Graz University of Technology

Institute of Materials Science, Joining and Forming
Working Group Tools & Forming
Member of [FSI]

Univ.-Prof. Dipl.-Ing. Dr.techn.
Christof Sommitsch
Head of Institute

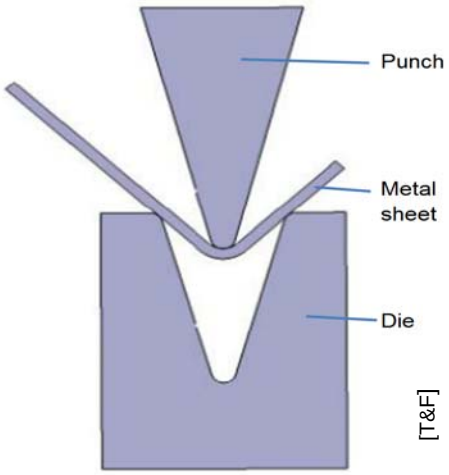
Tel: +43(0)316/873-9440
Fax: +43(0)316/873-9442

Inffeldgasse 11/I
A-8010 Graz

MASTER THESIS

Title/Topic:
Improving the surface quality of metal sheets in air bending

Abstract:
Due to its high degree of flexibility air bending, also known as free bending, is the most common process for bending of sheet metals. Bending the metal sheet is achieved by driving the punch down to a specific position within the die opening. Different bend angles can be obtained using the same tool set. However, relative motion between the metal sheet and the tools may impair the sheet's surface quality, e.g. by inducing scratches. In order to reduce the impairment of the metal sheet surfaces in air bending, measures to reduce scratching in the contact zones between the sheet and the tools should be experimentally investigated in this thesis.



Work packages:

- Detailed literature research about the state of the art
- Development of an experimental testing setup
- Conduction of bending experiments in the workshop
- Evaluation and description of the obtained results
- Writing of the master thesis

Requirements: Motivation and personal interest on the described topic
Highly self-initiated way of working
About 90% of the master studies should be completed

Duration: max. 6 months

Start: now

Work place: T&F, Inffeldgasse 11/I

Outlook: Based on the successful completion of this master thesis the opportunity for continued research on this topic exists, possibly within the framework of a paid PhD thesis.

Contact: 0664 2881124