

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

Title (de)  
HOCHFESTE STAHLPLATTE FÜR SAUER GASBESTÄNDIGES LEITUNGSROHR, VERFAHREN ZU DESSEN HERSTELLUNG UND HOCHFESTES STAHLROHR UNTER VERWENDUNG DER HOCHFESTEN STAHLPLATTE FÜR SAUER GASBESTÄNDIGES LEITUNGSROHR

Title (fr)  
PLAQUE D'ACIER HAUTE RÉSIDENCE POUR TUYAU DE CANALISATION RÉSIDENCE À L'ACIDITÉ, SON PROCÉDÉ DE FABRICATION, ET TUYAU EN ACIER HAUTE RÉSIDENCE UTILISANT UNE PLAQUE D'ACIER HAUTE RÉSIDENCE POUR TUYAU DE CANALISATION RÉSIDENCE À L'ACIDITÉ

Publication  
**EP 3604584 B1 20220518 (EN)**

Application  
**EP 17903712 A 20170926**

Priority  
• JP 2017013405 W 20170330  
• JP 2017034800 W 20170926

Abstract (en)  
[origin: EP3604584A1] 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. The high strength steel plate for a sour-resistant line pipe has: a chemical composition containing, by mass%, C: 0.02 % to 0.08 %, Si: 0.01 % to 0.50 %, Mn: 0.50 % to 1.80 %, P: 0.001 % to 0.015 %, S: 0.0002 % to 0.0015 %, Al: 0.01 % to 0.08 %, and Ca: 0.0005 % to 0.005 %, with the balance being Fe and inevitable impurities; a steel microstructure at 0.5 mm below a surface of the steel plate being a bainite microstructure having a dislocation density of  $1.0 \times 10^{14}$  to  $7.0 \times 10^{14} \text{ (m}^{-2}\text{)}$ ; a variation in Vickers hardness at 0.5 mm below the surface of the steel plate being 30 HV or less at  $3\sigma$ , where  $\sigma$  is a standard deviation; and a tensile strength being 520 MPa or more.

IPC 8 full level  
**C21D 8/02** (2006.01); **C22C 38/02** (2006.01); **C22C 38/04** (2006.01); **C22C 38/06** (2006.01); **C22C 38/00** (2006.01); **C22C 38/12** (2006.01); **C22C 38/14** (2006.01); **C22C 38/16** (2006.01); **C22C 38/18** (2006.01); **C22C 38/20** (2006.01); **C22C 38/24** (2006.01); **C22C 38/26** (2006.01); **C22C 38/28** (2006.01); **C22C 38/58** (2006.01)

CPC (source: EP KR)  
**C21D 1/02** (2013.01 - EP); **C21D 1/19** (2013.01 - EP); **C21D 8/02** (2013.01 - EP KR); **C21D 8/0263** (2013.01 - EP); **C21D 9/08** (2013.01 - EP); **C21D 9/085** (2013.01 - EP); **C21D 9/46** (2013.01 - EP); **C22C 38/02** (2013.01 - EP); **C22C 38/04** (2013.01 - EP KR); **C22C 38/06** (2013.01 - EP KR); **C22C 38/58** (2013.01 - KR); **C21D 6/005** (2013.01 - EP); **C21D 8/0231** (2013.01 - EP); **C22C 38/00** (2013.01 - EP); **C22C 38/12** (2013.01 - EP); **C22C 38/14** (2013.01 - EP); **C22C 38/16** (2013.01 - EP); **C22C 38/18** (2013.01 - EP); **C22C 38/20** (2013.01 - EP); **C22C 38/24** (2013.01 - EP); **C22C 38/26** (2013.01 - EP); **C22C 38/28** (2013.01 - EP); **C22C 38/58** (2013.01 - EP)

Cited by  
EP3859027A4; EP3859026A4

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 3604584 A1 20200205**; **EP 3604584 A4 20200304**; **EP 3604584 B1 20220518**; BR 112019019696 A2 20200414; BR 112019019696 B1 20220719; CN 110462080 A 20191115; CN 110462080 B 20220104; JP 6521197 B2 20190529; JP WO2018179512 A1 20190418; KR 102478368 B1 20221215; KR 20190129957 A 20191120; KR 20210118961 A 20211001; WO 2018179512 A1 20181004

DOCDB simple family (application)  
**EP 17903712 A 20170926**; BR 112019019696 A 20170926; CN 201780089150 A 20170926; JP 2017034800 W 20170926; JP 2018564992 A 20170926; KR 20197030659 A 20170926; KR 20217029889 A 20170926