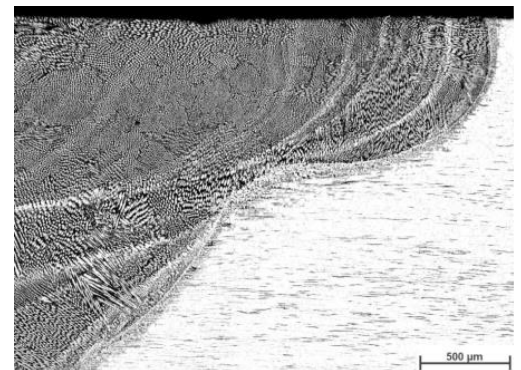


Announcement of a Master's Thesis, June 2022

Dynamic recrystallization of AISI 304L during hot plastic deformation

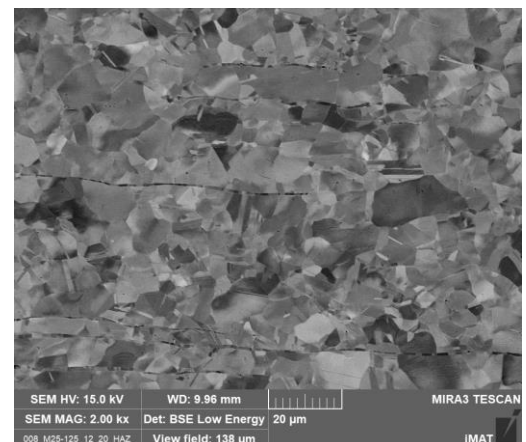
Description

Within the framework of the project "Thermomechanical Welding (TMW)", the AISI 304L austenitic stainless steel is investigated. The aim is to do hot compression tests using the Gleeble - 3800 thermal simulator to model the dynamic recrystallization and grain coarsening of the AISI 304L, and then the models are used to validate the microstructure evolution of the deformed TIG weld (the fusion zone and heat-affected zone) by the frequent hammering. The aim of the work is 1) to carry out the hot compression tests, 2) to characterize the microstructure evolutions, and 3) to model the microstructure evolutions



TMW joint of the AISI 304L

1. research on the dynamic recrystallization of AISI 304L
2. execution of the hot compression tests
3. characterization of microstructure (LOM and EBSD)
4. model of the microstructure evolution
5. interpretation and discussion of results
6. preparation of the master thesis and a journal publication



SEM observation of the heat-affected zone of the TMW weld

Organisation

Supervisor: Assoc.Prof. Norbert Enzinger, norbert.enzinger@tugraz.at
 Assoc.Prof. Cecilia Poletti, cecilia.poletti@tugraz.at
 Wang, Peng, M.Eng, peng.wang@tugraz.at

Duration: immediately for at least 6 months, depending on commitment

Location: Working Group Joining, Kopernikusgasse 24, 8010 Graz

Reward: € 2.640,-

Further Information

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

Tel: +43 316 873 7181, office.imat@tugraz.at, <http://imat.tugraz.at>