Title (en)

CU-CONTAINING LOW ALLOY COPPER HAVING EXCELLENT BALANCE BETWEEN STRENGTH AND LOW-TEMPERATURE TOUGHNESS AND METHOD FOR PRODUCING SAME

Title (de)

CU-HALTIGES NIEDRIGLEGIERTES KUPFER MIT HERVORRAGENDER BALANCE ZWISCHEN FESTIGKEIT UND NIEDRIGTEMPERATURBESTÄNDIGKEIT UND VERFAHREN ZUR HERSTELLUNG DAVON

Title (fr)

CUIVRE FAIBLEMENT ALLIÉ À TENEUR EN CU PRÉSENTANT UN EXCELLENT ÉQUILIBRE ENTRE RÉSISTANCE ET TÉNACITÉ À BASSE TEMPÉRATURE ET SON PROCÉDÉ DE PRODUCTION

Publication

EP 3421630 A4 20190102 (EN)

Application

EP 17756207 A 20170208

Priority

- JP 2016034390 A 20160225
- JP 2017004617 W 20170208

Abstract (en)

[origin: EP3421630A1] Provided is a Cu-containing low alloy steel having excellent balance between strength and low-temperature toughness. The Cu-containing low alloy steel has a chemical composition comprising, by mass%, C: 0.01 to 0.08%, Si: 0.10 to 0.40%, Mn: 0.80 to 1.80%, Ni: 0.80 to 2.50%, Cr: 0.50 to 1.00%, Cu: 0.80 to 1.50%, Mo: 0.20 to 0.60%, Al: 0.010 to 0.050%, Nb: 0.030 to 0.080%, and N: 0.005 to 0.020%, and further comprising Ca: 0.010% or less as needed, and consisting of Fe and inevitable impurities as the balance; has a 0.2% yield strength of 525 MPa or higher. The Cu-containing low alloy steel has a ductile-brittle fracture appearance transition temperature (FATT) as measured by the 2 mm V-notch Charpy impact test of -70°C or less.

IPC 8 full level

C22C 38/00 (2006.01); **C21D 6/00** (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 38/42** (2006.01); **C22C 38/44** (2006.01); **C22C 38/48** (2006.01); **C22C 38/58** (2006.01)

CPC (source: EP KR US)

C21D 1/18 (2013.01 - KR); **C21D 1/19** (2013.01 - EP US); **C21D 1/78** (2013.01 - KR); **C21D 6/00** (2013.01 - EP US); **C21D 6/002** (2013.01 - EP US); **C21D 6/004** (2013.01 - KR); **C21D 6/005** (2013.01 - EP US); **C21D 6/008** (2013.01 - EP US); **C21D 8/0205** (2013.01 - EP US); **C21D 9/46** (2013.01 - EP US); **C22C 38/00** (2013.01 - EP US); **C22C 38/001** (2013.01 - EP KR US); **C22C 38/002** (2013.01 - EP US); **C22C 38/02** (2013.01 - EP US); **C22C 38/04** (2013.01 - EP US); **C22C 38/06** (2013.01 - EP KR US); **C22C 38/42** (2013.01 - EP KR US); **C22C 38/44** (2013.01 - EP KR US); **C22C 38/48** (2013.01 - EP KR US); **C22C 38/58** (2013.01 - EP KR US)

Citation (search report)

- [IA] JP H07233438 A 19950905 - NIPPON KOKAN KK
- [A] JP H07207334 A 19950808 - NIPPON STEEL CORP
- [A] JP 3262972 B2 20020304
- [A] EP 1375681 A2 20040102 - NIPPON STEEL CORP [JP]
- See also references of WO 2017145766A1

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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EP 3421630 A1 20190102; **EP 3421630 A4 20190102**; **EP 3421630 B1 20210324**; BR 112018067794 A2 20190212; BR 112018067794 B1 20220719; JP 2017150041 A 20170831; JP 6242415 B2 20171206; KR 20180118117 A 20181030; KR 20240027879 A 20240304; US 2019055620 A1 20190221; WO 2017145766 A1 20170831

DOCDB simple family (application)

EP 17756207 A 20170208; BR 112018067794 A 20170208; JP 2016034390 A 20160225; JP 2017004617 W 20170208; KR 20187023597 A 20170208; KR 20247005834 A 20170208; US 201716079769 A 20170208