

Title (en)

Method and apparatus for controlled low pressure casting under vacuum for aluminium- or magnesium alloys

Title (de)

Vorrichtung und Verfahren zum gesteuerten Niederdruckgiessen unter Vakuum für Aluminium oder Magnesiumlegierungen

Title (fr)

Procédé de coulée pilotée sous basse pression d'un moule sous vide pour alliages d'aluminium ou de magnésium et dispositif pour sa mise en oeuvre

Publication

EP 0624413 B1 19990303 (FR)

Application

EP 94401035 A 19940510

Priority

FR 9305580 A 19930510

Abstract (en)

[origin: EP0624413A1] Method for low-pressure casting in which use is made of a mould (5) intended for casting a component, a leaktight smelting furnace (1), a tube (4) immersed in a crucible (3) of the furnace (1) and emerging in the mould (5), a bell (35) covering over the mould (5), means for injecting a pressurised fluid into the furnace (1) and for creating a vacuum over the furnace and the bell, characterised in that it consists in forming a vacuum in the furnace and the bell then in injecting a gas into the furnace and in measuring the difference in pressure between the furnace and the mould, then the bell, in measuring the depth of the metal in the crucible at any moment and the temperature of the metal at the entry of the mould and in automatically controlling the furnace/mould or furnace/bell pressure difference, in observing the predetermined values by taking account of the depth of the metal in the crucible and the temperature of the metal on entry into the mould. The method applies essentially to the casting of components made from metal alloys, including aluminium and magnesium, to the impregnation of fibre preforms using a metal alloy, and to the casting of organic polymers. <IMAGE>

IPC 1-7

B22D 18/08

IPC 8 full level

B22D 18/08 (2006.01)

CPC (source: EP US)

B22D 18/08 (2013.01 - EP US)

Cited by

FR2746335A1; CN113333715A; CN107570690A; EP1481748A1; WO9735679A1

Designated contracting state (EPC)

DE FR GB IT SE

DOCDB simple family (publication)

EP 0624413 A1 19941117; EP 0624413 B1 19990303; DE 69416715 D1 19990408; DE 69416715 T2 19991021; FR 2705044 A1 19941118; FR 2705044 B1 19950804; US 5597032 A 19970128

DOCDB simple family (application)

EP 94401035 A 19940510; DE 69416715 T 19940510; FR 9305580 A 19930510; US 61795996 A 19960311