

**UTILIZATION OF NEW FORMING TECHNOLOGY TO PRODUCTION OF UFG MATERIALS IN INDUSTRIAL PRACTICE**

HILŠER Ondřej, RUSZ Stanislav, SALAJKA Michal, BOŘUTA Josef, ČÍŽEK Lubomír

*VSB - Technical University of Ostrava, Ostrava, Czech Republic, EU*

**Abstract**

Development of technologies of production of ultra-fine grained (UFG) materials is at present accelerated very intensively. Apart from classical ECAP technology (the most used one at present) new technologies for sheet metal forming are being developed for industrial use, namely the techies DCAP and CONFORM. The paper analyses development of ultra-fine grained structure in a strip of sheet on a similar type of equipment called DRECE – Dual Rolling Equal Channel Extrusion. This equipment is at present being developed at the working site of Development of new technologies at the Faculty of Mechanical Engineering at the Technical University of Mining and Metallurgy in Ostrava (VSB – TU Ostrava). The issues related to development of UFG structure in the strip of sheet made of non-ferrous metals with dimensions 58 x 2 x 1000 mm is described in greater detail. Moreover an analysis of structure and mechanical properties obtained after multiple plastic deformations is made with subsequent comparison of the obtained results with the properties of alloys and non-ferrous metals sheet in initial state. Investigations of structures and mechanical properties give a good premise for the use of the achieved results in practice.

**Keywords:** Severe plastic deformation, new construct conception, non-ferrous strip sheet, structure, mechanical properties

**Author did not supply full text of the paper/poster.**