

Title (en)
HIGH-STRENGTH STEEL SHEET

Title (de)
ULTRAHOCHFESTES STAHLBLECH

Title (fr)
TÔLE D'ACIER À HAUTE RÉSISTANCE

Publication
EP 3492610 A4 20200311 (EN)

Application
EP 16910563 A 20160729

Priority
JP 2016072316 W 20160729

Abstract (en)
[origin: EP3492610A1] A high strength steel plate has a predetermined chemical composition, and in this high strength steel plate, DI is 2.0 to 7.8, Pcm is 0.189% or greater, a microstructure includes one or both of martensite and bainite such that a total area fraction thereof is 99% or greater, prior austenite grains have an aspect ratio of 2.0 or greater, a number fraction of cementite having a length of 1.0 μm or greater in a long axis direction with respect to cementite having a length of 0.1 μm or greater in the long axis direction is 5% or less, a plate thickness is 4.5 mm to 20 mm, a yield strength is 885 MPa or greater, a tensile strength is 950 MPa or greater, a total elongation is 12% or greater, and a Charpy absorbed energy at -20°C is 59 J/cm.

IPC 8 full level
C22C 38/00 (2006.01); **C21D 1/02** (2006.01); **C21D 1/60** (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 38/20** (2006.01); **C22C 38/22** (2006.01); **C22C 38/24** (2006.01); **C22C 38/26** (2006.01); **C22C 38/28** (2006.01); **C22C 38/32** (2006.01); **C22C 38/38** (2006.01); **C22C 38/40** (2006.01); **C22C 38/58** (2006.01)

CPC (source: EP KR)
C21D 1/02 (2013.01 - EP); **C21D 1/60** (2013.01 - EP); **C21D 8/0226** (2013.01 - EP); **C21D 8/0263** (2013.01 - EP); **C21D 9/46** (2013.01 - EP); **C22C 38/001** (2013.01 - EP KR); **C22C 38/002** (2013.01 - EP); **C22C 38/005** (2013.01 - EP KR); **C22C 38/02** (2013.01 - EP KR); **C22C 38/04** (2013.01 - EP KR); **C22C 38/06** (2013.01 - EP); **C22C 38/08** (2013.01 - KR); **C22C 38/12** (2013.01 - EP KR); **C22C 38/14** (2013.01 - EP KR); **C22C 38/16** (2013.01 - KR); **C22C 38/20** (2013.01 - EP); **C22C 38/22** (2013.01 - EP); **C22C 38/24** (2013.01 - EP); **C22C 38/26** (2013.01 - EP); **C22C 38/28** (2013.01 - EP); **C22C 38/32** (2013.01 - EP); **C22C 38/38** (2013.01 - EP); **C22C 38/40** (2013.01 - EP); **C21D 2211/002** (2013.01 - EP KR); **C21D 2211/003** (2013.01 - EP); **C21D 2211/008** (2013.01 - EP KR)

Citation (search report)

- [A] EP 2881486 A1 20150610 - BAOSHAN IRON & STEEL [CN]
- [A] EP 2612945 A1 20130710 - NIPPON STEEL & SUMITOMO METAL CORP [JP]
- [A] JP 2011052321 A 20110317 - JFE STEEL CORP
- See references of WO 2018020660A1

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 3492610 A1 20190605; **EP 3492610 A4 20200311**; **EP 3492610 B1 20210324**; BR 112018071948 A2 20190205; BR 112018071948 B1 20220303; CN 109154041 A 20190104; CN 109154041 B 20200731; JP 6501042 B2 20190417; JP WO2018020660 A1 20190228; KR 102142472 B1 20200807; KR 20180126591 A 20181127; WO 2018020660 A1 20180201

DOCDB simple family (application)
EP 16910563 A 20160729; BR 112018071948 A 20160729; CN 201680085629 A 20160729; JP 2016072316 W 20160729; JP 2018530300 A 20160729; KR 20187032277 A 20160729