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REVIEW ON DIE SPOT WELDING MACHINE

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ABSTRACT

Resistance spot welding is widely used in the fabrication of vehicle bodies and parts of their equipment. The article presents the methodology and the results of non-destructive ultrasonic testing of resistance spot welded joints of thin steel sheet with closed profile. Non- destructive test results were verified on the basis of welded joint area after destructive testing. The obtained results were used to develop an assessment technique for spot welded joints of closed profile with steel sheet, which could be used in factories employing such joints. In addition, the article makes comparison between the costs of the developed assessment technique and currently used destructive method.

This paper addresses the mechanical properties of ferrite steel resistance spot welds during quasi-static tensile test. The mechanical properties are described in terms of peak load. It was shown that the fusion zone size is the most important. The fusion zone size can control the solidification of the grain which controlling factor of spot weld peak load. The dendritic grain and equiaxial axial grains occurred in the microstructures of the welded specimens joined at various welding currents and electrode forces. The failure mechanism of resistance spot welds during tensile test was studied with the aid of thermography. The thermography gives visible data of temperature changes on the surface of specimen. In light of the failure mechanism, the simple model is proposed to ensure pull out failure mode.

KEYWORDS: Current, Microwave Transformer, Sheet Metal Welding.