Title (en)

Method of manufacturing fully dense Nd-Fe-B magnets with enhanced coercivity and gradient microstructure

Title (de)

Verfahren zur Herstellung von völlig dichten Nd-Fe-B-Magneten mit erhöhter Koerzitivität und Gradient-Mikrostruktur

Title (fr)

Procédé de fabrication d'aimants Nd-Fe-B totalement denses à microstructure à gradient et coercivité améliorée

Publication

EP 2869311 A1 20150506 (EN)

Application

EP 13005137 A 20131029

Priority

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Abstract (en)

The present invention relates to a method of manufacturing fully dense Nd-Fe-B magnets by mixing Nd-Fe-B ribbons with a powder containing a heavy rare earth metal. The mixture comprises 1-4 wt% of the heavy rare earth metal and is in the first step spark plasma sintered to a fully dense nanocrystalline Nd-Fe-B magnet and subsequently in a second step annealed to allow the diffusion of the heavy rare earth metal. With this method an enhancement of coercivity of approximately 30 % can be achieved.

IPC 8 full level

H01F 1/057 (2006.01); **H01F 41/02** (2006.01)

CPC (source: EP)

H01F 1/0571 (2013.01); **H01F 1/0577** (2013.01); H01F 1/0572 (2013.01); H01F 41/0293 (2013.01)

Citation (applicant)

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Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

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DOCDB simple family (publication)

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