



## Numerical Modeling and Control of the Mold Casting Process

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Condition: New. Publisher/Verlag: LAP Lambert Academic Publishing | Towards Increased Accuracy of the Aluminum Alloy Cast Parts Through Modeling and Control of the Solidification Process | The improvement of the cast part quality, both as far as the geometric precision and mechanical properties are concerned, is an important desiderate for researchers. There is a twofold aim: on the one hand, the reduction of the costs related to the cast part mechanical machining (in order to do this, the dimensional errors of the cast parts should be reduced to diminish the machining allowance with the machining processes) and, on the other hand, a high level of the cast part strength during functioning, by obtaining a proper crystalline structure during melt material solidification/cooling. This domain mainly refers to the relation between the melt material solidification/cooling process and the cast part dimensions and crystalline microstructure. The present approach of the domain has two aspects: on the one hand, the modeling of the melt material solidification/cooling process in order to establish and programme the optimal thermal field dynamics and, on the other hand, the control of the thermal field evolution depending on its programmed dynamics. | Format: Paperback | Language/Sprache: english | 88 pp.



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