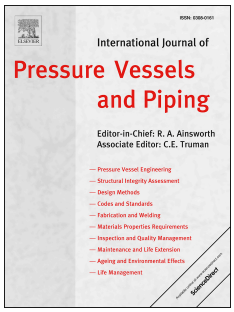
Accepted Manuscript



Mechanical behaviour at high temperature as induced during welding of a 6xxx series aluminium alloy

D. Maisonnette, D. Bardel, V. Robin, D. Nelias, M. Suery

PII: S0308-0161(16)30024-2

DOI: 10.1016/j.ijpvp.2016.12.004

Reference: IPVP 3585

To appear in: *International Journal of Pressure Vessels and Piping*

Received Date: 24 January 2016

Revised Date: 30 November 2016

Accepted Date: 5 December 2016

Please cite this article as: Maisonnette D, Bardel D, Robin V, Nelias D, Suery M, Mechanical behaviour at high temperature as induced during welding of a 6xxx series aluminium alloy, *International Journal of Pressure Vessels and Piping* (2017), doi: 10.1016/j.ijpvp.2016.12.004.

- Microstructural effects on work-hardening of a 6xxx aluminium is studied
- A semiphysical work-hardening model that account for precipitate volume fraction is presented
- Temperature dependence is also included thanks to a isokinetic precipitate evolution
- Neutron diffraction allows to validate residual stresses of the welding simulation