

Title (en)

METHOD FOR PRODUCING A STEEL PRODUCT WITH A ZN COATING AND A TRIBOLOGICALLY ACTIVE LAYER DEPOSITED ON THE COATING, AND A STEEL PRODUCT PRODUCED ACCORDING TO SAID METHOD

Title (de)

VERFAHREN ZUM HERSTELLEN EINES STAHLPRODUKTS MIT EINER ZN-BESCHICHTUNG UND EINER DARAUF AUFGETRAGENEN TRIBOLOGISCH AKTIVEN SCHICHT SOWIE ENTSPRECHEND BESCHAFFENES STAHLPRODUKT

Title (fr)

PROCÉDÉ DE FABRICATION D'UN PRODUIT EN ACIER DOTÉ D'UN REVÊTEMENT DE ZINC ET D'UNE COUCHE ACTIVE TRIBILOGIQUEMENT APPLIQUÉE SUR CELUI-CI AINSI QUE PRODUIT EN ACIER OBTENU DE MANIÈRE CORRESPONDANTE

Publication

EP 3405600 B1 20191016 (DE)

Application

EP 16702489 A 20160119

Priority

EP 2016050951 W 20160119

Abstract (en)

[origin: WO2017125131A1] The invention relates to a method which allows a tribologically optimally effective coating to be produced on a steel product surface provided with a Zn-based protective coating using simple products which are nonhazardous with respect to environmental pollution. For this purpose, a correspondingly coated flat steel product is provided, and an aqueous solution consisting of an ammonium sulfate and completely desalinated water is deposited onto the protective coating of the steel product. The concentration of the ammonium sulfate in the aqueous solution is 0.01 - 5.7 mol/l and the pH value of the aqueous solution is 4 - 6 with respect to the SO₄²⁻ ions. At same time, the reaction time near the surface between the aqueous solution and the protective coating is more than 0 seconds and maximally 5 seconds such that a tribologically active layer which consist of ammonium zinc sulfate is provided on the protective coating after a drying process which is carried out without an upstream flushing process.

IPC 8 full level

C23C 22/53 (2006.01); **C23C 2/26** (2006.01); **C23C 22/78** (2006.01)

CPC (source: EP KR US)

C23C 2/06 (2013.01 - KR); **C23C 2/26** (2013.01 - EP KR US); **C23C 2/40** (2013.01 - KR); **C23C 22/53** (2013.01 - EP KR US); **C23C 22/78** (2013.01 - EP KR US); **C23C 2/06** (2013.01 - US); **C23C 2/40** (2013.01 - US)

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

DOCDB simple family (publication)

WO 2017125131 A1 20170727; CN 108474118 A 20180831; CN 108474118 B 20200508; EP 3405600 A1 20181128; EP 3405600 B1 20191016; JP 2019503434 A 20190207; JP 6629979 B2 20200115; KR 20180102163 A 20180914; US 11078573 B2 20210803; US 2019024240 A1 20190124

DOCDB simple family (application)

EP 2016050951 W 20160119; CN 201680079356 A 20160119; EP 16702489 A 20160119; JP 2018537493 A 20160119; KR 20187023472 A 20160119; US 201616070809 A 20160119