Title (en)

IRRADIATION STRATEGY FOR A COOLABLE, ADDITIVELY MANUFACTURED STRUCTURE

Title (de)

BESTRAHLUNGSSTRATEGIE FÜR EINE KÜHLBARE, ADDITIV HERGESTELLTE STRUKTUR

Title (fr)

STRATÉGIE D'EXPOSITION À UN RAYONNEMENT D'UNE STRUCTURE FABRIQUÉE DE MANIÈRE ADDITIVE ET POUVANT ÊTRE REFROIDIE

Publication

EP 4142970 A1 20230308 (DE)

Application

EP 21731710 A 20210601

Priority

- DE 102020209239 A 20200722
- EP 2021064623 W 20210601

Abstract (en)

[origin: WO2022017670A1] The invention relates to a method for providing manufacturing instructions for the powder-bed-based additive manufacturing of a component (10). The method comprises providing first irradiation vectors (V1) for a layer (n) to be additively manufactured, which first irradiation vectors, upon appropriate irradiation by an energy beam (5), in particular a laser beam or electron beam, cause a porous structure of the layer, as well as providing the first irradiation vectors (V1) for a layer (n+1) which is to be additively manufactured and which follows the layer (n), in such a way that paths (11) of a porous structure (12) of the layer (n) and of the following layer (n+1) at least partially overlap in order to allow for a flow through the manufactured component along a build-up direction (Z). The invention also relates to a corresponding additive manufacturing method, a correspondingly manufactured component, as well as a computer program or computer program product.

IPC 8 full level

B22F 3/11 (2006.01); **B22F 5/00** (2006.01); **B22F 5/04** (2006.01); **B22F 10/28** (2021.01); **B22F 10/366** (2021.01); **B33Y 50/02** (2015.01); **B33Y 80/00** (2015.01)

CPC (source: EP US)

B22F 5/009 (2013.01 - EP); **B22F 5/04** (2013.01 - EP); **B22F 10/28** (2021.01 - EP); **B22F 10/366** (2021.01 - EP US); **B22F 10/85** (2021.01 - US); **B23K 26/342** (2015.10 - US); **B33Y 50/02** (2014.12 - EP US); **B33Y 80/00** (2014.12 - EP); B22F 3/11 (2013.01 - EP); B22F 10/28 (2021.01 - US); B22F 2005/004 (2013.01 - EP); Y02P 10/25 (2015.11 - EP)

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

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

DE 102020209239 A1 20220127; CN 115916432 A 20230404; EP 4142970 A1 20230308; US 2023294207 A1 20230921; WO 2022017670 A1 20220127

DOCDB simple family (application)

DE 102020209239 A 20200722; CN 202180049932 A 20210601; EP 2021064623 W 20210601; EP 21731710 A 20210601; US 202118014785 A 20210601