

## ABSTRACT

*Plastering is a layer of wall covering formed from a mixture of cement, sand and water. This research was conducted to determine the effect of variations in the composition of the plastering material on the stress value using the magnetic field induction method. From three measurements of coil characterization without object, the optimal working frequency is 250 kHz, 20 Vpp with a voltage value of 14,279 Volt, in a coil pair of 300 turns with a distance between coils of 0.5 cm. The working frequency was used for the measurement of coil characterization in three independent variable states of stucco composition. The increase in sand mass causes a decrease in the voltage value, the measured value from 14.167 Volts decreases to 14.029 Volt with the results of linear regression  $y = -0.0032x + 14.252$  and  $R^2 = 0.9826$ . The increase in cement mass shows an increase in the stress value, the measured value from 14.256 Volt increases to 14.358 Volts with the results of linear regression  $y = 0.0022x + 14.203$  and  $R^2 = 0.9955$ . The increase in the quantity of water causes a decrease in the voltage value, at a mass of 35 gram the measured value from 14.887 Volt decreases to 14.589 Volt with the results of linear regression  $y = -0.0137x + 15.128$  and  $R^2 = 0.9288$ , while at a mass of 25 gram, the resulting value is measured 14.373 Volt decreased to 14.212 Volt with the results of the linear regression  $y = -0.0086x + 14.776$  and  $R^2 = 0.9504$ .*

**Keywords :** *Plastering, Magnetic Field Induction Method, Coil Characterization, Frequency of Work*