

Title (en)
STEEL SHEET AND ENAMELED PRODUCT

Title (de)
STAHLBLECH UND EMAILLIERTES PRODUKT

Title (fr)
TÔLE D'ACIER ET PRODUIT ÉMAILLÉ

Publication
EP 3348661 A4 20190213 (EN)

Application
EP 16844521 A 20160912

Priority
• JP 2015179722 A 20150911
• JP 2016076847 W 20160912

Abstract (en)
[origin: EP3348661A1] A steel sheet includes, by mass%: C: 0.0060% or less; Si: 0.0010% to 0.050%; Mn: 0.05% to 0.50%; P: 0.005% to 0.100%; S: 0.0500% or less; Al: 0.0010% to 0.010%; Cu: 0.010% to 0.045%; O: 0.0250% to 0.0700%; N: 0.0010% to 0.0045%; and a remainder: Fe and impurities, in which a structure of the steel sheet contains a ferrite, an average grain diameter of the ferrite at a thickness 1/4 position in a through-thickness direction from a surface is 20.0 μm or less, oxides containing Fe and Mn are contained, among the oxides, a number density of oxides having a diameter of more than 1.0 μm and 10 μm or less is 1.0×10^3 grains/mm² or more and 5.0×10^4 grains/mm² or less, and a number density of oxides having a diameter of 0.1 to 1.0 μm is 5.0×10^3 grains/mm² or more.

IPC 8 full level
C22C 38/00 (2006.01); **C21D 8/02** (2006.01); **C21D 9/48** (2006.01); **C22C 38/02** (2006.01); **C22C 38/04** (2006.01); **C22C 38/06** (2006.01); **C22C 38/16** (2006.01); **C22C 38/60** (2006.01)

CPC (source: EP KR)
C21D 8/0236 (2013.01 - EP KR); **C21D 9/48** (2013.01 - EP); **C22C 38/00** (2013.01 - EP); **C22C 38/001** (2013.01 - EP KR); **C22C 38/004** (2013.01 - EP); **C22C 38/02** (2013.01 - EP KR); **C22C 38/04** (2013.01 - EP KR); **C22C 38/06** (2013.01 - EP KR); **C22C 38/16** (2013.01 - EP KR); **C22C 38/60** (2013.01 - EP); **C21D 2211/004** (2013.01 - EP); **C21D 2211/005** (2013.01 - EP KR)

Citation (search report)
• [XA] WO 2015037614 A1 20150319 - NIPPON STEEL & SUMITOMO METAL CORP [JP] & US 2016201154 A1 20160714 - TOMOKIYO TOSHIMASA [JP], et al
• [A] EP 2067870 A1 20090610 - NIPPON STEEL CORP [JP]
• [A] JP H116031 A 19990112 - NIPPON KOKAN KK
• See references of WO 2017043660A1

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)
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DOCDB simple family (application)
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