

Title (en)
METHOD AND APPARATUS FOR THE CONTINUOUS CASTING OF ALUMINIUM ALLOYS

Title (de)
VERFAHREN UND VORRICHTUNG ZUM STRANGGIESSEN VON ALUMINIUMLEGIERUNGEN

Title (fr)
PROCÉDÉ ET DISPOSITIF DE COULÉE CONTINUE D'ALLIAGES D'ALUMINIUM

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EP 2682201 A4 20150318 (EN)

Application
EP 11859793 A 20110411

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Abstract (en)
[origin: EP2682201A1] The invention relates to metallurgy and concerns the continuous and semicontinuous casting of metal, in particular aluminium. The apparatus comprises a crystallizer which is open at both ends in the casting direction, means for feeding a melt into the crystallizer, and two electromagnetic inductors. The inductors are mounted primarily symmetrically to each other relative to the vertical plane of symmetry of a billet. In order to induce a mixing motion in the melt, the inductors generate two electromagnetic fields running in opposite directions along the billet extraction direction. The area of action of the electromagnetic fields encloses the entire liquid core. This makes it possible to flexibly control the mixing speed, the flow structure and turbulization capacity along the entire liquid core of the crystallizing aluminium slab.

IPC 8 full level
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CPC (source: EP)
B22D 11/003 (2013.01); **B22D 11/041** (2013.01); **B22D 11/115** (2013.01)

Citation (search report)
• [I] VIVES C: "EFFECTS OF FORCED ELECTROMAGNETIC VIBRATIONS DURING THE SOLIDIFICATION OF ALUMINUM ALLOYS: PART II. SOLIDIFICATION IN THE PRESENCE OF COLINEAR VARIABLE AND STATIONARY MAGNETIC FIELDS", METALLURGICAL AND MATERIALS TRANSACTIONS A: PHYSICAL METALLURGY & MATERIALS SCIENCE, ASM INTERNATIONAL, MATERIALS PARK, OH, US, vol. 27B, no. 3, 1 June 1996 (1996-06-01), pages 457 - 464, XP000598657, ISSN: 1073-5623
• See references of WO 2012118396A1

Cited by
CN106925762A; CN106735104A; FR3074072A1; CN109311081A; FR3074191A1; CN114786837A; WO2017207886A1; WO2019102111A1; US11925973B2; WO2019106254A1; WO2021127380A1

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