

Title (en)

METHOD OF REPAIRING A COMPONENT WITH AN ORIENTED MICROSTRUCTURE

Title (de)

VERFAHREN ZUM REPARIEREN EINES BAUTEILS MIT EINER GERICHTETEN MIKROSTRUKTUR

Title (fr)

PROCEDE DE REPARATION D'UN COMPOSANT AYANT UNE MICROSTRUCTURE ORIENTEE

Publication

EP 1931498 A1 20080618 (DE)

Application

EP 06793849 A 20060927

Priority

- EP 2006066779 W 20060927
- EP 05021898 A 20051007
- EP 06793849 A 20060927

Abstract (en)

[origin: EP1772228A1] The method for repairing gas turbine base material component (406), comprises cleaning the repairing place, filling the repairing place (420) with filler material composition and carrying out heat treatment in the area of repairing place. The filler material exhibits micro- and/or nanoscale particle. The gas turbine base material component is arranged with a microstructure. A measurement for preventing the oxidation of the filler material, is taken in the filling of the repair place. The filler material exhibits two material components with a eutectic mixture ratio. The method for repairing gas turbine base material component (406), comprises cleaning the repairing place, filling the repairing place (420) with filler material composition and carrying out heat treatment in the area of repairing place. The filler material exhibits micro- and/or nanoscale particle. The gas turbine base material component is arranged with a microstructure. A measurement for preventing the oxidation of the filler material, is taken in the filling of the repair place. The filler material exhibits two material components with a eutectic mixture ratio. The temperature and hold time of the heat treatment are coordinated on the filler material composition and the base material component that results an epitaxial binding of the filler material takes place at the surrounding base material. A cool gas injecting method (426) is used for filling the repairing place and enables low temperature of the injected particles. The particles are surrounded by a covering that is developed from the base material component, when filling the repairing place. A fracture in the base material (420) is repaired in such a manner that a fracture end is filled with micro or nanoscale particle.

IPC 8 full level

B23P 6/04 (2006.01); **C30B 33/00** (2006.01)

CPC (source: EP US)

B23P 6/007 (2013.01 - EP US); **B23P 6/045** (2013.01 - EP US); **C30B 29/52** (2013.01 - EP US); **C30B 33/00** (2013.01 - EP US); **F01D 5/005** (2013.01 - EP US); **F05D 2230/30** (2013.01 - EP US); **F05D 2230/40** (2013.01 - EP US); **F05D 2230/80** (2013.01 - EP US); **F05D 2300/605** (2013.01 - EP US); **F05D 2300/606** (2013.01 - EP US); **F05D 2300/607** (2013.01 - EP US); **Y02T 50/60** (2013.01 - US)

Citation (search report)

See references of WO 2007042395A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

EP 1772228 A1 20070411; CN 101277782 A 20081001; CN 101277782 B 20101117; CN 102029499 A 20110427; EP 1931498 A1 20080618; US 2009297701 A1 20091203; WO 2007042395 A1 20070419

DOCDB simple family (application)

EP 05021898 A 20051007; CN 200680036860 A 20060927; CN 201010289051 A 20060927; EP 06793849 A 20060927; EP 2006066779 W 20060927; US 8303506 A 20060927