

Title (en)  
HOT-ROLLED FLAT STEEL PRODUCT AND METHOD FOR THE PRODUCTION THEREOF

Title (de)  
WARMGEWALZTES STAHLFLACHPRODUKT UND VERFAHREN ZU SEINER HERSTELLUNG

Title (fr)  
PRODUIT PLAT EN ACIER LAMINÉ À CHAUD ET SON PROCÉDÉ DE FABRICATION

Publication  
**EP 3555337 A1 20191023 (DE)**

Application  
**EP 17821500 A 20171206**

Priority  
• EP 2016080935 W 20161214  
• EP 2017081620 W 20171206

Abstract (en)  
[origin: WO2018108653A1] The invention relates to a hot-rolled flat steel product having a larger sheet thickness and an optimized combination of properties. For this purpose, the flat steel product consists of a steel having (in wt%) C: 0.1 – 0.3%, Mn: 1.5 – 3.0%, Si: 0.5 – 1.8%, Al: ≤ 1.5%, P: ≤ 0.1%, S: ≤ 0.03%, N: ≤ 0.008%, optionally one or more elements of the group "Cr, Mo, Ni, Nb, Ti, V, B" with the following concentration: Cr: 0.1 - 0.3%, Mo: 0.05 - 0.25%, Ni: 0.05 - 2.0%, Nb: 0.01 - 0.06%, Ti: 0.02 - 0.07%, V: 0.1 - 0.3%, B: 0.0008 - 0.0020%, the remainder iron and unavoidable production-related impurities. The flat steel product has a tensile strength R<sub>m</sub> of 800 - 1500 MPa, a yield strength R<sub>p</sub> of more than 700 MPa, an elongation at break A of 7 - 25% and a hole expansion λ of more than 20%. Furthermore, the microstructure of the flat steel product consists of at least 85 area % martensite, at least half of which is tempered martensite, wherein the remainder of the microstructure consists of ≤ 15 vol% retained austenite, ≤ 15 area % bainite, ≤ 15 area % polygonal ferrite, ≤ 5 area % cementite and/or of ≤ 5 area % non-polygonal ferrite, wherein the microstructure of the flat steel product has a kernel average misorientation "KAM" of at least 1.50°. The invention further relates to a method for producing a flat steel product according to the invention, wherein the microstructure characteristics of the flat steel product according to the invention are set by means of a suitable heat treatment.

IPC 8 full level  
**C22C 38/02** (2006.01); **C21D 8/00** (2006.01); **C21D 8/02** (2006.01); **C21D 8/04** (2006.01); **C22C 38/04** (2006.01); **C22C 38/08** (2006.01); **C22C 38/12** (2006.01); **C22C 38/14** (2006.01); **C22C 38/18** (2006.01)

CPC (source: EP KR US)  
**C21D 1/22** (2013.01 - KR); **C21D 1/25** (2013.01 - EP); **C21D 1/74** (2013.01 - KR); **C21D 6/002** (2013.01 - US); **C21D 6/005** (2013.01 - US); **C21D 6/008** (2013.01 - US); **C21D 8/0205** (2013.01 - US); **C21D 8/0226** (2013.01 - EP KR US); **C21D 8/0263** (2013.01 - EP KR US); **C21D 9/46** (2013.01 - US); **C22C 38/001** (2013.01 - US); **C22C 38/002** (2013.01 - US); **C22C 38/02** (2013.01 - EP KR US); **C22C 38/04** (2013.01 - EP KR US); **C22C 38/06** (2013.01 - US); **C22C 38/12** (2013.01 - US); **C22C 38/14** (2013.01 - US); **C22C 38/22** (2013.01 - US); **C22C 38/26** (2013.01 - US); **C22C 38/28** (2013.01 - US); **C22C 38/32** (2013.01 - US); **C22C 38/38** (2013.01 - US); **C22C 38/44** (2013.01 - US); **C22C 38/48** (2013.01 - US); **C22C 38/58** (2013.01 - KR US); **C21D 1/22** (2013.01 - EP); **C21D 1/74** (2013.01 - EP); **C21D 8/0463** (2013.01 - EP); **C21D 9/663** (2013.01 - EP US); **C21D 2211/001** (2013.01 - EP KR US); **C21D 2211/008** (2013.01 - EP KR US); **C22C 38/08** (2013.01 - EP); **C22C 38/12** (2013.01 - EP); **C22C 38/14** (2013.01 - EP); **C22C 38/18** (2013.01 - EP)

Citation (search report)  
See references of WO 2018108653A1

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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)  
**WO 2018108653 A1 20180621**; CA 3046108 A1 20180621; CN 110088326 A 20190802; CN 110088326 B 20220624; EP 3555337 A1 20191023; JP 2020509161 A 20200326; JP 7193454 B2 20221220; KR 102478025 B1 20221215; KR 20190095340 A 20190814; MX 2019006862 A 20190814; US 11371113 B2 20220628; US 2020071785 A1 20200305

DOCDB simple family (application)  
**EP 2017081620 W 20171206**; CA 3046108 A 20171206; CN 201780077679 A 20171206; EP 17821500 A 20171206; JP 2019527819 A 20171206; KR 20197019640 A 20171206; MX 2019006862 A 20171206; US 201716466894 A 20171206