

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

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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 ZrO<sub>2</sub> 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

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CPC (source: EP US)

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