

Title (en)

Method for forming a thermal barrier coating

Title (de)

Verfahren zur Bildung einer Wärmedämmschicht

Title (fr)

Procédé de formation d'un revêtement de barrière thermique

Publication

EP 1908857 A3 20091014 (EN)

Application

EP 07117636 A 20071001

Priority

US 54360906 A 20061005

Abstract (en)

[origin: EP1908857A2] Method including providing a nickel aluminide intermetallic overlay coating (24) on a superalloy substrate (22) and growing a controlled aluminum oxide on the overlay coating. The overlay coating is pre-oxidized to promote the growth of predominantly alpha phase alumina scale (28). The pre-oxidizing conditions may include heating the coated substrate to 1121 °C for two to eight hours under vacuum. The pre-oxidized overlay coating may be used as an environmental coating or as a bond coat for a thermally insulating ceramic barrier coating (26).

IPC 8 full level

C23C 4/08 (2006.01); **C23C 4/18** (2006.01); **C23C 30/00** (2006.01)

CPC (source: EP)

C23C 4/073 (2016.01); **C23C 4/18** (2013.01); **C23C 30/00** (2013.01)

Citation (search report)

- [PX] EP 1754801 A2 20070221 - MTU AERO ENGINES GMBH [DE]
- [XY] EP 0733723 A1 19960925 - HOWMET CORP [US]
- [X] EP 1167575 A2 20020102 - GEN ELECTRIC [US]
- [Y] EP 1273681 A2 20030108 - GEN ELECTRIC [US]

Cited by

CN110573658A; EP2365107A1; EP2365104A1; US8481117B2; US9315905B2; US9181814B2; WO2013171547A1; US9581042B2; WO2020180325A1

Designated contracting state (EPC)

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Designated extension state (EPC)

AL BA HR MK RS

DOCDB simple family (publication)

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DOCDB simple family (application)

EP 07117636 A 20071001; BR PI0705144 A 20071003; CA 2604570 A 20070927; JP 2007259328 A 20071003; SG 2007166523 A 20071005; SG 2010023398 A 20071005