

ABSTRACT

Non Destructive Testing (NDT) method is an examination or testing carried out without damaging or changing the object to be tested. One of the NDT methods used in this test is the magnetic field induction method. In this test, coil sensors, transmitter coil, and receiver coil are used. Transmitter coil (primary coil) is used for induction sources that are diverted by the generator function. The coil receiver (secondary coil) is used to receive the induction results containing the voltage (potential) that will be needed on the oscilloscope. The coil sensor used is solenoid using a wire with a diameter of 0.8 mm with a total of 50 windings (single layer). The test is carried out with three conditions, namely the angle requirements between the transmitter and receiver coils which form an angle of 60 °, 120 °, and 180 °. Test objects used are iron, wood, and aluminum. In the test three conditions are carried out namely without objects, only objects, and objects with water. The input used is 5 Volts. The results obtained are Large Angles which produce the maximum stress that is the angle of 60 °. The greater the angle between the transmitter and receiver coil, the smaller the rated voltage. The results of different stresses obtained at this time only objects and objects with water at an angle of 60 ° have the highest voltage differences for superiors namely iron 1.02993 V, wood 0.0413 V with aluminum 0.2813 V. in conditions without objects and only objects at a 60 ° viewpoint produce the highest stress, namely aluminum, iron, and wood. The voltage difference in aluminum is 2.0107 V, iron 0.1747 V, and wood 0.1427 V.

Keywords: coil, eddy current.