

Thermally Stable Al-Fe Based Alloys Produced from Secondary Materials

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Aluminium alloys are characterized by favourable properties, e.g. low density, specific tensile or electric and thermal conductivity. The problem with conventional aluminum 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 aluminum 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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