

BENTONITE

PCSIR LAB TESTED

ECEC

green earth
technology

Earth Conductivity Enhancing Compound

Conforms to IEEE, IEC & BS Codes



KEEP DRY & USE NO HOOKS

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ECEC

Earth Conductivity Enhancing Compound

ECEC is a mixture of Bentonite based compounds which is highly conductive, moisture absorber and soil resistance reducing materials. This earthing compound is a product of thorough research, study and vast experience conducted on different type of soils for several years. This compound reduce the soil resistance and enhance soil conductivity around conductor for a long span of time. It is widely used in earthing and grounding applications where permanent low resistance and high compressive strength solutions are require.

WHERE TO USE ECEC FOR EARTHING

- ⬇ Solar Energy Systems
- ⬇ Data Centers
- ⬇ Industrial Territories
- ⬇ Telecommunication Systems
- ⬇ High-rise building
- ⬇ Commercial & Residential Tower
- ⬇ Malls & Warehouses
- ⬇ Generator & Transformers
- ⬇ Residential Bungalow & Shops

-  Maintenance Free
-  Highly Conductive
-  Suitable for all types of soil
-  Moisture Independent
-  Non Corrosive
-  Highly Hygroscopic
-  Environment Friendly
-  Soil Resistance Reducing Agent

Maintenance Free / Moisture independent / Highly hygroscopic

This compound consists of moisture absorbing materials and retain moisture for a long span of time, therefore it does not require any periodic maintenance to pour water.

Highly Conductive

The materials used in this compound are found highly conductive due to its characteristics.

Suitable for all types of soil

This compound performs equally for all types of soil by lowering the soil resistance and enhance its conductivity around the conductor.

Non corrosive

The **ECEC** compound provides a protected layer to the conductor and prevents it from the substances that enables a chemical reaction in the soil which may cause erosion.

It does not lead to corrosion, does not contain any toxic agents and does not drain into the surrounding soil. It does not harm to the people and environment in terms of physical and chemical properties and have low resistivity.

Soil Resistance Reducing Agent

ECEC is a compound of different chemicals based on bentonite and has such properties that reduce the soil resistance around earthing conductor for a long time span. Subsequently provides low earth resistance to achieve desired earthing values.

INSTALLATION OF EARTHING CONDUCTOR WITH ECEC COMPOUND

Vertical Installation

- ⬇ Excavate a borehole of 100mm to 150mm diameter according to the normal practice at available surface of the ground.

- ⬇ The depth of the bore hole for a 3000mm long copper / steel rod / copper tube / GI tube should be 3150mm. The additional 150mm depth will provide a comfortable space in earthing pit to connect cable lug with earth wire

- ⬇ Take one bag of **ECEC** and 17-18 liters of water 1:0.7 ratio to make slurry / mortar.

- ⬇ Insert earthing rod / tube into the borehole and fill the entire borehole with **ECEC** slurry.

- ⬇ To make sure that slurry is filled properly till the bottom of the borehole and to fillup honey comb, vibrate earth conductor or stir-up with a small piece of stick.

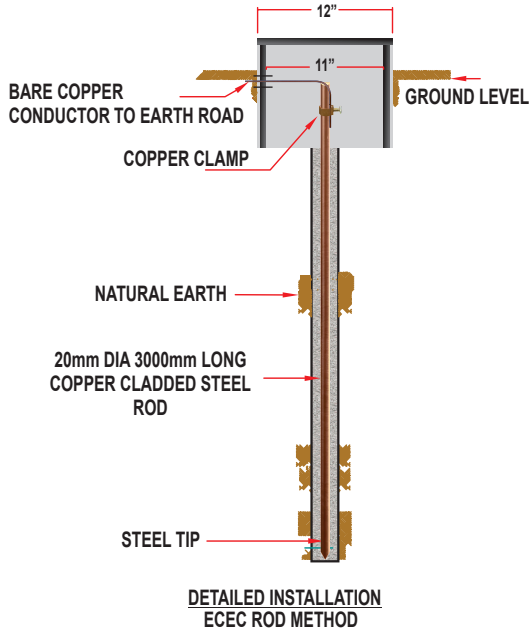
- ⬇ Repeat same procedure for the additional bags according to the site condition and requirement.

Horizontal Installation

- ⬇ In hard rocky area where it is practically impossible to excavate borehole and in high resistivity soil also, it is recommended to bury copper conductor 50 ~ 70sqmm / copper tube 25 ~ 38mm dia / copper strip 25x3mm to achieve desired earth resistance results.
- ⬇ The copper conductor / copper tube / copper strip may be of same length as of vertical conductor, while longer length / mesh / larger ring will provide better results.
- ⬇ This conductor may be buried in rocky area under the thin layer of top soil as much as possible.
- ⬇ However at the depth of 600mm a longer length of copper conductor or ring be prepared with 100mm bed and cover of **ECEC** slurry all around the conductor, and it will provide desired results.
- ⬇ Procedure to prepare **ECEC** slurry remains same as mentioned above in vertical installation of earthing rod.

ECEC BAG CALCULATION TABLE							
Formula: $V = \pi r^2 h$ (cm)							
S. No.	Diameter of the bore hole	Depth of the bore hole					
		10'(3m)	15'(4.6m)	20'(6m)	25'(7.6m)	30'(9m)	
1	4" (10 cm)	Number of ECEC bag required ↓	1	2	2	2	3
2	5" (12.5 cm)		2	2	3	2	4
3	6" (15 cm)		2	3	4	5	6
4	7" (17.1 cm)		3	4	5	6	8
5	8" (20 cm)		4	5	7	9	10
6	9" (23 cm)		5	7	9	11	13
7	10" (25 cm)		6	8	11	13	16

Chemical Earthing with Rod



Chemical Earthing with Tube

