Title (en)

THERMALLY HIGHLY STRESSED COOLED TURBINE BLADE

Publication

EP 0132667 B1 19871028 (DE)

Application

EP 84107962 A 19840707

Priority

DE 3327218 A 19830728

Abstract (en)

[origin: US4629397A] A structural component which is coolable for use under high thermal load conditions, such as a turbine blade, has a metallic support core with cooling ducts separated by lands in its surface. The core and its cooling ducts and lands are enclosed by an inner layer of metal felt and an outer layer of heat insulating ceramic material which partially penetrates into the metal felt to form a bonding zone between the felt and the ceramic material. Thus, any heat passing through the ceramic layer is introduced into the large surface area of the metal felt enabling the latter to efficiently introduce the heat into a cooling medium flowing in the ducts, thereby preventing thermal loads from adversely affecting the metal core to any appreciable extent.

IPC 1-7

F01D 5/28; F01D 5/18

IPC 8 full level

F01D 5/18 (2006.01); **B23K 1/19** (2006.01); **B32B 15/04** (2006.01); **B32B 18/00** (2006.01); **F01D 5/28** (2006.01); **F01D 11/12** (2006.01); **F01D 25/00** (2006.01)

CPC (source: EP US)

F01D 5/284 (2013.01 - EP US); **F01D 11/12** (2013.01 - EP US); **F01D 25/005** (2013.01 - EP US); Y10S 165/907 (2013.01 - EP US); Y10T 428/12444 (2015.01 - EP US); Y10T 428/12611 (2015.01 - EP US)

Citation (examination)

W. TRAUPEL "Thermische Turbomaschinen", zweiter Band, 1982, Springer Verlag Berlin, Heidelberg, New-York, Seite 360, Abb. 19.10.7

Cited by

EP1076157A2; DE102008058142A1; EP0609795A1; DE102008058141A1; DE19937577A1; EP1076157A3; DE10024302A1; DE19928871A1; EP0199321A1; US7141128B2; EP1645347A1; US6412541B2; US6499943B1

Designated contracting state (EPC)

DE FR GB IT SE

DOCDB simple family (publication)

EP 0132667 A1 19850213; **EP 0132667 B1 19871028**; DE 3327218 A1 19850207; DE 3467016 D1 19871203; JP S6045703 A 19850312; US 4629397 A 19861216

DOCDB simple family (application)

EP 84107962 A 19840707; DE 3327218 A 19830728; DE 3467016 T 19840707; JP 15329384 A 19840725; US 62729184 A 19840702