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Guided By

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Project Title

EXPERIMENTAL, INVESTIGATION AND OPTIMIZATION OF MIG WELDING PARAMETER ON MS PLATE

Abstract:

Gas metal arc welding is a fusion welding process having more importance in industry. This study aims to examine the interaction between process parameters and tensile strength. In this process proper selection of input welding parameters is necessary in order to optimize welded structure and subsequently increase the productivity of the process. In order to obtain a good quality weld, it is therefore, necessary to control the input welding parameters For this, not only linear and the curvilinear equations were developed to predict bead geometry, but also interactions between process parameters and bead geometry were analyses through sensitivity analysis. One of the important welding output parameters in this process is tensile strength affecting the quality and productivity of weldment. In this project using Taguchi's method of design of experiments a mathematical model was developed using parameters such as, Current (A), welding voltage (V), Gas Pressure (psi). After collecting data, signal-to-noise ratios (S/N) were calculated and used in order to obtain the optimum levels for every input parameters and a apply ANOVA for analysis by manual method. To create a mathematical equation for check actual verses regression graph of ultimate tensile strength.

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