

Title (en)  
METHODS RESPECTIVELY FOR MANUFACTURING HOT-DIP GALVANIZED STEEL SHEET AND ALLOYED HOT-DIP GALVANIZED STEEL SHEET

Title (de)  
VERFAHREN ZUR HERSTELLUNG VON FEUERVERZINKTEM STAHLBLECH UND LEGIERTEM FEUERVERZINKTEM STAHLBLECH

Title (fr)  
PROCÉDÉS DE FABRICATION RESPECTIVEMENT D'UNE TÔLE D'ACIER GALVANISÉE PAR IMMERSION À CHAUD ET D'UNE TÔLE D'ACIER GALVANISÉE PAR IMMERSION À CHAUD ALLIÉE

Publication  
**EP 3967780 A1 20220316 (EN)**

Application  
**EP 20836013 A 20200701**

Priority  
• JP 2019128698 A 20190710  
• JP 2020025750 W 20200701

Abstract (en)  
A method for manufacturing a hot-dip galvanized steel sheet according to one aspect of the present invention includes an annealing step of reduction-annealing a steel sheet having a Si content of 1.0% by mass or more and 3.0% by mass or less at a temperature equal to or higher than an A3 point of the steel sheet in an atmosphere having a dew point of -20°C or higher; and a hot-dip galvanizing step of making the annealed steel sheet enter into a galvanizing bath to form a galvanized layer on a surface of the steel sheet, wherein a temperature of the steel sheet entering into the galvanizing bath is set to 390°C or lower.

IPC 8 full level  
**C21D 9/46** (2006.01); **C22C 38/00** (2006.01); **C22C 38/04** (2006.01); **C22C 38/38** (2006.01); **C23C 2/02** (2006.01); **C23C 2/06** (2006.01); **C23C 2/28** (2006.01)

CPC (source: CN EP KR US)  
**C21D 1/26** (2013.01 - CN EP); **C21D 1/74** (2013.01 - EP); **C21D 3/04** (2013.01 - EP); **C21D 6/005** (2013.01 - CN); **C21D 6/008** (2013.01 - CN EP); **C21D 8/0257** (2013.01 - EP); **C21D 9/0081** (2013.01 - CN); **C21D 9/46** (2013.01 - EP KR US); **C22C 38/02** (2013.01 - CN EP US); **C22C 38/04** (2013.01 - KR); **C22C 38/06** (2013.01 - CN); **C22C 38/28** (2013.01 - CN); **C22C 38/34** (2013.01 - CN EP); **C22C 38/38** (2013.01 - CN KR); **C23C 2/0038** (2022.08 - CN EP KR US); **C23C 2/02** (2013.01 - CN EP KR US); **C23C 2/022** (2022.08 - KR); **C23C 2/0222** (2022.08 - CN EP KR US); **C23C 2/024** (2022.08 - CN EP KR US); **C23C 2/06** (2013.01 - CN EP KR US); **C23C 2/28** (2013.01 - CN EP KR US); **C23C 2/29** (2022.08 - KR); **C23C 2/40** (2013.01 - CN EP US); **C22C 38/28** (2013.01 - EP); **C22C 38/38** (2013.01 - 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 3967780 A1 20220316**; **EP 3967780 A4 20220511**; CN 113950539 A 20220118; JP 2021014605 A 20210212; KR 20220008911 A 20220121; MX 2022000380 A 20220425; US 2022364214 A1 20221117; WO 2021006131 A1 20210114

DOCDB simple family (application)  
**EP 20836013 A 20200701**; CN 202080042860 A 20200701; JP 2019128698 A 20190710; JP 2020025750 W 20200701; KR 20217041614 A 20200701; MX 2022000380 A 20200701; US 202017625209 A 20200701