

Title (en)

Reduced-tantalum superalloy composition and article made therefrom, and method for selecting a reduced-tantalum superalloy

Title (de)

Superlegierung mit reduziertem Tantalgehalt und Produkt daraus, und Methode zur Auswahl einer Superlegierung mit reduziertem Tantalgehalt

Title (fr)

Superaliage ayant un taux réduit de tantale et produit fabriqué à partir de cet alliage, et méthode de sélection d'un alliage avec un taux réduit de tantale

Publication

EP 1394278 A1 20040303 (EN)

Application

EP 03255313 A 20030827

Priority

US 22974102 A 20020827

Abstract (en)

A superalloy article (20) has a composition consisting essentially of, in weight percent, from about 4 to about 12 percent cobalt, from about 3.5 to about 7 percent tungsten, from about 2 to about 9 percent chromium, from about 0.5 to about 4.5 percent tantalum, from about 5.5 to about 7.5 percent aluminum, from 0 to about 5.5 percent rhenium, from about 0.1 to about 1.2 percent titanium, from 0 to about 3 percent molybdenum, from 0 to about 3 percent ruthenium, from about 0.5 to about 2 percent columbium, about 0.01 percent maximum boron, about 0.07 percent maximum carbon, from about 0.3 to about 1 percent hafnium, about 0.01 percent maximum zirconium, about 0.03 percent maximum yttrium, from 0 to about 0.5 percent vanadium, about 0.01 percent maximum cerium, and about 0.01 percent maximum lanthanum, balance nickel and impurity elements. The article (20) is preferably substantially a single crystal or oriented polycrystal in a shape such as a gas turbine blade (22). <IMAGE>

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C22C 19/05

IPC 8 full level

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CPC (source: EP US)

C22C 19/057 (2013.01 - EP US)

Citation (search report)

- [X] EP 0848071 A1 19980617 - UNITED TECHNOLOGIES CORP [US]
- [X] EP 0637476 A1 19950208 - HITACHI LTD [JP], et al
- [X] EP 0789087 A1 19970813 - HITACHI LTD [JP], et al

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