

Title (en)
HOT STAMP MOLDED BODY

Title (de)
HEISSPRÄGEFORMKÖRPER

Title (fr)
CORPS MOULÉ PAR ESTAMPAGE À CHAUD

Publication
EP 3456854 A4 20191002 (EN)

Application
EP 16901618 A 20160510

Priority
JP 2016063856 W 20160510

Abstract (en)
[origin: EP3456854A1] A hot stamped steel according to one embodiment of the present invention includes a base material and a plated layer, wherein the plated layer includes an interface layer, an intermediate layer, and an oxide layer in order from a base material side to a surface side; in the interface layer, a structure includes 99 area% or more in total of $\pm\text{Fe}$, Fe 3 Al, and FeAl, an average Al content is in a range of 8.0 mass% or more and 32.5 mass% or less, an average Zn content is limited to more than a Zn content of the base material and 5 mass% or less, a remainder of a chemical composition includes Fe and impurities, and an average layer thickness is 1.0 μm or more; in the intermediate layer, a structure includes 99 area% or more in total of Fe(Al, Zn) 2 and Fe 2 (Al, Zn) 5, an average Al content is 30 mass% to 50 mass%, an average Zn content is 10 mass% to 40 mass%, a remainder of a chemical composition includes Fe and the impurities, and an average layer thickness is 5.0 μm or more; and in the oxide layer, an average layer thickness is 0.1 μm to 3.0 μm .

IPC 8 full level
C23C 2/28 (2006.01); **C21D 6/00** (2006.01); **C21D 8/00** (2006.01); **C22C 38/00** (2006.01); **C22C 38/02** (2006.01); **C22C 38/04** (2006.01); **C22C 38/06** (2006.01); **C22C 38/28** (2006.01); **C22C 38/32** (2006.01); **C22C 38/58** (2006.01); **C23C 2/06** (2006.01); **C23C 2/12** (2006.01); **C23C 28/00** (2006.01)

CPC (source: EP KR RU US)
B21D 22/022 (2013.01 - KR US); **B21D 22/20** (2013.01 - KR RU); **C21D 6/002** (2013.01 - EP KR US); **C21D 6/005** (2013.01 - EP KR US); **C21D 6/008** (2013.01 - EP KR US); **C21D 8/005** (2013.01 - EP KR US); **C22C 18/04** (2013.01 - EP KR US); **C22C 38/00** (2013.01 - RU); **C22C 38/001** (2013.01 - EP KR US); **C22C 38/002** (2013.01 - EP KR US); **C22C 38/02** (2013.01 - EP KR US); **C22C 38/04** (2013.01 - EP KR US); **C22C 38/06** (2013.01 - EP KR US); **C22C 38/28** (2013.01 - EP KR US); **C22C 38/32** (2013.01 - EP KR US); **C22C 38/58** (2013.01 - KR); **C23C 2/06** (2013.01 - EP KR RU US); **C23C 2/12** (2013.01 - EP KR RU US); **C23C 2/261** (2022.08 - KR); **C23C 2/28** (2013.01 - EP RU US); **C23C 2/29** (2022.08 - EP KR RU US); **C23C 28/321** (2013.01 - EP KR US); **C23C 28/322** (2013.01 - EP KR US); **C23C 28/345** (2013.01 - EP KR US); **C22C 38/00** (2013.01 - EP US); **C22C 38/58** (2013.01 - EP US)

Citation (search report)

- [A] EP 2377965 A2 20111019 - POSCO [KR]
- [A] JP 2010248602 A 20101104 - JFE STEEL CORP
- [A] EP 2728032 A2 20140507 - POSCO [KR]
- [A] EP 1630244 A1 20060301 - SUMITOMO METAL IND [JP], et al
- See also references of WO 2017195269A1

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 3456854 A1 20190320; EP 3456854 A4 20191002; BR 112018071451 A2 20190205; CA 3020663 A1 20171116; CA 3020663 C 20200602; CN 109072396 A 20181221; JP 6566128 B2 20190828; JP WO2017195269 A1 20190124; KR 20180131589 A 20181210; MX 2018013464 A 20190228; RU 2710813 C1 20200114; US 2019160507 A1 20190530; WO 2017195269 A1 20171116

DOCDB simple family (application)
EP 16901618 A 20160510; BR 112018071451 A 20160510; CA 3020663 A 20160510; CN 201680085368 A 20160510; JP 2016063856 W 20160510; JP 2018516244 A 20160510; KR 20187031574 A 20160510; MX 2018013464 A 20160510; RU 2018138732 A 20160510; US 201616097771 A 20160510