

Title (en)

PRECIPITATION-HARDENING MARTENSITIC STAINLESS STEEL

Title (de)

PRÄZIPITATIONSSHÄRTENDER MARTENSITISCHER EDELSTAHL

Title (fr)

ACIER INOXYDABLE MARTENSITIQUE À DURCISSEMENT PAR PRÉCIPITATION

Publication

EP 4112754 A1 20230104 (EN)

Application

EP 20920783 A 20201027

Priority

- JP 2020031787 A 20200227
- JP 2020040211 W 20201027

Abstract (en)

A precipitation hardening martensite stainless steel can maintain improved strength and toughness by performing aging heat treatment, the precipitation hardening martensite stainless steel comprising: in mass%, indicated by "%", C: 0.01 to 0.05%, Si: 1.0 to 2.0%, Mn: 0.70 to 1.50%, P: not more than 0.04%, S: not more than 0.01%, Ni: 6.0 to 8.0%, Cr: 12.0 to 15.0%, Mo: 0.50 to 1.50%, Cu: 0.40 to 1.20%, Ti: 0.20 to 0.50%, Nb: 0.05 to 0.40%, N: 0.001 to 0.005%, Al: 0.001 to 0.2%, O: 0.0001 to 0.01%, with inevitable impurities and Fe being the remainder, wherein Cu phase and $\text{Ni}_{16}(\text{Ti}, \text{Nb})_6\text{Si}_7$ type intermetallic compounds phase are distributed, and Nb in the intermetallic compounds phase is 0.2 to 3.0 (at%).

IPC 8 full level

C21D 6/00 (2006.01); **C21D 8/02** (2006.01); **C21D 9/46** (2006.01); **C22C 38/00** (2006.01); **C22C 38/50** (2006.01)

CPC (source: EP)

C22C 38/002 (2013.01); **C22C 38/02** (2013.01); **C22C 38/04** (2013.01); **C22C 38/06** (2013.01); **C22C 38/42** (2013.01); **C22C 38/44** (2013.01); **C22C 38/48** (2013.01); **C22C 38/50** (2013.01); **C21D 1/26** (2013.01); **C21D 6/004** (2013.01); **C21D 8/0247** (2013.01); **C21D 9/46** (2013.01); **C21D 2211/004** (2013.01); **C21D 2211/008** (2013.01)

Citation (search report)

See references of WO 2021171698A1

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

Designated extension state (EPC)

BA ME

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

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DOCDB simple family (application)

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