

Title (en)

STEEL PLATE INCLUDING ZINC-ALUMINUM-MAGNESIUM COATING AND METHOD OF MANUFACTURING THE SAME

Title (de)

STAHLBLECH MIT EINER ZINK-ALUMINIUM-MAGNESIUM-BESCHICHTUNG UND VERFAHREN ZU SEINER HERSTELLUNG

Title (fr)

TÔLE D'ACIER COMPORTANT UN REVÊTEMENT DE ZINC-ALUMINIUM-MAGNÉSIUM ET SON PROCÉDÉ DE FABRICATION

Publication

EP 4079920 B1 20240703 (EN)

Application

EP 19956261 A 20191231

Priority

- CN 201911346137 A 20191219
- CN 2019130630 W 20191231

Abstract (en)

[origin: EP4079920A1] A steel plate comprising a zinc-aluminum-magnesium coating and a manufacturing method therefor. The method may comprise: pretreating a cold-rolled steel plate; immersing the pretreated steel plate in a plating solution containing zinc, aluminum and magnesium as main components for immersion plating treatment, so that the plating solution is coated on at least one of the two surfaces of the steel plate to form a plating solution layer; using an air knife to control the thickness of the plating solution layer on the at least one surface of the steel plate; and cooling the steel plate coated with the plating solution layer. The plating solution may comprise the following components in percentage by mass: 1.5-2.3% of Al, 1.2-1.8% of Mg, 0.01-0.08% of La and Ce, and 0.01-0.08% of at least one of Cu, Cr and Ni, with the balance being Zn and inevitable impurities, wherein the mass ratio of Al to Mg is 1.2 to 1.4, and the mass ratio of La to Ce is 2:1.

IPC 8 full level

C23C 2/06 (2006.01); **C22C 18/04** (2006.01); **C23C 2/02** (2006.01); **C23C 2/20** (2006.01); **C23C 2/26** (2006.01); **C23C 2/28** (2006.01);
C23C 2/40 (2006.01); **C23G 1/19** (2006.01); **C25F 1/00** (2006.01)

CPC (source: CN EP)

C22C 18/04 (2013.01 - CN EP); **C23C 2/02** (2013.01 - CN); **C23C 2/024** (2022.08 - EP); **C23C 2/06** (2013.01 - CN EP);
C23C 2/20 (2013.01 - CN EP); **C23C 2/26** (2013.01 - EP); **C23C 2/29** (2022.08 - EP); **C23C 2/40** (2013.01 - CN EP); **C23G 1/19** (2013.01 - EP);
C25F 1/00 (2013.01 - EP)

Citation (examination)

CN 103834890 A 20140604 - STATE GRID CORP CHINA, et al

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)

EP 4079920 A1 20221026; **EP 4079920 A4 20221221**; **EP 4079920 B1 20240703**; CN 111074187 A 20200428; CN 111074187 B 20211214;
WO 2021120334 A1 20210624

DOCDB simple family (application)

EP 19956261 A 20191231; CN 201911346137 A 20191219; CN 2019130630 W 20191231