

Title (en)

Lower cost high strength single crystal superalloys with reduced Re and Ru content

Title (de)

Kostengünstigere hochfeste Einzelkristall-Superlegierungen mit reduziertem Re- und Ru-Gehalt

Title (fr)

Superaliages monocristallins hautement résistants et peu onéreux avec une teneur réduite en Re et en Ru

Publication

EP 2218798 A3 20111123 (EN)

Application

EP 09252708 A 20091201

Priority

US 11871408 P 20081201

Abstract (en)

[origin: US2010135846A1] A first embodiment of a nickel based alloy consists essentially of from 3.0 to 5.2 wt % chromium, from 1.5 to 3.0 wt % molybdenum, from 6.0 to 12.5 wt % tungsten, from 5.0 to 11 wt % tantalum, from 5.5 to 6.5 wt % aluminum, from 11 to 14 wt % cobalt, from 0.001 to 1.75 wt % rhenium, from 0.2 to 0.6 wt % hafnium, up to 0.05 wt % yttrium, up to 3.0 wt % ruthenium, and the balance nickel. Another embodiment of a nickel based alloy consists essentially of from 1.0 to 3.0 wt % chromium, up to 2.5 wt % molybdenum, from 11 to 16 wt % tungsten, from 4.0 to 8.0 tantalum, from 5.7 to 6.5 wt % aluminum, from 11 to 15 wt % cobalt, from 2.0 to 4.0 wt % rhenium, from 0.2 to 0.6 wt % hafnium, up to 0.05 wt % yttrium, up to 3.0 wt % ruthenium, and the balance nickel.

IPC 8 full level

C22C 19/05 (2006.01)

CPC (source: EP US)

C22C 19/057 (2013.01 - EP US)

Citation (search report)

- [X] EP 1571297 A2 20050907 - UNITED TECHNOLOGIES CORP [US]
- [X] EP 1057899 A2 20001206 - GEN ELECTRIC [US]
- [X] EP 1930455 A1 20080611 - NAT INST FOR MATERIALS SCIENCE [JP]
- [X] EP 1184473 A2 20020306 - TOSHIBA KK [JP], et al
- [X] EP 0362661 A1 19900411 - GEN ELECTRIC [US]

Cited by

EP2314727A1; EP2305848A1; WO2013083101A1; US9850765B2; EP2314727B1

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 MK MT NL NO PL PT RO SE SI SK SM TR

Designated extension state (EPC)

AL BA RS

DOCDB simple family (publication)

US 2010135846 A1 20100603; EP 2218798 A2 20100818; EP 2218798 A3 20111123; EP 2218798 B1 20160914; EP 3141623 A1 20170315; EP 3141623 B1 20190529

DOCDB simple family (application)

US 62723209 A 20091130; EP 09252708 A 20091201; EP 16181107 A 20091201