

Title (en)

METHOD FOR MODIFYING THE SURFACE OF A METAL ZN-AL-MG-BASED PROTECTIVE LAYER APPLIED TO A FLAT STEEL PRODUCT, AND FLAT STEEL PRODUCT

Title (de)

VERFAHREN ZUR MODIFIZIERUNG DER OBERFLÄCHE EINER AUF EINEM STAHLFLACHPRODUKT AUFGEBRACHTEN METALLISCHEN SCHUTZSCHICHT AUF ZN-AL-MG-BASIS UND STAHLFLACHPRODUKT

Title (fr)

PROCÉDÉ DE MODIFICATION DE LA SURFACE D'UNE COUCHE DE PROTECTION MÉTALLIQUE À BASE DE ZN-AL-MG DÉPOSÉE SUR UN PRODUIT PLAT EN ACIER ET PRODUIT PLAT EN ACIER

Publication

EP 3947766 A1 20220209 (DE)

Application

EP 20715013 A 20200325

Priority

- DE 102019107933 A 20190327
- EP 2020058375 W 20200325

Abstract (en)

[origin: WO2020193637A1] The invention relates to a method for modifying the surface of a metal Zn-Al-Mg-based protective layer applied to a flat steel product, which protective layer has magnesium-oxide- and/or aluminum-oxide-covered regions. According to the invention, in order to modify, by means of such a method, the surface of a metal Zn-Al-Mg-based protective layer applied to a flat steel product, in such a way that improved coating adhesion or adhesive bonding is achieved there, the surface of the metal protective layer is wetted with an aqueous phosphating solution, which contains at least phosphate. The wetting is carried out over a wetting duration that lasts at least until a reduction of the magnesium oxide and/or aluminum oxide proportion of the regions of the surface of the metal protective layer that are covered with magnesium oxide and/or aluminum oxide occurs. In addition, the wetting is concluded before a zinc phosphate layer forms on the regions of the surface of the metal protective layer that are covered with magnesium oxide and/or aluminum oxide.

IPC 8 full level

C23C 2/06 (2006.01); **C23C 2/26** (2006.01); **C23C 2/40** (2006.01); **C23C 22/05** (2006.01); **C23C 22/06** (2006.01); **C23C 22/07** (2006.01); **C23C 22/08** (2006.01); **C23C 22/12** (2006.01); **C23C 22/18** (2006.01); **C23C 22/78** (2006.01); **C23C 22/82** (2006.01); **C23C 28/00** (2006.01); **C23G 1/08** (2006.01)

CPC (source: EP US)

C23C 2/06 (2013.01 - EP); **C23C 2/12** (2013.01 - EP); **C23C 2/26** (2013.01 - EP US); **C23C 2/40** (2013.01 - EP); **C23C 22/182** (2013.01 - EP); **C23C 22/184** (2013.01 - EP); **C23C 22/20** (2013.01 - EP); **C23C 22/362** (2013.01 - EP); **C23C 22/365** (2013.01 - EP); **C23C 22/73** (2013.01 - EP); **C23C 22/80** (2013.01 - EP); **C23C 28/3225** (2013.01 - EP); **C23C 30/00** (2013.01 - EP)

Citation (search report)

See references of WO 2020193637A1

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)

WO 2020193637 A1 20201001; DE 102019107933 A1 20201001; EP 3947766 A1 20220209

DOCDB simple family (application)

EP 2020058375 W 20200325; DE 102019107933 A 20190327; EP 20715013 A 20200325