

Title (en)

Enhanced cooling arrangement for a turbomachine component

Title (de)

Verbesserte Kühlanordnung für eine Turbomaschinenkomponente

Title (fr)

Agencement de refroidissement amélioré pour composant de turbomachine

Publication

EP 2857636 A1 20150408 (EN)

Application

EP 13186903 A 20131001

Priority

EP 13186903 A 20131001

Abstract (en)

The invention addresses the issue of local over temperature of a turbomachine blade due to loss of protective thermal barrier coating (TBC). In predefined areas of the blade's (1) outer wall (21) recesses (73) are placed. The outer wall's thickness at the locations (72, d2) of the recesses is less than in regions (71, d1) surrounding the recess. In case of an over temperature due to a TBC loss, the thinner walls (d2) of the recess at the location of the TBC loss will melt away faster than the material of the thicker walls (d1) surrounding the recess. This will open up a hole (74) in the outer wall such that cooling fluid from the underlying core passage way can exit the blade, resulting in a film cooling effect. This cooling will protect the blade at least temporarily and guarantee a proper functioning until the next inspection.

IPC 8 full level

F01D 5/18 (2006.01); **C23C 28/00** (2006.01); **F01D 5/28** (2006.01)

CPC (source: EP)

F01D 5/186 (2013.01); **F01D 5/187** (2013.01); **F01D 5/20** (2013.01); **F01D 5/288** (2013.01); **F01D 11/08** (2013.01)

Citation (search report)

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Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 2857636 A1 20150408

DOCDB simple family (application)

EP 13186903 A 20131001