

Title (en)

Method and apparatus for cooling a strip with a cooling roll

Title (de)

Verfahren und Vorrichtung zum Kühlen eines Bandes mittels einer gekühlten Walze

Title (fr)

Procédé et appareil de refroidissement d'une bande par rouleau refroidi

Publication

EP 1808501 A3 20091125 (EN)

Application

EP 07007266 A 20070406

Priority

- EP 06010511 A 20060522
- EP 07007266 A 20070406

Abstract (en)

[origin: EP1808501A2] The invention relates to a method and an apparatus for cooling a flexible strip, wherein the strip (1) is brought in contact with at least one rotating cooling roll (2;102;202) for transferring heat from the strip (1) to the wall (2a,102a,202a) of said cooling roll, the cooling roll having an interior space (3;103;203) at a predetermined pressure. According to the invention, the interior space comprising at least one evaporation zone (EZ) containing a cooling medium in a liquid state, wherein the temperature of said liquid cooling medium is substantially the temperature of the liquid/gas phase change of that cooling medium at the predetermined pressure, such that the liquid cooling medium is partially evaporated by the heat received from the strip (1) via the cooling roll wall. The surface of said interior space comprises a holder for holding the cooling medium in the evaporation zone, wherein said holder comprises porous material or wick, having a capillary function.

IPC 8 full level

B21B 27/08 (2006.01); **C21D 9/573** (2006.01)

CPC (source: EP)

B21B 15/005 (2013.01); **C21D 9/5737** (2013.01); **B21B 45/0203** (2013.01)

Citation (search report)

- [XY] JP 2000326059 A 20001128 - ISHIKAWAJIMA HARIMA HEAVY IND
- [XY] JP S5931830 A 19840221 - MITSUBISHI HEAVY IND LTD, et al
- [X] JP S57164930 A 19821009 - MITSUBISHI HEAVY IND LTD, et al

Cited by

JP2014055063A; CN117019877A; US10215510B2; WO2015071004A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA HR MK RS

DOCDB simple family (publication)

EP 1808501 A2 20070718; EP 1808501 A3 20091125

DOCDB simple family (application)

EP 07007266 A 20070406