Title (en)

METHOD FOR PRODUCING A MAGNETIC ALLOY POWDER

Title (de)

VERFAHREN ZUR HERSTELLUNG EINES MAGNETLEGIERUNGSPULVERS

Title (fr)

PROCEDE POUR PRODUIRE UNE POUDRE D'ALLIAGE MAGNETIQUE

Publication

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Application

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Abstract (en)

[origin: US6352597B1] A method is disclosed enabling a technologically controllable and economical production of a hard-magnetic powder composed of a samarium-cobalt base alloy for highly coercive permanent magnets. The method is based on a HDDR treatment in which a starting powder is subjected to hydrogenation with disproportionation of the alloy in a first method step under hydrogen and, in a subsequent, second method step under vacuum conditions, a hydrogen desorption with recombination of the alloy. A starting powder containing samarium and cobalt is treated in the first method step either at a high temperature in the range of 500° C. to 900° C. and with a high hydrogen pressure of >0.5 MPa or by applying an intensive fine grinding at a low temperature in the range of 50° C. to 500° C. and with a hydrogen pressure of >0.15 MPa. By means of the method of the invention, magnetic alloy powders can be produced from samarium-cobalt base alloys; highly coercive permanent magnets can be produced from these magnetic alloy powders, particularly by hot compacting or plastic bonding.

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H01F 1/055

IPC 8 full level

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