

Title (en)

STEEL MATERIAL, PROCESS FOR PRODUCING SAME, AND LNG TANK

Title (de)

STAHLMATERIAL, VERFAHREN ZU IHRER HERSTELLUNG UND FLÜSSIGERDGASTANK

Title (fr)

MATÉRIAUX EN ACIER, PROCÉDÉ POUR SA PRODUCTION ET CITERNE POUR GNL

Publication

EP 2871255 A4 20160106 (EN)

Application

EP 13887092 A 20130619

Priority

JP 2013066825 W 20130619

Abstract (en)

[origin: EP2871255A1] A steel is provided in which a lower limit of an amount of retained ³ at a (1/4)t location regarding a plate thickness t of the steel is 4.0 volume%, the retained ³ has a form in which an upper limit of an average of an aspect ratio thereof is 2.5 and an upper limit of an average of a major axis thereof is 0.85 µm, and an average Mn concentration in the retained ³ and an average Ni concentration in the retained ³ satisfy relationships of [Mn] retained ³ > [Mn] ± ×1.4, and [Ni] retained ³ > [Ni] ± ×1.4.

IPC 8 full level

C22C 38/00 (2006.01); **C21D 8/02** (2006.01); **C22C 38/58** (2006.01)

CPC (source: CN EP KR)

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C22C 38/002 (2013.01 - EP); **C22C 38/005** (2013.01 - CN EP); **C22C 38/008** (2013.01 - CN EP); **C22C 38/02** (2013.01 - CN EP KR);
C22C 38/04 (2013.01 - CN EP KR); **C22C 38/06** (2013.01 - CN EP KR); **C22C 38/08** (2013.01 - EP KR); **C22C 38/12** (2013.01 - EP);
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C22C 38/58 (2013.01 - CN); **F17C 1/12** (2013.01 - KR)

Citation (search report)

- [X] WO 2013046357 A1 20130404 - NIPPON STEEL & SUMITOMO METAL CORP [JP], et al
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- [X] EP 1942203 A1 20080709 - SUMITOMO METAL IND [JP]
- [A] SAITO N ET AL: "Development of heavy 9% Nickel Steel Plates with superior low temperature toughness for LNG storage tanks", NIPPON STEEL TECHNICAL REPORT OVERSEAS, NIPPON STEEL CO., TOKYO, JP, no. 58, 1 July 1993 (1993-07-01), pages 9 - 16, XP002566973, ISSN: 0300-306X
- See references of WO 2014203347A1

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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

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BA ME

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JP 5561442 B1 20140730; JP WO2014203347 A1 20170223; KR 101572786 B1 20151127; KR 20150020258 A 20150225;
WO 2014203347 A1 20141224

DOCDB simple family (application)

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