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

EP 2493643 A1 20120905 (DE)

Application

EP 10784661 A 20100930

Priority

- DE 102009051479 A 20091030
- DE 2010001155 W 20100930

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

B22F 3/105 (2006.01); **B29C 67/00** (2006.01); **C30B 11/00** (2006.01)

CPC (source: EP US)

B22F 10/25 (2021.01 - EP US); **B22F 12/41** (2021.01 - EP US); **B23K 26/32** (2013.01 - EP US); **B23K 26/342** (2015.10 - EP US); **B23K 35/005** (2013.01 - EP US); **B23K 35/007** (2013.01 - EP US); **B23K 35/0244** (2013.01 - EP US); **B32B 18/00** (2013.01 - EP US); **C04B 35/16** (2013.01 - EP US); **C30B 29/52** (2013.01 - EP US); B22F 2998/00 (2013.01 - EP US); B22F 2999/00 (2013.01 - EP US); B23K 2101/001 (2018.07 - EP US); B23K 2103/14 (2018.07 - EP US); B23K 2103/26 (2018.07 - EP US); B23K 2103/52 (2018.07 - EP US); C04B 2235/6026 (2013.01 - EP US); C04B 2235/665 (2013.01 - EP US); C04B 2237/341 (2013.01 - EP US); Y02P 10/25 (2015.11 - EP US)

Citation (search report)

See references of WO 2011050765A1

Citation (examination)

- US 2003178395 A1 20030925 - DUIGNAN 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

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

DOCDB simple family (publication)

DE 102009051479 A1 20110505; EP 2493643 A1 20120905; US 10144062 B2 20181204; US 2012213659 A1 20120823; WO 2011050765 A1 20110505

DOCDB simple family (application)

DE 102009051479 A 20091030; DE 2010001155 W 20100930; EP 10784661 A 20100930; US 201013504888 A 20100930