

Title (en)

STEEL MATERIAL, AND OIL-WELL STEEL PIPE FOR EXPANSION

Title (de)

STAHLMATERIAL UND ÖLQUELLENSTAHLROHR ZUR EXPANSION

Title (fr)

MATÉRIAU EN ACIER ET TUYAU EN ACIER DE Puits DE PÉTROLE DESTINÉ À LA DILATATION

Publication

EP 3202941 A4 20180418 (EN)

Application

EP 15847736 A 20150918

Priority

- JP 2014198783 A 20140929
- JP 2015076739 W 20150918

Abstract (en)

[origin: EP3202941A1] There is provided a steel material having a chemical composition consisting, by mass percent, of C: 0.6-1.8%, Si: 0.05-1.00%, Mn: >25.0-45.0%, Al: 0.003-0.06%, P: #≦0.03%, S: #≦0.03%, Cu: 0.5-3.0%, N: #≦0.10%, V: 0-2.0%, Cr: 0-3.0%, Mo: 0-3.0%, Ni: 0-1.5%, Nb: 0-0.5%, Ta: 0-0.5%, Ti: 0-0.5%, Zr: 0-0.5%, Ca: 0-0.005%, Mg: 0-0.005%, REM: 0-0.01%, B: 0-0.015%, the balance: Fe and impurities, and satisfying $0.6 < C - 0.18V < 1.44$, wherein a metal micro-structure is consisting of an austenite single phase, a yield strength is 241 MPa or higher, and a uniform elongation is 40% or higher.

IPC 8 full level

C22C 38/00 (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 38/08** (2006.01); **C22C 38/12** (2006.01); **C22C 38/14** (2006.01); **C22C 38/16** (2006.01); **C22C 38/20** (2006.01); **C22C 38/22** (2006.01); **C22C 38/32** (2006.01); **C22C 38/38** (2006.01)

CPC (source: EP RU US)

C21D 8/02 (2013.01 - EP US); **C21D 8/0205** (2013.01 - EP US); **C21D 8/0226** (2013.01 - EP US); **C21D 8/0236** (2013.01 - EP US); **C21D 8/0263** (2013.01 - EP US); **C21D 9/46** (2013.01 - EP US); **C22C 38/001** (2013.01 - EP US); **C22C 38/002** (2013.01 - EP US); **C22C 38/005** (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 38/08** (2013.01 - EP US); **C22C 38/12** (2013.01 - EP US); **C22C 38/14** (2013.01 - EP US); **C22C 38/16** (2013.01 - EP RU US); **C22C 38/20** (2013.01 - EP US); **C22C 38/22** (2013.01 - EP US); **C22C 38/32** (2013.01 - EP US); **C22C 38/38** (2013.01 - EP RU US); **C22C 38/58** (2013.01 - RU); **C21D 2211/001** (2013.01 - EP US)

Citation (search report)

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- [A] JP H10121202 A 19980512 - SUMITOMO METAL IND
- [A] US 2009074605 A1 20090319 - KIM SUNG KYU [KR], et al
- [A] JP S6039150 A 19850228 - NIPPON STEEL CORP
- [A] JP S58197256 A 19831116 - KAWASAKI STEEL CO
- [A] JP S57200543 A 19821208 - KAWASAKI STEEL CO
- See also references of WO 2016052271A1

Designated contracting state (EPC)

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