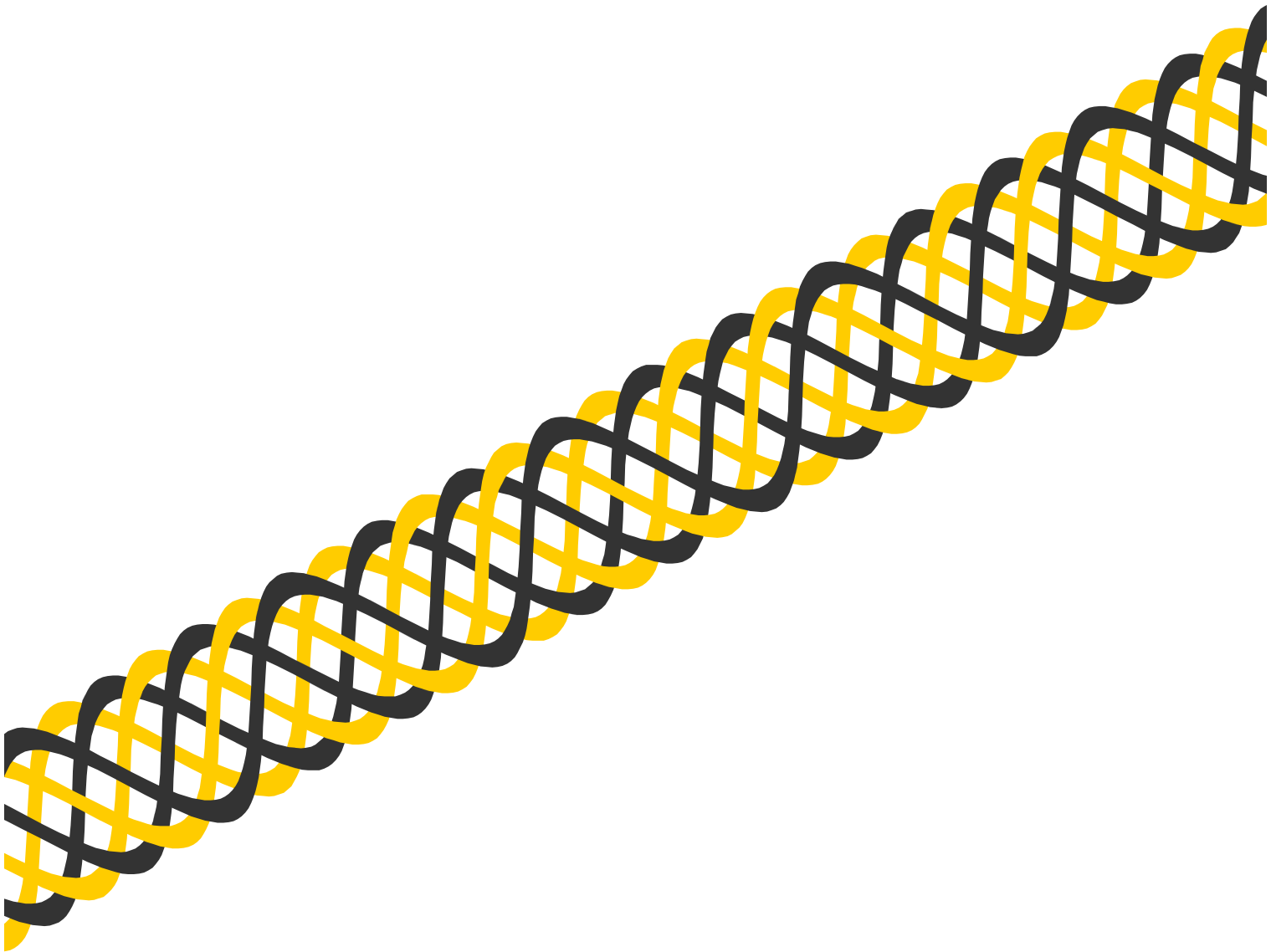


Product Line:
LIGHTNING PROTECTION SYSTEMS



Product Line:
LIGHTNING PROTECTION SYSTEMS

◆ Doksun's Lightning Protection & Services

The spectacle of lightning has inspired awe and fear as long as been life on this planet. Our fascination with lightning is akin to our fascination with potentially dangerous animals or activities. The truth of the matter is that with the exception of floods (which affect entire populated area in a single event) lightning is the biggest weather-linked killer.

Whilst lightning may not threaten everyday lightning protection is still essential; it only needs to strike once and it could kill the people who work in and around the premises and easily destroy everything any organization needs to operate, if the site/building is inadequately protected. Many things are covered under insurance policies but does it cover the consequential loss of human, data, machinery/data, reputation etc. For these reasons Doksun make Lightning Protection System is regarded as the prudent choice to approach for any, and all, lightning protection system needs.

◆ Lightning Protection Services, an Overview,

◆ Risk profiling: To provide the most effective lightning protection solution, the correct risk profile of a site must be determined. An inaccurate risk profile will reflect a distorted perception of risk, which could result in either an over specified lightning protection system that would lead to unnecessary expenditure, or more dangerously an under-specified lightning protection system which could mean that threats to assets and life remain unaddressed in the final installations. As risk profiling is a performance critical element the expertise of Doksun's service is obtained to ensure that the protection levels determined are accurate.

◆ Design of lightning protection system: As Doksun offers the most preferred lightning protection system and its design consultancy in the sector. Being able to deliver effective lightning protection system and designs from everything from hotels to power stations and oil refineries, the Doksun make lightning protection systems are the logical choice for any project. Utilizing knowledge of the latest developments in the sector and standards, Doksun has the ability to design and supply any required standard on time with installation service.

◆ Lightning protection system integration & expansion troubleshooting: Some facilities are subject to redevelopment or expansion during the duration of their usage. As these changes are made it is likely that electrical safety systems, such as for earthing and lightning protection, are going to require review for continuing suitability. Should they require adaption or integrating with new elements this can present challenges, and Doksun's team can support throughout the process.

◆ Site survey and system testing: Whether a site requires a detailed soil resistivity survey, or thorough examination and collation of system performance data, team Doksun can undertake such works and ensure that it feeds into lightning protection design or performance assessments.

◆ Lightning protection system design considerations:

◆ Risk assessment: We are all familiar with the purpose of risk assessment and how they can be vital in clarifying the scope of requirements for protection. This is no different in the lightning protection industry, which has undertaken some form of risk assessment since its inception. In any event should you need assistance with risk assessments team Doksun will welcome the query and able to support and assist.

◆ Core information required to undertake lightning protection system risk assessments, some of them are below mentioned:

- ◆ Risks being considered
- ◆ Environmental influences
- ◆ Service line density
- ◆ Structure definition
- ◆ Power and telecommunication lines in/out of the structure
- ◆ Any defined lightning protection zones
- ◆ Material of construction of the structure
- ◆ Expected occupancy of the building/structure

◆ Down conductor, a recommendation and overview;

Conductors should be fixed to the structures every < 1 mtrs distance (approx.)
Every down conductor must be directed to an earth termination. it is recommended to equipotentialise all the down conductors at ground level and < 20 mtrs (approx.). It is advisable to include a disconnecting link near the base of each down conductor to exclude other conductive elements when measuring earth resistance. It is recommended < 10 ohms for lightning protection system's earth resistance. It is not recommended to install aluminium/galvanised conductors or components directly. Connections between copper and aluminium conductors or copper and galvanised conductors are not recommended as they lead to corrosion. To join such bimetallic elements stainless steel clamps should be used.



Product Line:
LIGHTNING PROTECTION SYSTEMS



Doksun make Conventional Lightning Protection System

Doksun make Conventional lightning rod (Spike lightning arrester) or lightning conductor is a metal rod or conductor mounted on top of a building and electrically connected to the ground through a wire, to protect the building in the event of lightning. If lightning strikes the building it will preferentially strike the rod, and be conducted harmlessly to ground through the wire, instead of passing through the building, where it could start a fire or cause electrocution.

A lightning rod is a single component in a lightning protection system. In addition to rods placed at regular intervals on the highest portions of a structure, a lightning protection system typically includes a rooftop network of conductors, multiple conductive paths from the roof to the ground, bonding connections to metallic objects within the structure and a grounding network. The rooftop lightning rod is a metal strip or rod, usually of copper or aluminum.

Lightning protection systems are installed on structures, trees, monuments, bridges or water vessels to protect from lightning damage. Individual lightning rods are sometimes called finials, air terminals or strike termination devices.

Conventional Lightning Protection System Features:

Exceptional electrical dissipation characteristics
No antenna and beacon interference
120 kph survival wind speed
Low cost, replaceable dissipating tips
Spike Lightning Arrester is a very efficient hybrid lightning dissipater. When operating as a shield it reduces the potential between the tower and storm cell by transferring electrical charge to the adjacent ionizing air molecules. This transference represents dissipation or the controlled leakage of the charge, thus reducing the probability of a lightning strike. If the electric charge accumulation rate far exceeds the dissipation rate the spike arrester will divert a lightning strike away from the protected equipment and toward a safe, predetermined path to earth.

MOQ: Stainless Steel
Length: 1000 MM Length
Diameter: 16 MM Dia
Mounting Base (Optional): 150 MM X 150 MM X 6 MM (Plate with 4 Holes)
Spike: 4 Nos. With one spike of 100 MM
Protection Coating: Copper/Galvanizing (as per client requirement)
Weight: 1250 Grams

Advantages

Easy to Install
Low Maintenance
Is not sensitive to bad weather
Tested in the laboratory
Low Cost
No electronic parts => No energy consumption
Long Life.

Applications

Agricultural
Commercial
Industrial
Institutional
Residential



Product Line:
LIGHTNING PROTECTION SYSTEMS



Introduction
The Doksun make ESE Lightning Arrester

Manufactured according to the following technical specifications:

- ◆ It has double early streamer emission device :
- ◆ An electro atmospheric condenser

Materials:

- ◆ Main structure made of stainless steel
- ◆ Deflector set made by EPOXY Resin

Operation

The specific function of Doksun make ESE Lightning Arrester is producing an upward stream of ionized particles pointed to clouds that will channel the eventual electrical discharge from its origin.

There is a different potential between the discharger (that has the same potential than the air around it) and both the air terminal tip and the deflection ensemble (they have the same potential than earth) This difference increases as atmospheric potential becomes higher because of the imminent lightning stroke. Knowing the value of this difference Dt allows us to relate time and velocity of electrical discharge spread and, consequently, to calculate the lightning impact distance and the protection radius that offers each lightning arrester's model.

The knowledge of this value allows finally to select the most appropriate lightning arrester model taking into account the characteristics of the structure we want to protect and the level of protection needed.

Characteristics and Benefits:

- ◆ 100% of efficacy in discharge capture.
- ◆ High level of protection.
- ◆ This device doesn't offer any resistance to discharge conduction.
- ◆ This lightning arrester is 100% non electrical, hence maximum durability and maintenance free nature.
- ◆ This lightning arrester preserves its initial properties after each discharge.
- ◆ Due to no electrical parts there are no replaceable parts.
- ◆ Doesn't need any type of power supply to function whether internal or external.
- ◆ Operation guaranteed in any atmospheric condition.
- ◆ High resistance to extreme temperatures.
- ◆ High resistance to weather and corrosive atmospheres.

Installation:

The point of the lightning rod should be situated, at least two meters above the highest building to be protected. For its installation on a mast, the corresponding head-mast adapter is needed for the lightning arrester. Our company strictly recommends following the International Standards (UNE 21186 and NF C-17 102) to install Doksun make ESE Lightning Arrester.

Doksun make ESE Lightning Arrester is the first Non Electronic Early Emission Streamer Lightning Arrester which is in compliance with UNE 21186 and NF C-17 102 Standards, and solely made in India.

Protection levels with different models in meters:

Model No.	3.3	4.3	5.3	6.3
Level I	45 m	54 m	63 m	70 m
Level II	65 m	74 m	84 m	92 m
Level III	75 m	85 m	95 m	102 m

