

Announcement of a Master's Thesis, 03.12.2018

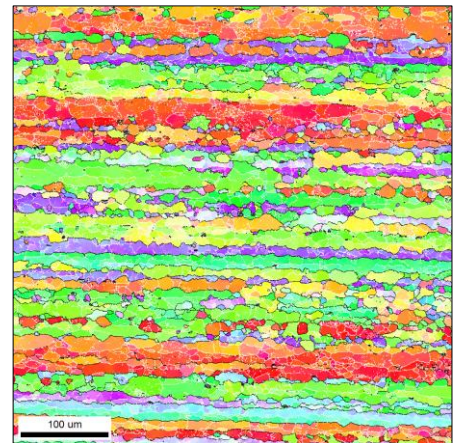
Identification of the dominant recrystallization mechanism in the Aluminum Alloy 6082 during hot deformation

Description

The aluminum alloy 6082 is a well-established alloy for light weight construction components for the aerospace and automotive industry. Know-how and experience in processing this alloy already exists in the literature and at our institute. The main objective of the present work is to determine, along with recovery, which restoration mechanism (recrystallization) plays a majority role when extrusion process takes place.

To understand the hot deformation behavior of this alloy, a set of compression tests with a Gleeble ® 3800 will be carried out in materials with different starting grain structure. The obtained flow stresses and microstructures are analyzed to identify the recrystallization mechanism of this alloy.

Light Optical Microscopy and Scanning Electron Microscopy (SEM) with EBSD investigations will be carried out. The results are further considered to clarify, optimize and validate a physical based model for hot deformation.



Organisation

Supervisor: DI Dr. Friedrich Krumphals, friedrich.krumphals@tugraz.at

Duration: as of now for min. 6 months

Location: Modelling and Simulation group, Brockmanngasse 29, 8010 Graz

Reward: € 2.000 + € 500 performance bonus for an excellent success

Further information

For further information please contact the secretariat of the institute or the supervisor.

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