

Title (en)

COOLING SECTION WITH DUAL COOLING TO A PARTICULAR TARGET VALUE

Title (de)

KÜHLSTRECKE MIT ZWEIFACHER KÜHLUNG AUF EINE JEWEILIGE SOLLGRÖSSE

Title (fr)

SECTION DE REFROIDISSEMENT AVEC REFROIDISSEMENT DOUBLE À UNE VALEUR DE CONSIGNE RESPECTIVE

Publication

EP 3099430 A1 20161207 (DE)

Application

EP 15700669 A 20150115

Priority

- EP 14152872 A 20140128
- EP 2015050662 W 20150115

Abstract (en)

[origin: WO2015113825A1] Sections of a rolled product (1) are, as they pass through a cooling path (2), initially cooled in a first cooling phase by means of front cooling devices (6), are then not cooled in a subsequent second cooling phase, and are finally cooled again, in a subsequent third cooling phase, by means of rear cooling devices (8) of the cooling path (2). A control device (10) of the cooling path receives in each case an initial energy value (EA) exhibited by the sections before they pass through the cooling path (2). Said control device furthermore receives a target energy (E1*) and a target enthalpy (E2*). The control device (10) determines a first target cooling medium profile (K1*) on the basis of the initial energy value (EA) and the target energy (E1*). Said control device controls the front cooling devices (6) in accordance with the first target cooling medium profile (K1*) while the respective section is passing through the front cooling devices (6). The control device (10) determines a second target cooling medium profile (K2) on the basis of an expected enthalpy for the respective section in the second cooling phase and the target enthalpy (E2*). Said control device controls the rear cooling devices (8) in accordance with the second target cooling medium profile (K2*) while the respective section of the rolled product (1) is passing through the rear cooling devices (8).

IPC 8 full level

B21B 37/76 (2006.01)

CPC (source: EP US)

B21B 37/76 (2013.01 - EP US); **B21B 45/0203** (2013.01 - US); **C21D 11/005** (2013.01 - EP US); **B21B 37/74** (2013.01 - EP US); **C21D 8/0463** (2013.01 - EP US)

Citation (search report)

See references of WO 2015113825A1

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

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 2898963 A1 20150729; CN 106163684 A 20161123; CN 106163684 B 20180717; EP 3099430 A1 20161207; EP 3099430 B1 20171101; US 10413950 B2 20190917; US 2016346822 A1 20161201; WO 2015113825 A1 20150806

DOCDB simple family (application)

EP 14152872 A 20140128; CN 201580006292 A 20150115; EP 15700669 A 20150115; EP 2015050662 W 20150115; US 201515114647 A 20150115