

**Pengaruh Variasi Arus Terhadap Uji Tarik Dan Makrostruktur Pada Pengelasan Kombinasi GTAW dan SMAW Pada Material Baja Astm A36** (*The Effect of Current Variations on Tensile Tests and Macrostructures in GTAW and SMAW Combination Welding on ASTM A36 Steel Materials*). Supervisor: Dicky Adi Tyagita, ST., MT

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### ***ABSTRACT***

Welding is a technique of joining two metals by melting some of the parent metal and filler metal. The method in this research is to combine GTAW (Gas Tungsten Arc Welding) root pass and SMAW (Shield Metal Arc Welding) cover pass positions with variations of current and 1G welding position. The currents used in GTAW and SMAW welding are 80A, 90A, 100A. for ASTM A36 steel material with a thickness of 10 mm with V seam. This study aims to determine the defects in the weld specimen and the highest tensile strength. The results on macrostructural testing with a current of 80 amperes still have defects of 0.8 mm but at a current of 100 amperes there is no defect and for the highest tensile strength at a current of 80 amperes but for the lowest tensile strength at a current of 90 amperes. So it can be concluded that the increasing current in the macrostructural test results in no defects but in the tensile test it decreases.

*Keywords: GTAW, SMAW, Tensile Strength, Macrostructure, ASTM A36.*