Title (en)

METHOD FOR LOWERING DEW POINT OF ATMOSPHERE GAS WITHIN ANNEALING FURNACE, DEVICE THEREOF, AND METHOD FOR PRODUCING COLD-ROLLED ANNEALED STEEL SHEET

Title (de)

VERFAHREN ZUM SENKEN DES TAUPUNKTES VON UMGEBUNGSGAS IN EINEM GLÜHOFEN, VORRICHTUNG DAFÜR UND VERFAHREN ZUR HERSTELLUNG VON KALTGEWALZTEM GEGLÜHTEM STAHLBLECH

Title (fr)

PROCÉDÉ POUR RÉDUIRE LE POINT DE ROSÉE DE GAZ AMBIANT DANS UN FOUR DE RECUIT, DISPOSITIF ASSOCIÉ, ET PROCÉDÉ DE PRODUCTION DE TÔLE D'ACIER RECUIT LAMINÉE À FROID

Publication

EP 2837700 B1 20190605 (EN)

Application

EP 13776255 A 20130405

Priority

- JP 2012088089 A 20120409
- JP 2013002353 W 20130405

Abstract (en)

[origin: EP2837700A1] Part of an atmosphere gas in a heating zone 1 and/or a soaking zone is sucked out and is cooled through a high-temperature gas passage of a heat exchanger 9 by heat exchange with a gas in a low-temperature gas passage, is then further cooled by mixing with part of an atmosphere gas in a cooling zone 2, is then further cooled through a gas cooler 10, is then dehumidified to a dew point of -45°C or less in a dryer 11, is then heated through the low-temperature gas passage of the heat exchanger 9 by heat exchange with a gas in the high-temperature gas passage, and is returned to the heating zone 1 and/or the soaking zone. These can achieve a low dew point of -45°C or less with high energy efficiency.

IPC 8 full level

C21D 9/56 (2006.01); **C21D 1/74** (2006.01); **C21D 1/76** (2006.01); **C21D 9/52** (2006.01); **F27D 7/04** (2006.01); **F27D 7/06** (2006.01); **F27D 17/00** (2006.01)

CPC (source: EP US)

C21D 9/52 (2013.01 - US); **C21D 9/561** (2013.01 - EP US); **F27D 17/004** (2013.01 - EP US); F27D 2007/063 (2013.01 - EP US)

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

EP 2837700 A1 20150218; **EP 2837700 A4 20151202**; **EP 2837700 B1 20190605**; CN 104245972 A 20141224; CN 104245972 B 20160316; JP 5742950 B2 20150701; JP WO2013153791 A1 20151217; KR 101564870 B1 20151030; KR 20140139590 A 20141205; US 2015114528 A1 20150430; WO 2013153791 A1 20131017

DOCDB simple family (application)

EP 13776255 A 20130405; CN 201380019100 A 20130405; JP 2013002353 W 20130405; JP 2013534870 A 20130405; KR 20147029899 A 20130405; US 201314391022 A 20130405