

Title (en)
Gas turbine vane

Title (de)
Gasturbinenschaufel

Title (fr)
Aube de turbine à gaz

Publication
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Application
EP 10172775 A 20100813

Priority
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Abstract (en)
The invention relates to a gas turbine vane (GTV) comprising an airfoil (AF) extending along a central axis (X), a top platform (PLT) and a bottom platform (PLB) of a basic body (BB), both platforms attached to said airfoil (AF) through transition portions (TTR,BTR), wherein said top platform (PLT) and said bottom platform (PLB) are both provided with a cavity (TCV,BCV) connected by an airfoil cavity (AFCV) provided in said airfoil (AF), wherein said cavities (AF,CV,TCV,BCV) are supplied with cooling air (A) for cooling said basic body (BB), wherein an airfoil insert (AFINS) is provided in the airfoil cavity (AFCV), said airfoil insert (AFINS) channels the cooling air (A) basically along said central axis (X) and is furnished with holes (IH) facing an inner surface (IS) of the basic body (BB) to cool said basic body (BB) by a jet of cooling air (A). To improve secondary air efficiency, the invention proposes that said inner surface (IS) of said basic body (BB) is provided with a defined convex radius (RADI) in at least one of said transition portions (TTR, BTR), that an insert (INS) extends along said inner surface (IS) of said transition portion (TR) and that the insert (INS) is provided with impingement holes (IH) facing said inner surface (IS) to cool said basic body (BB) by a jet of cooling air (A).

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Citation (applicant)
US 7674092 B2 20100309 - ANNERFELDT MATS [SE], et al

Citation (search report)
• [X] EP 1908921 A2 20080409 - UNITED TECHNOLOGIES CORP [US]
• [X] EP 1626162 A1 20060215 - UNITED TECHNOLOGIES CORP [US]
• [X] EP 1674660 A2 20060628 - UNITED TECHNOLOGIES CORP [US]
• [X] EP 1452695 A1 20040901 - SNECMA MOTEURS [FR]
• [X] EP 1659265 A1 20060524 - SNECMA [FR]

Cited by
EP3656986A1; CN104929698A; US9896951B2; EP3495623A1; US10619492B2

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