

Title (en)
POWDER METALLURGY PROCESS FOR PRODUCING A NET SHAPE OR NEAR NET SHAPE

Title (de)
PULVERMETALLURGISCHES VERFAHREN ZUR HERSTELLUNG EINER ENDABMESSUNGSFORM ODER ENDABMESSUNGSNAHEN FORM

Title (fr)
PROCÉDÉ DE MÉTALLURGIE DE POUDRE POUR FABRIQUER UNE FORME NETTE OU PRESQUE NETTE

Publication
EP 2217395 A1 20100818 (EN)

Application
EP 08852655 A 20081121

Priority

- GB 2008003906 W 20081121
- GB 0722850 A 20071122
- US 2293508 P 20080123

Abstract (en)
[origin: WO2009066082A1] In a hot isostatic pressing process or hot uniaxial pressing process for producing a net or near net shape product, a diffusion filter comprising boron nitride is provided between a graphite former and metal powder to be pressed thereagainst. The diffusion filter allows a controlled amount of carbon to diffuse into the surface of the pressed component. The boron nitride is conveniently applied as an aqueous slurry by spraying. In order to obtain adherence between the coating and the surfaces of the former, one or more thin ghost coat layers of slurry are applied to the surface of the graphite former before one or more layers of normal strength slurry are applied. Each layer of coating is allowed to dry before the next layer is applied, and the former may be heated to dry each layer. Pressed components of length greater than 2m can be processed, relative contraction of the component and former during cooling of the component being accommodated by the boron nitride coating on the former. The thickness of the coating can be determined by trials to achieve a controlled diffusion of carbon into the surface of the pressed component, and the dimensions of the former chosen to accommodate that thickness of coating.

IPC 8 full level
B22F 3/15 (2006.01); **C22C 1/04** (2006.01)

CPC (source: EP US)
B22F 3/15 (2013.01 - EP US); **C22C 1/0433** (2013.01 - EP US); **B22F 2999/00** (2013.01 - EP US)

Citation (search report)
See references of WO 2009066082A1

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)
AL BA MK RS

DOCDB simple family (publication)
WO 2009066082 A1 20090528; BR PI0820415 A2 20150519; BR PI0820415 B1 20170912; CA 2744268 A1 20090528; CN 101868315 A 20101020; CN 101868315 B 20130612; EA 026007 B1 20170228; EA 201000852 A1 20101029; EP 2217395 A1 20100818; EP 2217395 B1 20140723; EP 2662167 A2 20131113; EP 2662167 A3 20140305; EP 2662167 B1 20170322; ES 2511843 T3 20141023; GB 0722850 D0 20080102; MX 2010005306 A 20100831; MX 336975 B 20160209; US 2011038750 A1 20110217

DOCDB simple family (application)
GB 2008003906 W 20081121; BR PI0820415 A 20081121; CA 2744268 A 20081121; CN 200880117256 A 20081121; EA 201000852 A 20081121; EP 08852655 A 20081121; EP 13179763 A 20081121; ES 08852655 T 20081121; GB 0722850 A 20071122; MX 2010005306 A 20081121; US 73474608 A 20081121