Hardness of the High Pressure Die Castings from Alloy AlSi9Cu3 in dependence on the Subsequent Processing Technology

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The paper deals with the hardness of pressure die castings in dependence on the method of their subsequent processing. As a crucial influence there was taken cooling rate of parts after their removal from the pressure die mould. Moreover there was monitored influence of the machining allowance and the thermal treatment. Measurement of hardness was done on die castings from alloy AlSi9Cu3(Fe) by methods acc. to Brinell and acc. to Rockwell. Regarding reality that properties of die castings are influenced also by filling method, for the experiment there was chosen part casted by so-called central ingate where exists presumption for the uniform filling and thus also uniform distribution of casting properties. The measurement took place for 2 months after casting, machining and eventually after thermal treatment of parts. On the basic of measured hardness values by methods acc. to Brinell and Rockwell there was determined the converting coefficient between these values.

Keywords: High Pressure Die Casting, Hardness, AlSi9Cu3(Fe)

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