

Title (en)

METHOD FOR COOLING STEEL SHEET AND METHOD FOR MANUFACTURING STEEL SHEET

Title (de)

VERFAHREN ZUR KÜHLUNG VON STAHLBLECH UND VERFAHREN ZUR HERSTELLUNG VON STAHLBLECH

Title (fr)

PROCÉDÉ DESTINÉ À REFROIDIR UNE TÔLE D'ACIER ET PROCÉDÉ DESTINÉ À FABRIQUER UNE TÔLE D'ACIER

Publication

**EP 3560616 B1 20230125 (EN)**

Application

**EP 18760481 A 20180301**

Priority

- JP 2017038973 A 20170302
- JP 2018007743 W 20180301

Abstract (en)

[origin: EP3560616A1] An object is to provide, in controlled cooling in which a hot-rolled steel plate is cooled while being constrained by rolls, a steel-plate cooling method with a less distortion, a steel-plate cooling apparatus, and a steel-plate manufacturing method. A steel-plate cooling method includes conveying a steel plate in a state of being constrained by a plurality of rolls disposed at a predetermined pitch in a steel-plate conveying direction and cooling the steel plate by jetting a cooling water onto upper and lower surfaces of the steel plate by using cooling nozzles disposed between the plurality of rolls. The cooling is performed at a plate passage speed  $V$  that satisfies a formula (1) below.  $V > 2.21 \times 10 - 5 \times C_v \times L^3 \times t - 2 \times 24.2 + 204.3 \times L / W^2 - 1$  where, in the formula (1),  $V$ : plate passage speed (m/s),  $C_v$ : cooling speed ( $^{\circ}\text{C/s}$ ) with respect to a steel-plate average temperature in a plate thickness direction,  $L$ : roll pitch (m),  $t$ : plate thickness (m), and  $W$ : plate width (m).

IPC 8 full level

**B21B 45/02** (2006.01)

CPC (source: EP KR)

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Cited by

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