



ALFA

Complete Earthing Solution



PRODUCT COMPARISON

TRDITIONAL METHOD OF EARTHING	"ALFA" CHEMICALS EARTHING SYSTEM
One Pipe of a particular diameter/copper of a particular size.	The used technology is CPT (concentric Pipe Technology)
The earth electrode is in direct contact with the soil.	Chemical Earthing Electrode not in direct contact with the soil.
Liable to fast corrosion, Subsequently decay of earthing pipe/plate.	Liable to slow corrosion.
Fluctuation of ohmic value is more, resulting in frequently maintenance of gadgets/machines and may endanger human life too.	No fluctuation of ohmic value. It has been proved at various sites that ohmic value of Chemical Earthing Electrode reduce with age.
Distribution of short circuit current is less in terms of charge dissipation therefore it generates high potential at the pit which results in low current in comparison to required tripping to fault protection relays.	Since C.E.S. Chemical is surrounded by highly conductive soil so the charge dissipation through the electrodes is very high and the current density across the electrode very low which result in very highly current is sufficient to trip the fault relays.
Galvanization is not adequate.	galvanization/Copper is adequate i.e. 80-100 microns.
Need to be changed frequently in every 3-4 years.	Practically no need to change i.e. fit and forget.
salt, charcoal is used as backfill compound, as salt is corrosive electrolyte, it corrodes GI/conductor, Finally get the high ohmic value.	C.E.S. is non corrosive, so there is not much variations in ohmic value
Back fill material (Salt) used will be washed away in rainy season and will be resulted as high ohmic value.	The in fill compound used is not soluble in water & it become part of the soil around the electrodes.
It requires a large space and time to install the earthing electrode.	It requires less space and time to install the earthing electrode.
Single stage current dissipation.	Multistage current dissipation.

Chemical Earthing with CPT

CPT - Concentric Pipe technology

- Tendency of circular area is to dissipate the current in all direction and it becomes source of multi directional i.e. 360 degree angle for dissipation
- Since there are no sharp edges or corners in the electrode the conductor behave as "Equipotential Source of Current Dissipation" thus making the electrode as source of consistent resistance.
- The Electrode Earthing installed with infill Chemical Compound making it virtually maintenance free because created around the electrode by hygroscopic nature of chemical But in extreme dry condition water should be poured at least once in three month.
- Low impedance path provided by the system guide fault currents to ensure prompt and consistent Cooperation of protective devices during ground faults.
- Keeps the maximum voltage gradient along the surface inside and around the object within safe limits during ground faults
- Stabilize circuit potential with respect to ground and limit the overall potential rise.

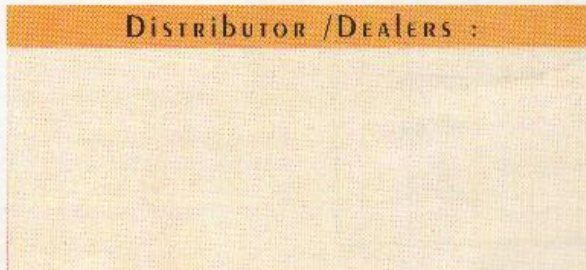
Use of Salt & Chemical has been banned as per PCB (Pollution Control Board) If the soil condition is rocky or sandy or in bad condition the **INFILL COMPOUND** should be increased to pass the fault current in the Earth mass.

The size & nos. of Earthing Electrode should be recommended by your Electrical Advisors, Engineer & contractors depending on your infrastructure requirement. **Ohmic value depends on soil condition** where ever has to be used.

Manufactured By :

ALFA EARTHING ELECTRODE (INDIA)

DISTRIBUTOR / DEALERS :



ALFA CHEMICAL EARTHING SYSTEM has been developed for Earthing after a consistent R&D Effort "ALFA C.E.S specializes in Engineering, Manufacturing, as well as lightening protective system. Our service extend to private business and as well as government agencies ranging from domestic, state levels etc.

"ALFA C.E.S, Our revolutionary corrosion free grounding system provides high-tech and noise free earthing for electrical, electronics, communication, data (digital & analog) and lightening system. Our reliability, competitiveness, and excellent customer service we have earned us credibility, reliability, trust and respect nationally.

ALFA CHEMICAL EARTHING SYSTEM is dedicated to provide innovative, cost effective solution for your grounding requirement. It is our responsibility towards our valued customers that they have the safest grounding system in place. Over the years, we have developed an unrivaled expertise in the design, manufacturing, and installation of our revolutionary, state-of-the art corrosion free & maintenance free grounding system ideal for almost all type of soil condition of environments. Our experience with thousands of application has helped our customer to save money by preventing damage to costly equipment and increase productivity by eliminating unnecessary downtime. We provide high quality dependable products and service in the electrical and electronic industry.

The product is tested and certified by various independent testing laboratories like **Central Power Research Institute (C.P.R.I.) Bangalore** and **Central Electrical Testing Laboratory (C.E.T.L.)** During last few years of installations have proved the validity of this product by ensuring the earth resistance value at different sites.

ALFA C.E.S, manufactured by utilizing the metal alloys and natural compounds, is able to provide a multifaceted proactive highly conductive and corrosion free maintenance free earthing. The electrode is manufactured from custom made G.I. tube with adequate galvanization to ensure maximum conductivity and prolonged service life The ALFA C.E.S. Contains a conductor rich crystalline mixture that protects the main earth electrode from corrosion in the soil

Grounding is necessary to eliminate electrostatic/ dynamic discharge which can destroy sensitive equipment and disrupt power supply, any voltage differences between individual electronic noise can cause data output errors.

The primary objectives of a grounding system are to :

- **Control radio frequency (RF) emissions & Electromagnetic interferences**
- **Provide a stable reference potential for instrument accuracy**
- **Provide a discharge for short circuit and lightening strikes (fault current/surge protection)**
- **Considers the added benefits of greater personal and equipment safety, reliability, current load capacity and lower susceptibility to climatic conditions, the ALFA CHEMICAL EARTHING SYSTEM is the most effective product available in the market!**

EARTHING BACK FILL COMPOUND

"ALFA" Chemical Earthing system comes with a compound named in fill compound (I.F.C.) Which has all the qualities of the ideal backfill material for an earthing system. It is easily compacted and when water is added to it, it will absorb up to ten to thirteen times of its dry volume. This constantly holds its own shape and adheres to any surface it touches. These capabilities resolve the issues of compatibility and soil & rod contact that are crucial to an earthing system. I.F.C. absorbs whatever moisture is present And maintains within itself, in contrary to surface appearances.

BENIFITS OF IN FILL COMPOUND

1. Maintains moisture within the sphere of influence of electrode, the I.F.C. will cause the low soil resistivity around electrode, which results in a significantly lower earth resistance, that could not otherwise be obtained using a conventional earth electrode installation.
2. Provides cathodic protection for the electrode.
3. Enhance the surrounding soil conductivity thereby making it more effective for high fault, noise, ripples, harmonics, neutral to earth unbalance and lightening current dissipation.
4. The enhancement backfill material has special application with non-toxic enhancers to future improve its durability and performance.

SALIENT FEATURES



- * **Protects personal & Sensitive equipment**
- * **Dissipates lightening Strikes**
- * **Discharges short circuit currents.**

TECHNICAL DETAILS

According to the customer requirement the electrode

S.No.	MODEL	LENGTH (MM)	OUTER DIA (MM)
1.	E-50	2000	50
2.	E-80	2000 3000	80
3.	EC-65	2000	65
4.	ME 25	1000	65

ADVANTAGES & BENEFITS

* MAINTENANCE - FREE :

This is a maintenance free earthing, no need of extra water pouring at regular interval as in conventional earthing, because it retains the moisture for longer period

* CONSISTENCY :

Consistency of soil climate condition, Unlike a standard copper plate/rod, the Stability of the ALFA C.E.S. will remain constant over the life span of the plate/rod, and the resistance of the electrode is less affected by climate conditions.

* MORE SURFACE AREA :

The conductive compound creates a conductive zone, which provides the increased surface area for peak current dissipation and also get stable reference point.

- Adequate galvanization, highly conductive
- Corrosion free, Eco friendly
- Low earth resistance, carries high peak current repeatedly
- A long and reliable life (**Fit and Forget**)

* EASY INSTALLATION :

can be installed indoors or outdoors and in almost all soil condition. For existing or new facilities, requires less space & time.

- As per IS : 3043-1987 requirements.
- ALFA C.E.S. can be used as Biopod, Tripod, and Quadapod etc. using one or more linear/ring C.E.S. configuration, duly inter connected for highly sensitive project and wherever low **OHMIC** value is required.

*** Prevents damage from power and switching surges**

*** Provides stable Reference**

It has been divided into following categories

INTERNAL DIA (MM)	CONNECTION DIA (MM)	GAL/PLAT MICRON
25	6	80-100
40	6	80-100
25	6	"
25	6	"

APPLICATIONS

- Tele communication Towers & Microwave antennas
- Transmission & Distribution Systems.
- Substations & Power Generators.
- Transformer Neutral Earthing.
- Lightning Arrestor Earthing
- Computer & Data Processing Centres
- Manufacturing Facilities & Refineries.
- Food Processing & Water Treatment Plants.
- Oil Refineries & Pump Stations
- Remote & Central Office Digital Switches.
- Heavy Industries.
- Others, where hi-tech earthing is required
- Residential Buildings

CROSS SECTIONAL VIEW OF ACE CHMROD

