

ABSTRAK

Sistem pembumian merupakan sistem pengamanan terhadap perangkat yang menggunakan listrik sebagai sumber tenaga dari lonjakan listrik, khususnya tenaga petir. Memperhatikan kualitas nilai resistansi pembumian sangat penting, salah satunya ialah pengaruh kandungan zat aditif berupa garam pada Elektroda vertikal (*driven rod*) sehingga dapat mempengaruhi nilai resistansi pembumian. Karena garam merupakan suatu elektrolit yang dapat menghantarkan arus listrik ke dalam tanah sehingga dapat meningkatkan konduktivitas atau daya hantar listrik di dalam tanah, khususnya di tanah gambut kering dan basah. Melakaukan pengukuran resistansi pembumian tanpa penambahan garam dan dengan penambahan garam di tanah gambut, agar dapat melihat penurunan nilai resistansi pembumian. Penelitian ini dilakukan dengan tiga batang elektroda yang panjangnya bervariasi yaitu 100 cm, 200 cm dan 300 cm yang di tanam pada kondisi tanah gambut kering dan tanah gambut basah. Hasil pengukuran pada kondisi tanah gambut kering tanpa garam pada kedalaman 100 cm = 35,88 (Ω), kedalaman 200 cm = 5,9 (Ω), dan kedalaman 300 cm = 4,4 (Ω) dan pada kondisi tanah gambut kering dengan garam pada kedalaman 100 cm = 10,49 (Ω), kedalaman 200 cm = 4,50 (Ω), dan kedalaman 300 cm = 3,78 (Ω). Hasil pengukuran pada kondisi tanah gambut basah tanpa garam pada kedalaman 100 cm = 33,38 (Ω), kedalaman 200 cm = 5,07 (Ω) dan kedalaman 300 cm = 3,99 (Ω) dan pada kondisi tanah gambut basah dengan garam pada kedalaman 100 cm = 9,75 (Ω), kedalaman 200 cm = 4,11 (Ω) dan kedalaman 300 cm = 3,47 (Ω).

Kata kunci: Resistansi Pembumian, Garam, Tanah Gambut

ABSTRAK

The earthing system is a security system for devices that use electricity as a source of power from electrical surges, especially lightning power. Paying attention to the quality of the earth resistance value is very important, one of which is the influence of the additive content in the form of salt on the vertical electrode (driven rod) so that it can affect the value of the earth resistance. Because salt is an electrolyte that can conduct electric current into the soil so that it can increase the conductivity or electrical conductivity in the soil, especially in dry and wet peat soils. Carry out grounding resistance measurements without the addition of salt and with the addition of salt in peat soil, in order to see the decrease in the value of the earth resistance. This research was conducted with three electrode rods with varying lengths, namely 100 cm, 200 cm and 300 cm which were planted in dry peat and wet peat soil conditions. The results of measurements on dry peat soil conditions without salt at a depth of 100 cm = 35.88 (Ω), a depth of 200 cm = 5.9 (Ω), and a depth of 300 cm = 4.4 (Ω) and on dry peat soil conditions with salt at a depth of 100 cm = 10.49 (Ω), a depth of 200 cm = 4.50 (Ω), and a depth of 300 cm = 3.78 (Ω). Measurement results on wet peat soil conditions without salt at a depth of 100 cm = 33.38 (Ω), a depth of 200 cm = 5.07 (Ω) and a depth of 300 cm = 3.99 (Ω) and on a wet peat soil condition with salt at a depth of 100 cm = 9.75 (Ω), a depth of 200 cm = 4.11 (Ω) and a depth of 300 cm = 3.47 (Ω).

Keywords: Earthing Resistance, Salt, Peat