

Title (en)

HIGH STRENGTH STEEL PLATE FOR SOUR-RESISTANT LINE PIPE AND METHOD FOR MANUFACTURING SAME, AND HIGH STRENGTH STEEL PIPE USING HIGH STRENGTH STEEL PLATE FOR SOUR-RESISTANT LINE PIPE

Title (de)

HOCHFESTE STAHLPLATTE FÜR SAUERGAS-RESISTENTE LEITUNGSROHRE UND VERFAHREN ZU IHRER HERSTELLUNG, UND HOCHFESTES STAHLROHR UNTER VERWENDUNG VON HOCHFESTEN STAHLPLATTEN FÜR SAUERGAS-RESISTENTE LEITUNGSROHRE

Title (fr)

PLAQUE D'ACIER A HAUTE RESISTANCE POUR TUYAU DE LIGNE RESISTANT A L'ACIDE ET PROCEDE DE FABRICATION, ET TUYAU EN ACIER A HAUTE RESISTANCE UTILISANT UNE PLAQUE D'ACIER A HAUTE RESISTANCE POUR TUYAU DE LIGNE RESISTANT A L'ACIDE

Publication

EP 3859027 B1 20230802 (EN)

Application

EP 19865764 A 20190925

Priority

- JP 2018185783 A 20180928
- JP 2019037697 W 20190925

Abstract (en)

[origin: EP3859027A1] Disclosed is a high strength steel plate for a sour-resistant line pipe that is excellent not only in HIC resistance but also in SSCC resistance under more severe corrosion environments and environments with low hydrogen sulfide partial pressure below 1 bar. The high strength steel plate for a sour-resistant line pipe disclosed herein has: a chemical composition containing C, Si, Mn, P, S, Al, Mo, and Ca, and at least one of Nb or Ti, in predetermined amounts, with the balance being Fe and inevitable impurities; a steel microstructure at 0.25 mm below a surface of the steel plate being a bainite microstructure having a dislocation density of 1.0×10^{14} to 7.0×10^{14} ; a variation in Vickers hardness at 0.25 mm below the surface of the steel plate being 30 HV or less at 3σ , where σ is a standard deviation; and a tensile strength being 520 MPa or more.

IPC 8 full level

C22C 38/00 (2006.01); **C21D 6/00** (2006.01); **C21D 8/02** (2006.01); **C21D 9/46** (2006.01); **C22C 38/02** (2006.01); **C22C 38/04** (2006.01);
C22C 38/06 (2006.01); **C22C 38/12** (2006.01); **C22C 38/14** (2006.01); **C22C 38/16** (2006.01); **C22C 38/42** (2006.01); **C22C 38/44** (2006.01);
C22C 38/46 (2006.01); **C22C 38/48** (2006.01); **C22C 38/50** (2006.01); **C22C 38/58** (2006.01)

CPC (source: EP KR RU)

C21D 6/005 (2013.01 - EP); **C21D 6/008** (2013.01 - EP); **C21D 8/0226** (2013.01 - EP KR RU); **C21D 8/0263** (2013.01 - EP KR);
C21D 9/46 (2013.01 - EP KR); **C22C 38/001** (2013.01 - EP); **C22C 38/002** (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 38/12** (2013.01 - EP KR RU); **C22C 38/14** (2013.01 - EP KR RU);
C22C 38/22 (2013.01 - RU); **C22C 38/24** (2013.01 - RU); **C22C 38/26** (2013.01 - RU); **C22C 38/28** (2013.01 - RU); **C22C 38/38** (2013.01 - RU);
C22C 38/42 (2013.01 - EP KR); **C22C 38/44** (2013.01 - RU); **C22C 38/46** (2013.01 - EP KR RU); **C22C 38/48** (2013.01 - EP RU);
C22C 38/50 (2013.01 - EP RU); **C22C 38/58** (2013.01 - EP KR RU); **C21D 2211/002** (2013.01 - EP KR)

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 3859027 A1 20210804; EP 3859027 A4 20210908; EP 3859027 B1 20230802; BR 112021005768 A2 20210629; CN 112752857 A 20210504;
CN 112752857 B 20220603; JP 6825748 B2 20210203; JP WO2020067209 A1 20210215; KR 102497360 B1 20230208;
KR 20210050548 A 20210507; RU 2767260 C1 20220317; WO 2020067209 A1 20200402

DOCDB simple family (application)

EP 19865764 A 20190925; BR 112021005768 A 20190925; CN 201980063039 A 20190925; JP 2019037697 W 20190925;
JP 2020524424 A 20190925; KR 20217009144 A 20190925; RU 2021112070 A 20190925