

Title (en)

COOLED COMPONENT FOR A GAS TURBINE

Title (de)

GEKÜHLTES BAUELEMENT FÜR EINE GASTURBINE

Title (fr)

ÉLÉMENT STRUCTURAL REFROIDI POUR TURBINE À GAZ

Publication

EP 2384392 B1 20170531 (DE)

Application

EP 10701375 A 20100128

Priority

- EP 2010051018 W 20100128
- CH 1402009 A 20090130

Abstract (en)

[origin: WO2010086381A1] In order to cool a wall (12a), the front side of which is thermally loaded, a cooled component (10) for a gas turbine comprises a plurality of pins (15) that are distributed in a planar arrangement (17) on the rear side of the wall (12a) and project from the wall, and means (14, 16) for producing jets of a cooling medium, said jets being directed to the rear side of the wall (12a) in the region of the pins (15) and being used for impingement cooling. In order to better cool such a component, the pins (15) are more densely distributed in critical zones (Ac) of the component than in the remaining regions.

IPC 8 full level

F01D 5/18 (2006.01); **F01D 25/12** (2006.01)

CPC (source: EP US)

F01D 5/187 (2013.01 - EP US); **F01D 25/12** (2013.01 - EP US); **F05D 2240/81** (2013.01 - EP US); **F05D 2260/201** (2013.01 - EP US)

Citation (opposition)

Opponent : **Siemens**

- EP 0889201 A1 19990107 - ABB RESEARCH LTD [CH]
- US 2002062945 A1 20020530 - HOCKER RAINER [DE], et al
- US 6779597 B2 20040824 - DEMARCHE THOMAS EDWARD [US], et al
- US 4712979 A 19871215 - FINGER STEPHEN N [US]
- US 7621718 B1 20091124 - LIANG GEORGE [US]
- US 2003039537 A1 20030227 - ITZEL GARY MICHAEL [US], et al
- US 2008166240 A1 20080710 - SCOTT ROBERT KENMER [US], et al
- WO 9412770 A1 19940609 - UNITED TECHNOLOGIES CORP [US]
- US 2008170946 A1 20080717 - BRITTINGHAM ROBERT [US], et al
- US 2005175444 A1 20050811 - LIANG GEORGE [US]
- US 5321951 A 19940621 - FALLS STEPHEN W [US], et al
- DE 2343673 A1 19740314 - GEN ELECTRIC
- EP 1813868 A2 20070801 - ROLLS ROYCE PLC [GB]
- EP 1983265 A2 20081022 - ROLLS ROYCE DEUTSCHLAND [DE]
- RU 2009331 C1 19940315 - N PROIZV PREDPR Z IM V YA KLIM [RU]
- WO 2006045758 A1 20060504 - SIEMENS AG [DE], et al
- US 6402464 B1 20020611 - CHIU RONG-SHI PAUL [US], et al
- G.E. ANDREWS ET AL.: "Proceedings of ASME Turbo Expo 2004 GT2004-54184", ENHANCED IMPINGEMENT HEAT TRANSFER: THE INFLUENCE OF IMPINGEMENT X/D FOR INTERRUPTED RIB OBSTACLES (RECTANGULAR PIN FINS), 14 June 2004 (2004-06-14), Vienna , Austria, pages 1 - 13, XP055476624

Cited by

US11739935B1

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DOCDB simple family (publication)

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DOCDB simple family (application)

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