Title (en)

STEEL SHEET PLATED WITH AL-FE ALLOY FOR HOT PRESS FORMING HAVING EXCELLENT CORROSION RESISTANCE AND HEAT RESISTANCE, HOT PRESS FORMED PART, AND MANUFACTURING METHOD THEREFOR

Title (de)

MIT EINER AL-FE-LEGIERUNG PLATTIERTES STAHLBLECH FÜR DIE WARMVERFORMUNG MIT AUSGEZEICHNETER KORROSIONSBESTÄNDIGKEIT UND HITZEBESTÄNDIGKEIT, FORMTEIL AUS EINER HEISSPRESSUNG UND VERFAHREN ZU SEINER HERSTELLUNG

Title (fr)

TÔLE D'ACIER PLAQUÉE AVEC UN ALLIAGE D'AL-FE POUR FORMAGE À LA PRESSE À CHAUD PRÉSENTANT UNE EXCELLENTE RÉSISTANCE À LA CORROSION ET UNE EXCELLENTE RÉSISTANCE À LA CHALEUR, PIÈCE FORMÉE À LA PRESSE À CHAUD ET PROCÉDÉ DE FABRICATION ASSOCIÉ

Publication

EP 3889314 A4 20211110 (EN)

Application

EP 19891044 A 20191129

Priority

- KR 20180152574 A 20181130
- KR 2019016761 W 20191129

Abstract (en)

[origin: EP3889314A1] The present invention provides a steel plate plated with an aluminum-iron alloy for hot press forming, the steel plate comprising a base steel sheet and an alloy plated layer formed on the base steel sheet, wherein the alloy plated layer comprises: an alloyed layer (I) formed on the base steel sheet and containing, by weight, Al: 5-30%; an alloyed layer (II) formed on the alloyed layer (I) and containing, by weight, Al: 30-60%; and an alloyed layer (III) formed on the alloyed layer (II) and containing, by weight, Al: 20-50%, wherein the alloy layer (II) has a FeAl(Si) alloy phase dispersed and distributed therein, the FeAl(Si) alloy phase comprising, by weight, Al: 20-50% and Si: 5-20%, and the number density of the FeAl(Si) alloy phase having a circle-equivalent diameter of 5μm or less is 103/mm2 or more.

IPC 8 full level

C23C 2/28 (2006.01); **C21D 1/78** (2006.01); **C22C 30/00** (2006.01); **C22C 38/02** (2006.01); **C22C 38/06** (2006.01); **C22C 38/14** (2006.01); **C22C 38/18** (2006.01); **C23C 2/12** (2006.01); **C23C 2/40** (2006.01); **C23C 28/02** (2006.01); **C23C 30/00** (2006.01)

CPC (source: EP KR US)

C21D 1/78 (2013.01 - EP KR); **C22C 30/00** (2013.01 - EP KR); **C22C 38/02** (2013.01 - EP KR); **C22C 38/06** (2013.01 - EP KR); **C22C 38/14** (2013.01 - EP KR); **C22C 38/18** (2013.01 - EP KR); **C23C 2/12** (2013.01 - EP KR); **C23C 2/28** (2013.01 - EP KR US); **C23C 2/29** (2022.08 - EP KR US); **C23C 2/40** (2013.01 - EP KR); **C23C 28/021** (2013.01 - EP); **C23C 28/027** (2013.01 - EP); **C23C 28/028** (2013.01 - EP); **C23C 30/00** (2013.01 - EP)

Citation (search report)

- [IY] EP 3396010 A1 20181031 - POSCO [KR]
- [XAY] EP 3239337 A1 20171101 - POSCO [KR]
- [A] KR 20180074292 A 20180703 - POSCO [KR]
- See also references of WO 2020111879A1

Cited by

EP3889311A4; US11578397B2; US11897014B2

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 3889314 A1 20211006; **EP 3889314 A4 20211110**; CN 113166913 A 20210723; CN 113166913 B 20231229; KR 102264726 B1 20210616; KR 102450998 B1 20221007; KR 20200066240 A 20200609; KR 20210070967 A 20210615

DOCDB simple family (application)

EP 19891044 A 20191129; CN 201980078996 A 20191129; KR 20190156856 A 20191129; KR 20210074024 A 20210608