

Title (en)
CONTINUOUS CASTING METHOD OF STEEL

Title (de)
STRANGGIESSVERFAHREN FÜR STAHL

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

Publication
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Application
EP 07828971 A 20071002

Priority
• JP 2007069231 W 20071002
• JP 2007014471 A 20070125

Abstract (en)
[origin: EP2106866A1] The present invention provides a steel continuous casting process in which a molten steel path from an upper nozzle of a tundish to a submerged entry nozzle via a sliding gate is provided, the whole or part of the molten steel path constituting one electrode and generating an electric current due to a potential difference provided between the inner surface of the molten steel path and molten steel passing through the inside of the molten steel path, characterized in that : the other electrode is provided in a portion except for a refractory constituting said one electrode in the tundish to thereby form an electrical circuit between said portion and the molten steel path; the polarity of the molten steel path and the polarity of the other electrode repeatedly alternate in a time period of 1 to 100 ms; and a current or voltage is controlled to electrify such that the polarity of the molten steel path, which is defined by an average current or an average voltage, is regarded as the cathode. Therefore, the clogging of the molten steel path from the tundish to the submerged entry nozzle can be prevented to perform stable continuous casting. In the continuous casting process, it is preferable that an average current density ranges from 3 to 200 A/m² and the polarities alternate in a pulse-like waveform.

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Citation (search report)
• [A] JP 2006142328 A 20060608 - SUMITOMO METAL IND
• [A] US 2003006022 A1 20030109 - KATO TORU [JP], et al
• [A] WO 8606307 A1 19861106 - ELECTRO NITE [BE]
• See references of WO 2008090649A1

Cited by
EP3078434A4; JP2020011261A; CN112024864A; CN104128592A; US9927177B2

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