

Title (en)

Thermal barrier coating system for a high Titanium content superalloy substrate and method for applying the substrate with the thermal barrier system

Title (de)

Wärmesperrenbeschichtungssystem für Superlegierung mit hohem Titangehalt und Verfahren zur Anwendung des Substrats mit dem Wärmesperrenbeschichtungssystem

Title (fr)

Système de revêtement de barrière thermique pour un substrat de superalliage à contenu élevé en titane et procédé pour appliquer le substrat avec le système de barrière thermique

Publication

**EP 2236651 A1 20101006 (EN)**

Application

**EP 09004849 A 20090401**

Priority

EP 09004849 A 20090401

Abstract (en)

Thermal barrier coating system for a high Titanium content superalloy substrate and method for applying the substrate with the thermal barrier system A thermal barrier coating system for a high Titanium content superalloy substrate comprises a first bondcoat layer being applied to the substrate surface and adhering thereon, a second bondcoat layer being applied to the first bondcoat layer and adhering thereon, and a thermal barrier topcoat layer made of a ceramic material and being applied to the second bondcoat layer and adhering thereon in such a way that the surface of said substrate is protected from corrosion, oxidation and high temperature thermal exposure, wherein the first bondcoat layer and the second bondcoat layer are made of metal material alloys having similar compositions but different phase structures so that the combination of both bondcoat layers is to inhibit diffusion of Titanium from the substrate material into the second bondcoat layer surface beneath the topcoat layer and to keep bondcoat functions.

IPC 8 full level

**C23C 28/00** (2006.01)

CPC (source: EP)

**C23C 28/321** (2013.01); **C23C 28/3455** (2013.01)

Citation (search report)

- [X] EP 1327702 A1 20030716 - ALSTOM SWITZERLAND LTD [CH]
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- [A] US 2007190354 A1 20070816 - TAYLOR THOMAS A [US]

Cited by

GB2606327A; GB2606327B; US11306387B2; WO2021146231A1

Designated contracting state (EPC)

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Designated extension state (EPC)

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