

Title (en)

SEAMLESS STEEL PIPE FOR STEAM INJECTION, AND METHOD OF MANUFACTURING SAME

Title (de)

NAHTLOSES STAHLROHR FÜR DAMPFZUFUHR UND VERFAHREN ZU SEINER HERSTELLUNG

Title (fr)

TUYAU EN ACIER SANS SOUDURE POUR INJECTION DE VAPEUR, ET SON PROCÉDÉ DE FABRICATION

Publication

EP 2548987 A4 20170719 (EN)

Application

EP 11756085 A 20110303

Priority

- JP 2010063240 A 20100318
- JP 2011054882 W 20110303

Abstract (en)

[origin: EP2548987A1] There is provided a steel pipe for steam injection having high yield stress even at 350°C. The seamless steel pipe for steam injection according to the present invention has a chemical composition comprising, by mass percent, C: 0.03 to 0.08%, Si: 0.05 to 0.5%, Mn: 1.5 to 3.0%, Mo: more than 0.4 to 1.2%, Al: 0.005 to 0.100%, Ca: 0.001 to 0.005%, N: 0.002 to 0.015%, P: at most 0.03%, S: at most 0.01%, and Cu: at most 1.5%, the balance being Fe and impurities. The seamless steel pipe is manufactured by being water cooled after hot working and by being quenched and tempered.

IPC 8 full level

B21B 23/00 (2006.01); **C21D 8/10** (2006.01); **C21D 9/08** (2006.01); **C22C 38/00** (2006.01); **C22C 38/06** (2006.01); **C22C 38/16** (2006.01); **C22C 38/58** (2006.01)

CPC (source: EP US)

B21B 23/00 (2013.01 - EP US); **C21D 8/10** (2013.01 - EP US); **C21D 8/105** (2013.01 - EP US); **C21D 9/08** (2013.01 - EP US); **C21D 9/085** (2013.01 - EP US); **C22C 38/001** (2013.01 - EP US); **C22C 38/002** (2013.01 - EP US); **C22C 38/02** (2013.01 - EP US); **C22C 38/04** (2013.01 - EP US); **C22C 38/06** (2013.01 - EP US); **C22C 38/42** (2013.01 - EP US); **C22C 38/44** (2013.01 - EP US); **C22C 38/46** (2013.01 - EP US); **C22C 38/50** (2013.01 - EP US); **C22C 38/58** (2013.01 - EP US); **B21B 2045/0227** (2013.01 - EP US); **Y10T 428/12** (2015.01 - EP US)

Citation (search report)

- [A] JP H10140250 A 19980526 - SUMITOMO METAL IND
- [A] US 2009238714 A1 20090924 - ARAI YUJI [JP], et al
- [A] JP S6213557 A 19870122 - KAWASAKI STEEL CO
- [A] JP S6244560 A 19870226 - KAWASAKI STEEL CO
- [A] JP H08325641 A 19961210 - SUMITOMO METAL IND
- See references of WO 2011114896A1

Cited by

CZ307345B6; EP2789701A1; EP2789703A1

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 2548987 A1 20130123; **EP 2548987 A4 20170719**; **EP 2548987 B1 20180815**; AR 080500 A1 20120411; AU 2011228345 A1 20120920; AU 2011228345 B2 20130606; BR 112012021980 A2 20180508; BR 112012021980 B8 20190219; CA 2790278 A1 20110922; CA 2790278 C 20160517; CN 102812146 A 20121205; CN 102812146 B 20150916; JP 4821939 B2 20111124; JP WO2011114896 A1 20130627; MX 2012010710 A 20121217; MX 360028 B 20181017; US 2013004787 A1 20130103; WO 2011114896 A1 20110922

DOCDB simple family (application)

EP 11756085 A 20110303; AR P110100771 A 20110311; AU 2011228345 A 20110303; BR 112012021980 A 20110303; CA 2790278 A 20110303; CN 201180014485 A 20110303; JP 2011054882 W 20110303; JP 2011514932 A 20110303; MX 2012010710 A 20110303; US 201213611449 A 20120912