

Title (en)

CORROSION RESISTANT NICKEL ALLOY COMPOSITIONS WITH ENHANCED CASTABILITY AND MECHANICAL PROPERTIES

Title (de)

KORROSIONSBESTÄNDIGE NICKELLEGIERUNGSZUSAMMENSETZUNGEN MIT ERHÖHTER GIESSBARKEIT UND ERWEITERTEN MECHANISCHEN EIGENSCHAFTEN

Title (fr)

COMPOSITIONS D'ALLIAGE RÉSISTANTES À LA CORROSION AYANT UNE COULABILITÉ ET DES PROPRIÉTÉS MÉCANIQUES AMÉLIORÉES

Publication

EP 2179068 B1 20120502 (EN)

Application

EP 08794827 A 20080729

Priority

- US 2008009137 W 20080729
- US 95509207 P 20070810
- US 17398308 A 20080716

Abstract (en)

[origin: US2009041615A1] Disclosed are novel nickel-base alloy compositions that may be cast as a single crystal or directionally solidified alloy consisting essentially of, by weight: 8-12% Cr, 10-14% Co, 0.3-0.9% Mo, 3-7% W, 2-8% Ta, 2.0-5.5% Al, 1.5-5.0% Ti, up to 2% Nb, less than 0.1% B, less than 0.1% Zr, 0.05-0.15% C, less than 0.5% Hf, 2-4% Re, 0.05-0.2% Si, up to 0.015% S, up to 0.1% La, up to 0.1% Y, up to 0.1% Ce, up to 0.1% Nd, up to 0.1% Dy, up to 0.1% Pr, up to 0.1% Gd, balance is Ni, and wherein (La+Y+Ce+Nd+Dy+Pr+Gd) is 0.001-0.1%. The compositions for the nickel-base superalloy have a balance between oxidation resistance, corrosion resistance, castability, and mechanical properties, such as creep resistance and thermo-mechanical fatigue resistance.

IPC 8 full level

C22C 19/05 (2006.01); **C22C 30/00** (2006.01)

CPC (source: EP US)

C22C 19/056 (2013.01 - EP US); **C22C 19/057** (2013.01 - EP US); **C22C 30/00** (2013.01 - EP US)

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

DOCDB simple family (publication)

US 2009041615 A1 20090212; AT E556154 T1 20120515; EP 2179068 A2 20100428; EP 2179068 B1 20120502; WO 2009023090 A2 20090219; WO 2009023090 A3 20090716

DOCDB simple family (application)

US 17398308 A 20080716; AT 08794827 T 20080729; EP 08794827 A 20080729; US 2008009137 W 20080729