

Accepted Manuscript

Title: EXPLOSIVE WELDING OF ALUMINIUM TO STAINLESS STEEL

Authors: G.H.S.F.L. Carvalho, I. Galvão, R. Mendes, R.M. Leal, A. Loureiro



PII: S0924-0136(18)30289-9
DOI: <https://doi.org/10.1016/j.jmatprotec.2018.06.042>
Reference: PROTEC 15826

To appear in: *Journal of Materials Processing Technology*

Received date: 14-3-2018
Revised date: 11-6-2018
Accepted date: 28-6-2018

Please cite this article as: Carvalho GHSFL, Galvão I, Mendes R, Leal RM, Loureiro A, EXPLOSIVE WELDING OF ALUMINIUM TO STAINLESS STEEL, *Journal of Materials Processing Tech.* (2018), <https://doi.org/10.1016/j.jmatprotec.2018.06.042>

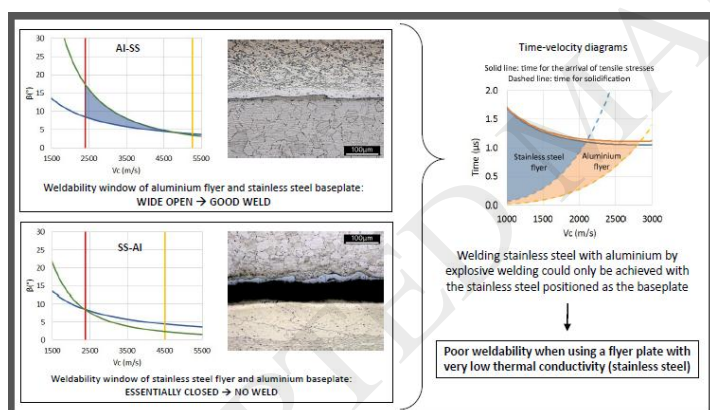
This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

EXPLOSIVE WELDING OF ALUMINIUM TO STAINLESS STEEL

G.H.S.F.L. Carvalho^a, I. Galvão^{a,b}, R. Mendes^c, R.M. Leal^{a,d}, A. Loureiro^{a,*}^a CEMMPRE, Department of Mechanical Engineering, University of Coimbra, Portugal^b ISEL, Department of Mechanical Engineering, Polytechnic Institute of Lisbon, Portugal^c ADAI, LEDAP, Department of Mechanical Engineering, University of Coimbra, Portugal^d ESAD.CR, Polytechnic Institute of Leiria, Portugal

* altino.loureiro@dem.uc.pt

Graphical abstract



ABSTRACT

Explosive welds of stainless steel and aluminium could only be achieved with the steel positioned as the baseplate. Using stainless steel as the flyer plate, the tensile stresses arrive at the interface before the complete solidification of the localised melting and no bonding is achieved. The poor weldability in this configuration is mainly related to the very low thermal conductivity of the flyer compared to the baseplate. The position of the materials significantly influences the weldability, and the ideal material for the flyer

Download English Version:

<https://daneshyari.com/en/article/7176196>

Download Persian Version:

<https://daneshyari.com/article/7176196>

[Daneshyari.com](https://daneshyari.com)