Soil Resistivity Analysis and Testing

DEHN Services – Engineering Service Datasheet

Service	**Soil Resistivity Analysis and Testing Incl. Report acc Local & International Standards***
Part No.	**E17102**
Description	When a Safety Earthing Grid Design is required or a risk analysis calls for LPL I or II, it becomes important to model the resistivity of the soil to correctly calculate earth design parameters. Getting an understanding of the soil at a project's site is important for the design of both lightning protection and electrical earth termination systems. A soil resistivity survey uses the WENNER or Schlumberger electrical sounding methods to determine the resistivity of the soil at different depths, allowing an average uniform or two-layer model to be created. It is also necessary for calculations of Safety Earth Grids to determine surface potential rises. Annually calibrated specialist metrology equipment is used to carry out the physical survey with the results presented and processed in a document for further use as required.
Basis*	IEC 62305 Edition 2.0 2010-12 – Protection against Lightning (Intl) IEEE std. 81: 2012 – IEEE Guide for Measuring Earth Resistivity, Ground Impedance and Earth Surface Potentials of a Grounding System (US) DIN EN 18014 2023-06 – Earthing system for buildings – Design, implementation, documentation (DE) SANS 10199 Edition 2.02 2016 - Design and installation of earth electrodes (ZA) NFPA 70E® 2024 – Standard for Electrical Safety in the Workplace® (US) BS EN 50522 – Earthing of power installations exceeding 1kV AC (UK) SN EN 62305 – Protection against Lightning (CH) SN 414022 – Lightning Protection Systems (CH) **Note: Unless clearly stated by the customer, the service will be carried out in accordance with the standard and current version applicable in the country in question. If the service is to be carried out in accordance with a different standard/version, this must be defined before the order is created.**
Outcomes	○ Planning of testing locations ○ Physical testing of soil on site ○ Report with all results and a calculation of a uniform or 2-layer soil model if required Report as .pdf documents delivered electronically
Prerequisites	○ Geographic location of project ○ Dimensions of area to be considered
Optional Additional Services	Installation of Earth Electrodes (Part No. S27717)