

Title (en)

SECONDARY COOLING METHOD FOR CONTINUOUS CAST SLAB

Title (de)

SEKUNDÄRKÜHLUNGSVERFAHREN FÜR EINE STRANGGUSSBRAMME

Title (fr)

PROCÉDÉ ET DISPOSITIF DE REFROIDISSEMENT AUXILIAIRE POUR BRAME COULÉE EN CONTINU

Publication

EP 4052815 A4 20221019 (EN)

Application

EP 20882570 A 20201028

Priority

- JP 2019195833 A 20191029
- JP 2020040435 W 20201028

Abstract (en)

[origin: EP4052815A1] Provided is a secondary cooling method for a continuously cast strand that allows the facility to be maintained easily and allows the uniformity of the cooling capacity to be improved. The secondary cooling method for a continuously cast strand according to the present invention includes cooling a strand 5 using spray nozzles 21 having a quadrangular spray pattern. The spray nozzles 21 are arranged in the width direction of the strand between guide rolls 19 having a radius d (unit: mm) and arranged in a casting direction with a center-to-center distance P (unit: mm) in part or all of a horizontal zone 15 in a secondary cooling zone of a continuous casting machine 1. For each of the spray nozzles 21 that spray cooling water, values of the water volume density of the cooling water at two points A and B that are spaced apart in the casting direction by a distance L (unit: mm) are 50% of the maximum value of the water volume density in the casting direction, and the relation between the distance L and the center-to-center distance P satisfies formula (1) below. The strand is cooled while a nucleate boiling state is maintained in the range between the point A and the point B: $L/P \geq 0.70$.

IPC 8 full level

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CPC (source: CN EP KR)

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Citation (search report)

- [X] JP 5094154 B2 20121212
- [XI] JP 2006315044 A 20061124 - NIPPON STEEL CORP
- [XI] JP 5146006 B2 20130220
- See references of WO 2021085474A1

Designated contracting state (EPC)

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BA ME

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