

Title (en)  
Coating system for a component having a thermal barrier coating and an erosion resistant coating, method for manufacturing and method for using said component

Title (de)  
Schichtsystem für ein Bauteil mit Wärmedämmschicht und metallischer Erosionsschutzschicht, Verfahren zur Herstellung und Verfahren zum Betreiben einer Dampfturbine

Title (fr)  
Composant ayant un revêtement avec une barrière thermique et une couche résistante à l'érosion, procédé de manufacture et méthode pour son utilisation

Publication  
**EP 1734145 A1 20061220 (DE)**

Application  
**EP 05012633 A 20050613**

Priority  
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Abstract (en)  
Gas- or steam-turbine component has a substrate layer (4) under a metal bonding layer (10), a ceramic heat insulation layer (7) and an upper anti-erosion layer (13). The materials making up the bonding layer and anti-erosion layer are the same or of nearly the same composition. Metal bonding layer and anti-erosion layer are an MCrAlX alloy. The bonding layer has 29-31% wt. Nickel, 27-29% wt. Chromium, 7-8% wt. Aluminum, 0.5-0.7% wt. Yttrium and 0.3-0.7% wt. Silicon; the residue is cobalt. The anti-erosion layer consists of 11-13% wt cobalt, 20-22% wt. Chromium, 10.5-11.5% aluminum, 0.3-0.5% Yttrium and 1.5-2.5% Wt. Rhenium; the residue is Nickel. Also claimed is a process to operate a commensurate steam turbine.

IPC 8 full level  
**C23C 4/06** (2006.01); **C23C 28/00** (2006.01); **C23C 30/00** (2006.01); **F01D 5/28** (2006.01)

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**EP 05012633 A 20050613**; CN 200680021099 A 20060317; EP 06725133 A 20060317; EP 2006060835 W 20060317; JP 2008515158 A 20060317; US 92214906 A 20060317