

Title (en)
ELECTROMAGNETIC AGITATION METHOD FOR CONTINUOUS CASTING OF METAL PRODUCTS HAVING AN ELONGATE SECTION

Title (de)
ELEKTROMAGNETISCHES RÜHRVERFAHREN ZUM STRANGGIESSEN VON METALLPRODUKTEN MIT EINEM LÄNGLICHEN QUERSCHNITT

Title (fr)
PROCEDE DE BRASSAGE ELECTROMAGNETIQUE POUR LA COULEE CONTINUE DE PRODUITS METALLIQUES DE SECTION ALLONGEE

Publication
EP 1677928 A1 20060712 (FR)

Application
EP 04805290 A 20041022

Priority

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- FR 0312555 A 20031027

Abstract (en)
 [origin: US2007074845A1] A stirring method provides overall stirring of metal over a metallurgical length, thereby ensuring both thermal and chemical uniformity between a top and bottom of a liquid pool without correspondingly being deprived of beneficial effects specific to stirring in a mold and in a secondary cooling zone respectively, and without disturbing, but rather stabilizing, local flow mode in the mold. During a continuous slab casting operation, in which molten metal is introduced into a mold via a submerged nozzle having lateral discharge outlets opening towards narrow faces, a stirring uses moving magnetic fields that act, in pairs, at least in a secondary cooling zone of a casting plant, by travelling collinearly between them in opposite directions so as to forcibly establish a middle longitudinal circulation in the liquid pool as two opposing collinear streams, which produce a global movement in the form of a "four-leaf clover", the upper lobes of which extend into the mold to near discharge jets coming from outlets of the nozzle, brake the jets or accelerate them, as required.

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