

Title (en)
High-temperature-resistant cobalt-base superalloy

Title (de)
Hochtemperaturbeständige Kobaltbasis-Superlegierung

Title (fr)
Support d'enregistrement d'informations optiques, substrat et procédé de fabrication pour le support d'enregistrement d'informations optiques

Publication
EP 2163656 A1 20100317 (DE)

Application
EP 09168496 A 20090824

Priority
CH 14332008 A 20080908

Abstract (en)
A cobalt-base super alloy contains (in wt.%) tungsten (25-28, preferably 26), aluminum (3-8, preferably 3.4), tantalum (0.5-6, preferably 5.1), molybdenum (0-3, preferably 2.8), carbon (0.01-0.2, preferably 0.2 or 0.02), hafnium (0.01-0.1, preferably 0.1 or 0.02), boron (0.001-0.05, preferably 0.05 or 0.002), silicon (0.01-0.1, preferably 0.1 or 0.01) and remainder of cobalt, and unavoidable impurities.

Abstract (de)
Die Erfindung betrifft eine Kobaltbasis-Superlegierung mit folgender chemischer Zusammensetzung (Angaben in Gew. -%): 25-28 W, 3-8 Al, 0.5-6 Ta, 0-3 Mo, 0.01-0.2 C, 0.01-0.1 Hf, 0.001-0.05 B, 0.01-0.1 Si, Rest Co und herstellungsbedingte Verunreinigungen. Diese Superlegierung ist durch α' -Ausscheidungen und weitere Ausscheidungsmechanismen verfestigt und weist neben guten Oxidationseigenschaften u.a. verbesserte Festigkeitswerte bei hohen Temperaturen gegenüber aus dem Stand der Technik bekannten Kobaltbasis-Superlegierungen auf.

IPC 8 full level
C22C 19/07 (2006.01)

CPC (source: EP US)
C22C 19/07 (2013.01 - EP US)

Citation (applicant)

- D.H. PING ET AL.: "Microstructural Evolution of a Newly Developed Strengthened Co-base Superalloy", VACUUM NANOELECTRONICS CONFERENCE, 2006
- "50th International Field Emission Symposium.", IVNC/IFES 2006, TECHNICAL DIGEST. 19TH INTERNATIONAL, July 2006 (2006-07-01), pages 513 - 514
- AKANE SUZUKI; GARRET C. DE NOLF; TRESA M. POLLOCK: "High Temperature Strength of Co-based γ/γ' Superalloys", MATER. RES. SOC. SYMP. PROC., vol. 980, 2007

Citation (search report)

- [A] EP 1925683 A1 20080528 - JAPAN SCIENCE & TECH AGENCY [JP]
- [A] GB 1516795 A 19780705 - UNITED TECHNOLOGIES CORP
- [DA] AKANE SUZUKI ET AL: "High temperature strength of Co-based gamma/gamma' superalloys", MAT. RES. SYMP, MATERIALS RESEARCH SOCIETY, USA, vol. 980, 1 January 2007 (2007-01-01), pages 499 - 504, XP009108271, ISBN: 978-1-55899-828-5
- [A] SATO J ET AL: "Cobalt-Base High-Temperature Alloys", SCIENCE, AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, WASHINGTON, DC; US, vol. 312, no. 5770, 7 April 2006 (2006-04-07), pages 90 - 91, XP009108280, ISSN: 0036-8075

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Designated contracting state (EPC)
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