

ABSTRACT

Magnetic field induction is one method of Non-Destructive Testing with excitation variable of magnetic field on the object to be tested. The Induction method of the magnetic field is expected to identify the distribution of metal powders in the soil. The testing used two types of coils that served as transmitters and receivers. The mass quantities of copper metal (Cu), manganese (Mn) and iron (Fe) powder are varied and spread evenly in the ground and induced precisely in the middle by the transmitter coil. The response of the measured ggl value in the receiver coil is analysed by looking at the difference between the addition of powder mass variations. Based on the measurements, the copper powder is sensitive to the addition of 30 grams of a mass with a change range of 80-100 mV; the manganese powder was sensitive to the addition of 50 grams of a mass of 200 mV; and iron powder had been sensitive at the beginning of 10 grams of a mass increase. From all the tests performed, iron powder (Fe) had a measurement sensitivity distance and changes in the largest ggl value to the addition of powder mass variation.

Keywords : *Magnetic Field Induction, Metal Power, ggl response*