Title (en)

INORGANIC SURFACE-TREATED GALVANIZED STEEL SHEET, PREPARATION METHOD THEREFOR, AND AQUEOUS INORGANIC SURFACE TREATMENT AGENT THEREOF

Title (de)

ANORGANISCHES OBERFLÄCHENBEHANDELTES VERZINKTES STAHLBLECH, HERSTELLUNGSVERFAHREN DAFÜR UND WÄSSRIGES ANORGANISCHES OBERFLÄCHENBEHANDLUNGSMITTEL DARAUS

Title (fr)

FEUILLE D'ACIER GALVANISÉE TRAITÉE EN SURFACE INORGANIQUE, SON PROCÉDÉ DE PRÉPARATION, ET AGENT DE TRAITEMENT DE SURFACE INORGANIQUE AQUEUX ASSOCIÉ

Publication

EP 3505655 A1 20190703 (EN)

Application

EP 17842888 A 20170822

Priority

- CN 201610719583 A 20160824
- CN 2017098430 W 20170822

Abstract (en)

An environmentally-friendly inorganic surface-treated galvanized steel sheet, a preparation method therefor and an aqueous inorganic surface treatment agent thereof, capable of satisfying requirements of rapid deep-drawing treatment of progressive dies in the field of micromotors, and providing excellent red rust resistance performance and excellent surface conductivity for parts and components. An aqueous inorganic surface treatment agent comprising a single organic silane cross-linking agent containing hydrophobic groups, a system crosslinking agent, water-soluble nano sol, surface modified high-density polyethylene particles, tetraethyl orthosilicate modified oxidized graphene, a water-soluble fluorinated compound, a water-soluble phosphorous compound and a water-soluble metal salt compound are coated and cured on the surface of a galvanized steel sheet; the obtained inorganic surface-treated galvanized steel sheet has excellent red rust resistance performance, excellent surface conductivity, surface lubricating performance and excellent blackening resistance performance, and can satisfy requirements of rapid deep-drawing treatment and bare service of progressive dies, and the inorganic surface-treated galvanized steel sheet is especially applicable to the field of micromotors.

IPC 8 full level

C23C 22/36 (2006.01); **C23C 22/44** (2006.01); **C23C 22/73** (2006.01)

CPC (source: CN EP)

C23C 22/36 (2013.01 - CN EP); **C23C 22/361** (2013.01 - CN EP); **C23C 22/44** (2013.01 - CN EP); **C23C 22/68** (2013.01 - EP); **C23C 22/73** (2013.01 - CN); **C23C 22/74** (2013.01 - EP); C23C 2222/20 (2013.01 - CN EP)

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)

EP 3505655 A1 20190703; **EP 3505655 A4 20200422**; **EP 3505655 B1 20210811**; CN 107779853 A 20180309; CN 107779853 B 20191122; JP 2019525007 A 20190905; JP 6839755 B2 20210310; WO 2018036465 A1 20180301

DOCDB simple family (application)

EP 17842888 A 20170822; CN 201610719583 A 20160824; CN 2017098430 W 20170822; JP 2019510612 A 20170822