

Accepted Manuscript

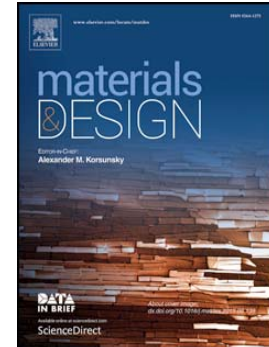
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PII: S0264-1275(16)30853-X
DOI: doi: [10.1016/j.matdes.2016.06.091](https://doi.org/10.1016/j.matdes.2016.06.091)
Reference: JMADE 1966

To appear in:

Received date: 28 May 2016
Revised date: 13 June 2016
Accepted date: 22 June 2016



Please cite this article as: D. Texier, Y. Zedan, T. Amoros, E. Feulvarch, J.C. Stinville, P. Bocher, Near-surface mechanical heterogeneities in a dissimilar aluminum alloys friction stir welded joint, (2016), doi: [10.1016/j.matdes.2016.06.091](https://doi.org/10.1016/j.matdes.2016.06.091)

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Near-surface mechanical heterogeneities in a dissimilar aluminum alloys friction stir welded joint

D. Texier ^{a,*}, Y. Zedan ^a, T. Amoros ^{a,b}, E. Feulvarch ^b, J.C. Stinville ^c, P. Bocher ^a

^a *Mechanical Engineering Department, École de Technologie Supérieure (ÉTS),*

1100 Rue Notre-Dame Ouest, Montreal, H3C 1K3 Quebec, Canada

^b *Univ Lyon, ENISE, LTDS UMR 5513 CNRS, 58 rue Jean Parot, 42023*

Saint-Etienne Cedex 02, France

^c *Materials Department, University of California Santa Barbara, 93106 Santa Barbara, California, United States*

* **Corresponding author:** *Damien TEXIER, damien.texier@etsmtl.ca, +1 514-992-3660*

Emails:

- Damien TEXIER: *damien.texier@etsmtl.ca*
- Yasser ZEDAN: *yasser.zedan@etsmtl.ca*
- Thomas AMOROS: *thomas.amoros@enise.fr*
- Eric FEULVARCH: *eric.feulvarch@enise.fr*
- Jean-Charles STINVILLE: *stinville@engineering.ucsb.edu*
- Philippe BOCHER: *philippe.bocher@etsmtl.ca*

Abstract

The local mechanical properties of a dissimilar friction stir welded AA-2024-T3/AA-2198-T3 joint were documented during a uniaxial tensile test. High-resolution digital image correlation was performed during monotonic tensile tests to capture the local in-plane strain fields of the heterogeneous macrostructure of the weld. In the shoulder-affected region, banded macrostructures with heterogeneous mechanical properties were found. They were related to pronounced textures regions, which can be associated to strain-rate gradient during

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