VRH

LIGHTNING PROTECTION PVT LTD

VRH Protects

QUALITY RESEARCH ORGANIZATION

Certificate of Registration

This is to certify that

VRH LIGHTINING PROTECTION PRIVATE LIMITED

GATA NO-926, PYAREPUR, RAE BARELI, UTTAR PRADESH-229001

has been independently assessed by QRO
and is compliant with the requirements of:

ISO 9001:2015

Quality Management System

For the following scope of activities:

1. Earth Enhancement Compound (Maintfree Earthing Gel)
2. Copper Bonded Rod

Date of Certification: 12th September 2018
1st Surveillance Audit Due: 11th september2019
2nd Surveillance Audit Due: 11th September 2020
Certificate Expiry: 11th September 2021

Certificate Number: 1070918063K

Head of Certification

Validity of this certificate is subject to annual surveillance audits to be done successfully on or before 365 days from date of the audit.
(In case if surveillance audit is not allowed to be conducted: this certificate shall be suspended / withdrawn).
The Validity of this certificate can be verified at www.qrocert.com
This certificate of registration remains the property of QRO Certification LLP, and shall be returned immediately upon request.
QRO Certification LLP is accredited by UKAkkreditierung Fitvon Limited, UK (www.ukaf.org.uk)
5 Jupiter House, Calleva Park, Aldermaston, Reading Berkshire RG78NN UK

India Office : QRO Certification LLP
142, IInd Floor, Avtar Enclave, Near West Paschim Vihar Metro Station, Delhi-110063, (INDIA)

CERTIFICATE OF COMPLIANCE

Certificate Number 20190416-E506458
Report Reference E506458-20190326
Issue Date 2019-APRIL-16

Issued to: VRH LIGHTNING PROTECTION PVT LTD
Gata No ¿ 926, PYAREPURE
RAEBARELI Uttar Pradesh 229001 INDIA

This certificate confirms that representative samples of GROUNDING AND BONDING EQUIPMENT
Copper Bonded Steel Ground Rod Electrodes, Cat. Nos VRH 17325C

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL467 - STANDARD FOR GROUNDING AND BONDING EQUIPMENT.
C22.2 No. 41 - GROUNDING AND BONDING EQUIPMENT

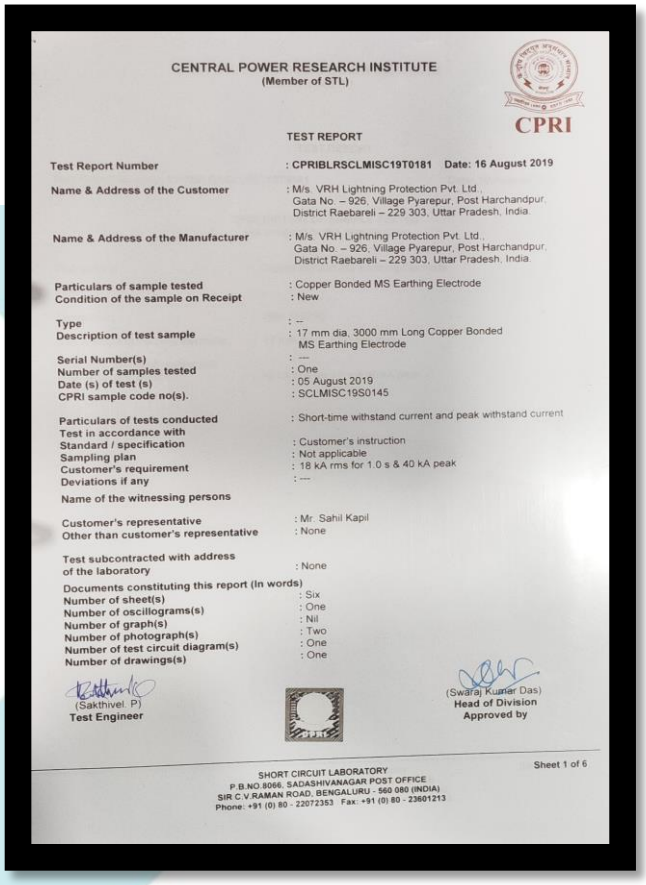
Additional Information: See the UL Online Certifications Directory at https://iq.ulprospector.com for additional information.

This *Certificate of Compliance* does not provide authorization to apply the UL Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Certification Mark on the product.

Page 1 of 1



CENTRAL POWER RESEARCH INSTITUTE
(Member of STL)

CPRI

TEST REPORT

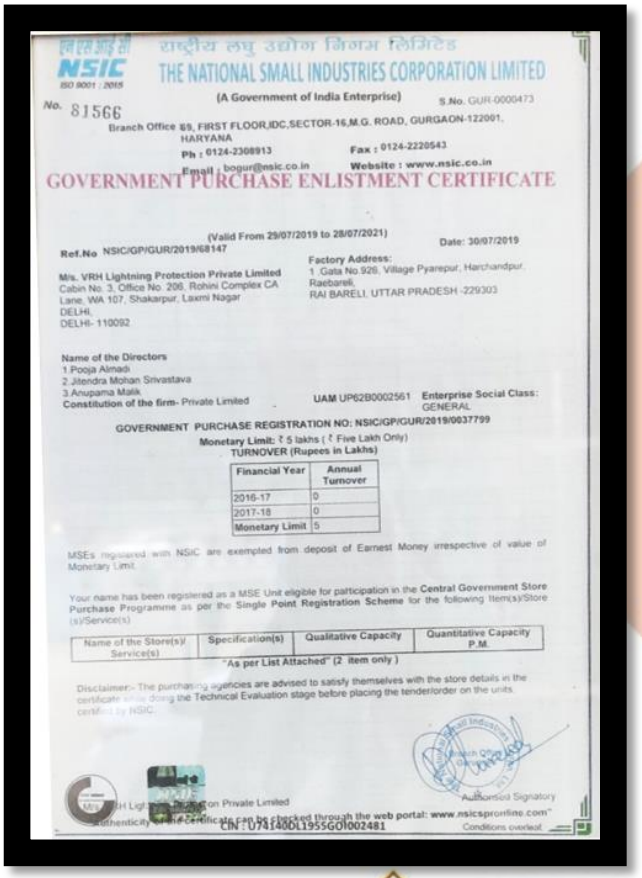
Test Report Number	: CPRIBLRSCLMISC19T0181 Date: 16 August 2019
Name & Address of the Customer	: M/s. VRH Lightning Protection Pvt. Ltd., Gata No. – 926, Village Pyarepur, Post Harchandpur, District Raebareli – 229 303, Uttar Pradesh, India.
Name & Address of the Manufacturer	: M/s. VRH Lightning Protection Pvt. Ltd., Gata No. – 926, Village Pyarepur, Post Harchandpur, District Raebareli – 229 303, Uttar Pradesh, India.
Particulars of sample tested	: Copper Bonded MS Earthing Electrode
Condition of the sample on Receipt	: New
Type	: --
Description of test sample	: 17 mm dia, 3000 mm Long Copper Bonded MS Earthing Electrode
Serial Number(s)	: ---
Number of samples tested	: One
Date (s) of test (s)	: 05 August 2019
CPRI sample code no(s).	: SCLMISC19S0145
Particulars of tests conducted	: Short-time withstand current and peak withstand current
Test in accordance with	
Standard / specification	: Customer's instruction
Sampling plan	: Not applicable
Customer's requirement	: 18 kA rms for 1.0 s & 40 kA peak
Deviations if any	: ---
Name of the witnessing persons	
Customer's representative	: Mr. Sahil Kapil
Other than customer's representative	: None
Test subcontracted with address of the laboratory	: None
Documents constituting this report (In words)	
Number of sheet(s)	: Six
Number of oscillograms(s)	: One
Number of graph(s)	: Nil
Number of photograph(s)	: Two
Number of test circuit diagram(s)	: One
Number of drawings(s)	: One

(Sakthivel. P)
Test Engineer

(Swaraj Kumar Das)
Head of Division
Approved by

Sheet 1 of 6

SHORT CIRCUIT LABORATORY
P B.NO.8066, SADASHIVANAGAR POST OFFICE
SIR C.V.RAMAN ROAD, BENGALURU - 560 080 (INDIA)
Phone: +91 (0) 80 - 22072353 Fax: +91 (0) 80 - 23601213



NSIC ISO 9001 : 2015

राष्ट्रीय लघु उद्योग निगम लिमिटेड
THE NATIONAL SMALL INDUSTRIES CORPORATION LIMITED
(A Government of India Enterprise)

No. 81566 S.No. GUR-0000473

Branch Office 69, FIRST FLOOR,IDC,SECTOR-16,M.G. ROAD, GURGAON-122001, HARYANA
Ph : 0124-2308913 Fax : 0124-2220543
Email : bogur@nsic.co.in Website : www.nsic.co.in

GOVERNMENT PURCHASE ENLISTMENT CERTIFICATE

(Valid From 29/07/2019 to 28/07/2021)

Ref.No NSIC/GP/GUR/2019/68147 **Date:** 30/07/2019

M/s. VRH Lightning Protection Private Limited
Cabin No. 3, Office No. 206, Rohini Complex CA Lane, WA 107, Shakarpur, Laxmi Nagar
DELHI,
DELHI- 110092

Factory Address:
1 ,Gata No.926, Village Pyarepur, Harchandpur, Raebareli,
RAI BARELI, UTTAR PRADESH -229303

Name of the Directors
1.Pooja Almadi
2.Jitendra Mohan Srivastava
3.Anupama Malik
Constitution of the firm- Private Limited

UAM UP62B0002561 **Enterprise Social Class:** GENERAL

GOVERNMENT PURCHASE REGISTRATION NO: NSIC/GP/GUR/2019/0037799

Monetary Limit: ₹ 5 lakhs (₹ Five Lakh Only)
TURNOVER (Rupees in Lakhs)

Financial Year	Annual Turnover
2016-17	0
2017-18	0
Monetary Limit	5

MSEs registered with NSIC are exempted from deposit of Earnest Money irrespective of value of Monetary Limit.

Your name has been registered as a MSE Unit eligible for participation in the **Central Government Store Purchase Programme** as per the **Single Point Registration Scheme** for the following Item(s)/Store (s)/Service(s)

Name of the Store(s)/ Service(s)	Specification(s)	Qualitative Capacity	Quantitative Capacity P.M.
"As per List Attached" (2 item only)			

Disclaimer:- The purchasing agencies are advised to satisfy themselves with the store details in the certificate while doing the Technical Evaluation stage before placing the tender/order on the units certified by NSIC.

Authorised Signatory

Authenticity of this Certificate can be checked through the web portal: www.nsicsproniine.com"
CIN : U74140DL1955GOI002481 Conditions overleaf

VRH

Chairman's Message

A dream of many ideas coming together, with great passion and an opportunity ceased is how VRH Lighting was born. Our aim at building VRH Lighting was to create an entity independent in all aspects of power transmission & earthing solutions.

We have built our divisions in order to create the perfect utilization of our available resources and eliminate needs of sub-contracting, which in turn saves great deals of time in the servicing sector.

We have been developing our divisions with immense speed and take great interest in the interests of our consumers and understanding their problems. We have designed VRH Lighting to be consumer oriented from the beginning. We are developing ourselves in order to be the one stop solution to every aspect of the earthing solution & power transmission. We have noticed major changes in our infrastructure, division expansions and an increase in employee numbers. These changes prove a positive motion which we continue to practice and achieve.

Future of VRH Lightning

A lot has been planned and a lot of it executed, we are a very subtle organization and we like to create examples from our work, we are more practical than any industry providing our scope of services. We are expanding and will continue to do so, we continue to add new partners to our business and we continue to improve our division services.

I take this opportunity to express our sincere appreciation to all our stakeholders for their enthusiasm, trust and the support that they extended to us over the years. Also, would like to thank you for visiting our website. I hope the website has been able to profile our company and we hope our products and services may be of your interest. I personally assure you of our best services at all times.

About VRH

VRH Lightning Protection Pvt. Ltd., focuses on the reliable protection of buildings, electrical and electronic systems and human life. Our pioneering spirit and innovative ideas have been defining our company and made us a global market player for:

- Surge protection
- Lightning protection / Earthing
- Safety equipment

VRH

LIGHTNING PROTECTION PVT LTD

Our comprehensive product range of surge protection devices and lightning protection allows optimal, practical and customer-oriented protection solutions. Our ideas, sense of feasibility, intensive reasearch and development, modern production facilities and comprehensive customer service makes us a well- known expert and market leader in our sector.

Satisfied customers are our number one priority. We incorporate your needs, for example in our product development process. Therefore, our quality standards must be continuously further developed to be able to keep up with market requirements. Our aim is to offer top-quality products at competive prices.

Continuous further and new developments as well as modern production methods allow us to manufacture state-of-the-art products. We meet the most stringent quality standards and we are a technological leader in many areas of surge protection, lightning protection and safety equipment. We are certified according to ISO 9001:2015. Annual examinations and a comprehensive re-audit every years make quality management a key pillar of our company.

Certification: UL Spec. 467 (ANSI C-33-8-1972, RDSO, NSIC, ISO 9001:2015

VRH

LIGHTNING PROTECTION PVT LTD

Copper Bonded Earth Rods

VRH provides maintenance free Earthing Solution which is highly reliable approved & complied by all International Standards.

Earthing solution includes grounding rods, ground enhancement material and its accessories. Earth electrodes are made of high tensile strength solid steelrods molecularly bonded with a copper coating. Due to its high tensile strength of steel and high corrosion resistance behaviors of copper, these rods are the best and the economical solution for every earthing application. The rods can be driven directly into the soil manually or with an electric hammer as well as they can be installed in an augured hole. The copper coating ensures that the coating will not peel off while driving the rods deep in soil. The electrodes are available in various sizes with 250 micron copper coating. The electrodes are also available in both threaded and un-threaded type.

The rods will comply to IS 3043, IS/IEC 62305, IEC 61643-5-54, UL 467 and are tested according to IEC 62561-2 for the following parameters.

- ▼ Dimensions
- ▼ Marking
- ▼ Tensile Strength
- ▼ Bend test
- ▼ Adhesion test
- ▼ Coating Thickness
- ▼ Humidity test
- ▼ Salt Mist
- ▼ Electrical Resistivity before and after corrosion test etc.

The products are manufactured at the ISO 9001 : 2015 certified, pollution controlled factory, which ensures highest possible quality and environmental friendliness.

VERTICAL ELECTRODE SELECTION TIPS

Diameter(mm)	Short Capacity		Application
	I pk	I rms	
14.2	31	13	Lightning Protection upto 250A
17.2	50	18	Lightning Protection upto 250A - 400A
20	70	25	Lightning Protection upto 400A - 630A
25	105	40	Lightning Protection upto 630A & above

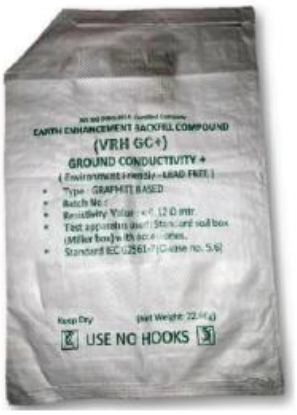
VRH

Maintenance Free Ground Enhancement Material

When used with copper grounding equipment, contact resistance to earth is lowered by up to 63%. Our earth compound produces lower steady state and stable grounding impedance, resulting in a reliable, low resistance electrical connection between the grounding system and the earth.

We produces lower surge impedance resulting in faster transient dissipation. Manufactured from environmentally safe and stable materials, GC+ has an excellent shelf life and long term storage has no performance effects.

The material is designed using material processing low conductivity and high resistivity.



How it Works

GC+ creates a reliable, low resistance electrical connection between the grounding system and the earth. It is manufactured to be compatible with copper/GI grounding systems and standard field application methods. It can be used in connection with grounding grids to minimize step and touch potentials. In high resistivity soils, GC+ Earth Enhancement Material can be used to produce acceptable grounding impedance within a reasonable sized area.

Applications

Data centers, Telecommunication Towers, Hospitals, Food Processing & Water Treatment Plants Oil Refineries & Pump Stations, Office Digital Switches, Transformer Neutral Earthing, Manufacturing Facilities & Refineries, Heavy Industries, Power generators, Solar system, , Microwave Antennas, Transmission and power generators.

Features and Benefits

- Motorola R56 compliant
- Meets the requirement of ANSI/ UL 467, CSA and ANSI / NEMA
- Minimum tensile strength of 80,000PSI
- Produces lower surge impedance resulting in faster transient dissipation
- Excellent shelf life with long-term performance, will not dissolve or decay with time
- A reliable life of at least 40 years
- Compatible with copper/GI grounding systems and standard field application methods
- Can be used in connection with grounding grids to minimize step and touch potentials
- Produces acceptable grounding impedance in high-resistivity soils, within a reasonably sized area
- Self-compacting-comes in easily transportable 50 lb. (22. 68)kg bags
- Maintains constant resistance for the life of the system
- Meets all Environmental Protection Agency requirements for landfill
- Material Safety Data Sheet (MSDS) available on request
- Restriction of Hazardous Substances (RoHS) compliant
- Resistance corrosion better than Galvanized rods allowing for approximately 30yrs service life in most of the soil

Product Details

Usage :	Industrial
Packaging Size (KG) :	10, 22.6, 25
Physical State :	Powder
Packaging Type :	PP Bag

Other Accessories includes:

- Clamp for connection between Rod and the Earth Strip /Cable.
- Copper Strip, GI Strip for interconnection between Ground Rods.
- Pit cover made up of concrete or Poly Plastic for inspection.

Copper Bonded Earth Rods

- Available 17.2 mm Diameter, 3000 mm Length Size.
- Manufactured as per IS 3043:2018, BS 7430 standard
- Low Carbon Tensile Steel (Cold Drawn) Rods as per AISI 1018 / SAE 1018/ BS 970.
- It is Copper Coated in Non-cyanide (Alkaline) base Copper plating process (Non –polluted)
- Coated with 99.9% pure Electrolytic Grade Copper of min. 254 micron thickness as per BS 4360 grade 43A
- The Rod is UL467 Certified
- Meet the requirement of IEC 62561-2

The rods are tested for the following parameters.

- Ultimate Tensile Strength as per IEC 62561-2 : 2018
- Bend Test as per IEC 62561-2 : 2018
- Salt Mist Cycle Test as per IEC 62561-2-2012 / IEC 60068-2-52 : 1996
- Ammonia Test for Stress Corrosion Resistance as ISO 6957: 1988
- Humid Sulphurous Atmosphere Test as per ISO 6957 : 1988
- Adhesion Test as per IS 2629-1985 (RA-2006)
- Short Time Current & Peak Withstand Test at 18 KA rms for 1.0 sec / 40 KA peak (Test by CPRI)

Certificates

Pipe in Pipe Earthing Electrode

Pipe In Pipe Earthing Electrode incorporates the use of two pipes of co-axial diameters joined together. The smaller diameter pipe (main conductor) is placed centrically inside the bigger diameter pipe for enhancing the service life and performance of the over all earthing system. The space inside the electrodes is filled with crystalline conductive compounds for current dissipation and anti corrosive properties.

The electrode cross section has to be circular for the uniform distribution of fault current all around from electrode to earth.

- Hot dip galvanized for corrosion protection
- Pipe In Pipe Design
- Designed for fast fault current dissipation
- L ow maintenance earthing system
- Easy & fast installation on site
- Most suitable for soil condition with pH value between 5.0 & 8.0
- Crystalline Conductive Compound

Length m	Inner Pipe Diameter, mm	Outer Pipe Diameter, mm
2&3	26.0 x 2.6	48.0 x 3.2
2&3	42.0 x 2.6	76.0 x 3.2

*Standard tolerance = ± 10%

External Lightning Protection System

Standard :

NF C 17-102 September 2011

Operating Principle

- Onay Plus Active Lightning Rods are based on Early Streamer Emission (ESE) Principle.
- The theory of operation of Onay Plus Active Lightning Rods is to create an upward propagating streamer earlier than conventional air terminals or other objects on the earth, thereby offering larger zones of protection.
- Onay Plus Active Lightning Rods when mounted on different heights provide different area of protection.

Features:

- High Level of Protection.
- Light weight and Low wind loading capabilities.
- Reliable performance in all weather conditions.
- Suitable for corrosive environments.
- Available in five models for all application.
- Economical and Easy to install.

Applications:

- Solar Power Plant
- Commercial Infrastructure
- Industries
- Railways/Metro
- Oil & Gas Industry
- Defense

PROTECTION RADIUS BASED ON 5 METER HEIGHT				
MODEL / Δt	Level - I	Level - II	Level - III	Level - IV
OLP 214 / 60 µs	79	86	97	107
OLP 175 / 50 µs	68	75	86	95
OLP 130 / 43 µs	61	68	78	87
OLP 80 / 33 µs	51	57	67	75
OLP 50 / 23 µs	40	47	55	59

Certificates

Warranty : 30 Years

VRH

CONTACT US

VRH LIGHTNING PROTECTION PVT. LTD.,

Factory:
Gata NO. 926, Pyarepur, Harchandpur, Raebareli 229001

West Region Office:
401 LaMagasin, S. V. Road, Santacruz West, Mumbai 400054
Contact: 9930993510

VRH
MAKE IN INDIA
VRH LIGHTNING PROTECTION PVT. LTD.