

Title (en)
METHOD FOR OPTIMALLY PRODUCING METAL STEEL AND IRON ALLOYS IN HOT-ROLLED AND THICK PLATE FACTORIES USING A MICROSTRUCTURE SIMULATOR, MONITOR, AND/OR MODEL

Title (de)
VERFAHREN ZUR OPTIMIERTEN HERSTELLUNG VON METALLISCHEN STAHL- UND EISENLEGIERUNGEN IN WARMWALZ- UND GROBBLECHWERKEN MITTELS EINES GEFÜGESIMULATORS, -MONITORS UND/ODER -MODELLS

Title (fr)
PROCÉDÉ DE PRODUCTION OPTIMISÉE D'ALLIAGES MÉTALLIQUES À BASE D'ACIER ET DE FER DANS DES UNITÉS DE LAMINAGE À CHAUD ET DE FABRICATION DE TÔLES FORTES AU MOYEN D'UN SIMULATEUR, MONITEUR ET/OU MODÈLE DE STRUCTURE

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EP 15701113 A 20150113

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Abstract (en)
[origin: WO2015110310A1] The invention relates to a method for controlling a metallurgical production system using a microstructure model, comprising a program which calculates at least one mechanical strength property of a produced product and which calculates the strength property on the basis of calculated metallurgical phase components of the microstructure of the produced product. The metallurgical system comprises a terminating cooling section, and operating parameters of the metallurgical system are incorporated when calculating the mechanical strength property with adaptable output values which have been at least partly used in advance. The aim of the invention is to provide a solution which allows an advantageous adjustment of operating parameters in order to achieve desired mechanical strength properties of the product consisting of a metal steel and/or iron alloy. This is achieved in that as the operating parameters incorporated when calculating the strength property, the respective mass proportion of at least one alloy element, which is present in the chemical composition of a metal steel and/or iron alloy being used, and at least one additional operating parameter, preferably a cooling rate which is adjusted as part of a cooling process carried out after a rolling process, are detected, and an increase of the observed strength property, said increase being achieved by changing at least said additional operating parameter, is at least partly compensated by reducing the mass proportion of one or more of the alloy elements of the metal steel and/or iron alloy being used.

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Citation (search report)
See references of WO 2015110310A1

Cited by
EP4375893A1; DE102021211320A1; WO2023057614A1; DE102020214532A1; WO2022106097A1

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