

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)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA HR MK RS

DOCDB simple family (publication)

**EP 1908857 A2 20080409; EP 1908857 A3 20091014**; BR PI0705144 A 20081021; CA 2604570 A1 20080405; JP 2008095191 A 20080424; SG 141412 A1 20080428; SG 161232 A1 20100527

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