

Title: Resistant spot welding process

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ABSTRACT

The aim of this research was to design and analyze of experiment that could be used to find the appropriate values of parameters. It makes the required shear force at spot point. The specimens were designed by American Welding Society. A screening experiment was conducted based on a Factorial Design (2^k) with 5 parameters, electrode pressure performance, current value, welding time, Squeeze time and Hold time. All the 5 parameters, electrode pressure performance, current value, and Hold time were found to be significant at the level $\alpha = 0.05$. The 3 significant parameters were then investigated further using a Response Optimization in a Box-Behnken Design. The results of the experiment are the optimal condition were 3.8072 bar of pressure, 6 kAmp of current, 80 msec of hold time, of distance between work piece and tip. The optimal of tensile shear force to 452.5 kgf