

Title (en)

Impingement cooling element and hot gas component with an impingement cooling element

Title (de)

Prallkühlelement sowie Heissgaskomponente mit einem Prallkühlelement

Title (fr)

Élément de refroidissement de projection et composant pour gaz chaud doté d'un élément de refroidissement de projection

Publication

EP 2022939 A1 20090211 (DE)

Application

EP 07015384 A 20070806

Priority

EP 07015384 A 20070806

Abstract (en)

The cooling element (28) has impingement cooling openings for coolant, where the cooling element is made of ceramic and is arranged in hollow chambers, which are limited by a pressure-sided wall and a suction-sided wall of a hot gas component (10). A spacer is arranged between the walls and the cooling element, and the ceramic includes reinforcement elements such as fibers. A gap (30) is provided between the walls and the cooling element, and the coolant flowing through the gap leaks through the openings. An independent claim is also included for a hot gas component with an impingement cooling element lying opposite to a wall.

Abstract (de)

Die Erfindung betrifft ein im Wesentlichen keramisches Prallkühlelement (28) für eine Heißgaskomponente (10) einer Gasturbine, bei der die Aufheizung von im Prallkühlelement (28) strömenden Kühlmittel noch vor dessen Ausblasung durch Prallkühlöffnungen (32) verringert werden kann. Hierdurch gelangt kühleres Kühlmittel zum Einsatz als bei im Stand der Technik verwendeten metallischen Prallkühlelementen.

IPC 8 full level

F01D 5/18 (2006.01); **F01D 9/02** (2006.01); **F23R 3/00** (2006.01)

CPC (source: EP)

F01D 5/188 (2013.01); **F01D 9/023** (2013.01); **F23R 3/007** (2013.01); **F05D 2260/201** (2013.01); **F05D 2300/21** (2013.01); **F05D 2300/614** (2013.01); **F23R 2900/03044** (2013.01)

Citation (search report)

- [X] EP 1801502 A2 20070627 - UNITED TECHNOLOGIES CORP [US]
- [X] EP 1284338 A2 20030219 - GEN ELECTRIC [US]
- [X] EP 1163970 A1 20011219 - GEN ELECTRIC [US]

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 2022939 A1 20090211

DOCDB simple family (application)

EP 07015384 A 20070806