

Title (en)
HIGH-STRENGTH SEAMLESS STEEL PIPE FOR MECHANICAL STRUCTURE WHICH HAS EXCELLENT TOUGHNESS AND WELDABILITY,
AND METHOD FOR MANUFACTURE THEREOF

Title (de)
HOCHFESTES NAHTLOSES STAHLROHR FÜR MECHANISCHE KONSTRUKTION MIT HERVORRAGENDER ZÄHIGKEIT UND
SCHWEISSBARKEIT UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)
TUYAU EN ACIER SANS SOUDURE HAUTEMENT RESISTANT AVEC UNE TENACITE ET UNE SOUDABILITE EXCELLENTE POUR
STRUCTURE MECANIQUE ET PROCEDE DE FABRICATION DE CELUI-CI

Publication
EP 2028284 B1 20120516 (EN)

Application
EP 07740796 A 20070327

Priority
• JP 2007057360 W 20070327
• JP 2006087723 A 20060328

Abstract (en)
[origin: EP2028284A1] A high strength seamless steel pipe for machine structure use superior in toughness and weldability characterized by containing, by mass%, C: 0.03 to less than 0.1%, Mn: 0.8 to 2.5%, Ti: 0.005 to 0.035%, Nb: 0.003 to 0.04%, and B: 0.0003 to 0.003%, limiting Si: 0.5% or less, Al: 0.05% or less, P: 0.015% or less, S: 0.008% or less, and N: 0.008% or less, further containing one or more of Ni: 0.1 to 1.5%, Cr: 0.1 to 1.5%, Cu: 0.1 to 1.0%, and Mo: 0.05 to 0.5%, and having a balance of Fe and unavoidable impurities, the metallurgical structure being a single phase structure of self-tempered martensite or a mixed phase structure of self-tempered martensite and lower bainite.

IPC 8 full level
C22C 38/00 (2006.01); **B21B 17/00** (2006.01); **B21B 45/02** (2006.01); **B21C 23/08** (2006.01); **C21D 8/10** (2006.01); **C21D 9/08** (2006.01); **C22C 38/58** (2006.01)

CPC (source: EP)
B21B 23/00 (2013.01); **C21D 1/25** (2013.01); **C21D 8/10** (2013.01); **C21D 9/08** (2013.01); **C22C 38/04** (2013.01); **C22C 38/12** (2013.01); **C22C 38/14** (2013.01); **C21D 2211/002** (2013.01); **C21D 2211/008** (2013.01)

Cited by
WO2013007729A1; US2011253265A1; EP2441854A4; US11105501B2; US9970242B2; US9540704B2; US9657365B2; US8414715B2; US8685182B2; US8926771B2; WO2014086799A1; US11833561B2; US10844669B2; US8328960B2; US11124852B2; US8221562B2; US8328958B2; US11952648B2; EP2287346B1; US9644248B2; US9803256B2; US10378074B2; US10378075B2; US11377704B2

Designated contracting state (EPC)
DE FR IT

DOCDB simple family (publication)
EP 2028284 A1 20090225; EP 2028284 A4 20101222; EP 2028284 B1 20120516; CN 101410542 A 20090415; CN 101410542 B 20130417; JP 2007262468 A 20071011; JP 4751224 B2 20110817; WO 2007114413 A1 20071011

DOCDB simple family (application)
EP 07740796 A 20070327; CN 200780011122 A 20070327; JP 2006087723 A 20060328; JP 2007057360 W 20070327