

## COMPARISON STUDY OF THE JOINT STRENGTH USING WELDING METHODS

*Ghassan Shaker Abd<sup>1</sup>, & Ahmed Shany Khusheef<sup>2</sup>, & Saddam Hassan Raheemah<sup>3</sup>*

<sup>1,3</sup>*Research Scholar, Department of Mechanic, Institute of Technology-Kut/ Middle Technical University, Baghdad, Iraq*

<sup>2</sup>*Research Scholar, Departments of Electric, Institute of Technology-Kut/ Middle Technical University, Baghdad, Iraq*

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### **ABSTRACT**

*This paper shows the effects of manual metal arc welding (MMAW) and tungsten inert gas (TIG) welding processes on two types of joints (lap and butt joints) to evaluate the strength of welded joints of the specimens that is made of steel (ST52-3). Tensile and bending tests were executed to study the mechanical properties of welding joints. The experimental results prove that the welded joint could have more strength than the elements if a suitable welding procedure is utilized, and also if the filler metals used has physical specks superior to those of the elements. The results also show that MMA welded joints are more powerful than those produced by the TIG welding technique.*

**KEYWORDS:** *Butt Joint, Lap Joint, MMAW, Tungsten Inert Gas (TIG), Tensile Test, Compression Test, Bending Test*