

Title (en)
LINE FOR AND METHOD OF HOT ROLLING A STEEL PLATE OR SHEET WITH PARTICULAR ARRANGEMENT OF COOLING EQUIPMENT

Title (de)
LINIE UND VERFAHREN ZUM WARMEN ROLLEN VON STAHL PLATTE ODER BLECH MIT BESONDERER ANORDNUNG EINER KÜHLANLAGE

Title (fr)
LIGNE ET METHODE DE LAMINAGE A CHAUD DE PLAQUE OU TOLE EN ACIER AVEC UN EQUIPEMENT DE REFROIDISSEMENT PARTICULIER

Publication
EP 1930092 A1 20080611 (EN)

Application
EP 06783171 A 20060829

Priority
• JP 2006317399 W 20060829
• JP 2005278997 A 20050927

Abstract (en)
The invention provides cooling equipment of a steel plate or sheet, which has good equipment maintainability, has excellent draining property when supplying a large amount of cooling water to the under surface of the steel plate or sheet, and performs efficient cooling uniformly in a widthwise direction to achieve high cooling speed; and a method of manufacturing the steel plate or sheet having high quality. More specifically, the cooling equipment includes a plurality of protector plates 34 and nozzle trains. The protector plates 34 are disposed obliquely with respect to a direction of transferring of a steel plate or sheet 10 and at equal intervals. The nozzle trains are provided between the protector plates 34 and obliquely with respect to the direction of transferring, for supplying cooling water to the under surface of the steel plate or sheet 10. The nozzle trains have the same number of tube-shaped nozzles 32 disposed, respectively, on virtual lines 36 drawn at certain pitches in a plate or sheet width direction, and the top ends of the circular-tube-shaped nozzles 32 are positioned below the top ends of the protector plates 34.

IPC 8 full level
B21B 45/02 (2006.01)

CPC (source: EP KR)
B21B 37/74 (2013.01 - KR); **B21B 37/76** (2013.01 - KR); **B21B 45/02** (2013.01 - KR); **B21B 45/0218** (2013.01 - EP)

Cited by
EP2450116A4

Designated contracting state (EPC)
AT BE DE FR GB

DOCDB simple family (publication)
EP 1930092 A1 20080611; **EP 1930092 A4 20111207**; **EP 1930092 B1 20150812**; CN 101253010 A 20080827; CN 101253010 B 20100616; JP 2007090355 A 20070412; JP 4774887 B2 20110914; KR 100935357 B1 20100106; KR 20080034967 A 20080422; WO 2007037095 A1 20070405

DOCDB simple family (application)
EP 06783171 A 20060829; CN 200680032020 A 20060829; JP 2005278997 A 20050927; JP 2006317399 W 20060829; KR 20087004610 A 20060829