

Title (en)
METHOD FOR CONTROLLING STRUCTURE OF SOLIDIFIED CAST INGOT IN CONTINUOUS CASTING PROCESS AND CONTROL DEVICE THEREOF

Title (de)
VERFAHREN ZUR STEUERUNG DER STRUKTUR EINES ERSTARRTEN GUSSBLOCKS BEIM STRANGGIESSEN UND STEUERUNGSVORRICHTUNG DAFÜR

Title (fr)
PROCÉDÉ DE COMMANDE DE STRUCTURE DE LINGOT COULÉ SOLIDIFIÉ DANS UN PROCESSUS DE COULÉE CONTINUE ET DISPOSITIF DE COMMANDE ASSOCIÉ

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EP 3750649 A4 20210407 (EN)

Application
EP 19777614 A 20190315

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• CN 201810268641 A 20180329
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Abstract (en)
[origin: EP3750649A1] The present invention discloses a method for controlling the solidification structure of a bloom in a continuous casting process, and the control equipment therefor, and relates to the field of metallurgical continuous casting technologies. According to the method in the present invention, a super strong cooling zone and a heat and slow cooling zone are provided in the range from mould outlet to a solidification end; a continuous casting bloom is first super-cooled in the super strong cooling zone, and then heated and slow-cooled in the heat and slow cooling zone; and cooling intensity of heat and slow cooling is lower than that of air cooling. According to the equipment in the present invention, the super strong cooling zone and the heat and slow cooling zone are provided in the length direction of the continuous casting bloom below the mould; the super strong cooling zone is used to provide water spray cooling to the surface of the bloom; and the heat and slow cooling zone is used to provide heating to the surface of the bloom. According to the present invention, a continuous casting bloom is first super-cooled in the super strong cooling zone, and then heated and slow-cooled in the heat and slow cooling zone. This reduces the columnar crystal spacing and gap, increases the density of the columnar crystals in the subsurface layer of the bloom, and improves the quality of the bloom

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Citation (search report)
• [X] US 3771584 A 19731113 - WOJCIK W
• [X] US 3589429 A 19710629 - SCHOFFMANN RUDOLF
• [XI] US 3491823 A 19700127 - TARMANN BRUNO, et al
• See references of WO 2019184731A1

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