

Title (en)
METHOD FOR CONTINUOUSLY CASTING STEEL

Title (de)
VERFAHREN ZUM STRANGGIESSEN VON STAHL

Title (fr)
PROCÉDÉ DE COULÉE CONTINUE D'ACIER

Publication
EP 2881196 A4 20150819 (EN)

Application
EP 13825044 A 20130723

Priority
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• JP 2013004476 W 20130723

Abstract (en)
[origin: EP2881196A1] A slab is continuously cast in such a manner that the slab is intentionally bulged and thereafter the slab having an unsolidified layer is compressed under conditions controlled to prevent the bulging from causing a breakout of the slab and from causing internal cracks in a solidified shell of the slab to reduce central segregation in the slab and positive segregation near a core portion of the slab. A slab 10 is guided on slab-supporting rolls 6 disposed with constant roll gaps from immediately below a casting mold to a point where the thickness of a solidified shell 11 of the slab reaches 15 mm. Thereafter, the slab is bulged on rolls disposed with gradually increased roll gaps with a total amount of bulging of 3 to 20 mm, and is thereafter guided on rolls disposed with constant roll gaps in a zone 0.5 to 5.0 m in length toward the downstream in the casting direction. Subsequently, when the solid phase fraction in a core portion of the slab is from 0.2 to 0.9, the slab is compressed by at least one pass through reduction rolls 7 under such conditions that the product of the compressing rate multiplied by the casting speed is 0.3 to 1.0 mm·m/min².

IPC 8 full level
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Citation (search report)
• [A] JP 2000061602 A 20000229 - SUMITOMO METAL IND
• [A] JP H11347701 A 19991221 - SUMITOMO METAL IND
• [A] JP H1133690 A 19990209 - SUMITOMO METAL IND
• [A] JP H11156511 A 19990615 - SUMITOMO METAL IND
• [A] JP H11156509 A 19990615 - SUMITOMO METAL IND
• [A] JP H10225752 A 19980825 - SUMITOMO METAL IND
• [A] JP 2010158719 A 20100722 - JFE STEEL CORP
• [A] JP 2007136496 A 20070607 - SUMITOMO METAL IND
• See references of WO 2014020860A1

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EP3354371A4; US11077492B2

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