

Title (en)

Ni based superalloy and its use as gas turbine disks, shafts and impellers

Title (de)

Ni-basis-Superlegierung und ihre Verwendung als Gasturbinen-Scheiben, -Wellen und -Laufräder

Title (fr)

Superaliage à base Ni et son utilisation comme disques, arbres et rotors de turbines à gaz

Publication

EP 1666618 B2 20150603 (EN)

Application

EP 06001713 A 20001004

Priority

- EP 06001713 A 20001004
- EP 00308759 A 20001004

Abstract (en)

[origin: EP1195446A1] An alloy which is particularly useful in aircraft gas turbine disks (22), shafts (24), and impellers (22) has a composition, in weight percent, of from about 14 percent to about 23 percent cobalt, from about 11 percent to about 15 percent chromium, from about 0.5 percent to about 4 percent tantalum, from about 0.5 to about 3 percent tungsten, from about 2.7 to about 5 percent molybdenum, from about 0.015 to about 0.15 percent zirconium, from 0.25 to about 3 percent niobium, from about 3 to about 6 percent titanium, from about 2 to about 5 percent aluminum, from 0 to about 2.5 percent rhenium, from 0 to about 2 percent vanadium, from 0 to about 2 percent iron, from 0 to about 2 percent hafnium, from 0 to about 0.1 percent magnesium from about 0.015 to about 0.1 percent carbon, from about 0.015 percent to about 0.045 percent boron, balance nickel and impurities. <IMAGE>

IPC 8 full level

C22C 19/05 (2006.01); **B22F 3/24** (2006.01); **C22C 1/04** (2006.01); **C22F 1/10** (2006.01)

CPC (source: EP)

B22F 3/24 (2013.01); **C22C 1/0433** (2013.01); **C22C 19/056** (2013.01); **C22F 1/10** (2013.01); **B22F 2003/248** (2013.01)

Citation (opposition)

Opponent :

- DE 1810246 A1 19691009 - MARTIN MARIETTA CORP
- EP 0803585 A1 19971029 - ROLLS ROYCE PLC [GB]
- DE 1608242 A1 19710114 - MARTIN MARIETTA CORP
- US 5328659 A 19940712 - TILLMAN THOMAS D [US], et al
- EP 0403682 A1 19901227 - GEN ELECTRIC [US]

Cited by

US10280498B2; US2011203707A1; US8613810B2; US10837091B2; WO2015100074A1

Designated contracting state (EPC)

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