

Title (en)
Method for manufacturing a turbine blade

Title (de)
Verfahren zur Herstellung einer Turbinenschaufel

Title (fr)
Procédé de fabrication d'une aube de turbine

Publication
EP 2127781 A1 20091202 (DE)

Application
EP 08009847 A 20080529

Priority
EP 08009847 A 20080529

Abstract (en)
The method comprises manufacturing an interior structure (6) of turbine shovel (5) and then recasting with a cover (10) under formation of an external form of the turbine shovel. The interior structure and the cover are produced from different metal and/or alloys. The interior structure is produced from a material with high creep resistance and the cover is produced from a material with high oxidation stability. Cool channels (7) are formed during the fabrication of the interior structure, which is cooled during the recasting in which the cooling fluid is led by the cool channels. The method comprises manufacturing an interior structure (6) of turbine shovel (5) and then recasting with a cover (10) under formation of an external form of the turbine shovel. The interior structure and the cover are produced from different metal and/or alloys. The interior structure is produced from a material with high creep resistance and the cover is produced from a material with high oxidation stability. Cool channels (7) are formed during the fabrication of the interior structure, which is cooled during the recasting in which the cooling fluid is led by the cool channels. Ceramic masking elements are secured on the interior structure before recasting the interior structure in order to recast the channels in the cover. Channels (9) are formed in the cover with the masking elements and communicate with the cooling channels in the interior structure. The channels are formed with a diffusion opening in the cover. The interior structure is molded. An independent claim is included for a repairing process for the turbine shovel.

Abstract (de)
Die Erfindung betrifft ein Verfahren zur Herstellung einer Turbinenschaufel (2, 5), bei dem zunächst eine innere Struktur (1, 6) der Turbinenschaufel (2, 5) gefertigt und dann die innere Struktur (1, 6) mit einer Umhüllung (4, 10) unter Bildung einer äußeren Form der Turbinenschaufel (2, 5) umgossen wird.

IPC 8 full level
B22D 19/08 (2006.01); **B22D 19/10** (2006.01)

CPC (source: EP)
B22D 19/08 (2013.01); **B22D 19/10** (2013.01)

Citation (applicant)
US 5296308 A 19940322 - CACCAVALE CHARLES F [US], et al

Citation (search report)
• [X] EP 1634665 A2 20060315 - UNITED TECHNOLOGIES CORP [US]
• [X] EP 1715139 A2 20061025 - UNITED TECHNOLOGIES CORP [US]
• [X] EP 1543896 A2 20050622 - UNITED TECHNOLOGIES CORP [US]
• [X] EP 1652603 A2 20060503 - UNITED TECHNOLOGIES CORP [US]

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)
AL BA MK RS

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