Institute of Materials Science, Joining and Forming
Kopernikusgasse 24/I, 8010 Graz

Announcement of a Master's Thesis, 28.07.2023
Influence of novel shielding gas mixture on PWAAM of AlMg4,5Mn

Description

In the frame of a research project, the influence of novel gas mixtures on process stability and properties is compared. Based on a DOE, which already was performed for a CMT-based WAAM process, the effect of different gas mixtures on the plasma wire arc additive manufacturing (PWAAM) will be investigated. The material for the study will be AW 5183 (AlMg4.5Mn).
Welding experiments with varying parameters will be performed and the resulting bead on plate welds and smaller AM structures will be characterised by means of metallography, hardness, tensile testing etc.

Activities

- Literature Research including previous study
- Planning of test matrix
- Welding experiments
- Characterization of welded parts
- Documentation in master thesis and journal publication.

Organisation

Supervisor: Assoc.Prof. Dipl.-Ing. Dr.techn. Norbert Enzinger (norbert.enzinger@tugraz.at)
Duration: 6 months
Location: IMAT, Joining technology group
Reward: € 2.500 + € 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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