

## RESIDUAL STRESS EVALUATION OF A MIG BUTT WELDED ALUMINIUM ALLOY PLATE

P.M.G.P. Moreira, V. Richter-Trummer, R.A.M. da Silva, M.A.V. de Figueiredo,  
P.M.S.T. de Castro

Faculdade de Engenharia da Universidade do Porto, Rua Dr. Roberto Frias, 4200-465 Porto, Portugal



### ABSTRACT

*Residual stresses are locked-in stresses which exist in a structural part without the application of any service or other external loads. The effects of residual stress may be either beneficial or detrimental, depending upon the magnitude, sign (tensile or compressive), and distribution of the stress with respect to the in service applied loads. In most cases, residual stresses arise from the production process. In this work residual stress in an aluminium alloy 6082-T6 MIG butt welded thin plate was evaluated using the sectioning and the hole drilling methods and a comparison between both methods was made.*

Keywords: AA6082-T6, incremental hole drilling technique, MIG, sectioning technique, welding residual stress