DETECTION OF CRACK AND CORRELATION BETWEEN PEAK WIDTH AND CRACK PATTERN BY USING EDDY CURRENT

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ABSTRACT

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Eddy current testing based on the principles of electromagnetic induction. A magnetic field is developed in and around the conductor when alternating current is applied. Eddy current technique can be used on all materials which can conduct electric to locate surface, subsurface cracks, measurements of the thickness on metallic plates and also non-metallic coatings on test objects. The testing is done by using weld probe on conductive material such as steel to detect any crack or defects in the part of welded steel sample. From the testing, the position and width of the crack can be identifying by analyse the peak of signal. The peak show that there is contribution of small or large defect in the welded sample. Other than that, the value of position and width will determine the place of the crack and how deep the crack on the test object. Crack pattern is different due to the changing in frequency of current running through the coil during the testing. When the frequency is increase, the length of crack pattern will decrease.

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