

Title (en)

Blading with a helical ramp having a serial impingement cooling through a system of ribs in a double shell wall

Title (de)

Beschaufelung mit einer schraubenförmigen Rampe mit serieller Prallkühlung durch ein doppelwandiges Rippensystem

Title (fr)

Aubage refroidi par rampe hélicoïdale, par impact en cascade et par système à pontets dans une double peau

Publication

EP 0887515 B1 20030813 (FR)

Application

EP 98401558 A 19980625

Priority

FR 9707988 A 19970626

Abstract (en)

[origin: EP0887515A1] The turbine blade consists of a hollow aerodynamic surface extending radially between its foot and tip, having leading and trailing edges (5,6) and concave (7) and convex (8) lateral surfaces. The interior of the blade is fed with cooling air through its foot. The blade has two radial partitions (9,10) which connect its lateral walls and divide its interior cavity into forward (11), intermediate (12) and rear sections. The forward and intermediate sections are fed with air through an inlet at the foot of the blade, the air being discharged through outlets at its head. The rear section is fed with air through a separator inlet at the foot of the blade, the air passing out through slits (19) in the blade's trailing edge. In addition, the forward section of the blade cavity has a spiral channel for the air flow, and the intermediate section has a liner (40) with perforated sides set at a distance from the blade side walls to provide impact cooling. The rear section has an additional partition, dividing it into two linked chambers (15,16).

IPC 1-7

F01D 5/18

IPC 8 full level

F01D 5/18 (2006.01); **F01D 9/02** (2006.01)

CPC (source: EP US)

F01D 5/187 (2013.01 - US); **F01D 5/188** (2013.01 - EP US); **F01D 5/189** (2013.01 - EP); **F05D 2250/15** (2013.01 - EP US); **F05D 2250/25** (2013.01 - EP US)

Cited by

EP2434096A3; EP3141699A1; CN106703899A; FR2924156A1; EP3105436A4; FR3032173A1; GB2549235A; GB2549235B; US9976441B2; US9849510B2; WO2016120561A1; US6955525B2; US10087776B2; US10739087B2; US10253986B2; US10518869B2

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