

Title (en)

Superalloy optimized for high-temperature performance in high-pressure turbine disks

Title (de)

Superlegierung mit optimiertem Hochtemperaturwirkungsgrad in Hochdruckturbinenscheiben

Title (fr)

Superaliage optimalse pour performance a haute temperature dans disques de turbine a haute pression

Publication

EP 1201777 A1 20020502 (EN)

Application

EP 00308571 A 20000929

Priority

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Abstract (en)

A superalloy has a composition of, in weight percent, from about 16.0 percent to about 22.4 percent cobalt, from about 6.6 percent to about 14.3 percent chromium, from about 1.4 percent to about 3.5 percent tantalum, from about 1.9 percent to about 4.0 percent tungsten, from about 1.9 percent to about 3.9 percent molybdenum, from about 0.03 percent to about 0.10 percent zirconium, from about 0.9 percent to about 3.0 percent niobium, from about 2.4 percent to about 4.6 percent titanium, from about 2.6 percent to about 4.8 percent aluminum, from 0 to about 2.5 percent rhenium, from about 0.02 percent to about 0.10 percent carbon, from about 0.02 percent to about 0.10 percent boron, balance nickel and minor amounts of impurities. The superalloy is advantageously utilized in aircraft gas turbine disks.

IPC 1-7

C22C 19/05

IPC 8 full level

C22C 1/04 (2006.01); **C22C 19/05** (2006.01); **C22F 1/10** (2006.01)

CPC (source: EP)

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Citation (search report)

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- [A] US 5104614 A 19920414 - DUCROCQ CHRISTIAN A B [FR], et al
- [A] EP 0248757 A1 19871209 - UNITED TECHNOLOGIES CORP [US]
- [A] CHANG M ET AL: "DAMAGE TOLERANCE OF P/M TURBINE DISC MATERIALS", SUPERALLOYS,XX,XX, 1996, pages 677 - 685, XP000945371

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