

## Electrolytic Grounding Rod Ultra Conductive Chemical Earth Rod

### EGR - ELECTROLYTIC GROUNDING ROD

Electrolytic Grounding Rod (EGR) provides a low-impedance grounding in locations of high soil resistivity. With EGR as an electrode, the grounding system dissipates lightning energy and other dangerous electrical fault currents, even in sandy or rocky soil conditions very effectively.

EGR is developed after several years of R & D and has been quite extensively used very successfully on several locations all over the world. It is an ultra conductive material that improves grounding (earthing) effectiveness. It contains a "Soil Resistivity Reducing Agent" which substantially lowers the resistance of the grounding system.

### APPLICATION

The EGR Ground Electrode system is ideal for locations of high soil resistivity as well as the locations where "Very Low Grounding Impedance" is required.

- ✓ Popularly used in Telecommunication applications such as, Towers and BTSs, microwave and other radio link stations, broadcasting and television grounding grids, communication equipment grounds where a very low resistance & dedicated earth is demanded.
- ✓ Highly applicable in large scale Industrial Automation, Instrumentation and Process Control Systems Projects, where a dedicated earths final resistance value of less than 1  $\Omega$  is insisted.

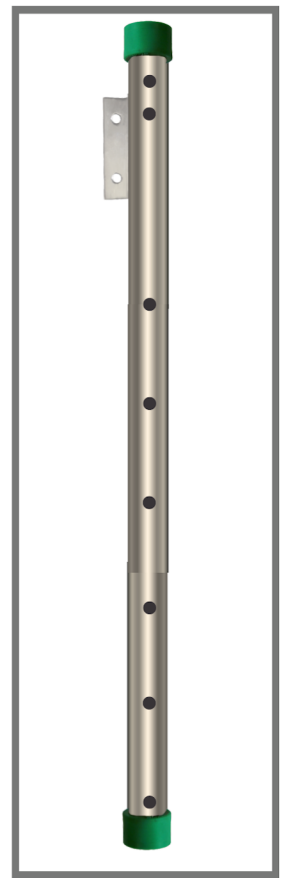
### HOW IT WORKS

EGR is a self contained electrolytic grounding electrode that extracts moisture out of the air and from the earth on a continuous basis. This moisture mixes with and dissolves the metallic salts in the electrode that produces a continuous release of electrolyte into the soil.

This dramatically reduces the resistivity of the soil around the electrode, thereby increasing the conductivity of the grounding system. The ground resistance continues to diminish as the electrolyte spreads further into the soil and is especially effective where the soil conditions are sandy, rocky, or have other undesirable factors. In these cases, the lack of moisture or the lack of natural metallic salts fails to produce a natural, conductive, electrolytic solution on a continuous basis. Our Grounding system with EGR provides these missing low resistance ingredients.

EGR incorporates several features that overcome these adverse soil conditions.

EGR's ability to extract moisture from both the air and the soil simultaneously is one of these features, when the topsoil is dry, the EGR extract moisture from the air and from the earth at a depth less susceptible to moisture variations. During a rainy season, the system extracts moisture from both the air and topsoil. This ensures the maximum and continuous development of the needed electrolyte.



## ADVANTAGES OF USING EGR

- ✓ The EGR Earth Electrode system occupies much Less Area & Less number of Rods as compared to the conventional grounding rods for achieving the same result.
- ✓ Grounding System becomes more efficient & effective using EGR.
- ✓ The performance of the grounding system improves with time, even under the adverse conditions of installation sites (sandy or rocky soils)
- ✓ Can be used without GCEM or BENTOEARTH where the site soil resistivity values are less.

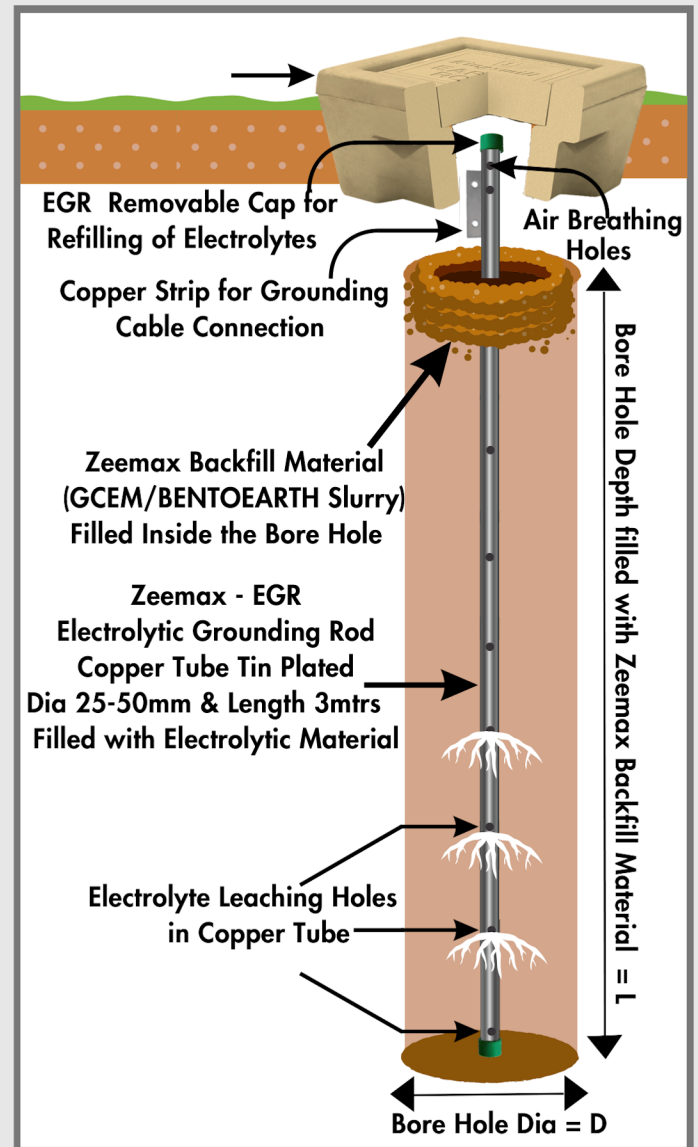
## FEATURES

25mm ~ 50mm, dia copper pipe contains natural electrolytic material that permeates into the surrounding soil, lowering resistivity.

Zeemax-EGR are available up to 3 Mtrs in continuous length and longer rods can be field assembled using 3 Mtrs sections.

## FOR THE INSTALLATION OF EARTHING SYSTEM WITH EGR, FOLLOWING PROCEDURE IS RECOMMENDED.

- ✓ EGR is installed in augured bore hole with recommended dia of the bore hole  $D = 6 - 8$  inches
- ✓ Borehole depth  $L$ , is kept 8" less than the EGR length
- ✓ After lowering the EGR into the bore hole, earthing backfill material slurry is pored into the bore hole around EGR.
- ✓ The top 8 inches of the EGR, with air breathing holes is kept inside the earth pit, uncovered with Earthing backfill material or Soil (as shown in the diagram)➡
- ✓ Backfill material around Zeemax-EGR could be either BENTOEARTH (If the site soil resistivity values are not very high) or GCEM (If the site soil resistivity values are very high)



For Technical Queries  
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