

Title (en)

ARRANGEMENT AND METHOD FOR GENERATING A LAYER OF A PARTICULATE BUILDING MATERIAL IN A 3D PRINTER

Title (de)

ANORDNUNG UND VERFAHREN ZUM ERZEUGEN EINER SCHICHT EINES PARTIKELFÖRMIGEN BAUMATERIALS IN EINEM 3D-DRUCKER

Title (fr)

SYSTÈME ET PROCÉDÉ DE GÉNÉRATION D'UNE COUCHE D'UN MATÉRIAU DE CONSTRUCTION PARTICULAIRE DANS UNE IMPRIMANTE 3D

Publication

EP 4048467 A1 20220831 (DE)

Application

EP 20808005 A 20201023

Priority

- DE 102019007480 A 20191026
- DE 2020000254 W 20201023

Abstract (en)

[origin: WO2021078316A1] The invention, which concerns an arrangement and a method for generating a layer of a particulate building material in a 3D printer, is based on the problem of providing a solution whereby an increase in the quantity of the material deposited, with the same quality being maintained, and a reduction in the forces acting on the building zone are achieved while the particulate building material is being applied, smoothed and compacted. This problem is solved with respect to the arrangement by having in the arrangement (1) that can be moved over a building zone (5) a first assembly (4a), which has a means (2) for applying the particulate building material (10) onto a building zone (5), and a second assembly (4b), which is arranged spatially at a distance from the first assembly (4a) in the arrangement (1) and has a means (3) for smoothing the particulate building material (10) applied. This problem is solved with respect to the method by providing that, in a first method step, by means of a coater arrangement (1), which is provided over a building zone (5) and can be moved over this building zone (5), the particulate building material (10) is applied on the building zone (5) and that, in a second method step, which follows at a time after the first method step and is independent thereof, a smoothing of the particulate building material (10) applied is performed, wherein the first and second method steps are carried out during a process of moving the coater arrangement (1) over the building zone (5).

IPC 8 full level

B22F 3/105 (2006.01); **B29C 64/153** (2017.01); **B33Y 10/00** (2015.01); **B33Y 30/00** (2015.01); **B33Y 40/00** (2020.01)

CPC (source: EP KR US)

B22F 10/00 (2021.01 - EP US); **B22F 10/28** (2021.01 - EP KR US); **B22F 10/37** (2021.01 - EP US); **B22F 12/63** (2021.01 - EP US); **B22F 12/67** (2021.01 - EP US); **B28B 1/001** (2013.01 - KR); **B29C 64/141** (2017.08 - KR); **B29C 64/153** (2017.08 - EP US); **B29C 64/165** (2017.08 - KR); **B29C 64/188** (2017.08 - KR); **B29C 64/205** (2017.08 - KR); **B29C 64/214** (2017.08 - EP US); **B29C 64/218** (2017.08 - EP KR US); **B29C 64/321** (2017.08 - EP); **B33Y 10/00** (2014.12 - EP KR US); **B33Y 30/00** (2014.12 - EP KR US); **B33Y 40/00** (2014.12 - EP); **B33Y 70/00** (2014.12 - KR); **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

DOCDB simple family (publication)

DE 102019007480 A1 20210429; CN 114641359 A 20220617; EP 4048467 A1 20220831; JP 2022554199 A 20221228; KR 20220088870 A 20220628; US 2022388237 A1 20221208; WO 2021078316 A1 20210429

DOCDB simple family (application)

DE 102019007480 A 20191026; CN 202080074833 A 20201023; DE 2020000254 W 20201023; EP 20808005 A 20201023; JP 2022524204 A 20201023; KR 20227015204 A 20201023; US 202017754936 A 20201023