

**INSPECTION OF SIMILAR WELDING OF ALUMINIUM ALLOY 5083 AND
STAINLESS STEEL 304L USING ADVANCE ULTRASONIC TESTING**

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ABSTRACT

The defects of the Lack of Fusion (LOF) and Lack of Penetration (LOP) on the surface of aluminium alloy 5083 and stainless steel 304L similar welding samples has been investigate using the advance Ultrasonic Testing (UT) Time of Flight Diffraction (TOFD) technique. The welding that was used to weld both similar samples is Tungsten Inert Gas (TIG) welding also known as Gas Tungsten Arc Welding (GTAW) and defects were made by the Die-sinking Electric Discharge Machine (EDM). There were total of three different types of Lack of Fusion (LOF) defects on both welded samples which are transverse surface, longitudinal surface and oblique, and another two Lack of Penetration (LOP) defects also on both welded samples. The defects were detected and investigated by Time of Flight Diffraction (TOFD) technique by observe the results of A-scan and B-scan images.