ABSTRACT

One of the most important methods of permanent fastening and versatile means of fabrication available to industry is welding. This is because it is one of the most important tools available to engineers in his efforts to reduce production, fabrication and maintenance costs. Welding is simply an art of joining metals by heating and then pressing together which simply requires a heat source to produce a high temperature zone to melt the material its application includes: used in ships building, bridges, pressure vessels, industrial machinery, automobile, rolling stock and many other fields. Welding operation were carried out on the dissimilar medium carbon steel followed by mechanical behavior found all test plates. The Flux core arc welded dissimilar steel experimentally found fourth test plate was achieved satisfied value -160 AMPS VOLT-18,Gas pressure 5-Bar than other value. It also induces high impact strength. According to the Taguchi design optimized parameter for the maximum weld strength in this project investigation the 180 AMPS VOLT-20Gas pressure 4-Baris the optimized parameter for EN8&EN 24 -6.5 mm thickness plate for obtain the good weldment state for the FCAW process.

Keywords: FCAW, Tensile strength, Hardness, Taguchi design