



Lightning Protection and Earthing

Protection Specialists

Proud Namibian Company



Windhoek | Walvis Bay



Mining | Renewable Energy | Construction | Infrastructure | Telecoms | Petrochemical



Lightning Protection

Earthing

Surge Protection

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www.swelighting.net

SWE is affiliated to the SME Lightning Protection and Earthing group of companies





Due to a difference in electrical charges, electrical energy will flow from one place to another during thunderstorms. The flow of energy is shown as a lightning flash which generally only lasts 0.00001 seconds but can reach temperatures of up to 30,000°C which is five times hotter than the surface of the sun.

There are no devices or methods capable of modifying the natural weather phenomena to the extent that they can prevent lightning discharges completely. Lightning flashes to, or nearby, structures (or electrical lines connected to the structures) are hazardous to people, to the structures themselves, their contents and installations as well as the electrical lines.

This is why the application of lightning protection measures is essential. The need for protection, the economic benefits of installing protection measures and the selection of adequate protection measures should be determined in terms of risk management.



The Protection Specialists

SWE Lightning Protection and Earthing is a proud Namibian based company, and affiliated to the leading SABS ISO9001:2015 certified specialist company in the industry, SWE Lightning Protection and Earthing.

SWE Lightning Protection and Earthing are protection specialists in the fields of lightning, earthing and surge protection, and provides a risk management approach to projects and maintenance support.

From plant-wide audits, risk assessments to project installations and maintenance support are done in compliance with the relevant South African National Standards (SANS) which is based on the International Electrical Code of practice.

These standards aim to ensure safety, quality and reliability of products and services.



A Trusted Industry Specialist

What differentiates SWE Lightning Protection and Earthing?

- ⚡ We have established ourselves as industry specialists by providing lightning protection and earthing solutions for more than 38 years.
- ⚡ We have achieved a significant level in Quality Management Standards and have been recognized by the SABS through the ISO 9001:2015 certification. (SME)
- ⚡ We have a valued reputation in the industry for a high level of client service, risk-based methodology, technical expertise and operational excellence.
- ⚡ We have an excellent track record on projects in terms of health and safety management.
- ⚡ We provide quality protection solutions to our clients for property, equipment and people with experience across a wide range of industries.
- ⚡ We offer support through our international footprint with operational branches across SA and Namibia and a proven track-record of projects across most Southern African countries.



Solar PV and Wind Turbine Protection

Solar PV plants

Lightning Protection systems (LPS) for utility-scale photovoltaic (PV) plants have to conform to SANS/IEC 62305, which supports cost-benefit trade-offs between the costs associated with loss of equipment, production losses, and repairs as a result of lightning strikes, compared to the cost of the LPS. The design of the LPS must ensure that a potential strike is intercepted with an air-termination system which conducts the lightning current safely towards the earth by means of a down conductor and dispersed by means of an earthing system.

The system design must ensure a low impedance path for conducting lightning currents to earth, provide equipotential bonding between the down conductors, and ensure that lightning and surge currents are dissipated effectively without causing excessive potential differences. Furthermore zone boundaries, electrostatic and magnetic shielding has to be assured.

Wind turbines

Wind turbines are highly vulnerable to the effects of direct lightning strikes due to their vast exposed surface and height. The rolling sphere method can be used to determine the lightning protection zones LPZ. Suitable shielding measures and surge protective devices are critical so that the electrical and electronic systems inside the win turbine can be operated safely.





Lightning Protection and Earthing

Protection Specialists

SPECIALISED SERVICES

SWE offers the following specialised services for Lightning Protection, Earthing and Surge Protection

- ⊕ Consulting & Design
- ⊕ Soil Resistivity Surveys
- ⊕ Earth Resistance Testing
- ⊕ Risk Assessments
- ⊕ Supply and Installations
- ⊕ Maintenance and Compliance Support
- ⊕ Earth Grid Design
- ⊕ Plant-wide Audits
- ⊕ Solar PV & Wind Turbine Designs & Installations

ANCILLARY SERVICES

- ⊕ Underground Services Detection
- ⊕ Excavation Services
- ⊕ Earth Core Drilling

EXPERIENCED INDUSTRIES

- ⊕ Energy
- ⊕ Telecommunications
- ⊕ Infrastructure
- ⊕ Sugar
- ⊕ Hazardous and explosive sites
- ⊕ Petro-chemical
- ⊕ Mining
- ⊕ Infrastructure
- ⊕ Commercial
- ⊕ Renewable Energies
- ⊕ Pulp
- ⊕ Manufacturing
- ⊕ Medical
- ⊕ Residential
- ⊕ Education and schools



APPLICABLE STANDARDS

SWE and SME (SABS-ISO 9001:2015 certified company), provides specialist recommendations and protection solutions which are based on the applicable South African National Standards (SANS code of practice) which are affiliated with the International IEC codes of practice, applicable to all countries who are committed to International Industry Standards.

- ⊕ **SANS 10313:2018** Protection against lightning - Physical damage to structures and life hazard
- ⊕ **SANS 10199:2016** The design and installation of an Earth Electrode
- ⊕ **SANS 10089:2017** Electrical Installations and Earthing in Hazardous Areas
- ⊕ **SANS 62561:2013** Lightning Protection System Components
- ⊕ **SANS 62305-1:2011** Protection against lightning
- ⊕ **SANS 62305-2:2011** Risk Management
- ⊕ **SANS 62305-3:2011** Physical damage to structures and life hazard
- ⊕ **SANS 62305-4:2011** Electrical and electronic systems within structures



Walvis Bay

SWE: South West Earthing - Namibia

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