# Influence of repeated remelting of the alloy RR.350 on structure and thermo-mechanical properties

Marek Břuska, Petr Lichý, Michal Cagala, Jaroslav Beňo
VŠB-TU Ostrava, FMMI, Department of metallurgy and foundry, 17. listopadu 15/2172, CZ 708 33, Ostrava-Poruba, Czech Republic, marek.bruska.st@vsb.cz

**This research investigates the influence of repeated use of the Al-Cu-based alloy. In our case we used the alloy RR.350. Specimens for the tensile test were cast into a metallic mould, to which a protective coating was applied. Altogether 15 specimens were prepared from each melt in order to obtain more accurate results. During casting the temperature of metal and mould was controlled from the viewpoint of ensuring constant conditions of the experiment. Test bars were prepared from the cast specimens for measurement of tensile strength at normal (20°C) and elevated temperatures (up to 350°C). Furthermore parts were taken from the cast specimens for measurement of hardness (HB) and for metallographic analysis. Thermo-mechanical properties of the investigated alloy were determined at the working site of the authors – Department of Metallurgy and Foundry at the Faculty of Metallurgy and Materials Engineering, VŠB - Technical University of Ostrava. This experiment has unequivocally confirmed the negative effect of repeated use of the investigated alloy on its thermo-mechanical and structural properties.**

**Keywords:** Tensile test, thermo-mechanical properties, metallic mould

## Acknowledgments

***The paper was prepared under financial support of TAČR (TA02011333 - Physical and metallurgical aspects of preparation of cast metallic foams from iron alloys and alloys of non-ferrous metals) and the project of specific research of VŠB-TU Ostrava SP2013/62 and RMSTC (Regional Materials Science and Technology Centre at the VŠB-TU Ostrava – CZ.1.05/2.1.00/01.0040).***

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 Paper number: M201306

Manuscript of the paper received in 2012-12-17. The reviewers of this paper: *Dana Bolibruchova, Milan Brozek.*