

Title (en)

SELECTIVE LASER MELTING / SINTERING USING POWDERED FLUX

Title (de)

SELEKTIVES LASERSCHMELZ-/SINTERVERFAHREN MIT EINEM SCHWEISSPULVER

Title (fr)

FUSION/FRITTAGE PAR LASER DE MANIÈRE SÉLECTIVE EN UTILISANT DU FLUX EN POUDRE

Publication

EP 2950950 A1 20151209 (EN)

Application

EP 14704988 A 20140131

Priority

- US 201313755098 A 20130131
- US 2014013972 W 20140131

Abstract (en)

[origin: WO2014120991A1] An additive manufacturing process (110) wherein a powder (116) including a superalloy material and flux is selectively melted in layers with a laser beam (124) to form a superalloy component (126). The flux performs a cleaning function to react with contaminants to float them to the surface of the melt to form a slag. The flux also provides a shielding function, thereby eliminating the need for an inert cover gas. The powder may be a mixture of alloy and flux particles, or it may be formed of composite alloy/flux particles.

IPC 8 full level

B22F 1/00 (2006.01); **B22F 1/105** (2022.01); **B22F 3/105** (2006.01); **B23K 25/00** (2006.01); **B23K 26/00** (2014.01); **B33Y 70/00** (2020.01)

CPC (source: EP US)

B22F 1/105 (2022.01 - EP US); **B22F 10/25** (2021.01 - EP US); **B22F 10/28** (2021.01 - EP US); **Y02P 10/25** (2015.11 - EP)

Citation (search report)

See references of WO 2014120991A1

Designated contracting state (EPC)

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Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

WO 2014120991 A1 20140807; CN 105263667 A 20160120; EP 2950950 A1 20151209; JP 2016511697 A 20160421; KR 20150113149 A 20151007; RU 2015131615 A 20170307

DOCDB simple family (application)

US 2014013972 W 20140131; CN 201480006187 A 20140131; EP 14704988 A 20140131; JP 2015556145 A 20140131; KR 20157023573 A 20140131; RU 2015131615 A 20140131