

Title (en)
METHOD AND ASSOCIATED ELECTROMAGNETIC APPARATUS FOR ROTATING MOLTEN METAL IN A SLAB CONTINUOUS-CASTING
INGOT MOULD

Title (de)
VERFAHREN UND ZUGEHÖRIGE ELEKTROMAGNETISCHE VORRICHTUNG ZUM DREHEN VON METALLSCHMELZE IN EINER KOKILLE
ZUM STRANGGIESSEN VON BRAMMEN

Title (fr)
PROCÉDÉ ET ÉQUIPEMENT ÉLECTROMAGNÉTIQUE ASSOCIÉ POUR LA MISE EN ROTATION D'UN MÉTAL EN FUSION AU SEIN D'UNE
LINGOTIÈRE DE COULÉE CONTINUE DE BRAMES.

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Abstract (en)
[origin: WO2009077661A1] According to the invention, four separate multiple-phase inductors (10a, 10b, 10c, 10d) with sliding magnetic fields are mounted on the large surfaces (12, 12') of the ingot mould with two inductors per large surface, wherein the inductors (10a, 10b) arranged side by side on a same large surface of the ingot mould generate driving forces that urge the molten metal along the width of the ingot mould together in a same direction, and in a direction opposite to that of the driving forces generated by the two opposite inductors on the other large surface (12'). The intensity of the driving forces are adjusted in a differentiated manner so that, in the vicinity of a large surface, if the metal flow there is stronger towards the inside than towards the outside, higher intensities are applied to the two forces driving the metal towards the outside and, conversely, if the metal flow is weaker towards the inside than towards the outside, higher intensities are applied to the two forces driving the metal towards the inside. The invention thus implemented generates an axial rotation movement of the metal at the meniscus that is well developed and homogeneous during the entire length of the casting, regardless of the natural flow mode of the metal smelt in the ingot mould.

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