

Title (en)

Oxidation resistant nickel based super alloy

Title (de)

Oxidationsbeständige Superlegierung auf Nickelbasis

Title (fr)

Superaliage à base de nickel résistant à l'oxydation

Publication

**EP 0683239 B1 19990120 (EN)**

Application

**EP 94303644 A 19940520**

Priority

- EP 94303644 A 19940520
- JP 12211394 A 19940603

Abstract (en)

[origin: EP0683239A1] A nickel superalloy is disclosed having superior resistance to oxidation under conditions such as those encountered in jet engines. The superalloy comprises 0.25 to 0.40 weight percent zirconium, 0.004 to 0.010 weight percent boron, 5.0 to 8.0 weight percent aluminum, 5.0-12.0 weight percent chromium, 0.75-2.0 weight percent hafnium, 0-10.0 weight percent cobalt, 0-12 weight percent tungsten, 0-12 weight percent molybdenum, 0-12 weight percent tantalum, 0-12 weight percent titanium, 0-2 weight percent niobium, 0.06-0.20 weight percent carbon and the balance nickel and inevitable impurities. Under burner rig oxidation conditions, this alloy can form a zirconium stabilized alumina barrier layer which greatly reduces the oxidation rate of the alloy. A method of making the superalloy and a method for casting the engine components made of the superalloy are also disclosed. <IMAGE>

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IPC 8 full level

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CPC (source: EP)

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Cited by

EP2145968A1; US2014134353A1; US8858873B2; US10933469B2; US8431073B2; WO2010006974A1; EP2913417B1

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