

## ABSTRACT

*Non-Destructive Testing (NDT) is a test, evaluation, or inspection of various materials that will not damage the function of the object. There are several advantages of using the NDT method, such as reducing downtime, reducing damage to components, and preventing failures during the process. In this test, the NDT method used is the Eddy Current Testing (ECT) Method, which basically utilizes the electromagnet principle. In the ECT Method, an electric current is supplied to the coil to generate a magnetic field in it. If this magnetic field is induced in a metal object inspected, an eddy current will be created. In this test, the transmitter coil will continue to induce a magnetic field in the inspected object from the beginning of the scan until the scanning process is completed. The receiver coil is designed to take data quickly from the eddy current generated on the surface of the test object, this data is then sent to the microcontroller. This voltage data distribution represents the response of the object and shows the condition of the inspected object, whether there is an anomaly or not. When there is an anomaly, the value of the voltage that is read will be different from the homogeneous plate without anomaly. The difference in voltage values indicates anomalies on the object. From the results of the research conducted, it is concluded that to get the optimal data acquisition results is by reading eight times at each point, resolution of 2 cms, and 20 ms delay with anomaly size of 10 mm. From the results of the research conducted, we obtain 1 V<sub>DC</sub> reduction voltage and four times reinforcement so as to obtain optimal data collection method results by reading eight times at each point with  $\pm 0.192\%$  error, the resolution of the distance between the test points is 2 cm, and 20 ms delay with 10 mm anomaly.*

**Key words:** *Data collection method, Non Destructive Testing, Eddy Current Testing, Non Ferromagnetic*