

Title (en)

Ni base alloy and gas turbine blade and gas turbine utilizing the same

Title (de)

Ni-Basislegierung und Gasturbinenschaufel und Gasturbine damit

Title (fr)

Alliage à base de Ni et pale de turbine à gaz et turbine à gaz l'utilisant

Publication

EP 2703507 A1 20140305 (EN)

Application

EP 13180298 A 20130813

Priority

JP 2012189418 A 20120830

Abstract (en)

An Ni base alloy uses GTD-111 as a base to improve high-temperature strength while maintaining the weldability and corrosion resistance and a gas turbine blade (2, 11-14) utilizes the Ni base alloy. The Ni base alloy contains Al of 2.5 to 3.5%, Co of 1.5 to 5.5%, Cr of 11.8 to 13.8%, Mo of 0.4 to 1.4%, Ta of 3.0 to 5.0%, Ti of 5.1 to 6.1%, W of 3.3 to 4.3%, B of 0.01 to 0.02%, C of 0.08 to 0.12% in mass % and remainder containing Ni and inevitable impurities and does not substantially contain Nb.

IPC 8 full level

C22C 19/05 (2006.01); **F01D 5/00** (2006.01); **F01D 5/28** (2006.01)

CPC (source: EP US)

C22C 19/056 (2013.01 - EP US); **F01D 5/147** (2013.01 - US); **C22F 1/10** (2013.01 - EP US); **F01D 5/28** (2013.01 - EP US)

Citation (applicant)

- US 6416596 B1 20020709 - WOOD JOHN H [US], et al
- JP 2004197131 A 20040715 - HITACHI LTD [JP]

Citation (search report)

- [A] EP 2169087 A2 20100331 - HITACHI LTD [JP]
- [A] EP 1207212 A2 20020522 - ROLLS ROYCE PLC [GB]
- [A] EP 0637476 A1 19950208 - HITACHI LTD [JP], et al
- [A] EP 0387976 A2 19900919 - INST METAL RES ACADEMIA SINICA [CN]
- [A] EP 2298946 A2 20110323 - HITACHI LTD [JP]

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 2703507 A1 20140305; **EP 2703507 B1 20160120**; JP 2014047371 A 20140317; US 2014064982 A1 20140306

DOCDB simple family (application)

EP 13180298 A 20130813; JP 2012189418 A 20120830; US 201313972517 A 20130821