

Title (en)

METHOD AND DEVICE FOR HANDLING MOLTEN METAL BATHS, NOTABLY OF MAGNESIUM AND MAGNESIUM ALLOYS

Title (de)

VERFAHREN UND VORRICHTUNG ZUR HANDHABUNG VON METALLSCHMELZEN, INSBESONDERE VON MAGNESIUM UND MAGNESIUMLEGIERUNGEN

Title (fr)

PROCEDE ET DISPOSITIF POUR LA MANIPULATION DE METAUX EN FUSION, NOTAMMENT DE MAGNESIUM ET DES ALLIAGES DE MAGNESIUM

Publication

EP 1068036 A1 20010117 (DE)

Application

EP 99924678 A 19990325

Priority

- DE 9900900 W 19990325
- DE 19813416 A 19980326

Abstract (en)

[origin: DE19813416A1] The invention relates to a method and a device for handling molten metal baths, notably of magnesium or magnesium alloys, according to which the bath (4) is heated to casting temperature in a crucible (2) in a controlled atmosphere and delivered to a metering chamber (30) from which the bath (34a) is fed to a casting device (45, 47). The invention is characterized in that from the crucible (2) a filling crucible (20) is filled by the action gravity with the bath (36) to a level (23) which is the same or slightly lower. The metering chamber (30) is filled with exactly the quantity of bath (34a) required for a casting operation through the build-up of a carrier gas pressure generated in the filling crucible (20) by hydropneumatic decoupling from the crucible (2). The filling level is predetermined by a sensor (43). The bath (34a) overflows into the metering chamber (30) through an overflow pipe (32), whose overflow edge (34) extends above the maximum filling level of the metering chamber (30) and filling crucible (20). By building up a differential pressure by means of hydropneumatic decoupling of the filling crucible (20) the bath (34a) located in the metering chamber (30) is supplied to the casting device (45, 47) according to the casting cycle. This makes it possible to obtain in a simple manner high operating safety and reproducible metering of exact quantities of bath. In addition, the bath can be handled at all times in a controlled atmosphere.

IPC 1-7

B22D 39/06; **F27B 3/04**; **F27D 3/14**

IPC 8 full level

B22D 39/06 (2006.01); **F27B 3/04** (2006.01); **F27D 3/14** (2006.01)

CPC (source: EP)

B22D 39/06 (2013.01); **F27B 3/04** (2013.01); **F27D 3/14** (2013.01)

Citation (search report)

See references of WO 9948637A1

Designated contracting state (EPC)

AT DE ES FR GB IT

DOCDB simple family (publication)

DE 19813416 A1 19990930; **DE 19813416 C2 20000105**; EP 1068036 A1 20010117; JP 2002507486 A 20020312; WO 9948637 A1 19990930

DOCDB simple family (application)

DE 19813416 A 19980326; DE 9900900 W 19990325; EP 99924678 A 19990325; JP 2000537669 A 19990325