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Abstract Details

Title: Maximizing Tensile Strength in AISI 50110 (EN 31) Welded Joints using GAS Metal ARC (GMAW) Welding

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Abstract: This research paper is aimed at making an attempt to develop a response surface model to predict tensile strength of inert gas metal arc welded AISI 50110 (EN31) high carbon steel joints. The process parameters such as arc voltage and welding current are studied. The experiments have been conducted based on a two-factor, three-level, and face centred composite design matrix. The empirical relationship can be used to predict and study the effects and behavior of processing parameters on tensile strength of inert gas metal arc welded EN31 high carbon steel joints. Response surface methodology (RSM) has been applied to study the MIG welding process parameters to attain the maximum tensile strength of the joint.

Keywords: Tensile Strength, AISI 50110 (EN 31), GMAW.