

Title (en)
METHOD AND ARRANGEMENT FOR PRODUCING CASTING MOULDS FROM METAL

Title (de)
VERFAHREN UND ANORDNUNG ZUM HERSTELLEN VON GUSSKÖRPERN AUS METALL

Title (fr)
PROCEDE ET DISPOSITIF DE FABRICATION DE CORPS COULES EN METAL

Publication
EP 1253986 A1 20021106 (DE)

Application
EP 00936838 A 20000531

Priority
• AT 1822000 A 20000207
• EP 0004963 W 20000531

Abstract (en)
[origin: DE10026816A1] The invention relates to a method for producing essentially segregation-free and especially freckle-free casting moulds from metal, especially high-alloy steels as well as Ni and Co base alloys having great dimensions, according to an electroslag melting or casting method and using a short, electrically conductive, water-cooled chill mould (10). Electrically conductive elements (16) which are not directly water-cooled are mounted in the wall of said chill mould in an electrically insulated manner in relation to the component of the chill mould (10), whereby said component forms the casting mould. An essentially segregation-free and freckle-free bloom (24) of a surface cross-section that amounts to not more than 90 % of said component of the chill mould (10) is arranged in said chill mould, whereby said component forms the casting mould. The bloom is connected to the supplied metal by means of a slag bath (31) which is heated by the current passage and is situated in the area of the electrically conductive elements (16) and by continually pouring liquid metal (34) in a dosing manner or by supplying solid metal, in the form of granulated metal or rods for instance, that melts open in the hot slag bath (31). The level of the slag (32) in the chill mould (10) is approximately held constant by means of a relative movement between the chill mould (10) and the bloom (24) until the bloom (24) is radially doubled in the desired length. This process involving the doubled bloom (24) and a chill mould (10) of greater dimension is repeated once or several times until the desired final dimension of the casting mould is obtained.

IPC 1-7
B22D 23/10; **B22D 27/02**; **B22D 11/00**; **B22D 11/04**

IPC 8 full level
B22D 11/00 (2006.01); **B22D 11/04** (2006.01); **B22D 11/041** (2006.01); **B22D 19/00** (2006.01); **B22D 23/10** (2006.01); **B22D 27/02** (2006.01); **C22B 9/18** (2006.01); **C22B 9/187** (2006.01); **C22B 9/193** (2006.01); **F02C 7/00** (2006.01)

CPC (source: EP US)
B22D 11/008 (2013.01 - EP US); **B22D 11/04** (2013.01 - EP US); **B22D 23/10** (2013.01 - EP US); **B22D 27/02** (2013.01 - EP US)

Citation (search report)
See references of WO 0158622A1

Cited by
DE102007061176B3; WO2009077095A1

Designated contracting state (EPC)
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)
DE 10026816 A1 20010809; AT 409233 B 20020625; AT A1822000 A 20011115; DE 50002947 D1 20030821; EP 1253986 A1 20021106; EP 1253986 B1 20030716; JP 2003522028 A 20030722; US 6758259 B1 20040706; WO 0158622 A1 20010816

DOCDB simple family (application)
DE 10026816 A 20000530; AT 1822000 A 20000207; DE 50002947 T 20000531; EP 0004963 W 20000531; EP 00936838 A 20000531; JP 2001557712 A 20000531; US 20332702 A 20021203