

# PRAGATI ELECTROCOM'S

## LOHM EARTHING SOLUTION



## MAINTENANCE FREE EARTHING

## LOHM Earthing Solution

Bonding of steel core rods with sufficient thickness of dense, non porous copper to protect the steel core from corrosion is an established practice to provide a durable electrical connection between the ground and a clamp for connection to a structure or equipment to be grounded. We ensure copper clad on MS electrode always more than 250 Microns. It is well known that thickness of 177 Microns of copper bonded over steel core provides a ground rod having useful life of at least 30 years in almost all soils encountered. Underwriters' Laboratory Specification 467 calls for steel core rod of 0.5 to 1 inch diameter with copper jacket having minimum thickness of 250 microns at any point.

Adherence of copper to the steel rod is a key issue in determining the reliability. Pragati Electrocom has pioneered bright acid copper plating process by a lot of research and arriving at proper current densities, temperature and brightener additives to achieve copper plating with finer grain structure and a smoother, harder and more uniform surface, better leveling or ability to fill in imperfections in the surface of the steel core, substantially greater ductility of copper plating. Process constitutes 14 stations through which the rod passes. The key features of the process include:

1. Dull copper coating to a closely controlled thickness adequate for sealing the surface but not sufficiently thick to cause stress cracking, which would result in inadequate adherence.
2. Dipping in an acidified rinse bath after receiving the dull copper coat and before reaching the acid copper bath to prevent passivation.
3. Permanent immersion of the rods in the copper plating bath throughout the deposit of copper, with copper connections made to the rods only at their ends to produce a plating of substantial uniformity and density in the bright acid copper bath.
4. High level of air agitation around the anodes and at the rod surfaces.
5. The temperature of the bath is closely maintained within a predetermined temperature ranges by continuous recirculation through a heat exchanger, this temperature being substantially high.



Pragati Electrocom has branded the family of Earthing products as LOHM. Following are the products available for Earth electrodes:

### Copper Clad Steel Earth Electrodes

Made with Steel Core and a copper clad exterior to provide increased conductivity and corrosion resistance

LOHM EE-17-10: Dia. ¾ inch (21) X Length 10 (3 m) ft; 250 micron copper coating

LOHM EE-17-12: Dia. ¾ inch (21) X Length 12 (3.65) ft; 250 Micron Copper Coating

LOHM EE-17-06: Dia. ¾ inch (21) X Length 6 (1.82) ft; 250 Micron Copper Coating

### Stainless Steel Ground Terminals:

Made of solid stainless steel to provide increased corrosion resistance for acidic soil conditions:

LOHM EE-17-10-SS: Dia. ¾ inch (21) X Length 10 (3 m) ft

LOHM EE-17-12-SS: Dia. ¾ in (21) X Length 12 (3.65) ft

LOHM EE-17-06-SS: Dia. ¾ inch (21) X Length 6 (1.82) ft

### Ground Coupling Threaded:

For connecting threaded sectional Earth Electrodes

LOHM CP-17-TH: Coupling of 17 mm threaded Earth Electrodes; 250 Micron Copper Coating

LOHM CP-19-TH: Coupling of 19 mm threaded Earth Electrodes; 250 Micron Copper Coating

### Ground Coupling Thread less:

For connecting thread less sectional Earth Electrodes

LOHM CP-17-TL: Coupling of 17 mm thread less Earth Electrodes; 250 Micron Copper Coating

LOHM CP-19-TL: Coupling of 19 mm thread less Earth Electrodes; 250 Micron Copper Coating

### Quality Measures:

- Visual Checks- Uniform coating, free from pin holes, pits
- Thickness- By Alcometer/ Other magnetic gauges
- Weight Method- MS piece Vs Copper Bonded rod weight test
- Adhesion test
- Hammer test
- Knief Test
- Bending and wrapping test.
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### Back-fill Chemical "LOHM":

LOHM is an advanced backfill compound which lowers the contact resistance to earth by over 60%. It produces low surge impedance resulting in faster transient dissipation. It is manufactured from environmentally safe and stable products and has excellent shelf life. It performs in all soil conditions even during dry weather, does not depend on continuous presence of water, requires no maintenance and does not adversely affect soil or ground water. It comes in easily transportable 10/20 Kg bags.

### Exothermic Welding:

Exothermic welding process is a welding process for joining two electrical conductors that employs superheated copper alloy to permanently join the conductors. It meets UL 467 (Grounding and Bonding equipment) and IEEE 837-2002 Standard. Molding kits for all types of Grounding connections are available.





## CERTIFICATIONS

IEC, VDE, EM, ITU UL, NSIC, KEMA, RCI, ERTL, MES, CACT, IS, ISO 9001



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