

Title (en)  
SURFACE TREATMENT METHOD FOR POWDERED METAL MATERIAL

Title (de)  
OBERFLÄCHENBEHANDLUNGSVERFAHREN FÜR PULVERFÖRMIGES METALLMATERIAL

Title (fr)  
PROCÉDÉ DE TRAITEMENT DE SURFACE POUR MATÉRIAU MÉTALLIQUE EN POUDRE

Publication  
**EP 3047925 A4 20170607 (EN)**

Application  
**EP 14845712 A 20140917**

Priority  
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• JP 2014074518 W 20140917

Abstract (en)  
[origin: EP3047925A1] Provided is a surface treatment method for safely, simply and quickly improving a powdered metal material to be used as a material in powder metallurgy, thermal spraying, or the like. The present invention involves: using a blast-machining device equipped with a dust collection means for spraying a spray powder and compressed air inside a work space and causing the same to collide with a collidable object, and removing and recovering dust by aspirating the interior of the work space; performing a blast treatment for repeatedly causing collisions at a spraying speed of 100-300 m/sec between a powdered metal material having an average particle diameter of 10-200[μ]m, and a medium material having a hardness equal to or greater than that of the powdered metal material; and detaching a surface oxide from the powdered metal material, and forming a fine-grain region which is near the surface of the powdered metal material and has a finer grain size than that of the center section thereof. The sintered metal obtained by sintering the powdered metal material subjected to the surface treatment has a concordant composition in which the fine-grain region and the large-grain region are concordantly arranged, and exhibits a balance of high ductility and high strength.

IPC 8 full level  
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Citation (search report)  
• [X] EP 0687739 A1 19951220 - FUJI KIHAN CO LTD [JP]  
• See references of WO 2015041236A1

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