC Resistance at 20°C	0.14 (0.044)	Ω/km (Ω/1000 ft)
Conductivity	40	%	
When selecting a conductor for a ground grid, it must meet the maximum fault current for the identified duration and meet a minimum breaking load as required by the substation design (typically 5,000 pounds). The key to properly sizing copper clad steel wire is the actual fault current requirement. Often copper is physically oversized to gain the physical strength needed in the application. With Copperclad, the physical strength is inherent to the products of the primary consideration electrical Table to below compares the ampacity ratings of copper and Copper clad Steel Wire which allows the user to visually select the Copper clad equivalent. Forexample:			

Requirements: The equivalent to 4/0 copper per the IEEE Fusing Chart is 19#940%.A typical maximum fault current for a distribution substation is ~18 kA at 30 cycles



Cable Description		40% COPPER CLAD STEEL 19 STRANDS OF 7 AWG (.1443”) LOW CARBON ANNEALED	
Cable Specifications		ASTM B910-10 – Standard Specification for Annealed Copper-Clad Steel Wire ASTM B228-11 – Standard Specification for Concentric-Lay-Stranded Copper-Clad Steel Conductors	
Catalog Number		19#7	
PHYSICAL DATA	Diameter of Individual Wires	3.67 (0.1443)	mm (inch)
Number of Wires		19	
Overall diameter	18.33 (0.722)	mm (inch)	
Cross Section of Area	200.5 (395.6)	mm2 (kcmil)	
Linear Weight	1671.7 (1123.3)	kg/km (lb/1000 ft)	
Minimum Break Load	48.27 (10853)	kN (lbf)	
ELECTRICAL DATA	Max. Conductor DC	0.2224 (0.0678)	Ω/km (Ω/1000 ft)
	Resistance at 20°C		
Conductivity	40		%
When selecting a conductor for a ground grid, it must meet the maximum fault current for the identified duration and meet a minimum breaking load as required by the substation design (typically 5,000 pounds). The key to properly sizing copper clad steel wire is the actual fault current requirement. Often copper is physically oversized to gain the physical strength needed in the application. With Copper clad, the physical strength is inherent to the products of the primary consideration electrical Table to below compares the ampacity ratings of copper and Copper clad Steel Wire which allows the user to visually select the Copper clad equivalent.			

Requirements: The equivalent to 4/0 copper per the IEEE Fusing Chart is 19#940%.A typical maximum fault current for a distribution substation is ~18 kA at 30 cycles



Cable Description		40% COPPERWELD®COPPER CLAD STEEL 7 STRANDS OF 7 AWG (.1443”) LOW CARBON ANNEALED	
Cable Specifications		ASTM B910-10 – Standard Specification for Annealed Copper-Clad Steel Wire ASTM B228-11 – Standard Specification for Concentric-Lay-Stranded Copper-Clad Steel Conductors	
Catalog Number		7#7	
PHYSICAL DATA	Diameter of Individual Wires	3.67 (0.1443)	mm (inch)
Number of Wires		7	
Overall diameter	11.0 (0.433)	mm (inch)	
Cross Section of Area	73.9 (145.8)	mm2 (kcmil)	
Linear Weight	613.5 (412.2)	kg/km (lb/1000 ft)	
Minimum Break Load	17.78 (3998)	kN (lbf)	
ELECTRICAL DATA	Max. Conductor DC Resistance at 20°C	0.60 (0.183)	Ω/km (Ω/1000 ft)
Conductivity	40	%	
When selecting a conductor for a ground grid, it must meet the maximum fault current for the identified duration and meet a minimum breaking load as required by the substation design (typically 5,000 pounds). The key to properly sizing copper clad steel wire is the actual fault current requirement. Often copper is physically oversized to gain the physical strength needed in the application. With Copper clad,the physical strength is inherent to the products of the primary consideration electrical Table 2 below compares the ampacity ratings of copper and Copper clad Steel Wire which allows the user to visually select the Copper clad equivalent. Forexample:			

Requirements: The equivalent to 4/0 copper per the IEEE Fusing Chart is 19#940%.A typical maximum fault current for a distribution substation is ~18 kA at 30 cycles



40% CCS Overview

CONDUCTOR SIZE	STRANDS	STRAND DIAMETER		OVERALL DIAMETER		AREA		FAULT CURRENT	WEIGHT/LENGTH		WIRE RESISTANCE		MIN. BREAK LOAD	
		IN.	MM	IN.	MM	CMIL	(MM^2)	AMPS AT 0.5 SEC.	LBS/KFT	KG/KM	Ω/KFT	Ω/KM	LBF	KGF
19#4	19	0.2043	5.19	1.022	25.95	793,000	401.8	107.28	2251.7	3350.9	0.0338	0.1110	21755	9868
19#5	19	0.1819	4.62	0.910	23.10	628,700	318.6	85.05	1785.0	2656.3	0.0427	0.1400	17246	7823
19#6	19	0.1620	4.11	0.810	20.57	498,600	252.6	67.46	1415.8	2106.9	0.0538	0.1765	13679	6205
19#7	19	0.1443	3.67	0.722	18.33	395,600	200.5	53.52	1123.3	1671.7	0.0678	0.2224	10853	4923
19#8	19	0.1285	3.26	0.643	16.32	313,700	159.0	42.44	890.8	1325.6	0.0855	0.2805	8606	3904
19#9	19	0.1144	2.91	0.572	14.53	248,700	126.0	33.64	706.0	1050.7	0.1079	0.3539	6821	3094
4/0	19	0.1055	2.68	0.528	13.40	211,500	107.2	28.61	600.4	893.6	0.1268	0.4161	5801	2631
19#10	19	0.1019	2.59	0.510	12.94	197,300	100.0	26.69	560.2	833.6	0.1359	0.4460	5412	2455
7#4	7	0.2043	5.19	0.613	15.57	292,200	148.1	39.53	826.3	1229.7	0.0914	0.3000	8015	3635
7#5	7	0.1819	4.62	0.546	13.86	231,600	117.4	31.33	655.0	974.8	0.1153	0.3784	6354	2882
7#6	7	0.1620	4.11	0.486	12.34	183,700	93.1	24.85	519.6	773.2	0.1454	0.4771	5040	2286
7#7	7	0.1443	3.67	0.433	11.00	145,800	73.9	19.72	412.2	613.5	0.1833	0.6013	3998	1814
2/0	7	0.1379	3.50	0.414	10.51	133,100	67.4	18.01	376.5	560.2	0.2007	0.6584	3652	1656
7#8	7	0.1285	3.26	0.386	9.79	115,600	58.6	15.64	326.9	486.5	0.2311	0.7583	3171	1438
1/0	7	0.1228	3.12	0.368	9.35	105,600	53.5	14.28	298.5	444.3	0.2531	0.8303	2896	1313
7#9	7	0.1144	2.91	0.343	8.72	91,610	46.4	12.39	259.1	385.6	0.2916	0.9567	2513	1140
7#10	7	0.1019	2.59	0.306	7.76	72,690	36.8	9.83	205.6	305.9	0.3675	1.2058	1994	904
3#4	3	0.2043	5.19	0.440	11.18	125,200	63.4	16.94	353.4	526.0	0.2129	0.6986	3626	1645
3#5	3	0.1819	4.62	0.392	9.96	99,260	50.3	13.43	280.2	416.9	0.2686	0.8812	2874	1304
3#6	3	0.1620	4.11	0.349	8.86	78,730	39.9	10.65	222.2	330.7	0.3386	1.1110	2280	1034
3#7	3	0.1443	3.67	0.311	7.90	62,470	31.7	8.45	176.3	262.4	0.4268	1.4003	1809	820
3#8	3	0.1285	3.26	0.277	7.04	49,540	25.1	6.70	139.8	208.1	0.5382	1.7658	1434	651
3#9	3	0.1144	2.91	0.247	6.27	39,260	19.9	5.31	110.8	164.9	0.6791	2.2279	1137	516
3#10	3	0.1019	2.59	0.220	5.59	31,150	15.8	4.21	87.9	130.8	0.8559	2.8080	902	409
#2 AWG	7	0.0860	2.18	0.258	6.55	51,770	26.2	7.00	146.4	217.9	0.5160	1.6929	1435	651
#4 AWG	7	0.0680	1.73	0.204	5.18	32,370	16.4	4.38	91.5	136.2	0.8253	2.7078	897	407
#2 AWG	1	0.2576	6.54	0.258	6.54	66,370	33.6	8.98	185.8	276.6	0.3985	1.3075	2023	918
#4 AWG	1	0.2043	5.19	0.204	5.19	41,740	21.2	5.65	116.9	173.9	0.6337	2.0791	1272	577
#6 AWG	1	0.1620	4.12	0.162	4.12	26,250	13.3	3.55	73.5	109.4	1.0076	3.3058	800	363
#8 AWG	1	0.1285	3.26	0.129	3.26	16,510	8.4	2.23	46.2	68.8	1.6018	5.2554	503	228
#9 AWG	1	0.1144	2.91	0.114	2.91	13,090	6.6	1.77	36.6	54.5	2.0210	6.6307	399	181
#10 AWG	1	0.1019	2.59	0.102	2.59	10,380	5.3	1.40	29.1	43.3	2.5473	8.3572	316	144



30% CCS Overview

CONDUCTOR SIZE	STRANDS	STRAND DIAMETER		OVERALL DIAMETER		AREA		FAULT CURRENT	WEIGHT/LENGTH		WIRE RESISTANCE		MIN. BREAK LOAD	
		IN.	MM	IN.	MM	CMIL	(MM^2)	AMPS AT 0.5 SEC.	LBS/KFT	KG/KM	Ω/KFT	Ω/KM	LBF	KGF
19#4	19	0.2043	5.19	1.022	25.95	793,000	401.8	92.96	2346.4	3491.8	0.0451	0.1479	24474	11101
19#5	19	0.1819	4.62	0.910	23.10	628,700	318.6	73.70	1860.1	2768.1	0.0569	0.1866	19402	8800
19#6	19	0.1620	4.11	0.810	20.57	498,600	252.6	58.45	1475.3	2195.5	0.0717	0.2352	15389	6980
19#7	19	0.1443	3.67	0.722	18.33	395,600	200.5	46.38	1170.6	1742.0	0.0904	0.2965	12210	5538
19#8	19	0.1285	3.26	0.643	16.32	313,700	159.0	36.78	928.3	1381.4	0.1140	0.3739	9682	4392
19#9	19	0.1144	2.91	0.572	14.53	248,700	126.0	29.15	735.7	1094.9	0.1438	0.4717	7674	3481
4/0	19	0.1055	2.68	0.528	13.40	211,500	107.2	24.79	625.7	931.1	0.1691	0.5547	6526	2960
19#10	19	0.1019	2.59	0.510	12.94	197,300	100.0	23.13	583.7	868.7	0.1812	0.5946	6089	2762
7#4	7	0.2043	5.19	0.613	15.57	292,200	148.1	34.25	861.0	1281.4	0.1219	0.3999	9017	4090
7#5	7	0.1819	4.62	0.546	13.86	231,600	117.4	27.15	682.6	1015.8	0.1538	0.5045	7148	3242
7#6	7	0.1620	4.11	0.486	12.34	183,700	93.1	21.54	541.4	805.7	0.1939	0.6360	5670	2572
7#7	7	0.1443	3.67	0.433	11.00	145,800	73.9	17.09	429.6	639.3	0.2443	0.8016	4498	2040
2/0	7	0.1379	3.50	0.414	10.51	133,100	67.4	15.60	392.3	583.8	0.2675	0.8777	4108	1863
7#8	7	0.1285	3.26	0.386	9.79	115,600	58.6	13.55	340.6	506.9	0.3081	1.0108	3567	1618
1/0	7	0.1228	3.12	0.368	9.35	105,600	53.5	12.37	311.1	463.0	0.3374	1.1069	3258	1478
7#9	7	0.1144	2.91	0.343	8.72	91,610	46.4	10.74	270.0	401.8	0.3887	1.2754	2827	1282
7#10	7	0.1019	2.59	0.306	7.76	72,690	36.8	8.52	214.2	318.8	0.4900	1.6075	2243	1017
3#4	3	0.2043	5.19	0.440	11.18	125,200	63.4	14.68	368.3	548.1	0.2838	0.9313	4079	1850
3#5	3	0.1819	4.62	0.392	9.96	99,260	50.3	11.64	292.0	434.5	0.3581	1.1747	3234	1467
3#6	3	0.1620	4.11	0.349	8.86	78,730	39.9	9.23	231.6	344.6	0.4514	1.4811	2565	1163
3#7	3	0.1443	3.67	0.311	7.90	62,470	31.7	7.32	183.7	273.4	0.5690	1.8667	2035	923
3#8	3	0.1285	3.26	0.277	7.04	49,540	25.1	5.81	145.7	216.8	0.7175	2.3540	1614	732
3#9	3	0.1144	2.91	0.247	6.27	39,260	19.9	4.60	115.5	171.9	0.9053	2.9700	1279	580
3#10	3	0.1019	2.59	0.220	5.59	31,150	15.8	3.65	91.6	136.3	1.1410	3.7433	1015	460
#2 AWG	7	0.0860	2.18	0.258	6.55	51,770	26.2	6.07	152.6	227.1	0.6879	2.2568	1614	732
#4 AWG	7	0.0680	1.73	0.204	5.18	32,370	16.4	3.79	95.4	142.0	1.1002	3.6097	1009	458
#2 AWG	1	0.2576	6.54	0.258	6.54	66,370	33.6	7.78	193.7	288.2	0.5313	1.7430	2276	1032
#4 AWG	1	0.2043	5.19	0.204	5.19	41,740	21.2	4.89	121.8	181.2	0.8448	2.7716	1431	649
#6 AWG	1	0.1620	4.12	0.162	4.12	26,250	13.3	3.08	76.6	114.0	1.3432	4.4069	900	408
#8 AWG	1	0.1285	3.26	0.129	3.26	16,510	8.4	1.94	48.2	71.7	2.1354	7.0059	566	257
#9 AWG	1	0.1144	2.91	0.114	2.91	13,090	6.6	1.53	38.2	56.8	2.6942	8.8393	449	204
#10 AWG	1	0.1019	2.59	0.102	2.59	10,380	5.3	1.22	30.3	45.1	3.3957	11.1409	356	162

Fasteners & Fixings



Introduction

A fastener is a device that mechanically joins two or more objects together. Normally, fasteners can be permanent or non-permanent but are often used to create non-permanent joints. This allows the joints to be dismantled or removed without damaging the joined parts. Other joining processes like welding create a permanent joint.



Fasteners & Fixings

Hexagon Head Set Screws..... 109-110

Hexagon Nuts110

Flat Washers111

Spring Washers 111

Bimetallic Twin Washer 112

Countersunk Wood Screws 113

Round Head Wood Screws 113

Countersunk Machine Screws 114

Plastic Wall Plugs 114

Round Head Copper Nails 115

Round Head Rivets 115



Fasteners & Fixings

Hexagon Head Set Screws

Material: Phosphor Bronze.

Thread Size	Length mm	Weight per 100 kg	Part Number
M6	10	1.20	HSPB 0610
	12	1.30	HSPB 0612
	16	1.50	HSPB 0616
	20	1.90	HSPB 0620
M8	16	1.75	HSPB 0816
	20	2.00	HSPB 0820
	25	2.30	HSPB 0825
	30	2.90	HSPB 0830
M10	16	1.95	HSPB 1016
	20	2.20	HSPB 1020
	25	2.75	HSPB 1025
	30	3.10	HSPB 1030
M12	35	3.40	HSPB 1035
	25	4.50	HSPB 1225
	30	4.75	HSPB 1230
	35	5.00	HSPB 1235
	40	5.70	HSPB 1240
	50	6.30	HSPB 1250



Material: Brass.

Thread Size	Length mm	Weight per 100 kg	Part Number
M6	10	1.20	HSB 0610
	12	1.30	HSB 0612
	16	1.50	HSB 0616
	20	1.90	HSB 0620
M8	16	1.75	HSB 0816
	20	2.00	HSB 0820
	25	2.30	HSB 0825
	30	2.90	HSB 0830
M10	16	1.95	HSB 1016
	20	2.20	HSB 1020
	25	2.75	HSB 1025
	30	3.10	HSB 1030
M12	35	3.40	HSB 1035
	25	4.50	HSB 1225
	30	4.75	HSB 1230
	35	5.00	HSB 1235
	40	5.70	HSB 1240
	50	6.30	HSB 1250





Hexagon Head Set Screws (continued)

Material: Stainless Steel.

Thread Size	Length mm	Weight per 100 kg	Part Number
M6	10	1.20	HSS 0610
	12	1.30	HSS 0612
	16	1.50	HSS 0616
	20	1.90	HSS 0620
M8	16	1.75	HSS 0816
	20	2.00	HSS 0820
	25	2.30	HSS 0825
	30	2.90	HSS 0830
M10	16	1.95	HSS 1016
	20	2.20	HSS 1020
	25	2.75	HSS 1025
	30	3.10	HSS 1030
	35	3.40	HSS 1035
M12	25	4.50	HSS 1225
	30	4.75	HSS 1230
	35	5.00	HSS 1235
	40	5.70	HSS 1240
	50	6.30	HSS 1250

Hexagon Nuts

Material: Phosphor Bronze.

Thread Size	Weight per 100 kg	Part Number
M6	0.35	NPB 06
M8	0.90	NPB 08
M10	1.15	NPB 10
M12	1.65	NPB 12

Material: Brass.

Thread Size	Weight per 100 kg	Part Number
M6	0.25	NB 06
M8	0.80	NB 08
M10	1.15	NB 10
M12	1.65	NB 12

Material: Stainless Steel.

Thread Size	Weight per 100 kg	Part Number
M6	0.25	NS 06
M8	0.80	NS 08
M10	1.15	NS 10
M12	1.65	NS 12



Fasteners & Fixings

Flat Washers

Material: Phosphor Bronze.

Thread Size	Weight per 100 kg	Part Number
M6	0.05	FWPB 06
M8	0.15	FWPB 08
M10	0.25	FWPB 10
M12	0.50	FWPB 12



Material: Brass.

Thread Size	Weight per 100 kg	Part Number
M6	0.05	FWB 06
M8	0.15	FWB 08
M10	0.25	FWB 10
M12	0.50	FWB 12



Material: Stainless Steel.

Thread Size	Weight per 100 kg	Part Number
M6	0.05	FWS 06
M8	0.15	FWS 08
M10	0.25	FWS 10
M12	0.50	FWS 12



Spring Washers

Material: Phosphor Bronze.

Thread Size	Weight per 100 kg	Part Number
M6	0.04	SWPB 06
M8	0.10	SWPB 08
M10	0.20	SWPB 10
M12	0.50	SWPB 12



Material: Stainless Steel.

Thread Size	Weight per 100 kg	Part Number
M6	0.04	SWS 06
M8	0.10	SWS 08
M10	0.20	SWS 10
M12	0.50	SWS 12





Bimetallic Twin Washer

These connectors are used to join flat aluminum conductors to flat copper conductors. They are a neat and practical jointing method without the need for tinning, riveting or wrapping the joint. The washers are typically used in areas where a full sized bimetallic connector cannot be used.

Material: Copper & Aluminium.

L1 mm	L2 mm	H mm	Weight per 100 kg	Part Number
30	6	2	0.50	BTW30-6
	8		0.50	BTW30-8
	10		0.40	BTW30-10
	13		0.40	BTW30-13
	14		0.40	BTW30-14
	16		0.30	BTW30-16



Fasteners & Fixings

Countersunk Wood Screws

Material: Brass.

Size	Weight per 100 kg	Part Number
1 1/4" x No. 10	0.20	CWSB 132
1 1/4" x No. 12	0.30	CWSB 133
1 1/2" x No. 10	0.50	CWSB 138
1 1/2" x No. 12	0.60	CWSB 139
2" x No. 10	0.80	CWSB 151
2" x No. 12	1.00	CWSB 152



Material: Stainless Steel.

Size	Weight per 100 kg	Part Number
1 1/4" x No. 10	0.20	CWSS 132
1 1/4" x No. 12	0.30	CWSS 133
1 1/2" x No. 10	0.50	CWSS 138
1 1/2" x No. 12	0.60	CWSS 139
2" x No. 10	0.80	CWSS 151
2" x No. 12	1.00	CWSS 152



Round Head Wood Screws

Material: Brass.

Size	Weight per 100 kg	Part Number
1 1/4" x No. 10	0.20	RHWSB 132
1 1/4" x No. 12	0.30	RHWSB 133
1 1/2" x No. 10	0.50	RHWSB 138
1 1/2" x No. 12	0.60	RHWSB 139
2" x No. 10	0.80	RHWSB 151
2" x No. 12	1.00	RHWSB 152



Material: Stainless Steel.

Size	Weight per 100 kg	Part Number
1 1/4" x No. 10	0.20	RHWSS 132
1 1/4" x No. 12	0.30	RHWSS 133
1 1/2" x No. 10	0.50	RHWSS 138
1 1/2" x No. 12	0.60	RHWSS 139
2" x No. 10	0.80	RHWSS 151
2" x No. 12	1.00	RHWSS 152





Countersunk Machine Screws

Brass



Thread Size	Length mm	Weight per 100 kg	Part Number
M6	12	0.30	CMSB 0612
	16	0.40	CMSB 0616
	20	0.50	CMSB 0620
M8	16	0.45	CMSB 0816
	20	0.55	CMSB 0820
	25	0.65	CMSB 0825
M10	25	0.75	CMSB 1025
	30	0.85	CMSB 1030
	35	0.95	CMSB 1035

Material: Brass.

Stainless Steel



Thread Size	Length mm	Weight per 100 kg	Part Number
M6	12	0.30	CMSS 0612
	16	0.40	CMSS 0616
	20	0.50	CMSS 0620
M8	16	0.45	CMSS 0816
	20	0.55	CMSS 0820
	25	0.65	CMSS 0825
M10	25	0.75	CMSS 1025
	30	0.85	CMSS 1030
	35	0.95	CMSS 1035

Material: Stainless Steel.

Plastic Wall Plugs

Material: Plastic.



Screw Size	Colour	Weight per 100 kg	Part Number
No. 10 - 14	Black	0.15	PWPP BLA
	Blue		PWPP BLU
	Brown		PWPP BRO
	Red		PWPP RED

Round Head Copper Nails

Material: Copper.

Length mm	Weight per 100 kg	Part Number
50	0.70	RHCNC 050



Round Head Rivets

Material: Copper.

Size mm	Weight per 100 kg	Part Number
5 x 12	0.35	RHRC 512
5 x 20	0.45	RHRC 520



Material: Aluminium.

Size mm	Weight per 100 kg	Part Number
5 x 12	0.12	RHRA 512
5 x 20	0.15	RHRA 520





EXOTHERMIC WELD POWDER &
GRAPHITE MOULDS

What is Exothermic Welding 118

General Safety Instructions 119

Tools Required for Exothermic Weld Process 120 - 121

Exothermic Weld Operation Process 122 - 123

Common Joints 124

Mould Selection Chart 125 - 131

Know Your Exothermic Welding Joint 132

Different Types of Handle Clamps 133

Conductor / Cable Size Chart 134

Common Connections 135 - 154

Troubleshooting Guide 155 - 156

Mould Inspection 157

Exothermic Wels Checklist 158

Visual Inspection 159

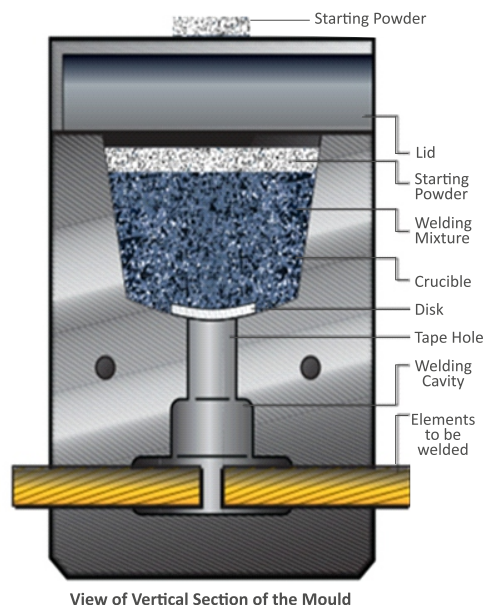
Connection Ratings 159



Exothermic welding also known as exothermic bonding and is a welding process for joining two electrical conductors, that employs superheated copper alloy to permanently join the conductors. The process employs an exothermic reaction of a copper thermite composition to heat the copper, and requires no external source of heat or current. The chemical reaction that produces the heat is an aluminothermic reaction between aluminum powder and a metal oxide.

The reaction reaches very high temperatures, depending on the metal oxide used. The reactants are usually supplied in the form of powders, with the reaction triggered using a spark from a flint lighter. The activation energy for this reaction is very high however, and initiation requires either the use of a “booster” material such as powdered magnesium metal or a very hot flame source. The aluminum oxide slag that it produces is discarded.

When welding copper conductors, the process employs a semi-permanent graphite crucible mould, in which the molten copper, produced by the reaction, flows through the mould and over and around the conductors to be welded, forming an electrically conductive weld between them. When the copper cools, the mould is either broken off or left in place. Alternatively, hand-held graphite crucibles can be used. The advantages of these crucibles include portability, lower cost (because they can be reused), and flexibility, especially in field applications.



The weld formed has higher mechanical strength than other forms of weld, and excellent corrosion resistance. It is also highly stable when subject to repeated short-circuit pulses, and does not suffer from increased electrical resistance over the lifetime of the installation. However, the process is costly relative to other welding processes, requires a supply of replaceable mould, suffers from a lack of repeatability, and can be impeded by wet conditions or bad weather (when performed outdoors).

FEATURES

- It has a superior electrical conductivity than the conductors themselves.
- It does not corrode or degrade with time and is resistant to galvanic coupling.
- It is able to withstand repeated electrical discharges.
- It never increases its resistance.
- It has higher mechanical and squeezing resistance than the conductors themselves.
- It offers a permanent welding and a low resistance connection, essential for achieving longwearing and trustworthy results in earthing.
- It guarantees the most common connections not only between copper cables but also for welding tapes and metallic pieces made of brass, stainless steel, and copper coated steel earth rods.



GENERAL & SAFETY INSTRUCTIONS:

- A. Only equipment and materials should be used to make connections.
- B. Do not connect items except as detailed in instruction sheets. Failure to comply with these instructions may result in improper and unsafe connections, damage to items being welded or even injury to body or property damage.
- C. Do not use worn or broken equipment which could cause leakage. Sealing compound should be used in case of fine leakages.
- D. When using Weld do not use welding material package if damaged or not fully intact.
- E. Make connections in conformance with instructions and all governing codes.
- F. Personnel should be properly trained and must wear safety glasses and gloves.
- G. Avoid contact with hot materials.
- H. Advise nearby personnel to stand at least 7 to 10 Foot away of welding operations site.
- I. Remove or protect the inflammable material from the operation site to safeguard against fire hazards.
- J. Provide adequate ventilation to the work area.
- K. Do not smoke when handling starting material.
- L. Avoid direct eye contact with "flash" of light from ignition of starting material.
- F. Welding material is an exothermic mixture and reacts to produce hot molten material with temperatures in excess of 1400°C (2500°F) and a localized release of smoke. Ignition temperatures are in excess of 900°C (1650°F) for welding material. These materials are not explosive.
- G. Adhering to the welding procedures will minimize risk of burns and fire caused by hot molten material spillage. In case of fire, use of water or CO2 will aid in control of burning containers. Large quantities of water will aid in controlling a fire should the exothermic materials become involved. Water should be applied from a distance.
- H. All governing codes and regulations and those required by the job site must be observed. Always use appropriate safety equipment such as eye protection, hard hat, and gloves as appropriate to the application.

WARNING :

- 1. Products shall be installed and used only as indicated in product instruction sheets.
- 2. Products must never be used for a purpose other than the purpose for which they were designed or in a manner that exceeds specified load ratings.
- 3. All instructions must be completely followed to ensure proper and safe installation and performance.
- 4. Improper installation, misuse, misapplication or other failure to comply with instructions and warnings may cause bad weld joint, property damage or even serious badly injuries.

MAINTENANCE & STORAGE INSTRUCTIONS:

- 1. Mould is usually good for 50 - 60 connections in field conditions.
- 2. The equipment is fragile and should be handled carefully while in use.
- 3. Cleaning of mould should be done using appropriate brush / tool after the mould is reasonably cool after a weld process. Avoid hot mould cleaning.
- 4. Cavity cleaning should be carefully done to avoid damages / chipping.
- 5. On completion of task, mould should be well cleaned from inside and from outside using soft cloth. It should be properly wrapped in Bubble Plastic Packing while storing it.
- 6. The mould and the weld powder should always be stored in cool & dry places.
- 7. All tools and accessories must be cleaned before storing to safe reuse.



1) Graphite Mould

Graphite mould is made of high quality graphite suitable for high quality welding work and can be used for several times. The exothermic welding reaction takes place in a specially designed, semi-permanent graphite mould. The mould is designed and manufactured with a specific weld cavity and it is in this cavity that the molten metal is allowed to flow to all sections of the required connection creating the permanent connection. The connection mould is designed to last for an average of 30 to 100 connections depending upon the amount of Powder used per Joint (More the Powder Consumption per Joint, less will be the Connection & vice versa). This will also vary according to the care given to the mould during use. We recommend not using Mould for more than 60 to 70 Connections because the Weld cavity Size increases after every joint, eventually making the Weld Cavity shape improper resulting in improper shape Joint.



2) Mould Handle Clamp (HCC/HCD)

These will fit 90% of all standard exothermic Mould. Normally we recommend one Handle for every two mould



3) Steel Metal Disk

Steel discs are very important. The disc act as timing device to allow the welding powder to heat to proper temperature, the disc away allowing the molten copper to a point where it would weld metal to enter the weld gravity before ignition. One Metal is must for every shot



4) Exothermic Weld Powder

Exothermic Weld Powder is the most reliable and consistently-performing weld metal available with us. Quality validation steps are taken for every lot we produce. Upon final acceptance, our weld metal is specially packaged in moisture-resistant plastic tubes with special closure caps. Then the cartridges and required metal discs are packaged in moisture-resistant boxes. All sizes of weld metal are available. Standards Size Packing available are – 25 Grams, 45 Grams, 90 Grams 115 Grams, 150 Grams, 200 Grams, 250 Grams, 250 Grams, Our standard packing for Welding powder is in Tube / Foil Sachet. P.N – Starting Powder is already provided separately inside the Tube / Foil Sachet



5) Ignite Powder (Starting Powder)

Ignite Powder also known as Starting Powder is required and is must. Pour little Starting Powder on the Mould followed by the Exothermic Weld powder and again pour little on the Top Side of Mould. Then, Ignite starting powder with a spark gun. This resulting exothermic reaction reduces the weld powder to molten copper alloy. The molten copper alloy melts the retaining disc and flows into the weld cavity. Approx 2 to 5 grams is sufficient for this Process.



Tools Required For Exothermic Welding Process



AMIABLE

6) Hand Gloves (HG)

Gloves are required for safety purpose as the Exothermic Weld Powder melts at more than 1400 degree Celsius. One Hand Glove Good for 250 Joints



7) Flint Gun (FIG)

It is designed with the advantages of safety and convenience. It is used to ignite starting Powder in order to result in exothermic reaction.

We recommend one Flint Gun for every 80 Shots



8) Brush (Soft and Hard) (SHB)

Two Brush Required:

1) Soft Brush – Its used to Clean Mould Weld Cavity because its shape is very sensitive and cavity should not be any damage while using Brush, so we recommend to use Soft Brush to Clean Mould Weld Cavity

2) Hard Brush – Its used to clean other section of Mould

We recommend a Pair of Brush for 50 Connection



9) Slag Removal Tool (SRT)

It is used to remove the metal Scrap and Dust from the Mould.

We recommend one Slag Tool for 250 Connection

10) File Card (FCB)

It is used to clean the objects to be welded to remove rust and dirt

We recommend one Slag Tool for 100 Connection

11) Sealing Compound (SCD)

Sealing Compound is used to fill the gap on the mould where the conductor is passing.

We recommend one Packet of Sealing Compound for 100 Connection



12) Flame Torch (FT)

Sealing Compound is used to fill the gap on the mould where the conductor is passing.

We recommend one Flame Torch for 250 Joints



13) Safety Eye Glasses (SEG)

Safety Eye Glass should be wear to protect eyes.

We recommend one Glasses for 500 Joints



14) Bitumen Paint

It provides an effective corrosion resistant Protective coating. In regard to Copper Joint – it helps to prevent Oxidation and when welded with Iron Joint - the bitumen paint helps to avoid rusting that may be developed from Welding





The Exothermic Weld process is a method of making electrical connections of copper-to-copper or copper-to-steel in which no outside source of heat or power is required. In this process, conductors are prepared, placed in a purpose designed graphite mould, and exothermically welded to produce a permanent molecularly bonded electrical connection. The steps outlined below are a general demonstration of a typical welded connection. These basic steps are used for all electrical connections. Be sure to read and follow the instructions included with every Mould before making a connection.

Steps to make an Exothermic Connection



Step 1.
Before making your first connection, be sure to dry the mold and conductors by heating it with a torch.



Step 2.
Clean the dried conductor ends with a wire brush to remove any Dirt, Oil, Paints and Oxides. When welding to a steel surface, use a rasp or grinding wheel to remove any rustproofing paint or oxidation for the area to be welded. Steel surface must be cleaned to bright shiny metal before Welding.



Step 3.
Insert Conductors and position the mold over the conductors with the conductor ends under the centre of the tap hole. Lock mold handles.



Step 4.
Ensure that there is no Gap in the Mold where the Conductors are passing. If there is a gap than use the Sealing Compound to avoid any molten metal leakages from the mold.



Step 5.
Place round metal disk in the bottom of the crucible. Make sure it covers the tap hole properly.



Step 6.
Pour the weld metal powder into the crucible. The starting material is in a separate packet inside the foil pack. Sprinkle the starting material on mold lid as well as over weld metal powder.



Step 7
Close the mold cover. Ignite the starting material by using a Flint Ignitor Gun. Do not use a torch or match sticks.



Step 8
Wait approximately 10-20 minutes. Wear Hand Gloves and open the mold and remove the finished joint connection. Remove any remaining slag with slag tool. Use soft brush to clean weld cavity and hard brush to clean mold crucible.

ATTENTION

- Store the material in dry place.
- Ignite the Starting Powder from Flint Gun on opposite direction where the fumes / smokes come out from the Mold.
- Maintain at least 4 to 6 foot distance before starting welding process.
- Do not use in areas where flammable vapours or dust are present as fire could result.
- Expiry date – 1 Year from date of manufacturing



Scan to see Video for
Process Of Welding

Note:

- 1) In Normal case minimum two mould should be used on site to keep the process continue while one mould is cooled and cleaned after firing, the other should be used. The task should be undertaken very peacefully and one should not hurry.
- 2) As the Exothermic Welding Connection is made at sight so we recommend to purchase 5% material extra considering the mistake the executor make while welding. Our recommendation is to ensure that the work at sight should not be hampered due to shortage of material.
- 3) Below is the Standard Calculation of Joints per Mould.
 - 1) Horizontal Joint Up to #150 Powder consumption per Mould – Approx. 45 to 60 joints can be made.
 - 2) Horizontal Joint from #150 to #250 Powder consumption per Mould – Approx 35 to 45 joints can be made.
 - 3) Horizontal Joint from #250 to #500 Powder consumption per Mould – Approx 25 to 35 joints can be made.
 - 4) Horizontal Joint from #500 to #750 Powder consumption per Mould – Approx 20 to 25 joints can be made.
 - 5) Horizontal Joint from #750 to #1000 Powder consumption per Mould – Approx 15 to 20 joint can be made.

This will also vary according to the care given to the mould during use. We recommend not using Mould for more than 60 to 70 Connections because the Weld cavity Size increases after every joint, eventually making the Weld Cavity shape improper resulting in improper shape Joint.

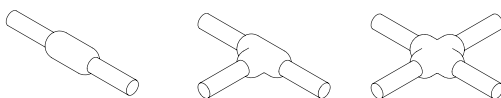
- 4) Avoid mixing two powder which is supplied in Tube / Foil Sachet. This might not work properly and it may affect the joint qualitys.
- 5) Exothermic Welding Process Video: (Animated Video) <https://www.youtube.com/watch?v=OstTLvjaJcs>
OR



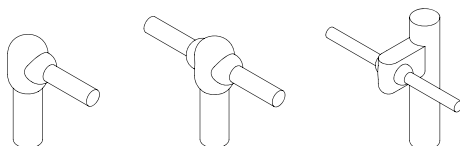
Scan to see Video for
Process Of Welding



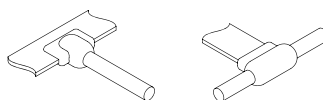
1. Cable to Cable



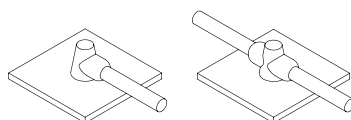
2. Cable to Earth Rod



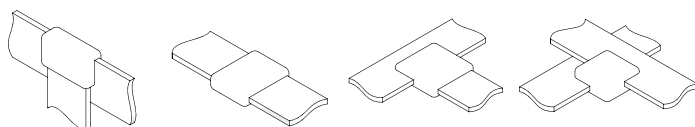
3. Cable to Bar



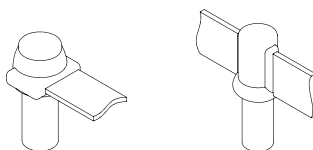
4. Cable to Steel Surface



5. Bar to Bar



6. Bar to Earth Rod





Cable to Cable Connections (CC)

CC - 1	CC - 2	CC - 3	CC - 4	CC - 5
CC - 6	CC - 7	CC - 8	CC - 11	CC - 13
CTC - 14	CC - 17	CC - 18	CC - 19	CC - 20
CC - 21	CC - 22	CC - 23	CC - 24	CC - 25
CC - 26	CC - 27	CC - 28	CC - 29	CC - 30
CC - 33	CC - 34	CC - 35	CC - 36	CC - 37
CC - 38	CCC - 39	CC - 40	CC - 41	



Cable to Ground Rod Connections (CR)

CR – 1 	CR – 2 	CR – 3 	CR – 4 	CR – 5 
CR – 6 	CR – 7 	CR – 8 	CR – 9 	CR – 10 
CR – 11 	CR – 12 	CR – 13 	CR – 15 	CR – 16 
CR – 17 	CR – 18 	CR – 19 	CR – 20 	CR – 21 
CR – 22 	CR – 23 	CR – 24 	CR – 26 	CR – 30 
CR – 33 	CR – 34 	CR – 35 	CR – 36 	CR – 37 
CR – 38 	CR – 39 	CR – 40 	CR – 41 	



Cable to Bar (Copper Tape / Strip) or Cable Lugs Connection (CB)

CB – 1 	CB – 2 	CB – 3 	CB – 4 	CB – 5 
CB – 8 	CB – 9 	CB – 11 	CB – 12 	CB – 13 
CB – 14 	CB – 15 	CB – 16 	CB – 17 	CB – 18 
CB – 19 	CB – 20 	CB – 21 	CB – 22 	CB – 23 
CB – 24 	CB – 25 	CB – 26 	CB – 27 	CB – 28 
CB – 29 	CB – 30 	CB – 31 	CB – 32 	CB – 33 
CB – 34 	CB – 35 	CB – 36 	CB – 37 	CB – 38 

**Bar to Bar / Copper Tape to Tape (BB)**

BB - 1 	BB - 2 	BB - 3 	BB - 4 	BB - 6
BB - 7 	BB - 12 	BB - 14 	BB - 17 	BB - 20
BB - 21 	BB - 22 	BB - 27 	BB - 33 	BB - 40
BB - 41 	BB - 42 	BB - 43 	BB - 50 	

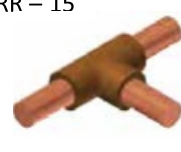
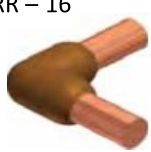
Re-Bar Connection (CRE)

CREC - 1 	CRE - 2 	CRE - 3 	CRE - 4 	CRE - 5
CRE - 6 	CRE - 19 	CRE - 20 	BRE - 3 	BRE - 8
BRE - 16 	BRE - 20 	RERE - 3 	RERE - 4 	RERE - 5

Ground Rod to Bar / Tape Connections (BR)

BR – 1 	BR – 2 	BR – 3 	BR – 4 	BR – 5 
BR – 6 	BR – 7 	BR – 8 	BR – 9 	BR – 11 
BR – 12 	BR – 13 	BR – 14 	BR – 15 	BR – 16 
BR – 17 	BR – 18 	BR – 19 	BR – 25 	

Ground Rod to Ground Rod Connections (RR)

RR – 1 	RR – 2 	RR – 3 	RR – 4 	RR – 5 
RR – 6 	RR – 7 	RR – 13 	RR – 14 	RR – 15 
RR – 16 				



Cable to Surface / Cable to Pipe Connections (CS)

CS - 1 	CS - 2 	CS - 3 	CS - 4 	CS - 6
CS - 7 	CS - 8 	CS - 9 	CS - 12 	CS - 13
CS - 14 	CS - 15 	CS - 16 	CS - 22 	CS - 23
CS - 24 	CS - 25 	CS - 26 	CS - 27 	CS - 31
CS - 32 	CS - 34 	CS - 36 	CS - 38 	CS - 48
CS - 50 	CS - 52 			



Bar to Surface Connections (BS)

BS – 1 	BS – 2 	BS – 3 	BS – 4 	BS – 5
BS – 6 	BS – 7 	BS – 8 	BS – 9 	BS – 11
BS – 12 	BS – 13 	BS – 14 	BS – 18 	BS – 19

Steel to Rod / Stud Connections (SR)

SR – 1 	SR – 2 	SR – 5 	SR – 6 	SR – 7
SR – 8 	SR – 9 	SR – 11 	SR – 23 	

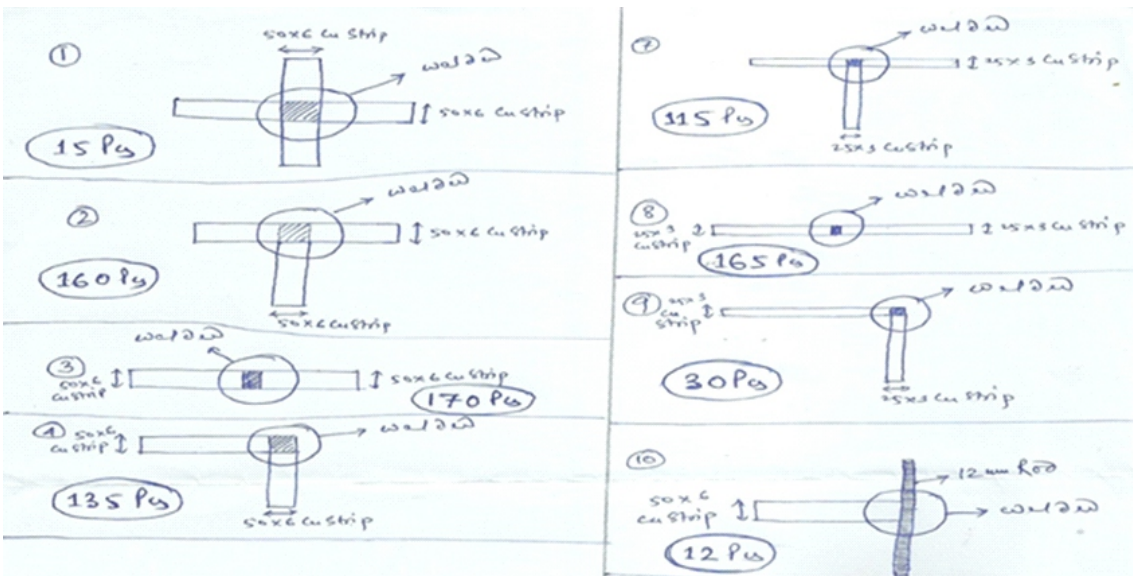


How to Order

The most common exothermic connections are listed in this product catalogue for your easy reference. However, it would not be feasible to place all the possible connections, configurations and sizes of conductor in this catalogue as the amount is simply too vast and is constantly growing.

With a database of more than 20,000 moulds Design we cannot design the Moulds and keep in stock as the design is not common everywhere and the size of Conductor / Strip also change. If you do not see the connection you require, configuration or size of conductor required by you mentioned in this product catalogue then please contact us at **kk@amiableimpex.com** with the below relevant information and we will advise you accordingly.

Now, please refer the below Sketch and we recommend our customers to provide the same as below in order to avoid misinterpretation and miscommunication :





DIFFERENT TYPES OF HANDLE

Now in order to make the sketch you need to:

1. Know the materials to be welded (Copper Conductor, Copper Strips, Steel Plate, Rod etc.)
2. Determine the weld type using the selector charts given above. The Common Joints are:
 - i) Straight Joint, T Joint, Cross Joint (Overlap) & L Joint So, Find the required weld type and determine the material sizes and types (mm, mm², stranded, solid etc.)
5. Total Number of Joints required

Once we get the above information / Sketch, we will submit the quotation and will recommend:

- i) The Proposed Quantity for Mould
- ii) The Propose Quantity of Powder require per Joint (With / Without Provision)
- iii) The Propose quantity of Accessories require per Joint (i.e. Mould Handle, Flint Gun, Brushes, Gloves etc.)

Different Types of Handle Clamps used for Graphite Moulds

Our handle clamp make possible the use of many different size and type of graphite moulds.



- Clamp Type "HCC" for nominal size mould 3-1/8 "x 3-1/8 "square and distance between rod 2-5/16 "
- Clamp Type "HCD" for nominal size mould 4 "x 4 "square and distance between rod 3"

- Chain support "X"



- Clamp Type "HCP" support are used to hold a mould in position on horizontal or vertical pipe

- Clamp Type "HCR" for Railway mould



**Cable / Conductor Size Chart****Copper Wire Stranded Conductors**

Normal Area in Sq.mm	Stranding & Wire Diameter in mm.	Approx. O.D in mm.	Approx.Weight Kgs. Per 100 Mtr.
10	3 x 2.12	4.50	9=800
	7 x 1.40	4.50	9=900
16	7 x 1.70	5.10	15=600
25	7 x 2.24	7.00	24=700
35	7 x 2.50	8.00	32=000
50	19 x 1.80	10.50	48=000
70	19 x 2.24	11.00	71=000
95	19 x 2.50	2.10	89=000
120	37 x 2.06	4.10	118=000
150	37 x 2.24	16.00	143=000
185	37 X 2.50	8.10	170=00
240	61 x 2.24	0.20	235=000
300	315 x 1.10	24.00	290=000

Diameter Tolerance: +/-1mm**Weight Tolerance - +/- 3%****We are also the Manufacturer for Copper Stranded Conductors having
Factory in India - Maharashtra.**

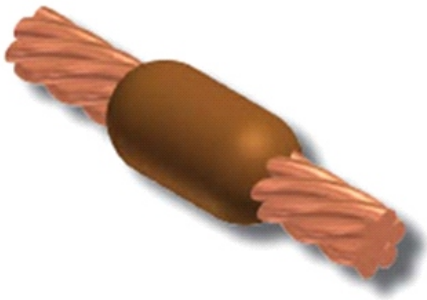


COMMON CONNECTIONS

1) Cable to Cable Connections (CC)

Weld Type - CC1

Horizontal End to End Cable Joint - Straight Joint



Cable Size	Powder	Mould	Clamp
mm ²	In Grams	Code	Type
10	25	CC1-C-10	HCC
16	32	CC1-C-16	HCC
25	32	CC1-C-25	HCC
35	45	CC1-C-35	HCC
50	45	CC1-C-50	HCC
70	65	CC1-C-70	HCC
95	90	CC1-C-95	HCC
120	115	CC1-C-120	HCC
150	150	CC1-C-150	HCC
185	200	CC1-C-185	HCC
240	250	CC1-D-240	HCD
300	150 x 2	CC1-D-300	HCD
400	200 x 2	CC1-D-400	HCD
500	250 x 2	CC1-E-500	HCD

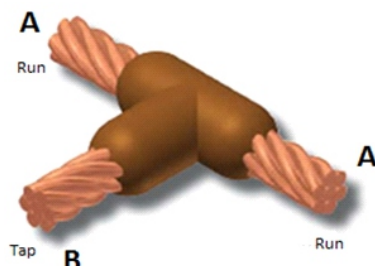


2) Cable to Cable Connections (CC)

Weld Type - CC2

Horizontal Cable Tap to

Horizontal Cable Run - T Joint



Cable A mm ²	Cable B mm ²	Powder in Grams	Mould Code	Clamp Type
10	10	32	CC2-C-1010	HCC
16	16	45	CC2-C-1616	HCC
25	25	45	CC2-C-2525	HCC
35	35	65	CC2-C-3535	HCC
35	25	65	CC2-C-3525	HCC
50	50	90	CC2-C-5050	HCC
50	35	65	CC2-C-5035	HCC
50	25	45	CC2-C-5025	HCC
70	70	90	CC2-C-7070	HCC
70	50	90	CC2-C-7050	HCC
70	35	65	CC2-C-7035	HCC
70	25	65	CC2-C-7025	HCC
95	95	115	CC2-C-9595	HCC
95	70	115	CC2-C-9570	HCC
95	50	90	CC2-C-9550	HCC
95	35	90	CC2-C-9535	HCC
95	25	90	CC2-C-9525	HCC
120	120	150	CC2-C-120120	HCC
120	95	150	CC2-C-12095	HCC
120	70	115	CC2-C-12070	HCC
120	50	115	CC2-C-12050	HCC
120	35	115	CC2-C-12035	HCC
120	25	115	CC2-C-12025	HCC
150	150	200	CC2-D-150150	HCD
150	120	200	CC2-C-150120	HCC
150	95	150	CC2-C-15095	HCC
150	70	150	CC2-C-15070	HCC
150	50	150	CC2-C-15050	HCC
150	35	115	CC2-C-15035	HCC



COMMON CONNECTIONS

Cable A mm²	Cable B mm²	Powder in Grams	Mould Code	Clamp Type
150	25	90	CC2-C-15025	HCC
185	185	250	CC2-D-185185	HCC
185	150	200	CC2-D-185150	HCC
185	120	200	CC2-D-185120	HCC
185	95	150	CC2-C-18595	HCC
185	70	150	CC2-C-18570	HCC
185	50	150	CC2-C-18550	HCC
185	35	115	CC2-C-18535	HCC
185	25	115	CC2-C-18525	HCC
240	240	150X2	CC2-E-240240	HCD
240	185	150X2	CC2-D-240185	HCD
240	150	250	CC2-D-240150	HCC
240	120	250	CC2-D-240120	HCC
240	95	200	CC2-C-24095	HCC
240	70	150	CC2-C-24070	HCC
240	50	150	CC2-C-24050	HCC
240	35	150	CC2-C-24035	HCC
240	25	115	CC2-C-24025	HCC
300	300	200 x 2	CC2-E-300300	HCD
300	240	200 x 2	CC2-E-300240	HCD
300	185	150 x 2	CC2-D-300185	HCD
300	150	150 x 2	CC2-D-300150	HCD
300	120	250	CC2-D-300120	HCD
300	95	200	CC2-C-30095	HCC
300	70	2000	CC2-C-30070	HCC
300	50	150	CC2-C-30050	HCC
300	50	150	CC2-C-30050	HCC
300	35	150	CC2-C-30035	HCC
300	25	150	CC2-C-30025	HCC

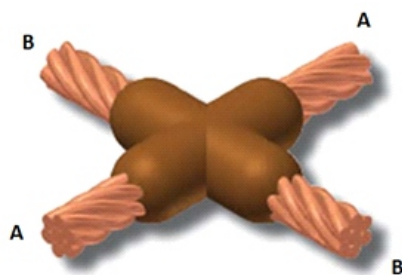


3) Cable to Cable Connections (CC)

Weld Type - CC4

Horizontal Cable to Horizontal Cable

Cross - X Joint



Cable A mm ²	Cable B mm ²	Powder in Grams	Mould Code	Clamp Type
10	10	32	CC4-C-1010	HCC
16	16	45	CC4-C-1616	HCC
25	25	45	CC4-C-2525	HCC
35	35	65	CC4-C-3535	HCC
35	25	65	CC4-C-3525	HCC
50	50	90	CC4-C-5050	HCC
50	35	90	CC4-C-5035	HCC
50	25	90	CC4-C-5025	HCC
70	70	115	CC4-C-7070	HCC
70	50	115	CC4-C-7050	HCC
70	35	115	CC4-C-7035	HCC
70	25	115	CC4-C-7025	HCC
95	95	150	CC4-C-9595	HCC
95	70	150	CC4-C-9570	HCC
95	50	115	CC4-C-9550	HCC
95	35	115	CC4-C-9535	HCC
95	25	115	CC4-C-9525	HCC
120	120	200	CC4-C-120120	HCC
120	95	200	CC4-C-12095	HCC
120	70	150	CC4-C-12070	HCC
120	50	150	CC4-C-12050	HCC
120	35	115	CC4-C-12035	HCC
120	25	115	CC4-C-12025	HCC
150	150	250	CC4-D-150150	HCD
150	120	250	CC4-D-150120	HCD



COMMON CONNECTIONS

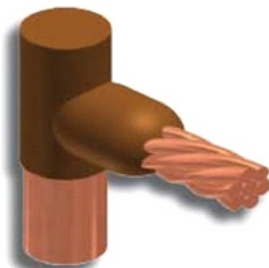
Cable A	Cable B	Powder	Mould	Clamp
mm ²	mm ²	in Grams	Code	Type
150	95	200	CC4-D-15095	HCD
150	70	150	CC4-C-15070	HCC
150	50	150	CC4-C-15050	HCC
150	35	115	CC4-C-15035	HCC
150	25	115	CC4-C-15025	HCC
185	185	150 x 2	CC4-E-185185	HCD
185	150	250	CC4-D-185150	HCD
185	120	250	CC4-D-185120	HCD
185	95	200	CC4-D-18595	HCD
185	70	200	CC4-D-18570	HCD
185	50	200	CC4-C-18550	HCC
185	35	150	CC4-C-18535	HCC
185	25	150	CC4-C-18525	HCC
240	240	250x2	CC4-D-240240	HCD
240	185	200x2	CC4-D-240185	HCD
240	150	200x2	CC4-D-240150	HCD
240	120	150X2	CC4-D-240120	HCD
240	95	150X2	CC4-D-24095	HCD
240	70	250	CC4-C-24070	HCC
240	50	250	CC4-C-24050	HCC
300	300	200x3	CC4-D-300300	HCD
300	240	200x3	CC4-D-300240	HCD
300	185	250x2	CC4-D-300185	HCD
300	150	250x2	CC4-D-300150	HCD
300	120	200x2	CC4-D-300120	HCD
300	95	200x2	CC4-D-30095	HCD



4) Cable to Rod Connections (CR)

Weld Type – CR1

Horizontal Cable to Ground Rod Joint

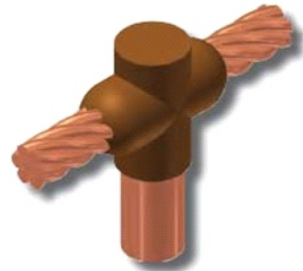


Rod		Cable Size		Powder	Mould	Clamp
in mm.	in inch.	mm ²	AWG	in Gram	Code	Type
12.7	1/2	10	8	65	CR1-C-12710	HCC
		16	6	65	CR1-C-12716	HCC
		25	4	65	CR1-C-12725	HCC
		35	2	65	CR1-C-12735	HCC
		50	1/0	90	CR1-C-12750	HCC
		70	2/0	90	CR1-C-12770	HCC
		95	3/0	115	CR1-C-12795	HCC
		120	4/0	115	CR1-C-127120	HCC
14.2	5/8	10	8	65	CR1-C-14210	HCC
		16	6	65	CR1-C-14216	HCC
		25	4	65	CR1-C-14225	HCC
		35	2	90	CR1-C-14235	HCC
		50	1/0	90	CR1-C-14250	HCC
		70	2/0	90	CR1-C-14270	HCC
		95	3/0	115	CR1-C-14295	HCC
		120	4/0	115	CR1-C-142120	HCC
		150	300 MCM	150	CR1-C-142150	HCC
		185	350 MCM	150	CR1-C-142185	HCC
		240	500 MCM	150	CR1-C-142240	HCC
17.2	3/4	10	8	65	CR1-C-17210	HCC
		16	6	65	CR1-C-17216	HCC
		25	4	65	CR1-C-17225	HCC
		35	2	65	CR1-C-17235	HCC
		50	1/0	90	CR1-C-17250	HCC
		70	2/0	90	CR1-C-17270	HCC
		95	3/0	115	CR1-C-17295	HCC
		120	4/0	150	CR1-C-172120	HCC
		150	300 MCM	200	CR1-C-172150	HCC
		185	350 MCM	250	CR1-C-172185	HCC
		240	500 MCM	250	CR1-C-172240	HCC
		300	750 MCM	150 x 2	CR1-C-172300	HCD



COMMON CONNECTIONS

5) Cable to Rod Connections (CR) Weld Type - CR2 Horizontal Cable to Ground Rod Joint - T Joint



Rod		Cable Size		Powder	Mould	Clamp
in mm.	in inch.	mm ²	AWG	in Gram	Code	Type
12.7	1/2	10	8	90	CR2-C-12710	HCC
		16	6	90	CR2-C-12716	HCC
		25	4	90	CR2-C-12725	HCC
		35	2	90	CR2-C-12735	HCC
		50	1/0	90	CR2-C-12750	HCC
		70	2/0	115	CR2-C-12770	HCC
		95	3/0	115	CR2-C-12795	HCC
		120	4/0	150	CR2-C-127120	HCC
14.2	5/8	10	8	65	CR2-C-14210	HCC
		16	6	65	CR2-C-14216	HCC
		25	4	90	CR2-C-14225	HCC
		35	2	90	CR2-C-14235	HCC
		50	1/0	90	CR2-C-14250	HCC
		70	2/0	115	CR2-C-14270	HCC
		95	3/0	150	CR2-C-14295	HCC
		120	4/0	150	CR2-C-142120	HCC
		150	300 MCM	200	CR2-C-142150	HCC
		185	350 MCM	200	CR2-C-142185	HCC
17.2	3/4	10	8	65	CR2-C-17210	HCC
		16	6	65	CR2-C-17216	HCC
		25	4	90	CR2-C-17225	HCC
		35	2	90	CR2-C-17235	HCC
		50	1/0	115	CR2-C-17250	HCC
		70	2/0	115	CR2-C-17270	HCC
		95	3/0	150	CR2-C-17295	HCC
		120	4/0	150	CR2-C-172120	HCC
		150	300 MCM	200	CR2-C-172150	HCC
		185	350 MCM	200	CR2-C-172185	HCC
		240	500 MCM	250	CR2-C-172240	HCC
		300	750 MCM	150x2	CR2-D-172300	HCD

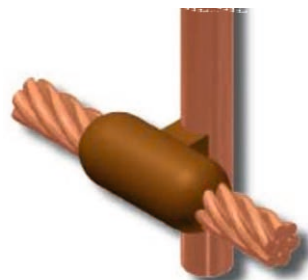


6) Cable to Rod Connections (CR)

Weld Type - CR3

Horizontal Cable thru to Ground Rod

Joint – X Joint

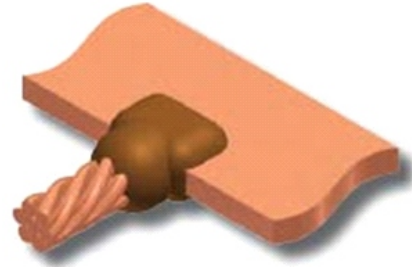


Rod		Cable Size		Powder	Mould	Clamp
in mm.	in inch.	mm ²	AWG	in Gram	Code	Type
12.7	1/2	10	8	90	CR3-E-12710	HCD
		16	6	90	CR3-E-12716	HCD
		25	4	90	CR3-E-12725	HCD
		35	2	90	CR3-E-12735	HCD
		50	1/0	115	CR3-E-12750	HCD
		70	2/0	115	CR3-E-12770	HCD
		95	3/0	115	CR3-E-12795	HCD
		120	4/0	150	CR3-E-127120	HCD
14.2	5/8	10	8	90	CR3-E-14210	HCD
		16	6	90	CR3-E-14216	HCD
		25	4	90	CR3-E-14225	HCD
		35	2	90	CR3-E-14235	HCD
		50	1/0	115	CR3-E-14250	HCD
		70	2/0	115	CR3-E-14270	HCD
		95	3/0	115	CR3-E-14295	HCD
		120	4/0	200	CR3-E-142120	HCD
		150	300 MCM	250	CR3-E-142150	HCD
		185	350 MCM	250	CR3-E-142185	HCD
		240	500 MCM	150 x 2	CR3-J-142240	HCD
17.2	3/4	10	8	90	CR3-E-17210	HCC
		16	6	90	CR3-E-17216	HCC
		25	4	90	CR3-E-17225	HCC
		35	2	90	CR3-E-17235	HCC
		50	1/0	115	CR3-E-17250	HCC
		70	2/0	150	CR3-E-17270	HCC
		95	3/0	150	CR3-E-17295	HCC
		120	4/0	200	CR3-E-172120	HCC
		150	300 MCM	250	CR3-E-172150	HCC
		185	350 MCM	200x2	CR3-L-172185	HCD
		240	500 MCM	200x2	CR3-L-172240	HCD
		300	750 MCM	200x3	CR3-L-172300	HCD

7) Cable to Rod Connections (CB)

Weld Type – CB4

Horizontal Cable Tap to Horizontal Bar - T Joint



Cable		Bar	Powder	Mould	Clamp
mm ²	AWG	Width x Thick	in Gram	Code	Type
10	8	20x2	32	CB4-C-10202	HCC
16	6	20x2	32	CB4-C-16202	HCC
16	6	20x3	32	CB4-C-16203	HCC
16	6	25x3	32	CB4-C-16253	HCC
25	4	20x2	45	CB4-C-25202	HCC
25	4	20x3	32	CB4-C-25203	HCC
25	4	25x3	32	CB4-C-25253	HCC
35	2	20x2	32	CB4-C-35202	HCC
35	2	20x3	45	CB4-C-35203	HCC
35	2	25x3	65	CB4-C-35253	HCC
50	1/0	20x3	45	CB4-C-50203	HCC
50	1/0	25x2	45	CB4-C-50252	HCC
50	1/0	25x3	65	CB4-C-50253	HCC
50	1/0	25x4	65	CB4-C-50254	HCC
50	1/0	25x6	90	CB4-C-50256	HCC
70	2/0	25x3	90	CB4-C-70253	HCC
70	2/0	25x4	90	CB4-C-70254	HCC
70	2/0	25x6	115	CB4-C-70256	HCC
95	3/0	25x3	115	CB4-C-95253	HCC



A		Bar	Powder	Mould	Clamp
mm ²	AWG	Width x Thick	in Gram	Code	Type
95	3/0	25x4	115	CB4-C-95254	HCC
95	3/0	25x5	115	CB4-C-95255	HCC
95	3/0	25x6	115	CB4-C-95256	HCC
120	4/0	25x3	115	CB4-C-120253	HCC
120	4/0	25x5	150	CB4-C-120255	HCC
120	4/0	25x6	150	CB4-C-120256	HCC
120	4/0	30x5	150	CB4-C-120305	HCC
150	300 MCM	25x6	150	CB4-C-150256	HCC
150	300 MCM	30x5	150	CB4-C-150305	HCC
150	300 MCM	40x5	200	CB4-C-150405	HCC
185	350 MCM	25x3	200	CB4-C-185253	HCC
185	350 MCM	30x5	200	CB4-C-185305	HCC
185	350 MCM	40x5	250	CB4-C-185405	HCC
185	350 MCM	50x5	250	CB4-C-185405	HCC
185	350 MCM	50x6	250	CB4-C-185506	HCC
240	500 MCM	50x5	250	CB4-C-240505	HCC
240	500 MCM	50x6	150x2	CB4-C-240506	HCD
300	750 MCM	50x6	200x2	CB4-D-300506	HCD
300	750 MCM	50x8	250x2	CB4-D-300508	CC



COMMON CONNECTIONS

8) Cable to Rod Connections (CB)

Weld Type – CB5

Horizontal Cable Run to

Horizontal Bar – T Joint



Cable		Bar	Powder	Mould	Clamp
mm ²	AWG	Width x Thick	in Gram	Code	Type
10	8	20x2	45	CB5-C-10202	HCC
16	6	20x2	45	CB5-C-16202	HCC
16	6	20x3	45	CB5-C-16203	HCC
16	6	25x3	65	CB5-C-16253	HCC
25	4	20x2	45	CB5-C-25202	HCC
25	4	20x3	45	CB5-C-25203	HCC
25	4	25x3	65	CB5-C-25253	HCC
35	2	20x2	45	CB5-C-35202	HCC
35	2	20x3	45	CB5-C-35203	HCC
35	2	25x3	65	CB5-C-35253	HCC
50	1/0	20x3	65	CB5-C-50203	HCC
50	1/0	25x2	65	CB5-C-50252	HCC
50	1/0	25x3	65	CB5-C-50523	HCC
70	2/0	25x3	90	CB5-C-70253	HCC
70	2/0	25x4	115	CB5-C-70254	HCC
70	2/0	25x6	115	CB5-C-70256	HCC



A		Bar	Powder	Mould	Clamp
mm ²	AWG	Width x Thick	in Gram	Code	Type
95	3/0	25x4	200	CB5-C-95254	HCC
95	3/0	25x5	200	CB5-C-95255	HCC
95	3/0	25x6	200	CB5-C-95256	HCC
120	4/0	25x5	200	CB5-C-120254	HCC
120	4/0	25x6	200	CB5-C-120256	HCC
120	4/0	30x5	250	CB5-C-120305	HCC
150	300 MCM	25x6	250	CB5-C-150256	HCC
150	300 MCM	30x5	250	CB5-C-150305	HCC
150	300 MCM	40x5	150 x 2	CB5-C-150405	HCD
185	350 MCM	30x5	150 x 2	CB5-C-185305	HCD
185	350 MCM	40x5	150 x 2	CB5-C-185405	HCD
185	350 MCM	50x5	200x2	CB5-D-185505	HCD
240	500 MCM	30x5	150 x 2	CB5-C-240305	HCD
240	500 MCM	50x6	250 x 2	CB5-D-240506	HCD
300	750 MCM	50x6	200 x 3	CB5-D-300506	CC
300	750 MCM	50x8	200 x 3	CB5-D-300508	CC

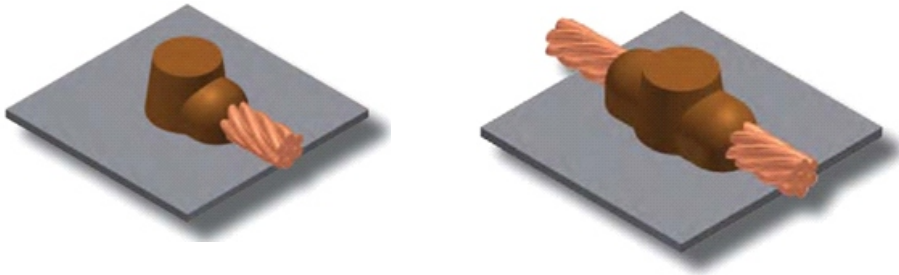


COMMON CONNECTIONS

9) Cable to Surface (Steel/Copper) Connections (CS)

Weld Type - CS1

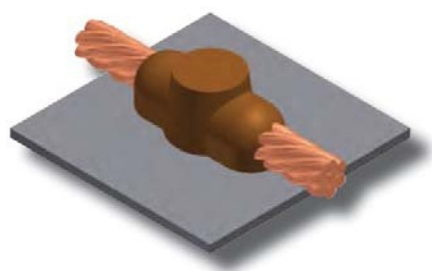
Horizontal Cable to Horizontal Surface (Steel / Copper)



Cable		Powder	Mould	Clamp
mm ²	AWG	in Grams	Code	Type
10	8	32	CS1-A-10	HCA
16	6	32	CS1-A-16	HCA
25	4	45	CS1-A-25	HCA
35	2	45	CS1-A-35	HCA
50	1/0	90	CS1-C-50	HCC
70	2/0	115	CS1-C-70	HCC
95	3/0	150	CS1-C-95	HCC
120	4/0	150	CS1-C-120	HCC
150	300 MCM	200	CS1-C-150	HCC
185	350 MCM	220	CS1-C-185	HCC
240	500 MCM	250	CS1-C-240	HCC
300	750 MCM	150 x 2	CS1-C-300	HCC



10) Cable to Surface (Steel/Copper) Connections (CS)
Weld Type - CS2
Horizontal Cable Run to Horizontal Surface (Steel / Copper)



Cable		Powder	Mould	Clamp
mm ²	AWG	in Grams	Code	Type
10	8	32	CS2-A-10	HCA
16	6	45	CS2-A-16	HCA
25	4	45	CS2-A-25	HCA
35	2	65	CS2-A-35	HCA
50	1/0	90	CS1-C-50	HCC
70	2/0	115	CS1-C-70	HCC
95	3/0	115	CS1-C-95	HCC
120	4/0	150	CS1-C-120	HCC
150	300 MCM	200	CS1-C-150	HCC
185	350 MCM	250	CS1-C-185	HCC
240	500 MCM	150x2	CS1-D-240	HCD
300	750 MCM	200x2	CS1-D-300	HCD

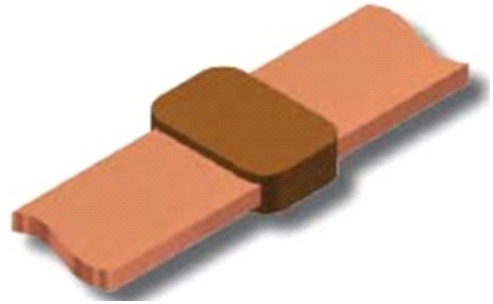


COMMON CONNECTIONS

11) Bar to Bar Connections (BB)

Weld Type - BB1

Horizontal Bar to Horizontal Bar - Straight Joint



Bar	Powder	Mould	Clamp
mm x mm	in Grams	Type	Type
20x2	45	BB1-C-202	HCC
20x3	45	BB1-C-203	HCC
25x2	65	BB1-C-252	HCC
25x3	65	BB1-C-253	HCC
25x4	90	BB1-C-254	HCC
25x6	115	BB1-C-256	HCC
30x2	65	BB1-C-302	HCC
30x3	65	BB1-C-303	HCC
30x4	115	BB1-C-304	HCC
30x5	115	BB1-C-305	HCC
31x3	65	BB1-C-313	HCC
31x6	115	BB1-C-316	HCC
38x3	150	BB1-C-383	HCC
38x5	150	BB1-C-385	HCC
38x6	200	BB1-C-386	HCC
40x3	115	BB1-C-403	HCC
40x4	150	BB1-C-404	HCC
40x5	150	BB1-C-405	HCC
40x6	200	BB1-C-406	HCC

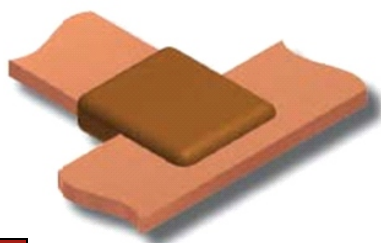


Bar	Powder	Mould	Clamp
mm x mm	in Grams	Type	Type
50x3	90	BB1-C-503	HCC
50x4	115	BB1-C-504	HCC
50x5	200	BB1-C-505	HCC
50x6	250	BB1-C-506	HCC
50x8	150x2	BB1-D-508	HCD
60x6	250	BB1-C-606	HCC
60x8	200x2	BB1-D-608	HCD
60x10	250x2	BB1-D-6010	HCD
80x6	200x2	BB1-D-806	CC
80x8	250x2	BB1-D-808	CC
80x10	200x3	BB1-D-8010	CC

12) Bar to Bar Connections (BB)

Weld Type – BB2

Horizontal Bar to Horizontal Bar – T Joint



Bar	Powder	Mould	Clamp
mm x mm	in Grams	Type	Type
20x2	45	BB14-C-202202	HCC
20x3	90	BB14-C-203203	HCC
25x2	65	BB14-C-252252	HCC
25x3	90	BB14-C-253253	HCC
25x4	90	BB14-C-254254	HCC
25x6	200	BB14-C-256256	HCC
30x2	65	BB14-C-302302	HCC
30x3	90	BB14-C-303303	HCC
30x4	115	BB14-C-304304	HCC

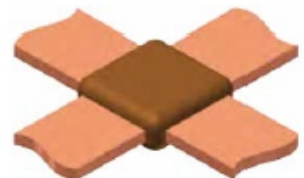


COMMON CONNECTIONS

Bar	Powder	Mould	Clamp
mm x mm	in Grams	Type	Type
31x3	115	BB14-C-313313	HCC
31x6	250	BB14-C-316316	HCC
38x3	115	BB14-C-383383	HCC
38x5	150	BB14-C-385385	HCC
38x6	250	BB14-C-386386	HCC
40x3	115	BB14-C-403403	HCC
40x4	150	BB14-C-404404	HCC
40x5	150	BB14-C-405405	HCC
40x6	250	BB14-C-406406	HCC
50x3	200	BB14-C-503503	HCC
50x4	200	BB14-C-504504	HCC
50x5	200	BB14-C-505505	HCC
50x6	150x2	BB14-C-506506	HCD
50x8	200x2	BB14-C-508508	CC
60x6	150x2	BB14-C-606606	CC
60x8	200x2	BB14-C-608608	CC
60x10	250x2	BB14-C-60106010	CC
75x12	200x6	BB2-C-75127512	CC
80x8	250x2	BB2-C-808808	CC
80x10	200x3	BB2-C-80108010	CC
100x10	250x6	BB2-C-1001010	CC

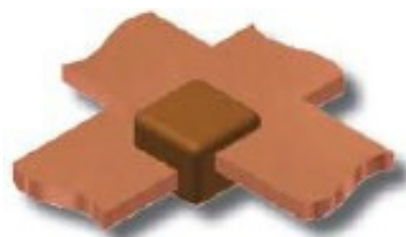
13) Bar to Bar Connections (BB) , Weld Type – BB3 Horizontal Bar – Full Cross Joint

Bar	Powder	Mould	Clamp
mm x mm	in Grams	Type	Type
25 x 3	250	BB3-C-253253	HCC
25 X 6	250	BB3-C-256256	HCD
30 X 6	150 X 2	BB3-C-306306	HCD
40 X 6	250 X 2	BB3-C-406406	HCD
50 X 3	250 X 2	BB3-C-503503	HCD
50 X 6	250 X 3	BB3-C-506506	CC
75 X 12	250 X 6	BB3-C-75127512	CC





14) Bar to Bar Connections (BB), Weld Type – BB4 Horizontal Bar – Half Cross Joint

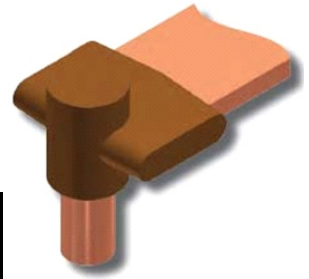


Bar	Powder	Mould	Clamp
mm x mm	in Grams	Type	Type
20 x 2	65	BB4-C-202202	HCC
25 x 2	65	BB4-C-25252	HCC
30 x 2	65	BB4-C-302302	HCC
20 x 3	90	BB4-C-203203	HCC
25 x 3	115	BB4-C-253253	HCC
30 x 3	115	BB4-C-303303	HCC
40 x 3	115	BB4-C-403403	HCC
50 x 3	200	BB4-C-503503	HCC
20 x 4	115	BB4-C-204204	HCC
25 x 4	115	BB4-C-254254	HCC
30 x 4	115	BB4-C-304304	HCC
40 x 4	150	BB4-C-404404	HCC
20 x 5	115	BB4-C-385385	HCC
25 x 5	115	BB4-C-255255	HCC
30 x 5	150	BB4-C-305305	HCC
40 x 5	200	BB4-C-405405	HCC
50 x 5	250	BB4-C-505505	HCC
25 x 6	250	BB4-C-256256	HCC
30 x 6	250	BB4-C-306306	HCC
40 x 6	250	BB3-C-406406	HCC
50 x 6	150 x 2	BB4-C-506506	HCD
60 x 6	2 x 200	BB4-C-606606	HCD
50 x 8	2 x 250	BB4-C-508508	CC
60 x 8	3 x 200	BB4-C-608608	CC
50 x 10	3 x 200	BB4-C-50105010	CC
75 x 12	6 x 200	BB4-C-75127512	CC



COMMON CONNECTIONS

15) Bar to Ground Rod Connections (BR) Weld Type – BR1 Horizontal Bar to Vertical Ground Rod



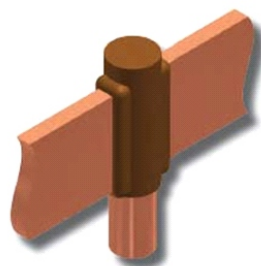
Rod		Bar Size	Powder	Mould	Clamp
in mm.	in inch.	Width X Thick	in Gram	Code	Type
14.2	5/8	30 x 2	115	BR1-14-302	HCC
		20 x 3	90	BR1-14--203	HCC
		25 x 3	90	BR1-14--253	HCC
		30 x 3	115	BR1-14-303	HCC
		40 x 3	115	BR1--14-403	HCC
		50 x 3	150	BR1-14-503	HCC
		20 x 4	90	BR1-14-204	HCC
		25 x 4	115	BR1-14-254	HCC
		25 x 5	115	BR1-14-255	HCC
		30 x 5	150	BR1-14-305	HCC
		40 x 5	150	BR1-14--405	HCC
		50 x 5	200	BR1-14--505	HCC
		25 x 6	200	BR1-14--256	HCC
		30 x 6	200	BR1-14-306	HCC
		40 x 6	250	BR1-14--406	HCC
		50 x 6	250	BR1-14-506	HCC
17.2	3/4	30 x 2	150	BR1-17-302	HCC
		20 x 3	115	BR1-17-203	HCC
		25 x 3	150	BR1-17-253	HCC
		30 x 3	150	BR1-17-303	HCC
		40 x 3	200	BR1-17-403	HCC
		50 x 3	2x150	BR1-17-503	HCD
		20 x 4	150	BR1-17-204	HCC
		25 x 4	150	BR1-17-254	HCC
		25 x 5	150	BR1-17-255	HCC
		30 x 5	250	BR1-17-305	HCC
		40 x 5	250	BR1-17-405	HCC
		50 x 5	2x150	BR1-17-505	HCD
		25 x 6	250	BR1-17-256	HCC
		30 x 6	250	BR1-17-306	HCC
		40 x 6	2x150	BR1-17-406	HCD
		50 x 6	2x250	BR1-17-506	HCD



16) Bar to Ground Rod Connections (BR)

Weld Type – BR2

Horizontal Bar Run to Vertical Ground Rod



Rod		Bar Size	Powder	Mould	Clamp
in mm.	in inch.	Width X Thick	in Gram	Code	Type
		30 x 2	115	BR2-142302	HCC
		20 x 3	90	BR2-142203	HCC
		25 x 3	115	BR2-142253	HCC
		30 x 3	115	BR2-142303	HCC
		40 x 3	115	BR2-14403	HCC
		50 x 3	150	BR2-142503	HCC
		20 x 4	90	BR2-142204	HCC
14.2	5/8	25 x 4	150	BR2-142254	HCC
		25 x 5	150	BR2-142255	HCC
		30 x 5	200	BR2-142305	HCC
		40 x 5	200	BR2-142405	HCC
		50 x 5	250	BR2-142505	HCC
		25 x 6	200	BR2-142256	HCC
		30 x 6	200	BR2-142306	HCC
		40 x 6	250	BR2-142406	HCC
		50 x 6	150 X 2	BR2-142506	HCD
17.2	3/4	30 x 2	150	BR2-172302	HCC
		20 x 3	115	BR2-17203	HCC
		25 x 3	150	BR2-172253	HCC
		30 x 3	150	BR2-172303	HCC
		40 x 3	200	BR2-172403	HCC
		50 x 3	2x150	BR2-172503	HCD
		20 x 4	150	BR2-172204	HCC
		25 x 4	150	BR2-172254	HCC
		25 x 5	150	BR2-172255	HCC
		30 x 5	200	BR2-172305	HCC
		40 x 5	250	BR2-172405	HCC
		50 x 5	2x150	BR2-172505	HCD
		25 x 6	250	BR2-172256	HCC
		30 x 6	250	BR2-172306	HCC
		40 x 6	150 X 2	BR2-172406	HCD
		50 x 6	2 x 200	BR2-172506	HCD



TROUBLE SHOOTING GUIDE

Trouble Shooting Guide

Problem	Probable Cause	Correction To Make
Insufficient metal to make weld.	Leaking of Exothermic liquid from the Graphite Mould near Cavity side.	Replace mould or if only worn around conductor opening, use Sealing Compound around conductor where conductor passes from Mould.
	Use of wrong size Exothermic Powder cartridge for mould.	Please check the Mould / Mould Box / Quotation File and tally the amount of Powder require per Joint. Every Tube consisting of different grams Exothermic Powder has different chemical composition.
	Too much spillage of Exothermic powder while pouring in Graphite Mould.	Carefully open the Exothermic Powder Tube and ensure that the Powder to be poured in the Graphite Mould only without any Spillage.
	Wrong mould for conductor being used.	i) Replace with correct mould if have. ii) If Conductor not going Smoothly than use Glass Paper and rub gently at Weld Cavity ensuring equal rubbing on both side of Cavity. iii) If Conductor goes very easily and Liquid Pouring out of Mould even after using of Sealing Compound than use Copper Foil and ensure the Conductor and Hole gap not more than 0.3mm
Mould does not close tightly causing weld metal to leak out.	Handle clamps not properly adjusted.	Remove set screw between the handles of the mould and adjust handle tension by backing out the eye bolt.
	Dirt or Slag stuck in the edge of the Mould or near the Weld Cavity	Clean mould thoroughly between connections.
	Bent or out-of-round cable.	Straighten or cut out bad section of cable.
Handle clamps will not lock or closed.	Handle clamps not properly adjusted.	Remove set screw between the handles of the mould and adjust handle tension by backing out the eye bolt.
Excessively high weld, bubbly or gassy appearance, poor weld.	Moisture in mould.	Pre-heat mould to above 220° F with a propane torch.
	Oil, grease, moisture or foreign material on conductors.	Pre-heat conductors with propane torch then use a clean wire brush on conductor to remove any residue left on conductors. If welding to cast iron or steel surface, weld area must be cleaned down to with wire brush to remove rust
	Use of wrong size Exothermic Powder cartridge for mould.	Please check the Mould / Mould Box / Quotation File and tally the amount of Powder require per Joint.
	Sealing Compound Appearance in side weld Cavity	Take special precautions to keep duct seal out of weld cavity.
	Weld powder caught moisture	Replace with fresh, dry weld powder.
Exothermic Weld Powder spills from the Mould near Cavity	Mould worn or disc is cracked allowing powder to leak into mould cavity.	Replace mould.
	Forgot to use steel disc or did not seat it properly at bottom of crucible.	Make sure disc is seated at bottom of crucible before pouring the powder into crucible.



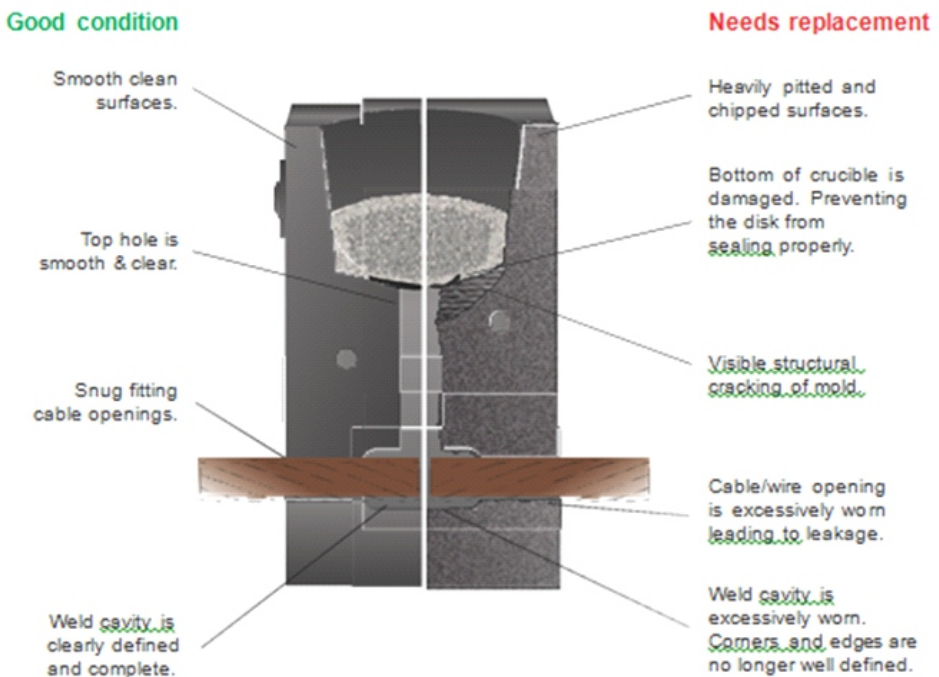
Problem	Probable Cause	Correction To Make
Cannot ignite powder.	Insufficient starting powder pours in the Mould or at the top of Mould	Place at least half of the Starting Powder from the Lock Bag provided in bottom of Exo Powder Tube.
	Flint ignitor shooting not giving enough spark.	Replace flint ignitor. P.N – Flint Gun gives average 80 Sparks only.
Mould wearing out too fast. (Not Making enough Joint recommended by us)	Improper cleaning of mould.	Use mould cleaner brush provided. P.N – Use Soft Brush to clean Weld Cavity Hard Brush to Clean Mould Crucible Don't Use Wire Brush for Cleaning Moulds
	Bent or out of round cable causes damage and premature wear of the mould.	Be caution when closing mould. Does not force mould to shut around bent, twisted or out of round conductors
Poor weld to ground rod.	Exothermic Liquid spilling out from the Bottom where Rod is Placed Vertically	Use more Sealing Compound at the Bottom where the Rod is Placed and ensure that Exothermic Liquid not Spilling. In case if spilling again than Use Copper Foil and Cover with Rod and ensure Graphite Mould have tight grip to Rod
	Moisture or Rust on cable or ground rod.	Pre-heat conductors with propane torch then use a clean wire brush on conductors and Rod to remove any residue / rust / dirt left on conductors.
Weld not sticking to Steel Surface	Improperly cleaned area on steel.	Clean the Steel Surface properly with Wire Brush and ensure no rust and dirt on the Surface.
	Moisture or contaminant on cable or steel surface.	Pre-heat conductors with propane torch then use a clean wire brush on conductors to remove any residue left on conductors.
	Cable is improperly positioned in mould, blocking the flow of weld metal.	Position cable in mould in accordance with directions for mould. If directions are not available, position top of cable in the centre of where the liquid weld metal hits the steel.
Cable pulls out of mould when it is fired.	Cables are either twisted or under tension.	Use our recommended cable clamp or other method to remove tension. Cut out severely twisted cable.

Mould Inspection

Moulds are made from superior quality graphite and can be expected to give about 50 or more connections depending upon the Size of Conductor / Tape. The more the Size of the Conductor / Tape the lesser will be the life of Connection.

The Joint which consumes less than or equal to # 200 Weld Powder, it can give about 50 Joint. In order to ensure better life of the connection proper care must be taken at the time of cleaning the Mould.

Please note that the mould will eventually wear out due to the extreme heat cycling and abrasion. The diagram below shows the difference between a mould that is in good condition and one that needs to be replaced.



NOTE: Inspect the mold regularly to determine if a mold should be replaced.

P. N. - The Mould needs to be replaced if:

- More slag is forming on the Top of the Joint which earlier was not the case.
- the Welding Portion is leaking out from the Passage of Conductor Passing.
- the Cavity inside the Mould is damaged and is in improper shape & size than the Original one.
- the reaction sound different than normal one. (In this case repeated exposure to atmospheric condition to above 600 degree, the graphite start oxidation and graphite reacts with Oxygen and it start deteriorating)
- the Joint forming is incomplete.



Exothermic Weld Checklist

STEP	TASK	CHECK
1	Dry and clean the mould with Flame torch (crucible & all cavities).	
2	Dry and clean the Conductors/ Tape* with a torch to completely remove all oil coating. Any oil residue will show itself via smoke or discolored flame. *NOTES/TIPS on Drying & Cleaning Conductors / Tape • Weld surface MUST be clean of all dirt, grime, and oil residue (oil is occasionally a residual of the manufacturing process and MUST BE REMOVED). • When cleaning conductor with a torch, a orange/red/green flame or smoke indicates that oil is being burned off the conductor. Wait for the torch flame to turn BLUE to assure all oil is burned off the conductor surface.	
3	Clean the conductors* with a wire brush to remove all dirt, ash & oxides.	
4	When welding to a steel surface: • Use a rasp or grinding wheel • Remove rust-proofing, paint, rust or scale • Weld surface should be bright clean metal	
5	Position Mould properly over the conductors (center) and lock the Mould handle. i) Ensure that the Mould tighten Properly with Handle. Any gap at the time of clamping the Mould with handle will not make Connection properly. ii) Please also ensure that the Conductor passing inside the Mould is not loosening. If it's little loosening than it can be used applying Sealing compound. iii) In case after using Sealing Compound, if the molten metal is spilling out than immediately replace the Mould and scrap the older one. iv) If Conductor not passing smoothly inside the Mould than use Glass Paper and rub the Graphite equally on all the side but strictly do not rub the Cavity	
6	Place the metal disk in bottom of crucible with curved side down (cover tap hole).	
7	Pour the weld metal into crucible and sprinkle the starter material (tube) on the top of the Weld Powder and on the centre of the Mould ensuring little starting Powder also goes	
8	Close inside the Mould cover — Ignite the starter material with flint igniter.	
9	Wait for weld process to complete, and then open the Mould.	
10	Remove any slag from the welded connection.	
11	Clean the Mould with a Mould cleaning brush. • Use Soft Brush only to clean Cavity and Hard Brush on other part of the Moulds. • Remove any remaining slag, dust, or weld residue with Slag Tool • Do Not use any wire brush or metal object to clean Mould. • Apply Butemin Paint on the Welded Joint to avoid oxidation on Joint	
12	Discard the Mould when leakage occurs or the disk seat is worn/chipped.	

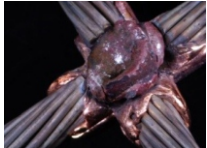


VISUAL INSPECTION

Visual Inspection

Color	The connection can be seen most clearly by brushing the connection lightly with a wire brush. This should produce a connection in brass or gold or bronze or Copper colour. As per IEEE Standard the colour forming is not important and the Weld Powder is mixture of various alloys of Powder and when alloys reacts with each other it tend to change the Colour. The Welding Connection should never be judge with colour it produce but the Copper Colour joint is prefably considered as good connection because the joints shows the true purity colour.
Surface Finish	The goal of the surface finish is to be reasonably smooth & free from major slag deposits. If the slag is spreaded all over the Joints and at the time of removal of Slag using Slag tool - heavy porosity is visualise than the Connection is rejected. If slag covers more than 20% of the connection surface then cut the cable and try to reapply weld. If the Slag is little forming on the middle of the Joint i.e approx. to 15% than it can be accepted provided that after slag removal the porosity is not much that the Conductor can be seen.
Porosity	The connection should be free from porosity, which it is normally the result of contaminants (water, oil, dirt, etc.) in the Mould and/or conductor. A few small pinholes may be present on the surface of the riser. Please note: the depth of a pinhole must never extend beyond the centre of the conductor. A paper clip or a 1/32" wire can be used to check the depth. Reject the connection if the depth of the pinhole extends beyond the centre of the conductor.

Connection Ratings

GOOD	A GOOD connection is a normal weld with only slight exterior blemishes.	
ACCEPTABLE	An ACCEPTABLE connection is a less than normal weld, but still it is a fine performing weld. Imperfections indicate that either: • A new Mould is required sooner • A change in procedure is necessary • The proper Mould conductor and/or weld metal should be used. (This generally happens when at time of welding the Air is not getting enough space to move out from the Mould. However this is accepted)	
REJECT	A REJECT connection shows inadequate fill or an extra high riser due to either: Use of incorrect equipment and/or equipment worn beyond its useful life Use of an incorrect procedure or use of incorrect material. In this case use more Powder to get the complete Joint	



Warranty

Amiable's exothermic welding products are guaranteed to be defect-free in material and construction at the time of shipment. Claims should be made in writing within 5 days of the buyer's reception of the products. All claims under the warranty provided herein must be made within sixty (60) days from the date of discovery of the defect. Failure to notify **Amiable** of a warranted defect within sixty (60) days of its discovery voids **Amiable** obligations hereunder. Products maintained to be faulty or defective must be returned to **Amiable** for inspection without delay. Warranty void if claims not made within the applicable time period or if regulations not followed exactly as stated above. **Amiable** is not responsible for products that have not been stored or used in agreement with **Amiable's** recommended specifications and practices. **Amiable** will either repair or replace the defective products or return the purchase price to the buyer, at its discretion.

Limitation of Liability

Amiable shall not be liable for any loss, cost, damage, or expense of any kind arising out of a breach of warranty. **Amiable** excludes all liability except that which is directly attributed to willful or gross negligence of **Amiable's** employees. In the event that **Amiable** claims liability it should in not exceed the total purchase price of a defective product. **Amiable** shall in no event be liable for any incidental, consequential, exemplary, special, or punitive damages, nor for any loss of revenue, profit or use, arising out of a breach of this warranty or in connection with the sale, maintenance, use, operation or repair of any **Amiable** product.



AMIABLE

OUR FACTORIES

Unit - 1 : 165 & 164/2, Nana Patil Road, Village Hamrapur,
Tal. Wada, Dist. Palghar - 421 303 India.

Unit - 2 : Shed No. 1, Bidco, Bharwad Pada, Near Spenta Company,
Navali, Palghar - 401 404 Maharashtra, India.

Unit - 3 : Shed-1, GIDC-1, Udyog Nagar,
Jamnagar - 361 004 Gujarat, India.

Unit - 4 : Dammam Industrial area, Postal Code 32253
Dammam, Kingdom Of Saudi Arabia.

OUR BRANCHES

INDIA OFFICE : 501-A , Surya Darshan Building, Pai Nagar,
J. S. Road, Borivali West, Mumbai - 400 092, India

BAHRAIN OFFICE : Flat No. 22, Building No. 2794, Road No. 345
Block 603, Kingdom Of Bahrain.

Saudi Arabia OFFICE : Building No. 7960, 18th Street, IBN Khaldun District,
Postal Code - 32253, Dammam, Kingdom Of Saudi Arabia.