

Title (en)

STEEL SHEET FOR GALVANIZING WITH EXCELLENT WORKABILITY, AND METHOD FOR MANUFACTURING THE SAME

Title (de)

STAHLBLECH ZUM GALVANISIEREN MIT HERVORRAGENDER BEARBEITBARKEIT UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)

TOLE D'ACIER POUR GALVANISATION A EXCELLENTE USINABILITE, ET PROCEDE DE FABRICATION

Publication

**EP 1929059 A4 20120613 (EN)**

Application

**EP 06783735 A 20060824**

Priority

- KR 2006003348 W 20060824
- KR 20050078433 A 20050825

Abstract (en)

[origin: WO2007024114A1] A high strength ductile steel sheet for extra deep drawing mainly used for interior or exterior plates of automobile bodies, and a method for manufacturing the same are disclosed. The steel sheet comprises, by weight%, C: 0.010% or less, Si: 0.1% or less, Mn: 0.06 ~ 1.5%, P: 0.15% or less, S: 0.020% or less, Sol. Al: 0.10 ~ 0.40%, N: 0.010% or less, Ti: 0.003 ~ 0.010%, Nb: 0.003 ~ 0.040%, B: 0.0002 ~ 0.0020%, Mo: 0.05% or less, one or both of Sb: 0.005 ~ 0.05% and Sn: 0.005 ~ 0.05%, a total amount of Sb and Sn being in the range of 0.005 ~ 0.1% when both of Sb and Sn are added to the steel sheet, and the balance of Fe and other unavoidable impurities. The steel sheet has surface agglomerates having an average diameter of 1 D or less, and a tensile strength of 28 - 50 Df/D.

IPC 8 full level

**C22C 38/02** (2006.01); **C22C 38/00** (2006.01); **C22C 38/04** (2006.01); **C22C 38/06** (2006.01); **C22C 38/12** (2006.01); **C22C 38/14** (2006.01); **C22C 38/60** (2006.01)

CPC (source: EP KR US)

**C21D 8/0226** (2013.01 - EP US); **C21D 8/0426** (2013.01 - EP US); **C21D 8/0473** (2013.01 - EP US); **C21D 9/46** (2013.01 - EP US); **C22C 38/001** (2013.01 - EP KR US); **C22C 38/002** (2013.01 - EP KR US); **C22C 38/004** (2013.01 - EP KR US); **C22C 38/008** (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 38/12** (2013.01 - EP KR US); **C22C 38/14** (2013.01 - EP KR US); **C22C 38/60** (2013.01 - EP KR US); **C23C 2/0224** (2022.08 - EP KR US); **C21D 2211/004** (2013.01 - EP US)

Citation (search report)

- [X] EP 0792942 A1 19970903 - KAWASAKI STEEL CO [JP]
- [X] EP 0632141 A1 19950104 - NIPPON KOKAN KK [JP]
- [X] EP 1076105 A1 20010214 - KAWASAKI STEEL CO [JP]
- [X] EP 0417699 A2 19910320 - KAWASAKI STEEL CO [JP]
- [XA] EP 0903419 A1 19990324 - KAWASAKI STEEL CO [JP]
- [A] US 6406558 B1 20020618 - KUROSAWA MITSUMASA [JP], et al
- [A] JP H0441658 A 19920212 - NIPPON STEEL CORP
- [A] JP H08209301 A 19960813 - KAWASAKI STEEL CO, et al
- [A] JP H0570838 A 19930323 - KAWASAKI STEEL CO
- [A] JP S63243226 A 19881011 - KAWASAKI STEEL CO
- [A] JP S62250126 A 19871031 - KAWASAKI STEEL CO
- See references of WO 2007024114A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

**WO 2007024114 A1 20070301; WO 2007024114 A9 20091203;** CN 101243198 A 20080813; CN 101243198 B 20101229;  
EP 1929059 A1 20080611; EP 1929059 A4 20120613; JP 2009506208 A 20090212; JP 5388577 B2 20140115; KR 100711356 B1 20070427;  
KR 20070023995 A 20070302; US 2011073223 A1 20110331

DOCDB simple family (application)

**KR 2006003348 W 20060824;** CN 200680030552 A 20060824; EP 06783735 A 20060824; JP 2008527851 A 20060824;  
KR 20050078433 A 20050825; US 6465306 A 20060824