

Title (en)

METHOD AND DEVICE FOR PRODUCING A COMPONENT OF A TURBOMACHINE

Title (de)

VERFAHREN UND VORRICHTUNG ZUR HERSTELLUNG EINES BAUTEILS EINER STRÖMUNGSMASCHINE

Title (fr)

PROCÉDÉ ET DISPOSITIF PERMETTANT LA FABRICATION D'UN ÉLÉMENT D'UNE TURBOMACHINE

Publication

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Application

EP 10784661 A 20100930

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Abstract (en)

[origin: WO2011050765A1] The invention relates to a method for producing a component of a turbomachine, especially a hollow structural part of a turbine or a compressor. The method is characterized by the following steps: a) layer-by-layer deposition of at least one powder component material (16) onto a component platform in the region of a buildup and joining zone (14), the deposition taking place in accordance with the layer information of the component (10) to be produced; b) local layer-by-layer fusion or sintering of the component material (16) by means of energy supplied in the region of the buildup and joining zone (14), the buildup and joining zone (14) being heated to a temperature just below the melting point of the component material (16); c) layer-by-layer lowering of the component platform by a predefined layer thickness; and d) repetition of steps a) to c) until the component (10) is finished. The invention further relates to a device (30) for producing a component (10) of a turbomachine, especially a hollow structural part of a turbine or a compressor.

IPC 8 full level

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Citation (search report)

See references of WO 2011050765A1

Citation (examination)

- US 2003178395 A1 20030925 - DUGNAN MICHAEL T [US]
- US 2004112280 A1 20040617 - BECK THOMAS [DE], et al
- US 2007038176 A1 20070215 - WEBER JAN [US], et al
- MEIJER ET AL: "Laser Machining by short and ultrashort pulses, state of the art and new opportunities in the age of the photons", CIRP ANNALS, ELSEVIER BV, NL, CH, FR, vol. 51, no. 2, 1 January 2002 (2002-01-01), pages 531 - 550, XP022136741, ISSN: 0007-8506, DOI: 10.1016/S0007-8506(07)61699-0

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