OPTIMIZATION OF PARAMETERS FOR WELDABILITY STRENGTH – AN EXPERIMENTAL DESIGN APPROACH

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ABSTRACT

It is necessary to study the input parameters of welded product, to gain a ‘welded joint’ with good quality. The influence of welding parameters such as welding current, welding voltage and welding speed will show a significance effect on a welded joint. By using design of experiment method, the parameters can be optimized and made to have the best parameter combination for target quality. An orthogonal array, Signal to Noise(S/N) ratio have been employed to study the welding characteristics of material and optimize the welding parameter. The result has been computed using the form of contribution from each parameter, through which optimal parameters are identified for maximum tensile strength. The chosen parameters and obtained tensile strength results are analysed by using Minitab software, the calculations are done, results are generated and optimum results are obtained.

KEYWORDS: MIG Welding, Steel, Taguchi Technique, Tensile Strength & MINITAB Software

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