Crest®
Go Green Go Smart
Creative Electronics & Automation

Marconite
Made in UK

USKUNA® Engineering Makes Difference
FLASHESE Lightning Rods

NFC 17-102:2011
APPROVED

Early Streamer Emission Air Terminals (ESEAT)
Reliable & Fast ESE Lightning Protection System

25 Years of Life without maintenance

Maintenance Free Permanent Grounding Solution

(IEC 62561-7 Compliant)

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CREATIVE ELECTRONICS & AUTOMATION

ISO 9001:2015 Accredited Company

A Product of James Durrans Ltd; Since 1863 (England)

Compliant With IEC 62561-7

Introduction:

Marconite® is the world's premium electrically conductive material, used as backfill to enhance the effects of earth electrodes.

How to use:

a) Manufacturer's recommendations:-
Marconite® aggregate should be mixed in the ratio of 3 parts of **Marconite®** to 1 part of cement by weight with the addition of 1 liter of water per 5 Kg of total mix i.e.:-

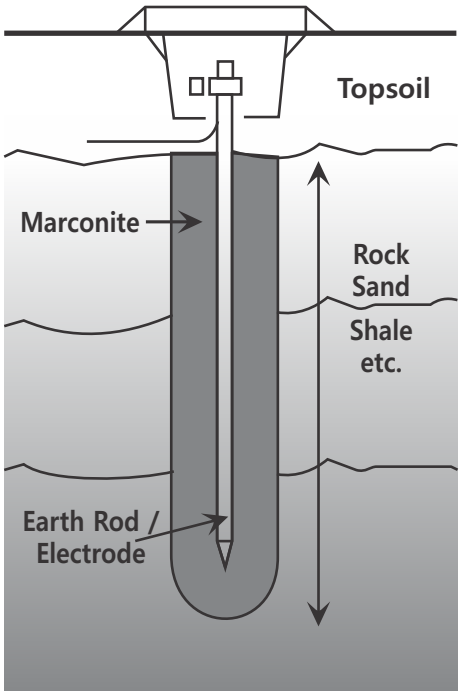
- 3 bags x 25 = 75 Kgs of Marconite
- 1 bag x 25 = 25 Kg of Cement
- 20 liters of water

b) Local conditions –
As tested in CPRI:- Marconite® aggregate should be mixed in the ratio of 2 parts of **Marconite®** to 1 part of cement by weight with the addition of 0.9 liter of water per 5 Kg of total mix i.e. –

- 4 bags x 25 = 100 Kgs of Marconite
- 1 bag x 50 = 50 Kgs of Cement
- 27 liters of water

Features & Benefits:

- **High Strength:** Its compressive strength is greater than M 25 grade concrete.
- **Low Resistivity:** Ultra low resistivity 0.001 ohm-m when compared to Bentonite's 3 ohm-m.
- **Easy to use:** Simple bore hole is required for pre-cast electrode or in-situ casting of Marconite electrode. It forms a concrete like material that from first pour, achieves a low resistance earth, no need to wait or return to test.
- **Versatile:** Suitable for all type of soil conditions.It becomes permanent solid structure and is not prone to shrink, dry out, wash away or leach into soil.
- **Maintenance Free:** It doesn't need watering or maintain it with water / salts every few years in order to achieve the desired earth values.Its life is 50 + years. Consistent Performance.
- **Anti-Static Applications:** Marconite is used for anti-static applications.
- **Corrosion Free:** Chemically inert does not corrode metal conductors Environment-friendly.
- **Cost effective:** It is a permanent solution. There is no need to remove and replace it



The resistivity of Marconite is 0.001 Ω-m and when mixed with Portland cement it is still 0.040 Ω-m

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Fixed Carbon	98.50%
Ash, Volatile and Water	1.50%
Sulphur Content	1.50% Maximum
Size Grading (Aprox)	10% below 0.10 mm
	5% above 3.15 mm
	85%between 0.10 mm and 3.15 mm
Thermal Stability	Between (-) 10% and (+) 60%ambient temperature

Application

- Power Generation, Transmission and Distribution.
- Main Distribution Boards, Motor & Power Panels
- Lightning conductor earthing, Lightning protection system and surge arresters
- Defence Facilities and Equipment.
- Anti-Static Applications.
- Telecommunications, High-Speed Broadband and Media.
- Lightning Arrestor Earthing.
- Oil & Gas Production and Distribution Facilities.
- Rail, Underground, and Transport Networks.






Usage

- Sand or sandy soils
- Hilly terrain, Rocks or Granite
- Salty terrains or sea shores
- Water logged areas or River beds
- Made up grounds (Landfills)

We offer pre cast conductive Earth Electrodes in different sizes:

We are the **Authorized Distributor** of **Marconite** in Pakistan.

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Early Streamer Emission Air Terminals (ESEAT)

are in accordance with the 2011 edition of NFC 17-102.
Reliable & Fast ESE Lightning Protection System

FLASH L ESE ACTIVE LR

FLASH L TECHNICAL SPECIFICATIONS	
Manufacturer Company	Uskuna Muhendislik co. Ltd.
Brand	Flash
Order Code	Flash L
Dimensions	620 mm length Ø 22 mm rod 120 mm length Ø 195 mm ionization case
Weight	2700 g
Material	AISI 304L Stainless Steel
ΔT	76 µs (According to test results)
Protection Area	214 m (NFC 17 102 ΔT_{Max}=60 µs)

We reserve the right to make change in product design, dimensions and weight according to production process.

R (p)	Flash L ΔT=60			
N p	Level I	Level II	Level III	Level IV
h(m)/r(m)	20	30	45	60
2	31	35	39	43
4	63	69	78	85
5	79	86	97	107
6	79	87	97	107
8	79	87	98	108
10	79	88	99	109
20	80	89	102	113
30	80	90	104	116
40	80	90	105	118
60	80	90	105	120

FLASH COUNTER

ANALOG OR DIGITAL COUNTER

- ✓ Counts at 10 µs
- ✓ Compact
- ✓ 10 years battery life *
- ✓ IP67 isolation
- ✓ Date, time data logger *

Optional Choices

- ✓ Solar charge unit *
- ✓ Wi-Fi or Lan Connection *
- ✓ Bluetooth connection *

* This features comes with the Digital Counter

SUITABLE FOR USE WITH REMOTE CONTROL UNIT

		ADVANTAGES	DISADVANTAGES
FLASH ESE LR		❖ If the protected area is a hazardous area, the air terminal can installed outside this area ❖ Multiple structures can be protected with a single air terminal ❖ Economical ❖ It can protect the structure with its surroundings ❖ Provides protection in open areas ❖ Can be integrated seamlessly into building structure	❖ Minimum air terminal height is 2 meters ❖ The mechanical strength is limited by the structure of the bar used
SINGLE POINT LIGHTNING ROD		❖ Easy to install ❖ Economical ❖ Can be integrated seamlessly to building structure	❖ Only provides limited protection to protect small structures ❖ The mechanical strength is limited by the structure of the bar used
FARADAY OR MESHED CAGE		❖ Protects the structure by reducing the electromagnetic radiation effects of lightning ❖ Distributes the lightning current to the ground with multiple down conductors	❖ Installation is complex and expensive ❖ Mostly it is not aesthetic in terms of the integrity of the structure
TENSIONED CABLES		❖ Protects the structure by reducing the electromagnetic radiation effects of lightning ❖ Distributes the lightning current to the ground with multiple down conductors ❖ provides protection in open areas	❖ Tensioned cables may be dangerous to touch in areas where lifting equipment is used ❖ Installation is complex and expensive ❖ Mostly it is not aesthetic in terms of the integrity of the structure

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CELEBRATING 25 YEARS