

Title (en)

Serpentine microcircuit vortex turbulators for blade cooling

Title (de)

Wirbelerzeuger in serpentinartigen Mikrokanälen zur Schaufelkühlung

Title (fr)

Générateurs de tourbillons dans microcircuits en serpents pour refroidissement d'aube

Publication

EP 1882818 A1 20080130 (EN)

Application

EP 07252837 A 20070718

Priority

- US 49140406 A 20060721
- US 48915506 A 20060718

Abstract (en)

A cooling microcircuit (100) for use in a turbine engine component (90) is provided. The cooling microcircuit has at least one leg (132) through which a cooling fluid flows. A plurality of cast vortex generators (180) are positioned within the at least one leg (132) to improve the cooling effectiveness of the cooling microcircuit (100).

IPC 8 full level

F01D 5/18 (2006.01)

CPC (source: EP)

B22C 9/04 (2013.01); **B22C 9/10** (2013.01); **F01D 5/187** (2013.01); **F05D 2230/211** (2013.01); **F05D 2250/11** (2013.01); **F05D 2250/185** (2013.01); **F05D 2260/2212** (2013.01); **F05D 2260/22141** (2013.01)

Citation (search report)

- [X] EP 0845580 A2 19980603 - TOSHIBA KK [JP]
- [X] US 5361828 A 19941108 - LEE CHING-PANG [US], et al
- [X] EP 1659264 A2 20060524 - UNITED TECHNOLOGIES CORP [US]
- [A] US 6071363 A 20000606 - O'CONNOR KURT FRANCIS [US], et al
- [A] EP 1445424 A2 20040811 - UNITED TECHNOLOGIES CORP [US]

Cited by

CN108910019A; US11136891B2; GB2473949A; GB2473949B; US8408872B2; US10233775B2; US10280785B2; US10465530B2; US10563514B2; US10107110B2; US10364684B2; US10954800B2; EP3346096B1

Designated contracting state (EPC)

DE GB

Designated extension state (EPC)

AL BA HR MK YU

DOCDB simple family (publication)

EP 1882818 A1 20080130; **EP 1882818 B1 20130605**; EP 2282009 A1 20110209

DOCDB simple family (application)

EP 07252837 A 20070718; EP 10010854 A 20070718