

Title (en)
HEAT TRANSFER ENHANCEMENT STRUCTURES ON IN-LINE RIBS OF AN AEROFOIL CAVITY OF A GAS TURBINE

Title (de)
WÄRMEÜBERTRAGUNGSVERBESSERUNGSSTRUKTUREN AN INLINE-RIPPEN EINES TRAGFLÜGELHOHLRAUMS EINER GASTURBINE

Title (fr)
STRUCTURES D'AMÉLIORATION DE TRANSFERT DE CHALEUR SUR DES NERVURES EN LIGNE D'UNE CAVITÉ DE SURFACE PORTANTE D'UNE TURBINE À GAZ

Publication
EP 3460190 A1 20190327 (EN)

Application
EP 17192319 A 20170921

Priority
EP 17192319 A 20170921

Abstract (en)
A gas turbine component (1), such as a blade (38) or a vane (40, 44), having an aerofoil (60) is presented. The aerofoil has an interior surface (62) defining an aerofoil cavity (65) configured to be flowed through by cooling air. On the interior surface of the aerofoil, primary ribs extend longitudinally within the airfoil cavity along a flow direction (9) of the cooling air. Each primary rib includes a plurality of secondary heat transfer structures (80) positioned on a surface (72) of the primary ribs. The secondary heat transfer structures may be secondary ribs (82), pin-fins (90), dimples or pimples (95). A surface of the secondary heat transfer structures being continuous with the surface of the primary ribs results in an increase of the surface area of the primary ribs consequently resulting in enhancement in heat transfer, and thereby in resultant cooling, associated with the primary ribs.

IPC 8 full level
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Citation (search report)
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