Title (en)
Process for the production of castings by investment casting

Title (de)
Verfahren zur Herstellung eines metallischen Gusskörpers nach dem Feingussverfahren

Title (fr)
Procédé de fabrication d'articles moulés par la coulée de precision

Publication
EP 0571703 B1 19961113 (DE)

Application
EP 93100390 A 19930113

Priority
DE 4216870 A 19920522

Abstract (en)
[origin: EP0571703A1] Processes for the production of a metal casting by the investment casting method are known in which, following the pouring of a melt of the metal into a ceramic mould with porous walls, the melt is cooled using a coolant. In order, starting from the known processes, to achieve an increase in the mechanical strength of the casting by influencing the cooling or solidification behaviour of the melt poured into the mould, the invention proposes a process in which use is made, as a coolant, of a cooling liquid which penetrates the wall of the mould gradually, the boiling point of which is lower than the pouring temperature of the melt and into which the mould is immersed steadily, beginning from one end, in such a way that the solidification front forming as the interface between the melt and the already solidified metal and the penetration region in which the full thickness of the wall of the mould has been penetrated by the cooling liquid, essentially move in the direction of the free surface of the melt, and the rate of immersion of the mould in the cooling liquid, the thickness and the porosity of the wall of the mould and the viscosity and density of the cooling liquid are matched to one another in such a way that, as seen in the direction of movement of the solidification front, the penetration region follows the solidification front. <IMAGE>

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B22D 27/04; B22C 9/04

IPC 8 full level
B22C 9/04 (2006.01); B22D 27/04 (2006.01)

CPC (source: EP)
B22D 27/045 (2013.01)

Cited by
EP2098314A1; CZ303307B6; DE10357618A1; DE10357618B4; WO2013028086A2; WO9526244A1; WO2005056218A3; US9452473B2

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