

The Heat Flux at the Crystallization Under Pressure

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This article deals with the influence of different specific pressures on the heat flux from the casting into the mould. The determination of the heat flux at different crystallization conditions will be the basis for the simulation calculation of the solidification with the crystallization under pressure.

The article presents the results of the measured temperatures inside of the mold and casting by influencing of the crystallization pressure of 100 MPa. For comparison, results are also presented in gravity cast specimens. Also are presented pictures of microstructure that were observed near the surface of the casting. On the basis of the measured temperatures inside of the mold are calculated as a value of the heat flow from casting into the casting mold. The results of heat flow correspond with the evaluation result of the microstructure.

Keywords: squeeze casting, heat flux, pressure, alloy AlSi7Mg0.3

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