

Title (en)

THICK STEEL PLATE HAVING EXCELLENT ULTRALOW-TEMPERATURE TOUGHNESS

Title (de)

DICKE STAHLPLATTE MIT HERVORRAGENDER BESTÄNDIGKEIT GEGEN EXTREM NIEDRIGE TEMPERATUREN

Title (fr)

PLAQUE D'ACIER ÉPAISSE DOTÉE D'UNE EXCELLENTE RÉSISTANCE À TRÈS BASSE TEMPÉRATURE

Publication

**EP 2987885 A4 20160928 (EN)**

Application

**EP 14785212 A 20140408**

Priority

- JP 2013086852 A 20130417
- JP 2014060200 W 20140408

Abstract (en)

[origin: EP2987885A1] Disclosed is a steel plate that contains predetermined steel chemical compositions. The content of Mn-containing inclusions each having a largest dimension greater than 0.1  $\mu\text{m}$  in the steel is from 0.001 to 0.07 mass percent. The fraction of a retained austenite phase existing at -196°C is from 2.0 to 12.0 volume percent.

IPC 8 full level

**C22C 38/00** (2006.01); **B22D 11/124** (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 38/18** (2006.01); **C22C 38/40** (2006.01); **C22C 38/42** (2006.01); **C22C 38/44** (2006.01); **C22C 38/46** (2006.01); **C22C 38/48** (2006.01); **C22C 38/50** (2006.01); **C22C 38/54** (2006.01); **C22C 38/58** (2006.01)

CPC (source: EP)

**C21D 9/46** (2013.01); **C22C 38/00** (2013.01); **C22C 38/001** (2013.01); **C22C 38/002** (2013.01); **C22C 38/005** (2013.01); **C22C 38/02** (2013.01); **C22C 38/04** (2013.01); **C22C 38/06** (2013.01); **C22C 38/08** (2013.01); **C22C 38/12** (2013.01); **C22C 38/14** (2013.01); **C22C 38/16** (2013.01); **C22C 38/18** (2013.01); **C22C 38/42** (2013.01); **C22C 38/44** (2013.01); **C22C 38/46** (2013.01); **C22C 38/48** (2013.01); **C22C 38/50** (2013.01); **C22C 38/54** (2013.01); **C22C 38/58** (2013.01); **C21D 2211/001** (2013.01); **C21D 2211/004** (2013.01)

Citation (search report)

- [X] WO 2012005330 A1 20120112 - NIPPON STEEL CORP [JP], et al
- [A] JP 2011241419 A 20111201 - SUMITOMO METAL IND, et al
- [A] US 4776900 A 19881011 - YANO SEINOSUKE [JP], et al
- [A] JP 2013014812 A 20130124 - NIPPON STEEL & SUMITOMO METAL CORP
- See references of WO 2014171368A1

Cited by

EP3130687A4; RU2686758C1; US11384416B2

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 2987885 A1 20160224**; **EP 2987885 A4 20160928**; CN 105102661 A 20151125; CN 105102661 B 20171114; JP 2014210948 A 20141113; JP 6055363 B2 20161227; KR 101726122 B1 20170411; KR 20150126702 A 20151112; WO 2014171368 A1 20141023

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