Thermally Stable Al-Fe Based Alloys Produced from Secondary Materials

Jan Kříž, Pavel Novák
University of Chemistry and Technology, Prague, Department of Metals and Corrosion Engineering, Technická 5, 166 28 Prague 6, Czech Republic, krizj@vscht.cz, panovak@vscht.cz

Aluminium alloys are characterized by favourable properties, e.g. low density, specific tensile or electric and thermal conductivity. The problem with conventional aluminium alloys is their low thermal stability. According to previous published work, transition metals such as e.g. iron, chromium or nickel, increase the thermal stability. These metals are often found in aluminium waste as undesirable contamination. In this work, the alloys made of aluminum and cast iron or stainless steel were tested, simulating aluminum waste with a high iron content. The materials were prepared by powder metallurgy – method of rapidly solidified particles. The results showed that these alloys exhibit excellent thermal stability.

Keywords: aluminium, recycling, powder metallurgy

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References

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