

Title (en)
COOLED VANE FOR A GAS TURBINE

Title (de)
GEKÜHLTE SCHAUFEL FÜR EINE GASTURBINE

Title (fr)
AUBE REFROIDIE POUR TURBINE A GAZ

Publication
EP 2384393 B1 20170628 (DE)

Application
EP 10701389 A 20100129

Priority
• EP 2010051112 W 20100129
• CH 1422009 A 20090130

Abstract (en)
[origin: WO2010086419A1] A cooled vane (10) for a gas turbine comprises an airfoil (24) which extends between a leading edge and a trailing edge (13) in the direction of flow (25) and is respectively delimited by a wall (11 and 12) on the suction side (15) and the pressure side (16). Said walls (11, 12) enclose an interior (14), inside which cooling air flows to the trailing edge (13) in the direction of flow (25) and is discharged in the region of the trailing edge. In order to reduce aerodynamic losses on the trailing edge and the amount of cooling air used in such a vane, the wall (12) on the pressure side ends at a distance from the trailing edge (13) in the direction of flow (25) so as to form a lip (21) on the pressure side such that the cooling air is discharged from the interior (14) on the pressure side (16). Furthermore, at a distance from the trailing edge (13), the interior (14) is subdivided into a multitude of parallel cooling ducts (23) causing a great drop in pressure by means of a multitude of ribs (17) that are oriented parallel to the direction of flow (25), turbulators (18) are arranged inside the cooling ducts (23) to increase the cooling effect, and a plurality of flow barriers (20) is distributed transversely to the direction of flow within the flow path of the cooling air at a short distance upstream of the point where the cooling air is discharged from the interior (14).

IPC 8 full level
F01D 5/18 (2006.01)

CPC (source: EP US)
F01D 5/187 (2013.01 - EP US); **F05D 2240/122** (2013.01 - EP US); **F05D 2240/304** (2013.01 - EP US); **F05D 2260/2212** (2013.01 - EP US)

Cited by
CN109139128A

Designated contracting state (EPC)
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 SE SI SK SM TR

DOCDB simple family (publication)
WO 2010086419 A1 20100805; CH 700321 A1 20100730; EP 2384393 A1 20111109; EP 2384393 B1 20170628; ES 2639735 T3 20171030; RU 2011135948 A 20130310; RU 2538978 C2 20150110; US 2012020787 A1 20120126; US 8721281 B2 20140513

DOCDB simple family (application)
EP 2010051112 W 20100129; CH 1422009 A 20090130; EP 10701389 A 20100129; ES 10701389 T 20100129; RU 2011135948 A 20100129; US 201113193548 A 20110728