

Title (en)  
METHOD AND DEVICE FOR THE HOT DIP COATING OF A METAL STRIP

Title (de)  
VERFAHREN UND VORRICHTUNG ZUR SCHMELZTAUCHBESCHICHTUNG EINES METALLBANDES

Title (fr)  
PROCEDE ET DISPOSITIF POUR APPLIQUER UN REVETEMENT SUR UNE BANDE METALLIQUE, PAR IMMERSION A CHAUD

Publication  
**EP 1863945 A1 20071212 (DE)**

Application  
**EP 06723813 A 20060329**

Priority  
• EP 2006002844 W 20060329  
• DE 102005014878 A 20050330

Abstract (en)  
[origin: WO2006103050A1] The invention relates to a method for the hot dip coating of a metal strip (1), in particular a steel strip, according to which the metal strip (1) is fed vertically through a container (3) that holds the molten coating metal (2) and a guide channel (4) that is connected upstream. According to the invention, to retain the coating metal (2) in the container (3) in the vicinity of the guide channel (4), an electromagnetic field is generated by means of at least two inductors (5) that are situated on either side of the metal strip (1) and to stabilise the metal strip (1) in a central position in the guide channel (4), the electromagnetic excitation of the inductors (5) is modified and/or an electromagnetic field that overlaps the electromagnetic field of the inductors (5) is generated by means of at least two correction coils (6) that are situated on either side of the metal strip (1). The aim of the invention is to control the centring of the metal strip in a manner that is not susceptible to interference. To achieve this, the stabilisation of the central position of the metal strip (1) in the guide channel (4) takes place in a closed-loop control circuit by the sequence of the following steps: a) measurement of the force ( $F_{\text{SUB} > \text{H} < / \text{SUB} >}$ ) that acts in a horizontal direction and that the metal strip (1) exerts on a force measuring element (7) when it leaves the central position; b) the induction current ( $I_{\text{SUB} > \text{I} < / \text{SUB} >}$ ) in the inductors (5) and/or on the induction current ( $I_{\text{SUB} > \text{I} < / \text{SUB} >}$ ) in the correction coils (6) is influenced in accordance with the measured force ( $F_{\text{SUB} > \text{H} < / \text{SUB} >}$ ), in order to hold the metal strip (1) in a central position in the guide channel (4). The invention also relates to a device for the hot dip coating of a metal strip.

IPC 8 full level  
**C23C 2/24** (2006.01)

CPC (source: EP KR US)  
**B21C 47/30** (2013.01 - EP US); **B65H 18/04** (2013.01 - EP US); **C23C 2/24** (2013.01 - KR)

Citation (search report)  
See references of WO 2006103050A1

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 NL PL PT RO SE SI SK TR

DOCDB simple family (publication)  
**DE 102005014878 A1 20061005**; AU 2006228695 A1 20061005; BR PI0608946 A2 20100217; CA 2602656 A1 20061005; CN 101151396 A 20080326; CN 101151396 B 20100929; EP 1863945 A1 20071212; JP 2008534779 A 20080828; JP 4521782 B2 20100811; KR 20070102599 A 20071018; MX 2007011791 A 20071205; RU 2346076 C1 20090210; TW 200643216 A 20061216; US 2007220940 A1 20070927; US 2009280270 A1 20091112; US 7454937 B2 20081125; WO 2006103050 A1 20061005

DOCDB simple family (application)  
**DE 102005014878 A 20050330**; AU 2006228695 A 20060329; BR PI0608946 A 20060329; CA 2602656 A 20060329; CN 200680010311 A 20060329; EP 06723813 A 20060329; EP 2006002844 W 20060329; JP 2008503420 A 20060329; KR 20077020312 A 20070905; MX 2007011791 A 20060329; RU 2007134382 A 20060329; TW 95111091 A 20060330; US 57881206 A 20060329; US 88750406 A 20060329