

Title (en)

IRON BASED POWDERS FOR POWDER INJECTION MOLDING

Title (de)

PULVER AUF EISENBASIS FÜR PULVERSPRITZGIESSEN

Title (fr)

POUDRES À BASE DE FER POUR UN MOULAGE PAR INJECTION DE POUDRE

Publication

**EP 3156155 A1 20170419 (EN)**

Application

**EP 15189896 A 20151015**

Priority

EP 15189896 A 20151015

Abstract (en)

The present invention relates to a feedstock for metal injection molding, comprising a coarse stainless steel powder, having an median particle size of 20-60µm, and 99% of the particles less than 120 µm, wherein the iron-based powder comprises, by weight percent; 15-17%Cr; 3-5% Ni; 3-5% Cu; 0.15-0.45% Nb; <1.0% Mn; <1.0% Si; less than 0.08% C; and a binder.

IPC 8 full level

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Citation (applicant)

WO 2012089807 A1 20120705 - HOEGANAES AB PUBL [SE], et al

Citation (search report)

- [YDA] WO 2012089807 A1 20120705 - HOEGANAES AB PUBL [SE], et al
- [X] JOYS J ET AL: "Design of experiments (DOE) study to achieve higher mechanical properties by optimizing particle size distribution and processing parameters of 17-4PH Stainless Steel powder for Metal Injection Molding (MIM).", ADVANCES IN POWDER METALLURGY AND PARTICULATE MATERIALS, 2013, Proceedings of the 2013 international Conference on Powder Metallurgy & Particulate Materials sponsored by the Metal Powder Industries Federation, pages FP, 01-9 - 01-16, XP008179964
- [XY] MURRAY K ET AL: "Effect of particle size distribution on processing and properties of MIM 17-4PH", ADVANCES IN POWDER METALLURGY AND PARTICULATE MATERIALS - 2010, PROCEEDINGS OF THE 2010 INTERNATIONAL CONFERENCE ON POWDER METALLURGY AND PARTICULATE MATERIALS, POWDERMET 2010 - ADVANCES IN POWDER METALLURGY AND PARTICULATE MATERIALS - 2010, PROCEEDI, 2010, XP002756955

Cited by

US11939646B2; US11253957B2; WO2020172744A1

Designated contracting state (EPC)

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Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

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