



REQUIREMENT OF EARTHING

As a common man it is essential to understand the basic concept behind the making of this product. In an electrical circuit the most important component is Earthing or Grounding. The electrostatic discharge which is produced destroys the sensitive equipments and even disrupts the power supply, so it becomes important to take appropriate measures to eliminate them. The main objective of earthing is:

- To effectively manage the radio frequency emissions and electro magnetic interferences;
- To ensure steady reference potential for the accuracy of instruments;
- To provide protective discharge paths for lightning currents and short circuits.

WHY SHOULD WE OPT FOR SUPERIOR EARTHING?

Over the past few years the world has seen massive technological development in India. Advanced technology has given superior quality sensitive equipments which are being used in a range of domestic and industrial applications.

The safety of human beings is the prime concern of one and all, but apart from this concern even minor fault currents can damage the super sensitive and immaculately expensive equipments which can in turn affect the age and performance of the machinery.

The sophisticated equipments used in the current times demand superior quality in earthing as well. The age old method of GI pipe earthing and copper plate earthing which were carefully positioned amidst layers of salt and charcoal cannot cater to the demands of the new generation machinery. Over past many years it has been noticed that the corrosion of metals and scarcity of moisture in and around earth pits lead to electrical short circuit, which eventually leads to loss of life and property.

VIPRAA EARTH POWER
The High-End Earthing Techniques
CPRI Approved & ISO 9001 : 2008 Certified

WHY EARTHING ?

- Limit Damage
 - Humans
 - Equipments



TECHNICAL COMPARISON

Conventional Earthing System	VEP Earthing System
1. Requires maintenance	Requires no maintenance. Hence economical.
2. Requires Re-earthing after some reasonable period.	Not requires to re-earthing for decades.
3. Requires watering arrangement frequently.	Requires no watering hence Economical.
4. Limited life	Unlimited life
5. Watering arrangement requires pipe line, taps, etc.	Requires no piping, taps, hence saving in material, labour, supervision & manpower etc.
6. Not effectively useful in hard rock.	Useful in hardrock and offers resistance less than 0.50 hm.
7. Requires standard pit size	Pit size can be reduced hence reduce labour cost.
8. Useful in special soil condition.	Useful in any soil condition.
9. Liable to get corroded early hence probability of breakage in earthing.	No corrosion occurs hence no problem of breakage in earthing.
10. In hardrock it is difficult to carryout earthing.	Very easy to carryout in Hardrock.
11. Only one G.I. /CI Pipe/Plate of particular diameter.	There are two GI pipes G.I. Strip Terminal With Dual Pipe Technology
12. It is liable to fast corrosion and subsequent decay of earthing pipe/ plate	There is absence of corrosion in VEP EARTHING SYSTEM
13. The Traditional Earthing System is in direct contact with soil.	VEP EARTHING SYSTEM is not in direct contact with soil.
14. Galvanization is not adequate.	Galvanization is adequate
15. Cost of the 15 to 20 plus years will be about three times more then the one time cost of VEP EARTHING SYSTEM	Cost Effective
16. Salt charcoal is used as Traditional Compound, as salt is highly corrosive electrolyte it corrodes GI/CI electrodes and then finally gets the high Ohmic value	VEP EARTHING SYSTEM is non corrosive, so there is not much variations in Ohmic value
17. It requires much larger space and time to install the Traditional Earthing System.	It requires very less space and time to install the VEP EARTHING SYSTEM.
18. Traditional compound (Salt) used gets washed away in rainy seasons and results as high Ohmic value.	The VEP COMPOUND is not soluble in water & it becomes part of soil around the VEP EARTHING SYSTEM.

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This in due course led to thorough research in the field of earthing in order to create a safe and dependable system of earthing. Finally VIPRAA has brought in a product which is perfectly designed and developed to meet all the requirements and drawbacks of the traditional system of earthing. VIPRAA has designed the G.I. Strip Terminal With Dual Pipe Technology of earthing system which ultimately gives a much more stable, corrosion resistant, sturdy, and competitively priced and maintenance free product.

VEP COMPOUND

VIPRAA earth system (VEP) comes with compound named VEP Compound which has all the qualities of the ideal VEP compound for an Earthing System. It can be easily compacted and when water is added to it, it can absorb up to thirteen times its dry volume. It consistently holds to its own shape and can adhere to any surface it touches. All these qualities resolve the problem of compatibility and soil/rod contact that are vital to any earthing system. The remarkable quality of VEP Compound ensures that it absorbs any available moisture and maintains it within itself, in contrary to surface appearances.

MAIN BENEFITS OF VEP EARTHING SYSTEM

- 1) Maintains moisture within the sphere of influence of VEP Earthing System. The VEP Earthing system causes low soil resistance around the Earthing System which thereby results in lower earth resistance, which cannot be otherwise obtained by use of conventional Earthing System installation.
- 2) It cathodic protection for the VEP Earthing System.
- 3) It enhances the soil conductivity of the surroundings thereby making it more effective for high fault, noise, ripples, harmonics, neutral to earth for unbalancing and lightning current dissipation.
- 4) To further improve durability and performance the enhancement VEP material has special application with non toxic enhancers.

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APPLICATIONS

- Transmission & Distribution Systems
- Transformer Neutral Earthing
- Sensitive Electronic Machines
- Telecommunication Towers And Microwave Antennas
- Substations & Power Generating Stations
- Refineries & Manufacturing Facilities
- Equipment Body Earthing
- Remote and Central Office Digital Switches
- Industries
- Residences
- Data Processing Centers
- Lightning Arrestor Earthing

MAJOR ADVANTAGES AND BENEFITS

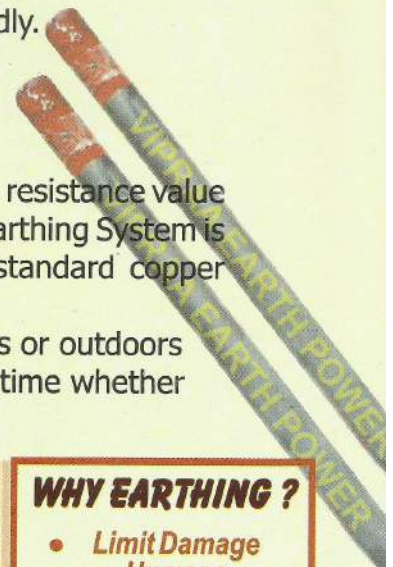
MAINTENANCE FREE: This is a maintenance free earthing, no need to pour extra water at regular intervals as in conventional earthing, as in conventional form of earthing, because it retains the moisture.

MORE SURFACE AREA: The conductive compound creates a conductive zone, which provides increased surface area for peak current dissipation and also gets stable reference point.

- Low earth resistance, carries high peak current repeatedly.
- No corrosion and eco friendly
- Adequate galvanization, highly conductive
- A long and reliable life

CONSISTENCE: It simultaneously maintains the same earth resistance value over time regardless of soil & climate conditions. The VEP Earthing System is less affected by adverse climatic conditions, unlike the standard copper plate/rod.

EASY INSTALLATION: The product can be installed indoors or outdoors and in almost all soil condition. It requires less space and time whether used for existing or new facilities.



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विद्युत अर्थिंग से उत्पन्न होने वाली समस्यायें एवं उपाय।

जहाँ तक विद्युत की सप्लाई है उसमें विद्युत की अर्थिंग अनिवार्य है, क्योंकि यदि अर्थिंग ख़राब है तो विद्युत जितनी ही लाभदायक है, उससे कई गुना अधिक हानिकारक भी हो सकती है।

- ➔ शार्ट सर्किट के माध्यम से हम कितने ही संस्थानों एवं घरों में आग लगने की ख़बरें पढ़ते और देखते रहते हैं। विश्व की मृत्यु दर के कुल योग में 9.9 प्रतिशत लोग करेंट लगने से मरते हैं हम अक्सर यह देखते हैं कि लोगों के घरों में कूलर, फ्रिज, गीज़र आदि में करेन्ट आता रहता है और क्षति पहुँचाता है यह अर्थिंग की समस्या है।
- ➔ हाई वोल्टेज आने पर बिजली के उपकरण जल जाते हैं यहाँ अर्थिंग अच्छी होने से क्षति न्यूनतम होती है। घरों एवं संस्थानों में कम्प्यूटर हैंग होना, ए०सी०, चोक, बल्ब इत्यादि का बार-बार ख़राब होना अर्थिंग की एक समस्या है।
- ➔ अभी तक जो अर्थिंग होती थी उसमें सबसे बड़ी समस्या जगह की थी क्योंकि हमें कम से कम ५X४ फिट का गड्ढा 90 फिट की गहराई का करवाना होता था। गड्ढा होने के बाद उसमें एक कॉपर प्लेट या जी.आई. प्लेट डालते थे जिसको एक ८ नम्बर के कॉपर या जी.आई. तार से जोड़कर मीटर से जोड़ देते थे और गड्ढे को नमक और कोयले से भर देते थे किन्तु यह अर्थिंग ज़्यादा समय तक निम्नलिखित कारणों से कार्य नहीं कर पाती थी।
- ➔ नमक नमी को बनाये रखने में सहायक होता है किन्तु हम सभी यह जानते हैं कि नमक एक एसिड का भी कार्य करता है और जिस तरह से हम कॉपर या जी.आई. प्लेट को जोड़ते हैं उसे नमक ४-५ वर्षों में जगह-जगह से काट देता है जिस कारण से करेन्ट प्लेट तक पहुँच नहीं पाता है और वापस जाकर मानव व उपकरणों को क्षति पहुँचाता है।
- ➔ नमक पानी में घुलनशील होता है और जब कभी ज़्यादा बारिश होती है तो नमक मिट्टी में बह जाता है और धीरे-धीरे प्लेट की करेंट खींचने की क्षमता कम होती जाती है और अर्थिंग की समस्या बढ़ने लगती है।
- ➔ जी.आई. प्लेट को हम जिस तार से जोड़ते हैं वह पूरा तार जो धरती के अन्दर होने के कारण जंक बहुत तेज़ी के साथ बढ़ने लगती है क्योंकि धरती के ऊपर की जंक को हम यदा-कदा साफ कर लेते हैं किन्तु धरती के अन्दर होने के कारण यह सम्भव नहीं है और अमूमन ४ से ५ वर्षों में जंक लगने की वजह से तार में करेन्ट खींचने की क्षमता क्षीण हो जाती है और अर्थिंग की समस्यायें उत्पन्न होने लगती हैं।



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अतः इन सभी परेशानियों को देखते हुए.....

विप्रा अर्थिंग सिस्टम बिजली की अर्थिंग के लिए एक ऐसा पूर्ण विकसित अविष्कार है जो अर्थिंग की समस्याओं को लम्बे समय तक मुक्त रखता है।

विप्रा अर्थिंग सिस्टम में कम्पनी ने G.I. Strip Terminal With Dual Pipe Technology का इस्तेमाल किया है इस सिस्टम में पाइप के अन्दर पाइप का प्रयोग हुआ है इसमें उच्च स्तरीय माइक्रोन की कोटिंग होती है जिससे इसकी उम्र स्वतः कई वर्षों तक बढ़ जाती है। इन दो पाइपों के बीच में कम्पनी ने एक रसायन भरा है जो कि करेन्ट को खींचता है और जंक को लगने नहीं देता है (Highly conductive and non corrosive compound) इस अर्थिंग को करने में जगह की कोई समस्या नहीं है क्योंकि सिर्फ ४-६ इंच के होल जो कि ६ से १० फिट की गहराई तक बोगी के माध्यम से किया जाता है। उसमें इलेक्ट्रोड लगा दिया जाता जो जगह बचती है उसमें कम्पनी VEP कम्पाउण्ड भर देती है जो नमी को अपनी तरफ आकर्षित करता है और इलेक्ट्रोड को मिट्टी से दूर रखता है।

Technical Details

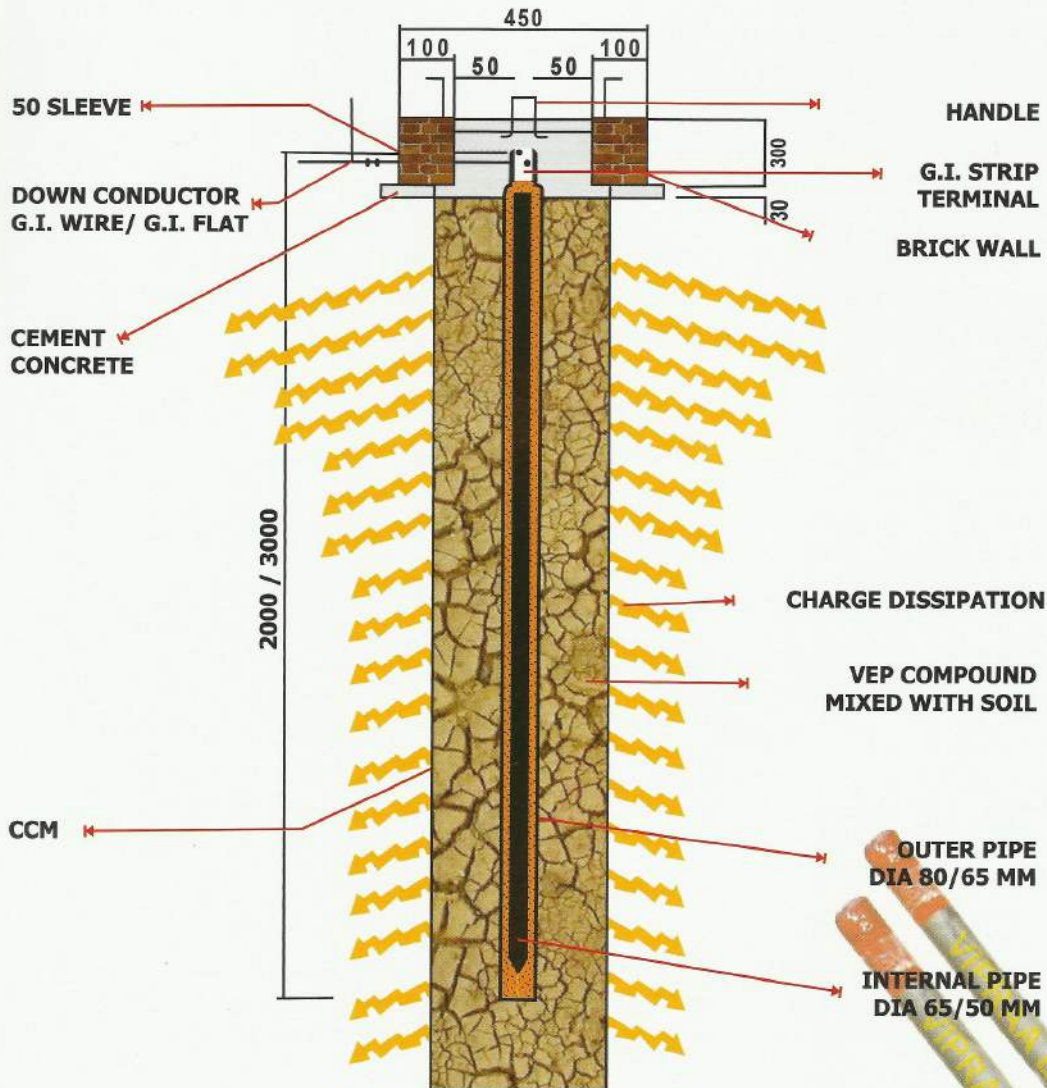
S. No.	Type	Length Ft. (mm)	Outer Dia. (mm)	Internal Dia. (mm)	Pipe	Price
1.	VR-19	6 Ft.	50 (mm)	32 (mm)	G.I.	
2.	VR-39	6 Ft.	65 (mm)	50 (mm)	G.I.	
3.	VR-19	10 Ft.	50 (mm)	32 (mm)	G.I.	
4.	VR-39	10 Ft.	65 (mm)	50 (mm)	G.I.	
5.	VC-39	10 Ft.	80 (mm)	65 (mm)	G.I.	

S. No.	Type	Length Ft. (mm)	Outer Dia. (mm)	Internal strip Dia. (mm)	Pipe	Price
1.	VC-19	10 Ft.	50 (mm)	40x6	Copper	
2.	VC-39	10 Ft.	80 (mm)	50x6	Copper	

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ALL THE DIMENSIONS ARE IN MM

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Earthing Solutions Re-defined