

Title (en)

A MARTENSITIC ANTIBACTERIAL STAINLESS STEEL AND MANUFACTURING METHOD THEREOF

Title (de)

ANTIBAKTERIELLER MARTENSITISCHER EDELSTAHL UND VERFAHREN ZU SEINER HERSTELLUNG

Title (fr)

ACIER INOXYDABLE ANTIBACTÉRIEN MARTENSITIQUE ET SON PROCÉDÉ DE FABRICATION

Publication

EP 2712371 A4 20141008 (EN)

Application

EP 12767409 A 20120402

Priority

- CN 201110083730 A 20110402
- IB 2012000855 W 20120402

Abstract (en)

[origin: WO2012137070A2] This invention relates to antimicrobial martensitic stainless steels with nano precipitation and their manufacturing method of melting, forging, heat treatment. As the nano e-Cu phases are precipitated in the matrix dispersedly, the martensitic stainless steels have excellent antimicrobial properties. The martensitic stainless steels may comprise from 0.35 to 1.20 weight percent C, from 12.00 to 26.90 weight percent Cr, from 0.29 to 4.60 weight percent Cu, 0.27 weight percent as less Ag, from 0.15 to 4.60 weight percent W, from 0.27 to 2.80 weight percent Ni, from 0.01 to 1.125 weight percent Nb, from 0.01 to 1.35 weight percent V, 1.8 percent or less Mn, from 0.15 to 4.90 weight percent Mo, 2.6 weight percent or less Si, 3.6 weight percent or less RE (rare earth) and the balance Fe and incidental impurities.

IPC 8 full level

C22C 38/48 (2006.01); **B21J 1/02** (2006.01); **B22D 25/06** (2006.01); **C21D 1/18** (2006.01); **C21D 1/32** (2006.01); **C21D 6/00** (2006.01); **C21D 6/02** (2006.01); **C21D 8/00** (2006.01); **C22C 33/04** (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 38/46** (2006.01); **C22C 38/50** (2006.01); **C22C 38/52** (2006.01); **C22C 38/58** (2006.01)

CPC (source: EP US)

B21J 1/02 (2013.01 - EP US); **B22D 25/06** (2013.01 - US); **C21D 1/18** (2013.01 - EP US); **C21D 1/32** (2013.01 - EP US); **C21D 6/004** (2013.01 - EP US); **C21D 6/02** (2013.01 - EP US); **C21D 8/005** (2013.01 - 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 US); **C22C 38/44** (2013.01 - EP US); **C22C 38/46** (2013.01 - EP US); **C22C 38/48** (2013.01 - EP US); **C22C 38/50** (2013.01 - EP US); **C21D 2211/008** (2013.01 - EP US)

Citation (search report)

- [XY] CN 101768700 A 20100707 - DEXIN QIU
- [YA] CN 101205592 A 20080625 - INST METAL RES CHINESE ACAD SC [CN]
- [A] CN 1948535 A 20070418 - UNIV ANHUI POLYTECHNIC [CN]
- [A] CN 1924058 A 20070307 - INST METAL RES CHINESE ACAD SC [CN]
- [A] JP H11343540 A 19991214 - NISSHIN STEEL CO LTD
- [A] JP 2000160294 A 20000613 - NISSHIN STEEL CO LTD
- See references of WO 2012137070A2

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)

WO 2012137070 A2 20121011; **WO 2012137070 A3 20130103**; CN 102168226 A 20110831; CN 102168226 B 20130410; EP 2712371 A2 20140402; EP 2712371 A4 20141008; US 2013092296 A1 20130418

DOCDB simple family (application)

IB 2012000855 W 20120402; CN 201110083730 A 20110402; EP 12767409 A 20120402; US 201213437679 A 20120402