

2016

# Effect of resistance spot welding parameter on mechanical behavior of thin sheet

**BENACHOUR Mustapha;, LARBI CHERIF Mohamed**

**Abstract :** Different welding methods have been developed for joining stainless steels; however, resistance spot welding is the promising method for welding of thin sheets of these steels. Resistance spot welding is a non-solder process that uses the combined effect of mechanical pressure and an electric current passing through the parts. In this study, commercially 304L stainless steel sheets were welded by resistance spot welding at various welding parameters (welding effort, welding time and intensity of current welding). The results showed that the parameters, effort and welding time have little effect on mechanical properties compared with respect to the effect of the intensity of the current welding. The experimental results show also that the welding current is an important parameter for joining structures and its mechanical strength. The hardness and external aspects of spot were carried out in order to examine the influence of welding parameters on the welded joints. Hardness measurement results indicated that welding nugget had the highest hardness and this was followed by the heat-affected zone and the base metal.

**Keywords :** resistance spot welding, hardness, mechanical strength, stainless steel, electric current, welding time