

Title (en)

METHOD OF FABRICATING A STEEL PART BY POWDER METALLURGY, AND RESULTING STEEL PART

Title (de)

VERFAHREN ZUR HERSTELLUNG EINES STAHLBAUTEILS DURCH PULVERMETALLURGIE UND RESULTIERENDES STAHLTEIL

Title (fr)

PROCEDE DE FABRICATION PAR METALLURGIE DES POUDRES D'UNE PIECE EN ACIER, ET PIECE EN ACIER AINSI OBTENUE

Publication

EP 2999562 A1 20160330 (FR)

Application

EP 14727770 A 20140522

Priority

- FR 1354610 A 20130522
- EP 2014060577 W 20140522

Abstract (en)

[origin: WO2014187916A1] Method of fabricating a steel part (5) by powder metallurgy, characterized in that: - a prealloyed powder (7) is prepared having the composition desired for said part, except regarding the contents of O and N and, optionally, of C, having contents of O and N of at most 200 ppm, and having an Mn content of 0.4 to 2% by weight and a Cr content of less than or equal to 3%; - the powder (7) is placed in a container (1), the walls (2, 3) of which define a space (4), the shape of which corresponds to that of the part (5), a getter (6) being at the periphery of the powder (7), said getter (6) having the ability, at high temperature, to absorb and reduce CO and to absorb nitrogen, and the container (1) is placed under vacuum then sealed; - the container (1) and the powder (7) are brought to a temperature that leads to a sintering of the powder (7) and a densification of said powder (7) that does not exceed 5%, an emission of nitrogen and of CO from the powder (7) and the absorption thereof by the getter (6); - a densification of said powder (7) is carried out by hot isostatic pressing in order to obtain said part (5); - said part (5) is separated from the container (1) and from the getter (6); - a scalping, a heat treatment and a machining of said part (5) are carried out. Steel part thus produced.

IPC 8 full level

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CPC (source: EP US)

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Citation (search report)

See references of WO 2014187916A1

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