

Title (en)

ISOTROPIC, CRACK-FREE STEEL DESIGN USING AN ADDITIVE MANUFACTURING METHOD

Title (de)

ISOTROPES, RISSFREIES STAHLDESIGN MITTELS ADDITIVER FERTIGUNGSVERFAHREN

Title (fr)

CONCEPTION D'ACIER ISOTROPE SANS FISSURE À L'AIDE D'UN PROCÉDÉ DE FABRICATION ADDITIVE

Publication

EP 4247578 A1 20230927 (DE)

Application

EP 21712073 A 20210310

Priority

- DE 102020106517 A 20200310
- EP 2021056030 W 20210310

Abstract (en)

[origin: WO2021180777A1] The invention relates to a metal powder for use in an additive manufacturing method, wherein the powder contains steel particles, wherein the steel particles comprise up to a weight percentage of greater than or equal to 0.01 wt.% and less than or equal to 5 wt.% of carbon nitride (C,N) and/or carbide (C) and/or nitride (N) selected from the group consisting of titanium, zirconium or mixtures thereof. The invention also relates to a method for producing a steel powder suitable for use in an additive manufacturing method, and to the use of the steel powder according to the invention in an additive manufacturing method.

IPC 8 full level

B22F 1/00 (2022.01); **B22F 10/20** (2021.01); **B33Y 30/00** (2015.01); **B33Y 70/00** (2020.01); **C22C 33/02** (2006.01); **C22C 38/00** (2006.01); **C22C 38/50** (2006.01)

CPC (source: EP US)

B22F 1/05 (2022.01 - EP US); **B22F 9/082** (2013.01 - EP US); **B22F 10/28** (2021.01 - EP US); **B33Y 10/00** (2014.12 - US); **B33Y 30/00** (2014.12 - EP); **B33Y 40/10** (2020.01 - US); **B33Y 70/00** (2014.12 - EP US); **C22C 33/0264** (2013.01 - EP US); **C22C 38/001** (2013.01 - US); **C22C 38/002** (2013.01 - US); **C22C 38/02** (2013.01 - EP US); **C22C 38/04** (2013.01 - EP US); **C22C 38/22** (2013.01 - EP US); **C22C 38/24** (2013.01 - EP US); **C22C 38/28** (2013.01 - EP US); **B22F 2009/0824** (2013.01 - US); **B22F 2009/0876** (2013.01 - US); **B22F 2301/35** (2013.01 - US); **B22F 2999/00** (2013.01 - EP); **Y02P 10/25** (2015.11 - EP)

C-Set (source: EP)

B22F 2999/00 + **B22F 2009/0848** + **B22F 2201/11**

Citation (search report)

See references of WO 2021180777A1

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

DOCDB simple family (publication)

DE 102020106517 A1 20210916; EP 4247578 A1 20230927; US 2023064672 A1 20230302; WO 2021180777 A1 20210916

DOCDB simple family (application)

DE 102020106517 A 20200310; EP 2021056030 W 20210310; EP 21712073 A 20210310; US 202117911038 A 20210310