

Title (en)

NICKEL-CHROMIUM-ALUMINIUM ALLOY WITH GOOD FORMABILITY, CREEP STRENGTH AND CORROSION RESISTANCE

Title (de)

NICKEL-CHROM-ALUMINIUM-LEGIERUNG MIT GUTER VERARBEITBARKEIT, KRIECHFESTIGKEIT UND KORROSIONSBESTÄNDIGKEIT

Title (fr)

ALLIAGE NICKEL-CHROME-ALUMINIUM AVEC BONNE FORMABILITÉ, LA RÉSISTANCE AU FLUAGE ET À LA CORROSION

Publication

EP 2855723 A1 20150408 (DE)

Application

EP 13731273 A 20130515

Priority

- DE 102012011161 A 20120605
- DE 2013000268 W 20130515

Abstract (en)

[origin: WO2013182177A1] The invention relates to a nickel-chromium-aluminum-iron alloy comprising (in wt.-%) 24 to 33% chromium, 1.8 to 4.0% aluminum, 0.10 to 7.0% iron, 0.001 to 0.50% silicon, 0.005 to 2.0% manganese, 0.00 to 0.60% titanium, 0.0002 to 0.05% each of magnesium and/or calcium, 0.005 to 0.12% carbon, 0.001 to 0.050% nitrogen, 0.0001 to 0.020% oxygen, 0.001 to 0.030% phosphorus, not more than 0.010% sulfur, not more than 2.0% molybdenum, not more than 2.0% tungsten, the remainder nickel and the usual process-related impurities, wherein the following relations must be satisfied: $Cr + Al \geq 28$ (2a) and $Fp \leq 39.9$ (3a) with $Fp = Cr + 0.272 \cdot Fe + 2.36 \cdot Al + 2.22 \cdot Si + 2.48 \cdot Ti + 0.374 \cdot Mo + 0.538 \cdot W - 11.8 \cdot C$ (4a), wherein Cr, Fe, Al, Si, Ti, Mo, W and C is the concentration of the respective elements in % by mass.

IPC 8 full level

C22C 19/05 (2006.01); **C22F 1/10** (2006.01)

CPC (source: EP KR RU US)

C22C 19/007 (2013.01 - EP KR RU US); **C22C 19/053** (2013.01 - EP KR RU US); **C22C 19/055** (2013.01 - EP KR RU US);
C22F 1/10 (2013.01 - EP KR RU US)

Citation (search report)

See references of WO 2013182177A1

Cited by

WO2017000932A1

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

DOCDB simple family (publication)

DE 102012011161 A1 20131205; **DE 102012011161 B4 20140618**; BR 112014024761 B1 20190326; CN 104245978 A 20141224;
CN 104245978 B 20161026; EP 2855723 A1 20150408; EP 2855723 B1 20161005; ES 2605948 T3 20170317; JP 2015524023 A 20150820;
JP 6076472 B2 20170208; KR 101668383 B1 20161021; KR 20150005706 A 20150114; MX 2014014557 A 20150305;
MX 362836 B 20190219; RU 2014153531 A 20160810; RU 2599324 C2 20161010; US 2015050182 A1 20150219; US 9657373 B2 20170523;
WO 2013182177 A1 20131212

DOCDB simple family (application)

DE 102012011161 A 20120605; BR 112014024761 A 20130515; CN 201380016391 A 20130515; DE 2013000268 W 20130515;
EP 13731273 A 20130515; ES 13731273 T 20130515; JP 2015515389 A 20130515; KR 20147034095 A 20130515; MX 2014014557 A 20130515;
RU 2014153531 A 20130515; US 201314389821 A 20130515