ANKLESHWAR
INDUSTRIAL SOLUTION

Advanced Technologies for Complete Lightning & Earthing Protection

ESE Lightning Arresters | Chemical Earthing | Conventional Lightning Arresters

Delivering integrated and reliable solutions through cutting-edge technologies designed for total lightning protection and efficient grounding systems.

What is Earthing?

Earthing, also known as grounding, is the process of safely discharging excess electrical energy from an electrical system or device directly into the earth using a low-resistance conductor. This is typically achieved by connecting the non-current-carrying metal parts of equipment or the neutral point of the power supply system to the ground.Galvanized iron (GI) is commonly used for this purpose due to its durability and conductivity. Earthing creates a direct path for leakage or fault currents to flow harmlessly into the ground, which is at zero potential.

Why is Earthing Important?

Protects Life: Prevents electric shock hazards to humans by ensuring that exposed metal parts do not carry dangerous Ankleshwar Industrial .Protects **Equipment:** Diverts short-circuit currents away from sensitive equipment, avoiding damage or fire. Stabilizes Ankleshwar Industrial Levels: Helps maintain consistent voltage levels in electrical systems. Ensures Safety **Compliance:** Mandatory for buildings, industrial units, and critical infrastructure as per national and international safety standards.

In short, ***earthing is a critical safety measure*** that ensures electrical systems operate reliably and protects both people and property from electrical faults.

Product Code -AI-GI-01

1-GI EARTHING ELECTRODE (PIPE IN STRIP)

Model	Length(Mtr)	Terminal Size	Inner Strip	Outer Pipe Diameter(min) mm
40VIGI	1,2&3	40X6	25X3	48
50VIGI	1,2&3	40X6	25X3	58
80VIGI	1,2&3	50X6	25X3	88

- Hot Dip galvanized for corrosion protection.
- Designed for fast fault current dissipation.
- Low maintenence on site.
- Easy fast installation on site.
- Most suitable for soil condition with pH value 5.0 &8.0.
- Moisture booster chemical bags provided for low earth resistance.

Product Code -AI-CLA-08

COPPER LIGHTNING ARRESTER

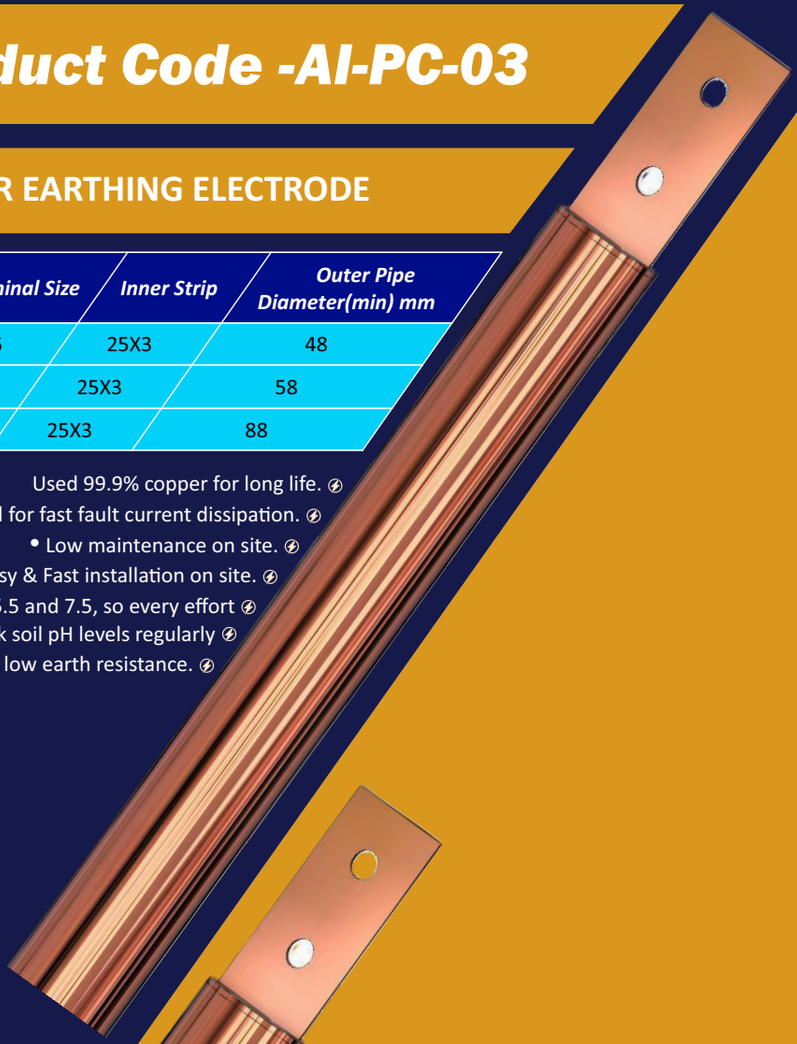
Diameter	Length
16mm	1 mtr, 2 mtr, 3 mtr
20mm	1 mtr, 2 mtr, 3 mtr
25mm	1 mtr, 2 mtr, 3 mtr

- Standard : IEC - 62305 Part III
- Material : Copper / Copper Bonded / GI
- Technology : Conventional Type LA As Per IES 62305 Part III

Product Code -AI-PC-03

PURE COPPER EARTHING ELECTRODE

Model	Length(Mtr)	Terminal Size	Inner Strip	Outer Pipe Diameter(min) mm
40VIPC	1,2&3	40X6	25X3	48
50VIPC	1,2&3	40X6	25X3	58
80VIPC	1,2&3	50X6	25X3	88



- Used 99.9% copper for long life.
- Designed for fast fault current dissipation.
- Low maintenance on site.
- Easy & Fast installation on site.
- The correct balance is where the soil pH is between 5.5 and 7.5, so every effort should be taken to check soil pH levels regularly
- Moisture booster chemical bags provided for low earth resistance.

Product Code -AI-CB-04

COPPER BONDED EARTHING ELECTRODE

Model	Length(Mtr)	Terminal Size	Inner Strip	Outer Pipe Diameter(min) mm
40VICB	1,2&3	40X6	25X3	48
50VICB	1,2&3	40X6	25X3	58
80VICB	1,2&3	50X6	25X3	88

- Long Life.
- Enhance Conductivity.
- The correct balance is where the soil pH is between 5.5 and 7.5, so every effort should be taken to check soil pH levels regularly
- Tested from NABL & CPRI lab.

Product Code -AI-GPIPE-05

GI PIPE IN PIPE EARTHING ELECTRODE

Model	Length(Mtr)	Terminal Size	Inner Pipe	Outer Pipe Diameter(min) mm
40VIGPIPE	1,2&3	40X6	20	48
50VIGPIPE	1,2&3	40X6	25	58
80VIGPIPE	1,2&3	50X6	40	88

- Hot dip galvanized for corrosion protection.
- Designed for fast fault current dissipation.
- Low maintenance on site.
- Easy & Fast installation on site.
- The correct balance is where the soil pH is between 5.5 and 7.5, so every effort should be taken to check soil pH levels regularly.
- Moisture booster chemical bags provided for low earth resistance.

Product Code -AI-BC-06

BACKFILL COMPOUND

Quantity	No. Of Bags
25Kg	1
15Kg	1
05Kg	1

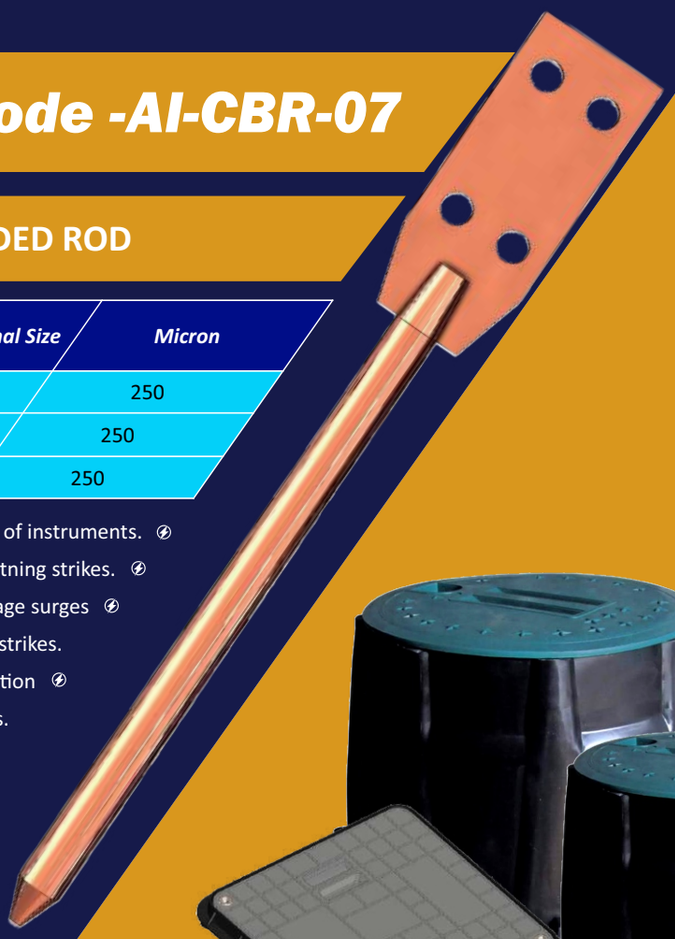
- Non toxic content
- Resistivity less than 0.2 ohm-water Silica Base
- Its maintain conductivity without continuous presence of Maintenance
- Tested from NABL accredited lab

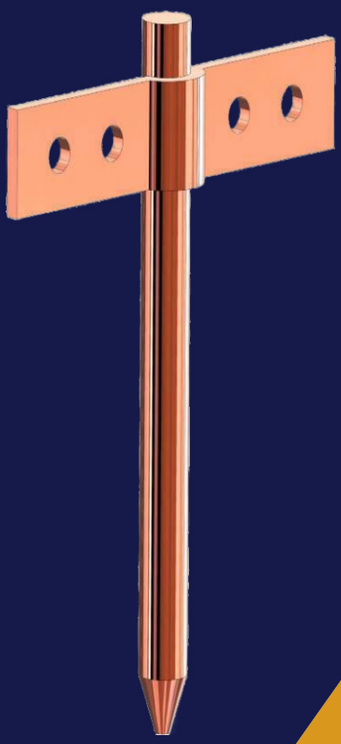
Product Code -AI-CBR-07

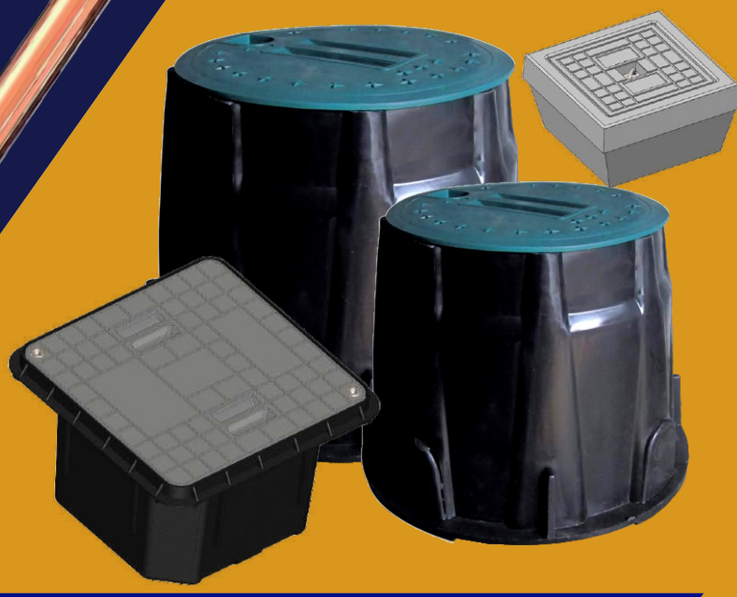
COPPER BONDED ROD

Model	Length(Mtr)	Diameter (mm)	Terminal Size	Micron
VI14.2	1,2&3	14.2	50x6	250
VI17.2	1,2&3	17.2	50x6	250
Vi25	1,2&3	25	50x6	250

- To provide a stable potential difference for the accuracy of instruments.
- To provide a safe discharge path for short circuits and lightning strikes.
- Grounding helps protect electrical and electronic equipment from voltage surges and lightning strikes.
- This is particularly important in sensitive electronic circuits and communication systems.







Product Code -AI-PIT-09

PVC Earth Pit Cover, Cast Iron Earth Pit Cover For Earthing

PVC Earth Pit Cover					
Model	At Top	At Bottom	Height	Load Capacity	Weight
VIPIT1	310	250	260	5000	0.970gm
VIPIT2	215	165	210	3000	0.390gm
VIPIT3	250	300	260	4000	1.800gm

Cast Iron Earth Pit Cover			
Model	Height	Width	Weight
VIPIT4	450	450	7.160gm
VIPIT5	300	300	3.310gm

- Factory-built access ports on two sides for easy wire/strip access.
- Made from durable polyethylene for longevity.
- Resistant materials ensure durability in tough conditions.
- Green top cap blends with the environment.
- Guarantees long-term use.

Product Code -AI-ESE-12

ESE Lightning Arrester

ESE (Early Streamer Emission) Lightning Arresters offer advanced protection against lightning strikes by initiating an upward leader earlier than conventional systems. This ensures a wider protection area and is ideal for high-risk and large infrastructure.

Levels of Protection as per NF C 17-102 Standard

Level of protection	I (r= 20 m)			II (r= 30 m)			III (r= 45 m)			IV (r= 60 m)		
Type	Ai30	AI 45	AI 60	AI 30	AI 45	AI 60	AI 30	AI 45	AI 60	AI 30	AI 45	AI 60
h (m)	Radius of protection Rp (m)											
2	19	25	31	22	28	35	25	32	39	28	36	43
3	29	38	47	33	42	52	38	48	58	43	57	64
4	38	51	63	44	57	69	51	65	78	57	72	85
5	48	63	79	55	71	86	63	81	97	71	89	107
6	48	63	79	55	71	87	64	81	97	72	90	107
8	49	64	79	56	72	87	65	82	98	73	91	108
10	49	64	79	57	72	88	66	83	99	75	92	109
15	50	65	80	58	73	89	69	85	101	78	95	111
20	50	65	80	59	74	89	71	86	102	81	97	113
45	43	65	76	58	75	89	75	90	105	89	104	119
50	40	65	74	57	75	88	75	90	105	89	104	120
55	36	65	72	55	75	86	74	90	105	90	105	120
65	30	65	69	52	75	85	73	90	104	90	105	120

Protection Radius Calculation

Standard: NF C 17-102 (Sept. 2011)

The protection radius **(Rρ)** of an ESE Lightning Arrester is calculated using the **installation height (h)**, advance time **(ΔT)**, and the **triggering distance (ΔL).**

Formula for Protection Radius:

For $h \geq 5$ meters: $R\rho(h) = 2rh - h^2 + \Delta(2r+\Delta)$

For $2\ m \leq h < 5\ m$: $R\rho(h) = h \times 5R\rho / (5)$

Key Notes:

Accurate protection depends on **site survey and assessment.**

ESE should be installed at the **highest point** of the structure.

Radius increases with **height and ΔT.**

ANKLESHWAR

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ANKLESHWAR INDUSTRIAL

Chhatargarh, 4 ARM Kharwali, Bikaner
Rajasthan - 334021
Customer Care No - +91 7011 494 419 | Email Id: sale@ankleshwarIndustrial.com
www.ankleshwarindustrial.com

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RoHS COMPLIANT

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