

METAL FORMING PROCESSES – FORMABILITY CHARACTERIZATION, DAMAGE AND DUCTILE FRACTURE

L. GALDOS^{*}, A. SANTOS[†], J. MENDIGUREN^{*}, J. CÉSAR DE SÁ[†], E. SAENZ DE
ARGANDOÑA^{*} AND P. MARTINS^{††}

^{*}Mondragon University, Loramendi 4, 20500 Mondragon, Spain

lgaldos@mondragon.edu
jmendiguren@mondragon.edu
esaenzdeargan@mondragon.edu

[†] FEUP/INEGI, University of Porto, R. Dr. Roberto Frias, 4200-465 Porto, Portugal

abel@fe.up.pt
cesarsa@fe.up.pt

^{††} IDMEC, Instituto Superior Técnico, Universidade de Lisboa, Av. Rovisco Pais, 1049-001 Lisboa,
Portugal

pmartins@tecnico.ulisboa.pt

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ABSTRACT

The minisymposium is devoted to metal forming topics both in the area of **numerical simulation techniques** as well as in the **coupling with experimental techniques and design of manufacturing processes and components**. Besides current challenges to the area, also core and classical research fields in metal forming will be treated such as material modelling and parameter identification, numerical methods for the optimization and robustness analysis, formability and damage issues, tooling, tribology and many other interesting aspects of metal forming research and industrial practices.

Topics of interest include, but are not limited to:

Materials

Material behaviour, formability, failure, testing methods

Material models and new advanced materials

Tool/die materials

Wear, friction, tribology

Processes

Bulk metal forming

Deep-drawing, blanking, tube and blank hydroforming, stretch forming

Innovative and improved forming processes

Innovative and improved tools & dies

Rapid tooling and prototyping

Trimming & cutting

Hot stamping

Electromagnetic forming

Press and equipment

Defects analysis, springback and tool compensation

Process design, optimization and applications

Numerical Analysis and Simulation