Title (en)

TWO-PHASE STAINLESS STEEL AND METHOD FOR MANUFACTURING TWO-PHASE STAINLESS STEEL

Title (de)

ZWEIPHASIGER ROSTFREIER STAHL UND VERFAHREN ZUR HERSTELLUNG VON ZWEIPHASIGEM ROSTFREIEM STAHL

Title (fr)

ACIER INOXYDABLE BIPHASIQUE ET PROCÉDÉ DE FABRICATION D'ACIER INOXYDABLE BIPHASIQUE

Publication

EP 3712289 A4 20210310 (EN)

Application

EP 18879992 A 20181114

Priority

- JP 2017220172 A 20171115
- JP 2018042114 W 20181114

Abstract (en)

[origin: EP3712289A1] A duplex stainless steel with occurrence of pitting suppressed is provided. A duplex stainless steel according to the present disclosure has a chemical composition consisting of, in mass%, Cr: more than 27.00% to 29.00%, Mo: 2.50 to 3.50%, Ni: 5.00 to 8.00%, W: 4.00 to 6.00%, Cu: 0.01 to less than 0.10%, N: more than 0.400% to 0.600%, C: 0.030% or less, Si: 1.00% or less, Mn: 1.00% or less, sol.Al: 0.040% or less, V: 0.50% or less, O: 0.010% or less, P: 0.030% or less, and S: 0.020% or less with the balance being Fe and impurities and satisfying Formula (1), a microstructure consisting of 35 to 65 volume% of ferrite phase with the balance being the austenite phase, and the area fraction of Cu precipitated in the ferrite phase is 0.5% or less.Cr+4.0×Mo+2.0×W+20×N–5×lnCu≥65.2

IPC 8 full level

C22C 38/44 (2006.01); **C21D 6/00** (2006.01); **C21D 8/02** (2006.01); **C21D 9/46** (2006.01); **C22C 38/00** (2006.01); **C22C 38/02** (2006.01); **C22C 38/04** (2006.01); **C22C 38/06** (2006.01); **C22C 38/42** (2006.01); **C22C 38/46** (2006.01); **C22C 38/54** (2006.01)

CPC (source: EP KR US)

C21D 6/00 (2013.01 - EP); **C21D 6/004** (2013.01 - EP US); **C21D 6/005** (2013.01 - US); **C21D 6/008** (2013.01 - US); **C21D 8/005** (2013.01 - US); **C21D 8/02** (2013.01 - EP); **C21D 8/0205** (2013.01 - EP); **C21D 8/0226** (2013.01 - EP); **C21D 8/0263** (2013.01 - EP); **C21D 9/46** (2013.01 - EP); **C22C 38/00** (2013.01 - EP); **C22C 38/001** (2013.01 - EP 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 US); **C22C 38/42** (2013.01 - EP KR US); **C22C 38/44** (2013.01 - EP KR US); **C22C 38/46** (2013.01 - EP KR US); **C22C 38/54** (2013.01 - EP KR US); C21D 2211/001 (2013.01 - US); C21D 2211/005 (2013.01 - EP KR US)

Citation (search report)

- [I] US 2005211344 A1 20050929 - OMURA TOMOHIKO [JP], et al
- [A] US 6312532 B1 20011106 - KANGAS PASI [SE]
- [A] US 5284530 A 19940208 - AZUMA SHIGEKI [JP], et al
- [A] US 2010316522 A1 20101216 - GOERANSSON KENNETH [SE]
- [A] US 7347903 B2 20080325 - YAMADERA YOSHIMI [JP], et al
- See references of WO 2019098233A1

Cited by

WO2023198720A1

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 3712289 A1 20200923; **EP 3712289 A4 20210310**; BR 112020009434 A2 20201103; CA 3080706 A1 20190523; CN 111344426 A 20200626; JP WO2019098233 A1 20201119; KR 20200080312 A 20200706; US 2020332378 A1 20201022; WO 2019098233 A1 20190523

DOCDB simple family (application)

EP 18879992 A 20181114; BR 112020009434 A 20181114; CA 3080706 A 20181114; CN 201880073296 A 20181114; JP 2018042114 W 20181114; JP 2019554253 A 20181114; KR 20207016636 A 20181114; US 201816759798 A 20181114