

Title (en)
METHOD OF JOINING PARTS MADE BY ADDITIVE MANUFACTURING

Title (de)
VERFAHREN ZUR VERBINDUNG VON WERKSTÜCKEN DIE BEIM GENERATIVEN FERTIGUNGSPROZESS AUS EINEM ROHMATERIAL HERGESTELLT WERDEN

Title (fr)
PROCÉDÉ D'ASSEMBLAGE DE SEMI-PRODUITS OBTENUS PAR FABRICATION PAR MÉTHODE ADDITIVE

Publication
EP 3194097 A1 20170726 (DE)

Application
EP 15816378 A 20151202

Priority
• DE 102014226370 A 20141218
• EP 2015078295 W 20151202

Abstract (en)
[origin: WO2016096417A1] The invention provides a method (1) for the additive manufacturing of a workpiece (2) from a raw material (14), comprising at least one metal, wherein a geometric model (10) of the workpiece (2) is produced and the model (10) is divided into a plurality of individual parts (12a-12f), wherein each individual part (12a-12f) is manufactured in stages from the raw material (14), in that in a manufacturing step (32), a respective amount (34) of the raw material (14) is locally fused to an already manufactured part (13b-13e) of the respective individual part (12a-12f) using localized application of heat, and solidified in the same place, and wherein the individual parts (12a-12f) are joined by a diffusion process using the application of pressure (20a, b) and the local application of heat at the contact surfaces (24a-d), and in this way the finished workpiece (2) is joined. The invention additionally provides a workpiece (2) manufactured from a raw material (14) by means of a method (1) of this type.

IPC 8 full level
B22F 3/105 (2006.01); **B22F 3/14** (2006.01); **B22F 7/06** (2006.01)

CPC (source: CN EP US)
B22F 3/105 (2013.01 - CN US); **B22F 3/14** (2013.01 - CN); **B22F 7/062** (2013.01 - CN EP US); **B22F 10/00** (2021.01 - CN); **B22F 10/64** (2021.01 - CN EP US); **B22F 10/66** (2021.01 - CN EP US); **B23K 26/342** (2015.10 - US); **B33Y 10/00** (2014.12 - US); **B33Y 50/00** (2014.12 - US); **B33Y 80/00** (2014.12 - US); **F01D 5/147** (2013.01 - US); **B22F 10/28** (2021.01 - CN EP US); **B22F 10/38** (2021.01 - CN EP US); **B22F 2003/1051** (2013.01 - CN EP US); **B22F 2998/10** (2013.01 - CN EP US); **B23K 2101/001** (2018.07 - US); **F05D 2220/32** (2013.01 - US); **F05D 2230/22** (2013.01 - US); **F05D 2230/31** (2013.01 - US); **Y02P 10/25** (2015.11 - EP US)

Citation (search report)
See references of WO 2016096417A1

Citation (examination)
• DE 102006049216 A1 20080424 - MTU AERO ENGINES GMBH [DE]
• US 6384365 B1 20020507 - SETH BRIJ B [US], et al

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 RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
DE 102014226370 A1 20160623; CN 107107192 A 20170829; EP 3194097 A1 20170726; US 2017333995 A1 20171123;
WO 2016096417 A1 20160623

DOCDB simple family (application)
DE 102014226370 A 20141218; CN 201580069488 A 20151202; EP 15816378 A 20151202; EP 2015078295 W 20151202;
US 201515535183 A 20151202