

General Overview of Cold Pressure Processes for Joining Aluminium

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ABSTRACT

The paper presents a brief overview on several researches developed in the Pressure Welding Laboratory, Robotics of Welding Department - Dunarea de Jos University of Galati, Romania. After the necessary Introduction in the subject, considerations on Joining Aluminium Processes Classifications are presented, including an overview on the main joining processes used for aluminium. Several aspects of Aluminium cold welding processes are presented in the second part, underlining practical features of Cold Spot Welding. A special chapter illustrates the FEM of butt cold welding processes. The next part includes the description of the achievements in Clinching with cold welding, as a new variant of hybrid pressure welding method. In the same order, the research results on The Aluminium – Stainless Steel Joints follow, underlining the important applications of the method. The results of several tests regarding the Cold Welding of Dissimilar Cogged Parts are presented in a special chapter. General Conclusions and Directions for Further Development of the researches are finally presented.

Keywords: cold welding, pressure welding, aluminium joining

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