

Title (en)
MANUFACTURING EQUIPMENT AND MANUFACTURING METHOD FOR STEEL PLATE

Title (de)
FERTIGUNGSANLAGE UND VERFAHREN ZUR HERSTELLUNG EINER STAHLPLATTE

Title (fr)
ÉQUIPEMENT ET PROCÉDÉ DE FABRICATION DE TÔLE D'ACIER

Publication
EP 4066956 A4 20230111 (EN)

Application
EP 20893260 A 20201118

Priority
• JP 2019212625 A 20191125
• JP 2020043061 W 20201118

Abstract (en)
[origin: EP4066956A1] To provide manufacturing equipment and a manufacturing method for a steel plate capable of performing more uniform cooling during heat treatment of the steel plate and manufacturing a flat and homogeneous steel plate. Manufacturing equipment (heat treatment equipment (1)) for a steel plate (2) according to an aspect of the present invention is manufacturing equipment for a steel plate (2), in which the steel plate (2) is heat-treated, the equipment including a heating furnace (3) configured to heat the steel plate (2) having a temperature of 100°C or lower, a first flattening device (4) configured to flatten the heated steel plate (2), a quenching device (5) configured to quench the flattened steel plate (2), and a second flattening device (6) configured to flatten the quenched steel plate (2).

IPC 8 full level
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Citation (search report)
• [X1] JP 2005279703 A 20051013 - JFE STEEL KK
• [X1] EP 2412455 A1 20120201 - JFE STEEL CORP [JP]
• [X1] JP 2002011515 A 20020115 - NIPPON KOKAN KK
• [X1] WO 2019065360 A1 20190404 - JFE STEEL CORP [JP] & EP 3653312 A1 20200520 - JFE STEEL CORP [JP]
• [A] JP S61126909 A 19860614 - SUMITOMO METAL IND
• See also references of WO 2021106723A1

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