Influence of Alsi7Mg0.3 Alloy Modification by Sb on the Tool Wear

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Modifying of alloys is an important part of the metallurgical process and involves the course also of alloys of aluminum, specifically the Al-Si (silumin) in our case. One of the elements that it is possible used to modify for type of alloy Al-Si is antimony (Sb). This paper investigates potential impact of the modification of this element for AlSi7Mg0.3 alloy on tool wear in cutting process. Within experiments were made three casts of master alloy AlSi7Mg0.3 without additional modification and three casts from this ligatures that were more subsequently modified by 0.05 wt% Sb on the cast. These castings were then machined to the same cutting conditions and was assessed the resulting wear of inserts. The present experiment and analysis are part of larger research that are carried out at the Faculty of Production Technology and Management of Jan Evangelista Purkyně University in Ústí nad Labem.

Keywords: modification, alloy, antimony, machining, tool wear

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