

Resistance Spot Welding of Steel Sheets

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Resistance welding ranks among progressive and in practice often used manufacturing techniques of rigid joints. The basis of this method is in the utilization of the Joulean heat, which arises at the passing of current through jointed sheets at collective influence of compressive force. The aim of the carried out tests has been to evaluate the rupture force of spot welded steel sheets of various thickness using short-time spot welding and long-time spot welding. For test specimens welding the parameters recommended by the spot welder producer were used. After welding all assemblies were loaded using the universal test machine up to their rupture. The rupture force was written down. From the carried out tests it follows that welding of sheets of the thickness 1 + 1 mm, 1 + 2 mm, 1 + 3 mm, 1 + 4 mm and 2 + 2 mm the rupture force value differences of short-time spot welding compared to long-time spot welding are practically negligible. But at the specimens of thickness 2 + 3 mm, 2 + 4 mm, 3 + 3 mm, 3 + 4 mm and 4 + 4 mm considerable differences were determined. The part of this tests evaluation was also the assessment of the tested assemblies failed pieces.

Keywords: resistance welding; steel sheet; laboratory test; spot welds shear testing

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