

Title (en)
CONTINUOUS CASTING METHOD OF STEEL

Title (de)
STRANGGIESSVERFAHREN FÜR STAHL

Title (fr)
PROCÉDÉ DE COULÉE EN CONTINUE D'ACIER

Publication
EP 2158985 A1 20100303 (EN)

Application
EP 08740581 A 20080417

Priority
• JP 2008057511 W 20080417
• JP 2007170578 A 20070628

Abstract (en)
PROBLEM: To specify a mode for applying current to a dual-purpose coil. MEANS: Arranging two first excitation coils 5b wound around respective outer peripheries of two magnetic polar iron cores 5a, and a second electromagnetic coil having one excitation coil 5c wound around the outer periphery of the two magnetic polar iron cores 5a together, in the same number on the outer periphery of a wide side 3b of a mold 3, for a total of $(2n + 2)$ on the outer periphery (n is a natural number) of the wide side 3b. In the case of electromagnetic stirring, a multi-phase alternating current of 3 phases or more, each phase having a phase difference from 90° to 120° , is applied to the excitation coils 5b, 5c of all of the electromagnetic coils, in the case of electromagnetic stirring. In the case of electromagnetic braking, a direct current is applied to the excitation coil 5c or to the 3 excitation coils 5b, 5c for each of the first and second electromagnetic coils. Electromagnetic braking or electromagnetic stirring is selectively activated according to the composition of the molten steel and the amount of molten steel 2 supplied. ADVANTAGEOUS EFFECTS: It is possible to stably produce cast slabs with good surface quality, regardless of the type of steel and casting conditions, and the occurrence of break-out can be controlled, thereby making it possible to achieve a stable casting operation.

IPC 8 full level
B22D 11/115 (2006.01); **B22D 11/04** (2006.01); **B22D 11/11** (2006.01); **B22D 11/18** (2006.01)

CPC (source: EP KR)
B22D 11/04 (2013.01 - KR); **B22D 11/11** (2013.01 - KR); **B22D 11/115** (2013.01 - EP KR); **B22D 11/18** (2013.01 - KR)

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)
AL BA MK RS

DOCDB simple family (publication)
EP 2158985 A1 20100303; **EP 2158985 A4 20160713**; **EP 2158985 B1 20180919**; BR PI0812965 A2 20200623; BR PI0812965 B1 20210727; CN 101678446 A 20100324; CN 101678446 B 20111207; ES 2694707 T3 20181226; JP 2009006370 A 20090115; JP 4967856 B2 20120704; KR 101154055 B1 20120611; KR 20100005235 A 20100114; PL 2158985 T3 20190131; WO 2009001609 A1 20081231

DOCDB simple family (application)
EP 08740581 A 20080417; BR PI0812965 A 20080417; CN 200880019291 A 20080417; ES 08740581 T 20080417; JP 2007170578 A 20070628; JP 2008057511 W 20080417; KR 20097025091 A 20080417; PL 08740581 T 20080417