

Title (en)

Alloying low-level additives into hot-worked Nd-Fe-B magnets.

Title (de)

Legierungsadditive in niedrigen Konzentrationen für in Hitze bearbeitete Nd-Fe-B-Magnete.

Title (fr)

Additifs d'alliage à basse concentration pour aimants Nd-Fe-B façonnés à chaud.

Publication

EP 0434113 B1 19940302 (EN)

Application

EP 90203171 A 19901201

Priority

US 45343489 A 19891219

Abstract (en)

[origin: EP0434113A2] Diffusion-alloying techniques are used to introduce low quantities of powdered metal additives into hot-worked Nd-Fe-B magnets. The powdered metal is added to rapidly solidified ribbons of the magnetic alloy prior to hot working. Diffusion-alloying during hot-working permits the final chemistry of the magnet and more specifically the grain boundaries to be determined during the final processing steps. Elements which diffuse into the matrix, such as zinc, copper and nickel, enhance the coercivity by as much as 100 percent in die-upset magnets. At optimum levels, approximately 0.5-0.8 weight percent, the metal additives do not diminish the remanence or energy product of the magnet.

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H01F 1/053

IPC 8 full level

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