EARTHING&LIGHTNING PROTECTION SYSTEMS

CASK STEEL EARTHING &LIGHTNING PROTECTION SYSTEMS

CASK STEEL is Turkish manufacturer with over 30 years of engineering experience

1. We supply a large variety of Earthing and Lightning Protection Systems with their accessories encompassing a large spectrum of needs and design.
2. We are willing to accommodate other client's requirements not offered in our standard production, on a case by case basis.
3. We are geared for large size projects, for complete quality, speedy on time delivery and best value.
4. We conform to all European standards referring to definitions.

CONTENTS

EARTHING

Earthing (or grounding) refers to the process of connecting electrical systems or devices to the ground. This is essential for safety, as it prevents electrical shock and protects equipment from damage due to surges. In a typical setup, excess electricity is directed safely into the ground, reducing the risk of electrical fires and ensuring that fault currents have a safe path to dissipate.

Including:

– Earth Rods & Conductor Systems

– Mechanical Earth Clamps & Bonds

– Exothermic Welding

– Earth Bars & Equipotential Bonding

LIGHTNING

Lightning is a natural electrical discharge that occurs during thunderstorms, resulting from the buildup of electrical charges in the atmosphere. When the charge difference becomes too great, it can cause a sudden release of energy in the form of a lightning strike. This can be extremely dangerous, leading to fires, power outages, and damage to structures.

Lightning Protection Systems Including:

-Air Terminals

-Masts

-Saddles

-Bonds & Joints & Clamps

-Down Conductors & Earthing Systems

CONSEQUENCES OF LIGHTNING

Lightning can have several serious consequences, including:

1.Property Damage: Lightning strikes can cause fires, destroy buildings, and damage roofs and electrical systems. This can lead to significant repair costs.

2.Injury and Fatalities: People struck by lightning can suffer severe injuries, including burns, cardiac arrest, and neurological damage. Lightning can be fatal, with an average of around 20% of strikes resulting in death.

3.Power Outages: Lightning can cause electrical surges that damage power lines and equipment, leading to outages. This can disrupt essential services and create safety hazards.

4.Wildfires: In dry areas, lightning can ignite wildfires, leading to extensive damage to ecosystems, property, and wildlife.

5.Agricultural Impact: Lightning strikes can harm livestock and crops, leading to economic losses for farmers.

6.Electronics Damage: Lightning strikes can create power surges that damage sensitive electronic equipment, resulting in costly repairs or replacements.

7.Psychological Effects: Experiencing a lightning strike or witnessing one can lead to psychological effects such as anxiety or post-traumatic stress disorder (PTSD).

Overall, lightning is a powerful natural phenomenon that can have widespread and sometimes devastating effects. Proper precautions, such as lightning protection systems, can help mitigate these risks.

Earthing & Lightning Protection Solution

Lightning protection is essential for several reasons:

1.Safety of Life: The primary concern is to protect people from the dangers of lightning strikes. Proper protection systems can reduce the risk of injury or fatalities associated with lightning.

2.Property Protection: Lightning can cause significant damage to buildings, structures, and their contents. A lightning protection system helps prevent fires and structural damage, safeguarding investments.

3.Equipment Safety: Sensitive electronic equipment can be damaged by electrical surges caused by lightning. Protection systems help ensure that vital equipment, such as computers and communication devices, remains operational.

4.Minimizing Downtime: Lightning strikes can lead to power outages and disruptions. By implementing protection measures, businesses can minimize downtime and maintain productivity.

5.Insurance Benefits: Many insurance companies offer lower premiums for properties equipped with effective lightning protection systems. This can lead to cost savings over time.

6.Compliance with Regulations: Many building codes and regulations require lightning protection in certain areas, especially in regions prone to thunderstorms. Compliance ensures safety and legal adherence.

7.Preservation of Natural Resources: By preventing wildfires ignited by lightning, protection systems contribute to the preservation of ecosystems and wildlife habitats.

Overall, investing in lightning protection is a proactive approach to ensure safety, protect assets, and minimize potential losses associated with lightning strikes.

Earthing & Lightning Protection Solution

Earthing (or grounding) and lightning protection systems work together to safeguard structures and people from the effects of lightning strikes. Here's how they function:

Earthing (Grounding)

1. Connection to the Ground: Earthing involves connecting electrical systems and structures to the Earth. This is typically achieved using metal rods, plates, or other conductors buried in the ground.

2. Safe Path for Current: In the event of a lightning strike or electrical fault, the earthing system provides a low-resistance path for excess electrical current to safely dissipate into the ground. This helps prevent dangerous voltage levels that can cause electrical shock or fires.

3. Protection of Equipment: By redirecting excess current, earthing helps protect sensitive electrical equipment from surges that can cause damage.

Lightning Protection Systems

1. Air Terminals (Lightning Rods): These are metal rods installed on the highest points of a structure. They capture the lightning strike, providing a preferred path for the electrical energy.

2. Conductors: Copper or aluminum conductors connect the air terminals to the grounding system. These conductors carry the lightning current down safely to the ground.

3. Grounding System: The lightning protection system is linked to the earthing system, ensuring that the lightning current is directed into the ground. This is usually done using ground rods or plates.

4. Surge Protectors: Additional devices, such as surge protectors, can be installed on electrical systems to further protect against voltage spikes caused by nearby lightning strikes.

Earthing & Lightning Protection Solution

Integration:

When a lightning strike occurs:

- The air terminal captures the strike.
- The conductors quickly channel the electrical energy down to the earthing system.
- The energy is safely dissipated into the ground, minimizing the risk of damage to the structure and equipment.

By effectively combining earthing and lightning protection, buildings can significantly reduce the risks associated with lightning strikes, ensuring safety for occupants and preserving property.

Application:

- Industry (Oil, Gas, Chemical etc)
- Telecom
- IT Park/ Pharmaceuticals
- Real Estate / Hospitals / Schools
- Stadiums / Recreation Arenas
- Transport
- Defence
- Commercial Building / Malls
- Heritage Structures
- Irrigation / Dams
- Solar / PV farms
- Windturbines
- Hydro-power stations

Earthing & Lightning Protection Systems

1. Multiple Point
2. Air Terminal Rod
3. Air Rod Base
4. Square Tape/Conductor Clamp
5. Copper Tapes/Conductors
6. Bonds
7. Conductor Jointing Clamps
8. Test Clamps
9. Earth Inspection Pit
10. Earth Electrodes
11. Earth Lattice Copper
12. Earth Plate Solid Copper
13. DC Tape Clip
14. G Clamp

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EARTHING

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Solid Copper and Stainless Steel Earth Rods:

Cask Steel copper rods are highly conductive, hard drawn from 99.99% pure copper cathodes. They are ideally used in conditions where soils are with high salt and moisture content.

Stainless steel rods are used to overcome galvanic corrosion which can be caused by dissimilar metals or components having different electronegativity buried on adjacent sides.

Copper Rods:

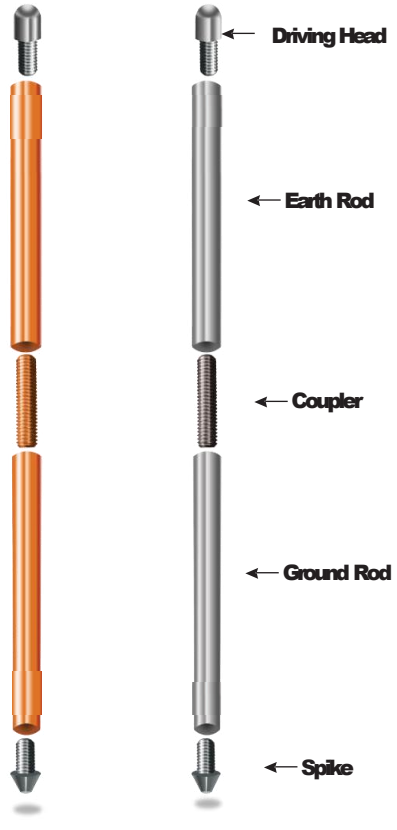
Rod Dia (mm)	Total Length (mm)
15 mm	1200 mm
15 mm	1500 mm
15 mm	1800 mm
15 mm	2400 mm
15 mm	3000 mm
20 mm	1200 mm
20 mm	1500 mm
20 mm	1800 mm
20 mm	2400 mm
20 mm	3000 mm

Note:

1. Coupler can be provided separately on request.
2. Different lengths can be provided on request.

Steel Rods:

Rod Dia (mm)	Total Length (mm)
12	1200
12	1500
12	1800
12	2400
12	3000
14	1200
14	1500
14	1800
14	2400
14	3000
16	1200
16	1500
16	1800
16	2400
16	3000
20	1200
20	1500
20	1800
20	2400
20	3000



Accessories for Internal Threaded Rods:

Driving stud:

Type	15 mm & 20 mm hardened steel driving stud

Coupling dowel:

Type	Coupling dowel for 15 mm and 20 mm copper rod Coupling dowel for 16 mm and 20 mm stainless steel rod

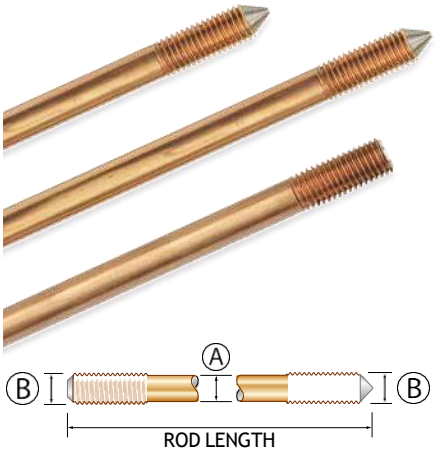
Steel spike:

Type	15 mm & 20 mm hardened steel spike

EARTH ELECTRODES

Copper Bonded Earth Rod (Threaded):

Length	Thread Diameter	Rod Diameter
1200mm	15mm	14.2mm
1500mm	15mm	14.2mm
1800mm	15mm	14.2mm
2400mm	15mm	14.2mm
3000mm	20mm	14.2mm
1200mm	20mm	17.2mm
1500mm	20mm	17.2mm
1800mm	20mm	17.2mm
2400mm	20mm	17.2mm
3000mm	20mm	17.2mm



Note:

1. Coupler can be provided separately on request.
2. Different lengths can be provided on request.

Copper Bonded Earth Rods (Unthreaded)

Length	Rod Diameter
1200mm	14.2mm
1500mm	14.2mm
1800mm	14.2mm
2400mm	14.2mm
3000mm	14.2mm
1200mm	17.2mm
1500mm	17.2mm
1800mm	17.2mm
2400mm	17.2mm
3000mm	17.2mm

Galvanised Steel Earth Rod- Unthreaded &Treaded

Rod Dia (mm)	Total Length (mm)
12	1200
12	1500
12	1800
12	2400
12	3000
14	1200
14	1500
14	1800
14	2400
14	3000
16	1200
16	1500
16	1800
16	2400
16	3000
20	1200
20	1500
20	1800
20	2400
20	3000

EARTHING
INSPECTION PITS

Concrete Inspection Pit:

Description	Dimension
Concrete inspection pit	320x320x190mm

Accessories:
5 Hole and 7 Hole Earth Bar:

Plastic Inspection Pit:

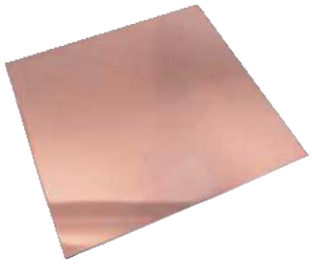
Description
polymer inspection pit with grey polymer lid
polymer inspection pit with black polymer lid
polymer inspection pit with a concrete lid

Earth Rod Seal for Light Weight Inspection Pit:

Material	Description
PVC	Single Flange Earth Rod Seal
PVC	Double Flange Earth Rod Seal

EARTHING
EARTH ROD ALTERNATIVES

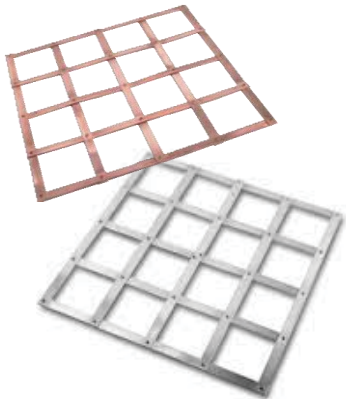
Earth Rod Alternatives:



Solid Copper / Stainless Steel Earth Plate:

Size	Total Surface Area	Weight per Unit
600 x 600 x 1.5 mm	0.72 sq. mm	5.00 Kg
900 x 900 x 1.5 mm	1.63 sq. mm	11.21 Kg
600 x 600 x 3 mm	0.73 sq. mm	9.74 Kg
900 x 900 x 3 mm	1.63 sq. mm	21.74 Kg

Copper/ Stainless Steel Earth Lattice/ Mesh/ Mat:



Size	Total Surface Area	Weight per Unit
600 x 600 x 3 mm	0.31 m2	3.98 Kg
900 x 900 x 3 mm	0.65 m2	7.20 Kg

EARTHING
BACKFILL COMPOUNDS

Backfill Compounds:

Marconite:

Part number	Type	Weight
MARCONITE	Powder	25kg

Part number	Type	Weight
MARCONITE-PM	Granules	25kg

Bentonite:

Type	Weight
Powder	25kg

Type	Weight
Granules	25kg

Rods And Rebar Clamps:

Rod to Tape Clamp(Type A):

Rod Dia mm	Tape Size (W x T) mm
9.5 to 12.5	20 x 2
	25 x 3
14.2 to 16	25 x 3
	30 x 3
	50 x 6
17.2 to 20	25 x 3
	30 x 3
	50 x 6
20 to 25	30 x 3
	50 x 6

Rod To Conductor Clamp (Type G):

Rod Dia mm	Conductor Range mm2
9.5 to 12.5	6 - 35
12.5 to 14.2	16 - 70
14.2 to 17.2	16 - 95
17.2 to 20	50 - 95

U Bolt Rod Clamp (Type E): (Single plated Horizontal type)

Rod Dia mm
9.5 to 12.5
14.2 to 16
17.2 to 20
20 to 25

U Bolt Rod to Tape Clamp (Type E): (Double plated vertical type)

Rod Dia mm	Tape Size mm
9.5 - 12.5	25
14.2 to 16	25
17.2 to 20	25
20 to 25	50

"U" Bolt Rod to Cable Clamp (type GUV): (Double Plated Vertical Type)

Rod Dia mm	Conductor Size In mm2
9.5-12.5	16-35
14-16	16-35
14-16	16-95
14-20	35-185
16-20	120-300
20-25	300-500

Rod To Cable Lug Clamp (Type B):

Rod Dia mm
9.5
12.5
14.2
16
17.2
20
25

Rebar lamp:

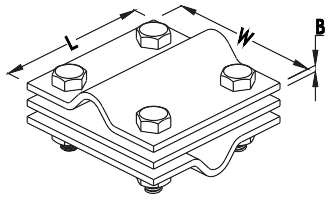
Conductor Diameter mm	Rebar Diameter mm
8	8-18mm
	18-38mm

Tower Earth Clamp or Tower Earth Clamp Without Plate or Direct Clamping Type :

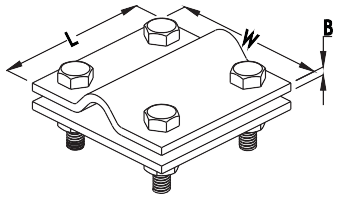
Conductor Range mm2	Channel Thickness mm	Bolt Size
16-35	10	M10
50-70	10	M10
95-120	10	M10
185-240	10	M12

EARTHING
ACCESSORIES

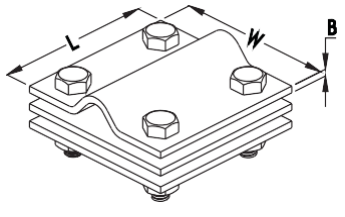
Dimension 'L x W x B'	Rod Size (mm)
60 x 60 x 3	8 - 10
60 x 60 x 4	8 - 10



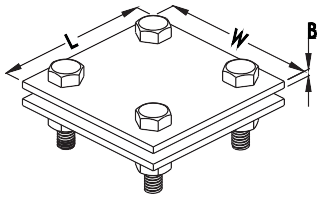
Dimension 'L x W x B'	Rod Size (mm)	Tape Size (mm)
70x70x3	8-10	30x3
70x70x4	8-10	40x3



Dimension 'L x W x B'	Rod Size (mm)	Tape Size (mm)
70x70x3	8-10	30/40
70x70x4	8-10	30/40



Dimension 'L x W x B'	Tape Size (mm)
60x60x3	30/40
70x70x4	30/40



Test Joint (Disconnecting Clamps)

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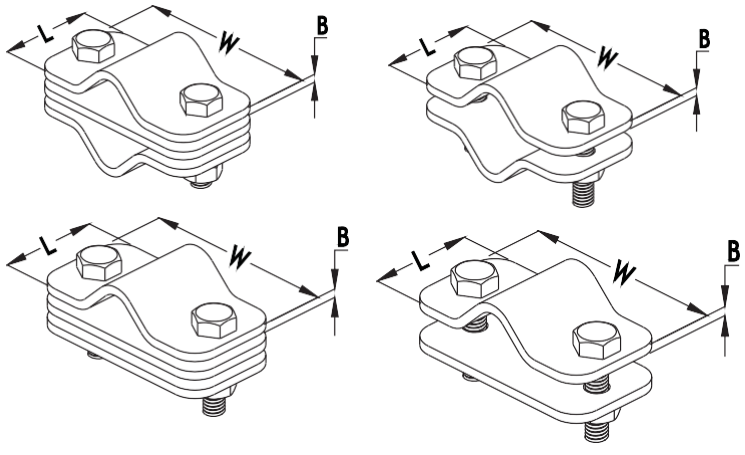
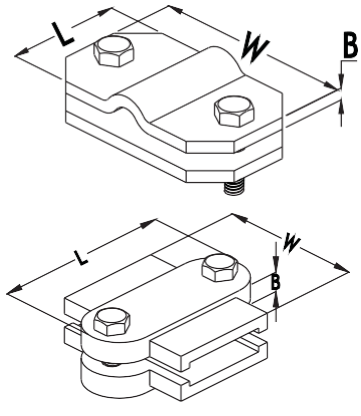
Dimension 'LxWxB'	Rod /Rod Size In mm	Tape Size In mm
30x58x2.5	8-10/8-10	30



Test Joint

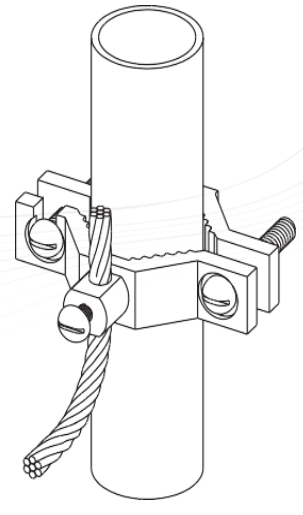
Dimension 'LxWxB'	Rod /Rod Size In mm
30x58x2.5	8-10/8-10

Dimension 'LxWxB'	Rod /Rod Size In mm
58x54x8	30/30



Pipe Clamps :

Pipe diameter		Conductor range
1/2" – 1"	13-25 mm	25-95 mm2
11/4 "– 2"	32-50 mm	25-95 mm2
21/2 "– 31/2 "	65-90 mm	25-95 mm2
4" - 5"	100-125 mm	25-95 mm2
6"	150 mm	25-95 mm2
8"	200 mm	25-95 mm2
10"	250 mm	25-95 mm2
12"	300 mm	25-95 mm2



EARTHING
ACCESSORIES

Earth Points :

Size	Hole
80	1 x M10
80	2 x M10
80	4 x M10

Material : High Grade Copper Alloy
Bolt : Stainless Steel - SS304

With Prewelded Tail

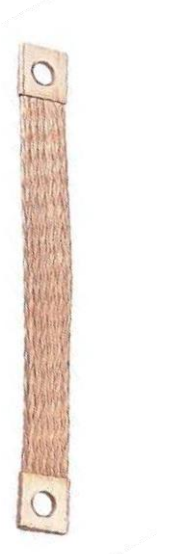
Single Point

Two Point

Four Point

Flexible Braids

Size W x H	Length	Hole diameter
10 x 2 mm	100 mm	6 mm
10 x 2 mm	200 mm	6 mm
10 x 2 mm	300 mm	6 mm
12 x 2 mm	100 mm	6 mm
12 x 2 mm	200 mm	6 mm
12 x 2 mm	300 mm	6 mm
19 x 2.5 mm	100 mm	10 mm
19 x 2.5 mm	200 mm	10 mm
19 x 2.5 mm	300 mm	10 mm
25 x 3 mm	100 mm	10 mm
25 x 3 mm	200 mm	10 mm
25 x 3 mm	400 mm	10 mm
25 x 3 mm	200 mm	11 mm
25 x 3 mm	300 mm	11 mm
25 x 3 mm	400 mm	11 mm
30 x 4.5 mm	200 mm	10 mm
30 x 4.5 mm	400 mm	10 mm
32 x 5 mm	200 mm	10 mm
32 x 5 mm	400 mm	10 mm



Bonds:

B Bond:

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Tape Size mm. (W)	Bolt Size
25	M10
30	M10

RWP Bond:

Tape Size mm. (W)	Bolt Size
25	M10
30	M10

Watermain Bond:

.

Tape Size mm. (W)
25
30

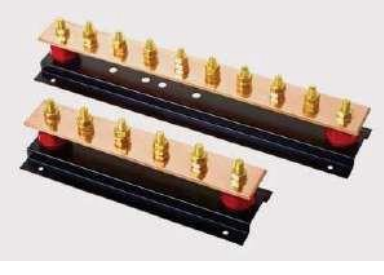
Pipe Bond:

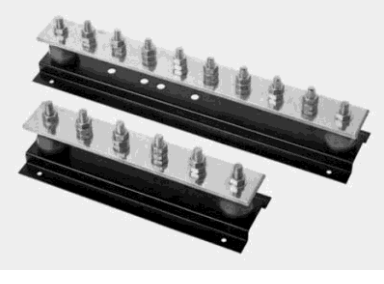
Size mm	Hole mm
12x0.5	6
12x1.5	6
20x2	8
25x2	8

Earth Bar without Disconnecting Link :

Copper Earth Bar &Tinned Copper Earth Bar:

Description	Length
6 way	400mm
8 way	500mm
10 way	650mm
12 way	750mm
14 way	850mm
16 way	950mm
18 way	1050mm
20 way	1200mm
22 way	1300mm
24 way	1400mm
26 way	1500mm
28 way	1650mm
30 way	1750mm





Earth Bar with Single Disconnecting Link:

Copper Earth Bar & Tinned Copper Earth Bar :

Description	Length
6 way	475 mm
8 way	575 mm
10 way	725 mm
12 way	825 mm
14 way	925 mm
16 way	1025 mm
18 way	1125 mm
20 way	1275 mm
22 way	1375 mm
24 way	1475 mm
26 way	1575 mm
28 way	1725 mm
30 way	1825 mm

Earth Bar With Twin Disconnecting Link:

Copper Earth Bar &Tinned Copper Earth Bar:

Description	Length
6 way	550 mm
8 way	650 mm
10 way	800 mm
12 way	900 mm
14 way	1000 mm
16 way	1100 mm
18 way	1200 mm
20 way	1350 mm
22 way	1450 mm
24 way	1550 mm
26 way	1650 mm
28 way	1800 mm
30 way	1900 mm

EARTHING

EARTH BARS

Earth Bar Accessories :

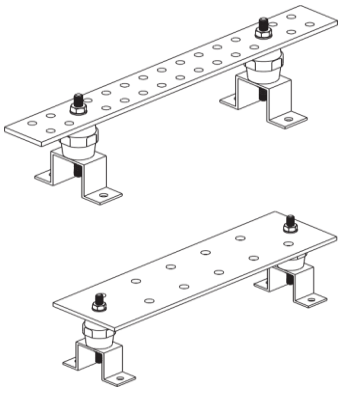
Disconnecting Links

Description	Length (mm)
DISCONNECTING LINK	125

Telecomm Earth Bar

It serves as a common grounding point for Extra Low Voltage system.

Bar Size In mm	Length In mm	No. Of M8 Size Holes	No. Of M12 Size Holes
50 x 6	750	18	5
50 x 6	650	14	5
50 x 6	500	12	3
50 x 6	450	10	3
50 x 6	400	8	3
50 x 6	350	6	3
100 x 6	750	41	5
100 x 6	650	33	5
100 x 6	500	27	3
100 x 6	450	23	3
100 x 6	400	19	3
100 x 6	350	15	3



Earth Insulator

Description	Thread size mm
Insulator with Stud Assembly	M10

Earth Boss

Length	Diameter
25 mm	25 mm
30 mm	30 mm
30 mm	40 mm
30 mm	50 mm
40 mm	30 mm
40 mm	40 mm
40 mm	50 mm
50 mm	30 mm
50 mm	40 mm
50 mm	50 mm

C Shaped Connector:

Material	Conductor range (Main)	Conductor range (Tap)
Copper	10 mm2	1.5-10 mm2
Copper	16 mm2	1.5-16 mm2
Copper	25-16 mm2	10-1.5 mm2
Copper	25 mm2	25-16 mm2
Copper	35 mm2	16-1.5 mm2
Copper	35 mm2	35-25 mm2
Copper	50 mm2	25-4 mm2
Copper	50 mm2	50-35 mm2
Copper	70 mm2	25-1.5 mm2
Copper	70-50 mm2	35-4 mm2
Copper	70-50 mm2	70-35 mm2
Copper	95 mm2	35-4 mm2
Copper	95 mm2	70-35 mm2
Copper	95 mm2	95-70 mm2
Copper	120 mm2	120-25 mm2
Copper	150 mm2	120-25 mm2
Copper	150 mm2	150-70 mm2
Copper	185 mm2	95-16 mm2
Copper	185-120 mm2	185-120 mm2
Copper	240-150 mm2	120-95 mm2
Copper	150-240 mm2	150-240 mm2
Copper	185-240 mm2	185-240 mm2
Copper	240-240 mm2	240-240 mm2
Copper	120-300 mm2	120-300 mm2

LIGHTNING PROTECTION

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Bare Copper Tape & PVC Covered Copper Tape:

Tape Size (X x Y) mm
12.5 x 1.5
12.5 x 3
20 x 1.5
20 x 3
25 x 1.5
25 x 3
25 x 4
25 x 6
30 x 3
30 x 6
38 x 3
38 x 5
38 x 6
40 x 4
40 x 6
50 x 3
50 x 4
50 x 6

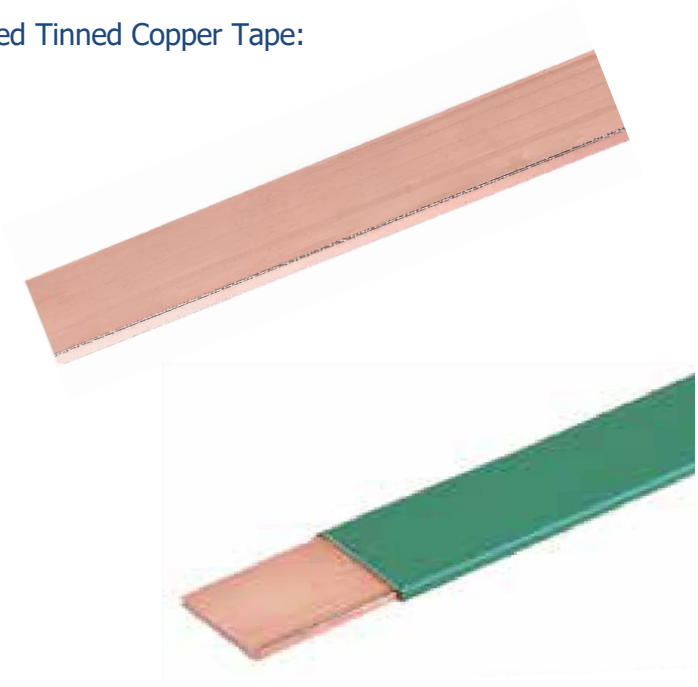
Bare Aluminium Tape & PVC Covered A

.

Tape Size (X x Y) mm
12.5 x 1.5
12.5 x 3
20 x 1.5
20 x 3
25 x 1.5
25 x 3
25 x 4
25 x 6
30 x 3
30 x 6
38 x 3
38 x 5
38 x 6
40 x 4
40 x 6
50 x 3
50 x 4
50 x 6

Tinned Copper Tape & PVC Covered Tinned Copper Tape:

Tape Size (XxY) mm
12.5x1.5
12.5x3
20x1.5
20x3
25x1.5
25x3
25x4
25x6
30x3
30x6
38x3
38x5
38x6
40x4
40x6
50x3
50x4
50x6



Flexible Copper Braid & Flexible Tinned Copper Braid:

Overall Size (XxY) mm	Size (mm2)	Current Rating AMP
12x1.5	8.4	40
12x3	16.8	105
19x1.5	12.1	63
19x3.0	22.4	140
25x1.5	19.6	85
25x3	36.5	200
25x6	73	400
32x1.5	36.5	120
32x3	42.1	240
32x6	81.4	400
38x3	53.3	800
38x6	80	500
50x3	70.2	400
50x6	109.5	800
50x12	280	1500
75x6	140.4	1000

LIGHTNING
CONDUCTORS

Flexible Connectors

Overall Size (XxY) mm	Center To Center Dist. Of Fixing Hole, mm	Braid Dim. mm	Hole Size mm
Single Bond	200	25x3	12
	300	25x3	12
	400	25x3	12

Bare Stranded Copper Conductor:

Conductor Size mm2	No. Of Stranding / Wire Dia. mm
6	7/1.04
10	7/1.4
16	7/1.7
25	7/2.14
35	7/2.52
50	19/1.78
70	19/2.14
95	19/2.52
120	37/2.03
150	37/2.25
185	37/2.52
240	61/2.25
300	61/2.50

Bare Solid Circular:

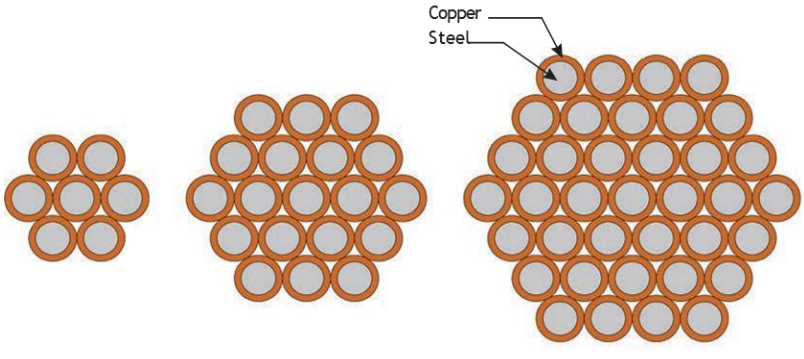
Conductor material	Diameter	Cross-sectional area	Standard coil size
Copper	8 mm	50.27 mm2	50 m
Aluminium	8 mm	50.27 mm2	50 m

LIGHTNING
CONDUCTORS

Bare Stranded Copper Conductor With Tinned Plated:

Conductor Size mm2	No. Of Stranding / Wire Dia. mm
6	7/1.04
10	7/1.4
16	7/1.7
25	7/2.14
35	7/2.52
50	19/1.78
70	19/2.14
95	19/2.52
120	37/2.03
150	37/2.25
185	37/2.52
240	61/2.25
300	61/2.50

Copper Clad Steel Stranded Conductor:

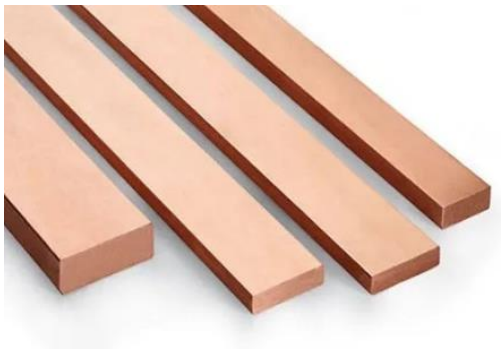


Sectional Area (mm2)	Diameter of Single Wire (mm)	Number of Strands	Overall Conductor Diameter (mm)	Weight for Reference (kg/km)	Electrical Conductivity of a Single Wire (%)
16	1.70	7	5.1	130	30/40% IACS
25	2.14	7	6.36	200	
35	2.52	7	7.50	280	
50	3.00	7	9.00	400	
	1.80	19			
70	3.50	7	10.60	550	
	2.14	19			
95	2.52	19	12.60	766	
120	2.84	19	14.00	980	
150	3.15	19	15.8	1230	
	2.28	37			
185	3.52	19	17.50	1520	
	2.52	37			
240	4.00	19	20.00	1970	
	2.88	37			
300	3.20	37	22.4	2430	

Hard Drawn Copper Bar & Tinned Hard Drawn Copper Bar:

Tape Size (XxY mm)
25x3
25x6
38x6
50x6
50x10
75x6

NOTE : OTHER SIZES AVAILABLE ON REQUEST



Hard Drawn Aluminium Bar:

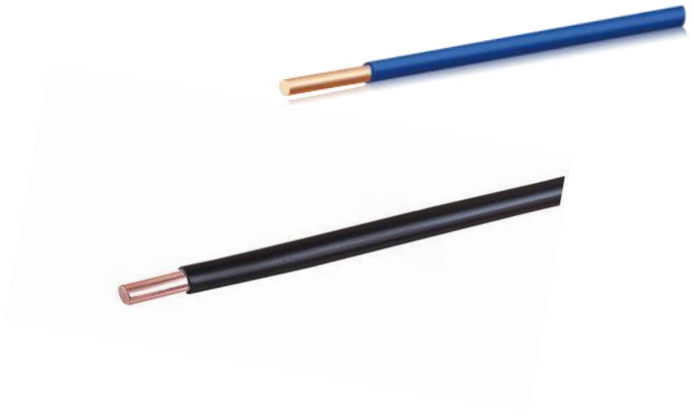
Tape Size (XxY mm)
25x3
25x6
38x6
50x6
50x10
75x6

NOTE : OTHER SIZES AVAILABLE ON REQUEST

LIGHTNING
CONDUCTORS

Pvc Covered Copper Solid Circular & with Tinned Plated:

Rod Dia in mm
8



Pvc Covered Copper Stranded Circular & with Tinned Plated:

Conductor Size mm2	No. Of Stranding / Wire Dia. mm
16	7/1.7
25	7/2.14
35	7/2.52
50	19/1.78
70	19/2.14
95	19/2.52
120	37/2.03
150	37/2.25
185	37/2.52
240	61/2.25
300	61/2.52
400	61/2.85

LIGHTNING
AIR RODS

Taper Pointed Air Rods :

Rod length (mm)	Rod diameter (mm)	Thread size	Conductor material
500	Ø15	M16	Copper
1000	Ø15	M16	Copper
1500	Ø15	M16	Copper
2000	Ø15	M16	Copper
3000	Ø15	M16	Copper
500	Ø15	M16	Aluminium
1000	Ø15	M16	Aluminium
1500	Ø15	M16	Aluminium
2000	Ø15	M16	Aluminium
3000	Ø15	M16	Aluminium
500	Ø10	M10	Copper
1000	Ø10	M10	Copper
500	Ø10	M10	Aluminium
1000	Ø10	M10	Aluminium

Rods can be installed with or without Multiple Points

Accessories:

Air Rod Base:

Air rod diameter (mm)	Thread size	Maximum conductor width (mm)	Conductor material
Ø15	M16	25	Copper
Ø15	M16	25	Aluminium
Ø15	M16	50	Copper

Air Terminal

Multiple Points:

Thread Dia.
5/8"
3/4"

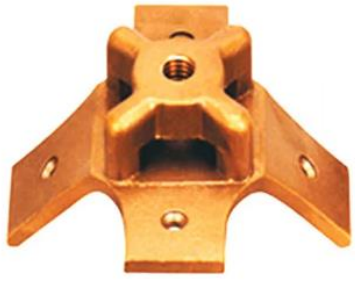
LIGHTNING
AIR RODS

Flat Conductor Saddle:

Air rod diameter (mm)	Thread size	Conductor size (mm^2)	Conductor material
Ø15	M16	50	Copper
Ø15	M16	70	Copper
Ø15	M16	95	Copper

Ridge Saddle:

Air rod diameter (mm)	Thread size	Max. conductor width (mm)	Conductor material
Ø15	M16	31	Aluminium
Ø15	M16	31	Copper



Strike Pads:

Diameter	Height	Material
120	20	Aluminium
		Copper

Rod Brackets:

Air rod diameter (mm)	Air rod material
Ø15	Copper
Ø15	Aluminium

LIGHTNING
AIR RODS

Rod to conductor coupling:

For Connecting Stranded Conductor:

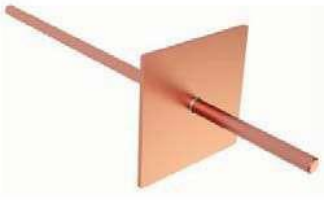
Conductor Size	Rod Diameter	Thread Size	Rod Material
50-70 mm2	15 mm	M16	Copper
95-120 mm2	15 mm	M16	Copper

For Connecting Copper Tapes:

Conductor Size	Rod Diameter	Thread Size	Rod Material
25 x 3 mm	15 mm	M16	Copper

Puddle Flanges:

Material
Copper
Aluminum



LIGHTNING
AIR RODS - ACCESSORIES

Free Standing Air Terminal Rods:

Interception air rod (0.5 m to 2 m height	Interception air rod (3 m to 4 m height)	Interception air rod (4.5 m to 5.5 m height)	Interception air rod (6 m to 8 m height)	Interception air rod (8 m to 10 m height)
Copper or aluminium air rod	2 piece interception pole with square support frame	3 piece interception pole with tripod support frame	3 piece interception pole with tripod support frame	3 piece interception pole with 'H' shaped support frame
Circular concrete base	4 square concrete bases (or 8 doublestacked for higher wind speeds)	3 circular concrete bases	6 circular concrete bases	10 circular concrete bases

LIGHTNING
AIR RODS - ACCESSORIES

DC Tape Clip:

Tape Clip With & Without Base:

Tape Size mm	Material
20x3	Copper
25x3	Copper
30x3	Copper
50x3	Copper
25x3	Aluminium
30x3	Aluminium
50x3	Aluminium

NOTE : OTHER SIZES AVAILABLE ON REQUEST
ALSO AVAILABLE IN ALUMINIUM

D.C Tape Clip:

Tape Size mm	Material
20x3	Copper
25x3	Copper
30x3	Copper
50x3	Copper
25x3	Aluminium
30x3	Aluminium
50x3	Aluminium

NOTE : OTHER SIZES AVAILABLE ON REQUEST
ALSO AVAILABLE IN ALUMINIUM

Non-metallic DC tape clip:

Tape Size mm
25x3
30x3

NOTE : OTHER SIZES AVAILABLE ON REQUEST
ALSO AVAILABLE IN DIFFERENT COLOR VARIANTS

LIGHTNING
AIR RODS - ACCESSORIES

One Hole Clip:

Conductor Size, mm2
25-35
8mm ROD
50-70
95
120
150
185

Cable Saddle:

Conductor Size, mm2
25-35
8mm ROD
50-70
95
120-150
185

Push In Roof Conductor:

Conductor Dia in mm	L mm	W mm	H mm	Colour
8	29	18	14	BLACK
				BROWN
				WHITE

Oblong Test Clamp:

Tape Size mm
20x3
25x3
30x3
50x6

NOTE : OTHER SIZES AVAILABLE ON REQUEST
ALSO AVAILABLE IN ALUMINIUM

LIGHTNING
AIR RODS - ACCESSORIES

Bi Metallic Connectors:

Bi-metallic Connector Tape To Tape

Cu Tape Size mm	Alu Tape Size In mm
25 x 3	25 x 3

Bi-metallic Connector Conductor To Conductor

Cu Conductor Size In mm2	Alu Conductor Size In mm2
35 - 50	35 - 50
70 - 95	70 - 95

Bi-metallic Connector Tape To Conductor

Cu Tape Size mm	Alu Conductor Size In mm2
25 x 3	35 - 50
25 x 3	70 - 95

Square Tape Clamp:

Tape Size mm	Material
20 x 3	Copper
25 x 3	Copper
25 x 6	Copper
30 x 3	Copper
30 x 6	Copper
50 x 3	Copper
50 x 6	Copper
25 x 3	Aluminium
30 x 3	Aluminium
50 x 6	Aluminium

NOTE : OTHER SIZES AVAILABLE ON REQUEST

Tape to Conductor Square Clamp:

Conductor size	Material
25 x 3 mm to 50 mm2	Copper
25 x 3 mm to 70 mm2	Copper
25 x 3 mm to 95 mm2	Copper
25 x 3 mm to 120 mm2	Copper
25 x 3 mm to 150 mm2	Copper

LIGHTNING
AIR RODS - ACCESSORIES

Cable to Cable Square Clamp:

Conductor size	Conductor material
50 mm2	Copper
70 mm2	Copper
95 mm2	Copper
120 mm2	Copper
150 mm2	Copper

Back Plate Holdfast Stem:

Material
Copper
Aluminium

Square Clamp With Combination:

Conductor Size In mm2	Copper Flat Size In mm
35-50	20x3
35-50	25x3
70-95	25x3
70-95	30x3

Rod To Cable Coupling:

Thread Dia. Inch	Conductor Size In mm2
5/8"	35-50
5/8"	50-95
3/4"	35-50
3/4"	70-95

LIGHTNING

AIR RODS - ACCESSORIES

Plate Test Clamp:

Tape Size mm
25 x 3
30 x 3
50 x 6

Inter Face Test Clamp:

Tape Size	Conductor Size
25x3 mm	8 sq mm
25x3 mm	10 sq mm
25x3 mm	16 sq mm

Conductor Test Clamp:

Conductor Size, mm2
35
50
70-95

Cable to Cable T Clamp:

Conductor Size, mm2
35-50
70-95
120

Denso Tape:

Tape Size
50mm x 10 m

CASKWELD

Şefikbey Sk. Kadıköy-Zühtüpaşa Istanbul-Turkey
www.casksteel.com

CASKWeld

CASKWeld is a unique exothermic welding system that operates without the need for an external heat source. This method of welding is ideal for creating strong, highly conductive connections that are both permanent and resistant to loosening over time, even under repeated fault conditions.

Key Components

Molds

The molds are crafted from high-density graphite, designed to endure between 50 and 80 welds. The choice of graphite density and mold design is influenced by several factors:

- **Durability**: Molds must endure repeated opening, closing, firing, and cleaning cycles for up to 80 connections. Generally, higher density graphite results in increased mold longevity.

- **Heat Dissipation**: Molds with lower density graphite facilitate quicker heat dissipation, which can be crucial during the welding process.

- **Connection Specifications**: The type, size, and complexity of the connections also dictate the design of the mold.

In addition to the standard molds available, CASKWELD provides a variety of customized molds tailored for applications in power stations, railways, and other specialized uses.

Weld Metal

Weld metals are offered in powder and tablet forms, primarily composed of copper and aluminum oxides. The metal content is adjusted based on the size and type of the required joint. An ignition or starting powder, which is explosive, is used to initiate the combustion process of the weld metal.

Essential Tools

For the CASKWeld process, certain safety gear is mandatory, including gloves and goggles.

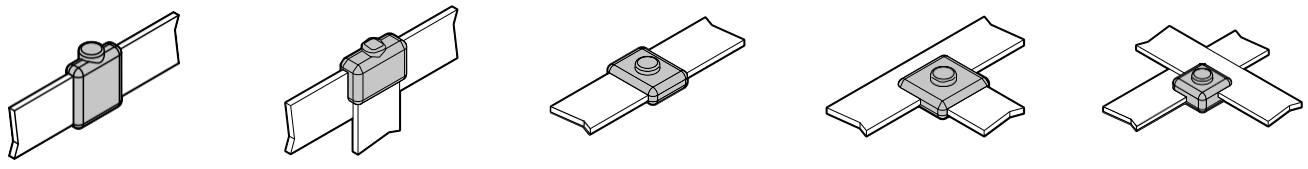
- **Handle Clamps**: These are necessary for opening and closing the molds, as well as securely holding them during welding.

- **Ignition Tools**: Flint guns or electronic ignition devices are required to start the welding process.

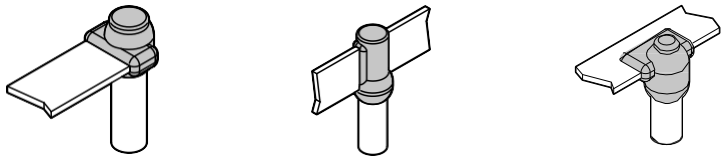
- **Cleaning Equipment**: Scrapers, brushes, and other cleaning tools are essential for maintaining the molds, conductors, and joints.

TYPES OF CONNECTIONS

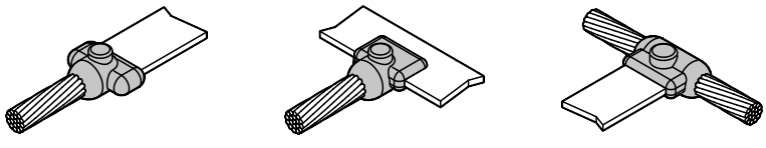
Bar to bar



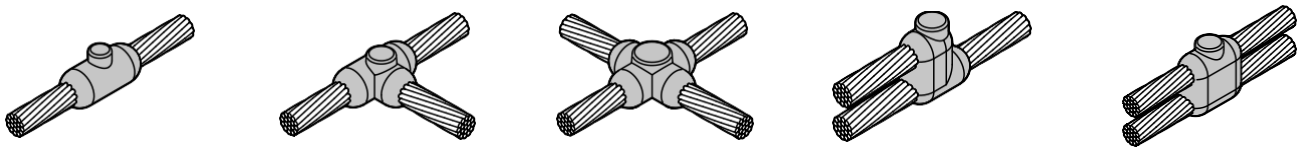
Bar to earth rod



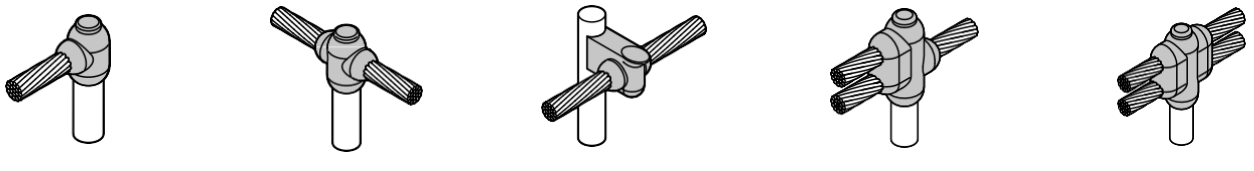
Cable to bar



Cable to cable



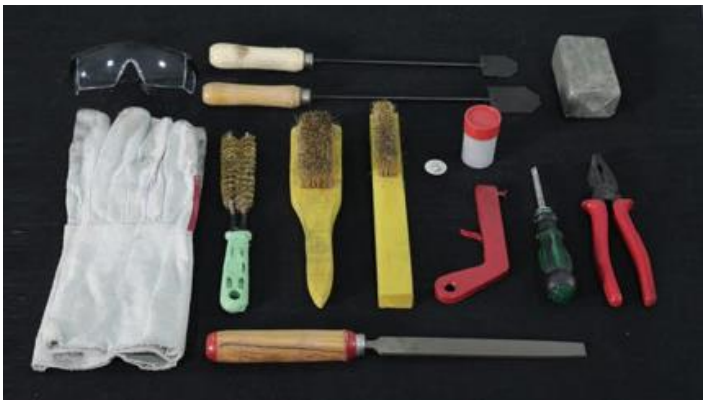
Cable to earth rod



WELDING ACCESSORIES

Tools and Accessories required :

1. Mould
2. Handle Clamp
3. Welding Powder
4. Retaining Disc
5. Brushes (Cable cleaning brush, Busbar cleaning brush, Mould cleaning brush.
6. Mould scrapper
7. Mould sealing compound
8. Flint Gun
9. Gloves
10. Safety Glasses
11. Hammer
12. Screw Driver
13. Flat file
14. Combination Plier



Welding Powder:

Weight per pack
15 grams
25 grams
32 grams
45 grams
65 grams
90 grams
115 grams
150 grams
200 grams
250 grams

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www.casksteel.com