

Title (en)

Process and device for limiting the vibrations of aluminium or steel sheets during gas cooling

Title (de)

Vorrichtung und Verfahren zur Begrenzung der beim Kühlen von Aluminium- oder Stahlblechen unter Gasströmung auftretenden Bandvibrationen

Title (fr)

Procédé et dispositif de limitation de la vibration de bandes d'acier ou d'aluminium dans des zones de refroidissement par soufflage de gaz ou d'air

Publication

EP 1655383 A1 20060510 (FR)

Application

EP 05292109 A 20051011

Priority

FR 0411038 A 20041019

Abstract (en)

A method, for improving the capacity or quality of cooling in a gas blown cooling chamber or of an air blown cooling section of a heat treatment line for steel or aluminium and/or improving the quality of the products by reducing the vibrations generated by the cooling, uses a combination of the following parameters : (A) the possibility of the acceleration of the gas or air after impact on the strip in a direction essentially normal to the plane of the strip; (B) the augmentation of the volume confined between the strip and the blower without increasing the distance of blowing from the origin of the gas or air jets and the strip; (C) the channelling or guidance of all or part of the gas or air blowing towards the edges of the strip. An independent claim is also included for a device for putting this method into service.

IPC 8 full level

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CPC (source: EP KR US)

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Citation (search report)

- [DA] WO 0109397 A2 20010208 - CORUS UK LTD [GB], et al
- [DA] US 6054095 A 20000425 - MINATO KEN [JP], et al
- [A] US 3262688 A 19660726 - DONALD BEGGS
- [A] US 3116788 A 19640107 - DONALD BEGGS, et al

Cited by

EP2226400A1; US8490416B2; EP3763836A1; WO2021004651A1; US11639537B2

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