

Earthing/Grounding Accessories

ARMIN supplies the full range of Copper, Brass Bronze Earthing/Grounding accessories as per detailed below;



- Copper Bonded Steel Earthing/Grounding Rods
- Solid Copper Earthing/Grounding Rods
- Galvanized Steel (G. I.) Earth Rods
- Earth Plates, Earth Lattice, DC Clips Taps
- Clips Cross, Bar saddles, Square Clamps
- A B G Clamps, Rod to Lug / Conductor / tape Clamps

Copper Bonded Steel Earth Rods

Copper Bonded Earth Rods or ground rods are the ideal driven earth electrodes; they offer the installer an economical and efficient earth rod grounding system.

Electrolytic copper is uniformly molecularly bonded onto a high tensile steel core to a pure thickness from 25-250 micron, thus ensuring excellent corrosion resistance and eliminating electrolytic action.

The high tensile steel core ensures strength and hardness allowing the use of power hammers for deep driven systems.

Coupling threads are formed by a rolling process to ensure thread strength and to maintain the integrity of the molecularly bonded copper. The universally used thread rolling technique raises the surface of the rod.

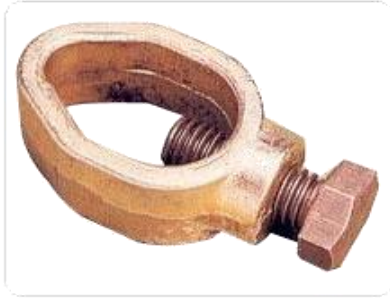
Standard: BS 6651 / UL 467.



<i>Dimension Rod Size</i>	<i>Actual Rod Dia.</i>	<i>Thread Dia.</i>	<i>Ord No.</i>
9.5 x 1200	9.5	Un-Threaded	MZF 9.512
9.5 x 1800	9.5	Un-Threaded	MZF 9.518
14 x 1200	12.0	14	MZF 1412
14 x 1500	12.0	14	MZF 1415
14 x 1800	12.0	14	MZF 1418
14 x 2000	12.0	14	MZF 1420
14 x 2400	12.0	14	MZF 1424
16 x 1200	14.2	5/8"	MZF 1612
16 x 1500	14.2	5/8"	MZF 1615
16 x 1800	14.2	5/8"	MZF 1618
16 x 2400	14.2	5/8"	MZF 1624
16 x 3000	14.2	5/8"	MZF 1630
19 x 1200	17.2	3/4"	MZF 19012
19 x 1500	17.2	3/4"	MZF 1915
19 x 1800	17.2	3/4"	MZF 1918
19 x 2400	17.2	3/4"	MZF 1924
19 x 3000	17.2	3/4"	MZF 1930



Rod to Cable Clamp



Manufacture in brass / gunmetal to suit various diameter earth rod and cable.

Standard : BS2874/BS1400

Rod Diameter (mm)	Conductor Size (mm ²)	Ord. No.
9.5	35	CZC 35
16	50	CZC 50
16	70	CZC 70
20	95	CZC 95

Split Connector Clamp



Manufacture in brass /gunmetal, complete with bolt, washer and two locknuts.

Standard : BS2874/BS1400

Rod Diameter (mm)	Rod Type	Ord. No.
9.5	Copper Bonded	CZS 1
16	Solid Copper	CZS 2
16	Copper Bonded *	CZS 3
20	Solid Copper	CZS 4
20	Copper Bonded *	CZS 5

U – Bolt Pipe Clamp

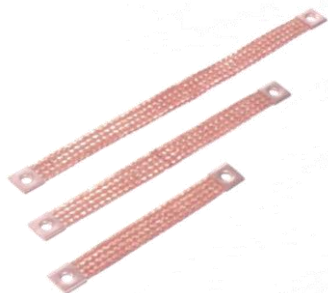


These are manufactured in copper with gunmetal back plates.

Standard : BS2874/BS1400

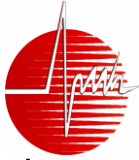
Rod Diameter (mm)	Ord. No.
16	CZU 16
20	CZU 20
25	CZU 25

Flexible Copper Earth Bar



High conductivity copper wire braid manufactured for bonding of doors & movable objects.

Size mm	Bolt hole dia. mm	Order Code
25*3	12	FCBE 253
30*3	12	FCBE 303
40*3	12,14,16	FCBE 403



Groundbed Casing

The installation of an open hole deep groundbed with replaceable anode chains allows an economical design up to 300 m depth and requires the presence of a static water level.

The advantages compared to closed hole groundbeds are as follows:

- Trouble-free unlimited life compared to erratic and short (5 years) life time of closed hole groundbeds.
- Possibility of anode replacement, inspection, repair and replacement of chain components.

The unlimited lifetime of replaceable groundbeds is ensured by stable non-conductive, corrosion resistant casings.



Casing

The specified casing is selected by considering the external pressure loading which is caused by geological formation, the depth of groundbed, the ratio of borehole diameter to casing diameter and the position of dynamic water level.

Perforated casings are provided with slots which run perpendicular to pipe axis, thus resulting in a minor decrease of collapse resistance as compared with pipes having longitudinal slots.

The perforated (open) area covers minimum 20 % surface of the casing around anodes.



Dimension

nominal diameter ND (mm)	outer diameter (mm)	wall thickness (mm)	inner diameter (mm)	outer diameter over socket (mm)	weight (kg/m)	thread type
150	165	7.5	150	174	5.5	T
175	195	8.5	178	203	7.4	T
175	195	11.5	163	213	9.8	T
200	225	10.0	205	239	10.0	T
200	225	13.0	188	249	12.8	T

Installation Equipment / Accessories

1. **Hoisting devices** for lifting and lowering of the pipe string
2. **Sump pipes** for silt deposit
3. **Centralizers** for centralization of casing in the borehole during installation
4. **Wooden plugs** for fastening to the bottom end of casing or sump pipe
5. **Wooden clamps** faced with leather for holding the casing on the ground level