Title (en)

NICKEL-BASED SUPERALLOY

Title (de)

NICKEL-BASIS-SUPERLEGIERUNG

Title (fr)

SUPERALLIAGE A BASE DE NICKEL

Publication

EP 1815035 A2 20070808 (DE)

Application

EP 05815708 A 20051101

Priority

- EP 2005055676 W 20051101
- CH 18972004 A 20041118

Abstract (en)

[origin: WO2006053826A2] The invention relates to a nickel-based superalloy. The inventive alloy is characterised by the following chemical composition (amount in wt. %): 7.7-8.3 Cr, 5.0-5.25 Co, 2.0-2.1 Mo, 7.8-8.3 W, 5.8-6.1 Ta, 4.9-5.1 Al, 1.3-1.4 Ti, 0.11 -0.15 Si, 0.11 -0.15 Hf, 200-750 ppm C, 50-400 ppm B, 0.1 -5 ppmS, 5-100 ppm Y and/or 5-100 ppm La, and the remainder is Ni and impurities arising from the production thereof. Said nickel-based superalloy is characterised in that it is very pourable, is highly resistant to oxidation and has a good compatibility to the TBC layers applied to the surface thereof.

IPC 8 full level

C22C 19/05 (2006.01); **C30B 11/00** (2006.01); **C30B 29/52** (2006.01)

CPC (source: EP US)

C22C 19/057 (2013.01 - EP US)

Citation (search report)

See references of WO 2006053826A2

Citation (examination)

- DE 69404455 T2 19980226 - UNITED TECHNOLOGIES CORP [US]
- TAWANCY H ET AL: "An analytical electron microscopy study of the role of La and Y during high-temperature oxidation of selected Ni-base alloys", SCRIPTA METALLURGICA ET MATERIALIA, OXFORD, GB, vol. 29, no. 5, 1 September 1993 (1993-09-01), pages 689 - 694, XP022809151, ISSN: 0956-716X, [retrieved on 19930901], DOI: 10.1016/0956-716X(93)90420-W
- M. GOEBEL ET AL: "The isothermal-oxidation behavior of several nickel-base single-crystal superalloys with and without coatings", OXIDATION OF METALS, vol. 39, no. 3-4, 1 April 1993 (1993-04-01), pages 231 - 261, XP055118081, ISSN: 0030-770X, DOI: 10.1007/BF00665614

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Designated extension state (EPC)

AL BA HR MK YU

DOCDB simple family (publication)

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EP 2005055676 W 20051101; AR P050104755 A 20051111; CA 2586974 A 20051101; CN 200580039370 A 20051101; EP 05815708 A 20051101; JP 2007541905 A 20051101; US 74321807 A 20070502