Title (en)

HEAT-INSULATING PROTECTIVE LAYER FOR A COMPONENT LOCATED WITHIN THE HOT GAS ZONE OF A GAS TURBINE

Title (de)

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Title (fr)

COUCHE DE PROTECTION CALORIFUGE DESTINÉE À UN COMPOSANT SITUÉ DANS LA ZONE DES GAZ CHAUDS D'UNE TURBINE À GAZ

Publication

EP 1945834 B1 20170104 (DE)

Application

EP 06818401 A 20061107

Priority

- EP 2006010655 W 20061107
- DE 102005053531 A 20051108

Abstract (en)

[origin: WO2007054265A2] Disclosed is a heat-insulating protective layer for a component located within the hot gas zone of a gas turbine. Said protective layer is composed of an adhesive layer, a diffusion layer, and a ceramic layer which is applied to the high temperature-resistant basic metal of the component. The adhesive layer comprises a metal alloy [MCrAlY (M = Ni, Co)] containing Ni, Co, Cr, Al, Y, the diffusion layer is produced by calorizing the adhesive layer, and the ceramic layer is composed of ZrO2 which is partially stabilized by means of yttrium oxide. One or several chemical metal elements that have a large atomic diameter and are selected among the group comprising Re, W, Si, Hf, and/or Ta are alloyed to the material of the adhesive layer. The adhesive layer has the following chemical composition after being applied: Co 15 to 30 percent, Cr 15 to 25 percent, Al 6 to 13 percent, Y 0.2 to 0.7 percent, Re up to 5 percent, W up to 5 percent, Si up to 3 percent, Hf up to 3 percent, Ta up to 5 percent, the remainder being composed of Ni.

IPC 8 full level

C23C 28/00 (2006.01); **C23C 30/00** (2006.01)

CPC (source: EP US)

C23C 10/02 (2013.01 - EP US); **C23C 28/321** (2013.01 - EP US); **C23C 28/3215** (2013.01 - EP US); **C23C 28/325** (2013.01 - EP US); **C23C 28/345** (2013.01 - EP US); **C23C 28/3455** (2013.01 - EP US); Y10T 428/31678 (2015.04 - EP US)

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)

DE 102005053531 A1 20070510; CA 2629066 A1 20070518; CN 101351576 A 20090121; EP 1945834 A2 20080723; EP 1945834 B1 20170104; JP 2009515048 A 20090409; RU 2008118065 A 20091220; US 2009011260 A1 20090108; US 9139896 B2 20150922; WO 2007054265 A2 20070518; WO 2007054265 A3 20071101

DOCDB simple family (application)

DE 102005053531 A 20051108; CA 2629066 A 20061107; CN 200680041461 A 20061107; EP 06818401 A 20061107; EP 2006010655 W 20061107; JP 2008539322 A 20061107; RU 2008118065 A 20061107; US 8472606 A 20061107