Shrinath Immaculate Qualities Of Earthing System

Comprehensive Range of Earthing Electorde

Earthing Resistance

Earth Resistance and How if should be low

- No electric circuit either single phase is complete without proper earthing
- The earthing or grounding is associated with Earthing strips, earth plate.
- Electrodes Fastening or welding Proper
- Resistance or Earth, Resistivity of Soil
- Unless all these are stable & healthy the word good earthing will have no meaning of value. To understand why earthing resistance must be low, use ohm'law

V=I

V= R x I (Where, V is Voltage in Volts an R is Resistance in Ohm and is current in ampere.
R=gL/A (Where, R is resistance of electrode gis substance of electrode, A is Area of electrode)
R=Rg(1+eT (Where'T is Changing temperature &is temperature coefficient)

(If Temperature is down than resistance will be less)

(A) Earth resistance depends on following factors

- Temperature of Earth
- Type of earth soil
- Minerals in Earth
- Humidity in Earth
- Electrode shape and size
- Length of electrode in the earth
- Electrode shape and size
- Number of electrodes.
- Distance between two electrodes

(B) Maximum earth resistance is followed as below

- L.T. lighting Arresters 4"
- Major power stations 0.5"
- Major sub stations 1.0"
- Service connection 4"
- Minor sub station 2"
- Neutral bushing 2"
- Towers 20-30"
- H.T. Poles 10"
- L.T. Poles 5"

Advantages

- Safety and Reliability
- Low impedance Earthing
- Ensures Safety of life and property from earth related electrical hazards
- Longer service life than conventional earthing systems
- Corrosion resistant

Backfill Compound

Our backfill compound called as "Conductive Grounding Minerals" which will be used around the earth electrodes at the time of installation. Conductive grounding minerals is a combination of graphite, natural earth minerals etc which is hygroscopic property the Conductive grounding minerals will convert into the gel formation and its quality to retain the moisture up to twenty times its dry volume as well as it create a gel layer surrounding of our electrode our backfill compound is not soluble in water, moisture property up to the life of the electrode which is more than 25 years. material is soil friendly conductive grounding minerals is a combination of totally corrosion free and highly conductive & non-corrosive minerals.

Technical Comparision

SN EARTHING ELECTRODE	TRADITIONAL EARTHING SYSTEM
1. One G.I. Pipe covered by another G.I. Pipe	1. One G.I./ C.I. Pipe
2. Electrode not in direct touch of soil covered with back fill.	2. Electrode in direct touch of soil
3. Absence of Corrosion	3. Fast Corrosion
4. No Fluctuation of Ohmic Value	4. Fluctuation of Value are more, poor life
5. Maintenance Free	5. Maintenance Required

An ISO 9001:2008 Certified Organization

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Shrinath
Earthing Solutions India Pvt. Ltd.

(Safety Domestic, Commercial & Machinery)

Earthing Electrode

A Maintenance Free Earthing Material

Shrinath Earthing Solutions India Pvt. Ltd.

सुरक्षा का दूसरा नाम

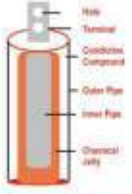
Comprehensive Rang of Earthing Electorde

Technology of Earthing Electrodes

"PIPE-IN-PIPE" TECHNOLOGY

(Outer Pipe, Inner pipe are made by copper & GI)

This Technology Concept involves two B or C Class pipe and 2 to 3 mm thick plate GI. or Copper, system are subject to hot dip galvanization : 70-100 micron on the outer electrode 200-250 microns inside the electrodes The empty space inside the electrode fully field with a specially developed Crystalline, Hygroscopic, Conductive Mixture sealed. Earthing Electrode must be cylindrical. (As per I.S. : 3043)

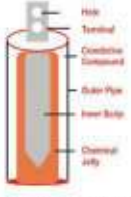


Technical Specification

MODEL	LENGTH (mm)	OUTER DIA.	INNER PIPE	TERMINAL
SN-40 A/B	3000/2000	40 mm	20 mm/-	40x6
SN-50 A/B/S	3000/2000/1000	50 mm	25 mm/-	40x6
SN-65 A/B/S	3000/2000	65 mm	20 mm/-	50x6
SN-80 A/B/S	3000/2000	80 mm	20 mm/-	50x6

"PIPE WITH PLATE" TECHNOLOGY

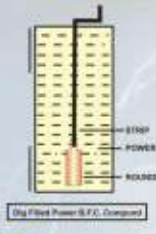
(Outer Pipe, Inner plate are made by copper & GI plate) divided inner pipe four part and structure made arrow shaped)



MODEL	LENGTH (mm)	OUTER DIA.	INNER PIPE	TERMINAL
SN-40 A/B	2000/3000	40 mm	40x6	40x6
SN-50 A/B/S	2000/3000	50 mm	40x6	40x6
SN-65 A/B/S	2000/3000	65 mm	50x6	50x6
SN-80 A/B/S	2000/3000	80 mm	50x6	50x6

Model SN/ A/B.S : A-Length 3 Meter : B-Length 2 Meter : S-Length 1 Meter

COMPOUND ROUNDER/SPIKE EARTHINGH SYSTEM



SN SPIKE

SN ROUNDER

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SN Copper Bonded Rods....

SN Copper Bonded Grounding Rods help in dissipating the fault current to help your assets being damaged from the hazards of the same. SN is pioneer in manufacturing copper clad grounding rods with a remarkable production capacity.

The copper layer in these rods is extremely helpful in extreme soil conditions such as high salt or moisture content, where the copper provides high corrosion resistance and exceptionally long life to the steel rods.

Our Copper Bonded Electrodes are available 100 to 250 microns copper coating

Technical Specification

MODEL	LENGTH (mm)	OUTER DIA.	INTERNAL STRIP SIZE	BONDING
SN-40 A/B	3000/2000	40 mm	25x4	Copper
SN-50 A/B/S	3000/2000	50 mm	25x4	Copper
SN-65 A/B/S	3000/2000	65 mm	25x4	Copper
SN-80 A/B/S	3000/2000	80 mm	50x6	Copper

Copper Bonded Electrode

Salient Features :

- Based on globally accepted technology
- Very Cost effective
- Uniformed coating thickness and stable performance
- Suitable for all types of Soil
- Variable choices to suit customer requirements
- Superior resistance to oxidation
- Values over the life of the product
- Product life better than Cu Electrode as well as GI Electrode

Shrinath Immaculate Qualities Of Earthing Syste

Comprehensive Rang of Earthing Electorde

Introduction

Grounding (or earthing) is the art of making an electrical connection to the earth. The process is a combination of science and "art" as opposed to pure science, because it is necessary to "test the option," as opposed to using predetermined methods and calculation, The options for each site must be determined through visualization and evaluation, individually, using a related analytical process

The earth must be treated as a semiconductor, while the grounding electrode itself is a pure conductor. These factors make the design of an earthing system complex, not derived from a simple calculation of the random driving of a few rods into the soil. Knowledge of the local soil conditions is mandatory and is the first step in the design The includes its moisture content, temperature and resistivity under a given set of conditions

Importance of Earthing

Grounding or earthing is among canons of safety. If the body of any electrical equipment of machinery is grounded it will pass the current to ground in case to short circuit. If a person accidentally touch the body of that machinery which is connected to live wire he will not get electric shock because current is passing through grounding conductor and it has much lower resistance then human body. So resistance of grounding conductor as also a major factor in electric safety.

Shrinath Earthing Elecrodes

The 'B' or 'C' Class GI Copper pipe and two G.I. or Copper plate thickness of 2 to 3mm coated with anticorrision chemical filled with high conductive and corrosion resistant mixture and Hygroscopic compound electrode.

A safe, sensitive and efficient earthing system was felt and HG after Effort, designed and developed the pip-in pipe-and pipe-pipe with plate technology system of earthing this earthing technology is effective, reliable, maintenance free and cost effective.

Installation Work

- Augur/Drill/Bore a hole of 3 to 5 or 6 to 10 inches in diameter to a suitable depth of 2 or 3 meter.
- Mix backfill compound with dugout soil & put the mixture into pit.
- Place the electrode at center of the pit.
- Stat refilling empty space around electrode with backfill coonpound in small quantities.
- Pour sume water and push up the pit along with wooden rod. Allow trapped air to escape.
- In this manner gradually continue refilling process till electrode is fixed in the pit up to the patch painted on the top portion of electrode.
- Pour a few buckets of water around the pit per day of for 3 days so that system can be set.

Precautions

- Do not cut electrode while installing
- In peak sum mer month pour a few buckets of water around the electrode of few days.
- Do not uses force to put the electrode into pit
- If soil in pit sinks, fill it with backfill compound or good soil
- The red color patch of electrode are above the soil.