Title (en)

CORROSION-RESISTANT, RARE EARTH-TRANSITION METAL MAGNET AND METHOD OF PRODUCTION THEREOF.

Title (de)

KORROSIONSBESTÄNDIGER MAGNET AUS SELTENERDÜBERGANGSMETALL UND DESSEN HERSTELLUNGSVERFAHREN.

Title (fr)

AIMANT EN METAL DE TRANSITION DE TERRES RARES RESISTANT A LA CORROSION ET PROCEDE DE PRODUCTION DE CET AIMANT.

Publication

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Application

EP 90914967 A 19901011

Priority

- JP 26394689 A 19891012
- JP 26963590 A 19901009
- JP 33502889 A 19891226
- JP 9001315 W 19901011

Abstract (en)

A rare earth-transition metal magnet is a permanent magnet alloy comprising RE where proportion RE =(10-25 atom %), B (2-20 atom %) and TM (remainder), where RE is Y, Sc or Ln or a mixt. of these and TM is Fe, Co or Ni or a mixt. of these. The magnet alloy is composed of two phases, an RE2TM14B phase having the same structure as Nd2Fe14B and an RE-TM (TM = Fe, Co or Ni) intermetal cpd. phase or an RE-TM eutectic phase and/or an RE-TM-B intermetal cpd. phase (in both, TM is Ni or a mixt. of Ni and Fe and/or Co). The RE-TM and RE-TM-B phases have lower m.pt. than the RE2TM14B phase. The ratio of the amt. of Ni and/or Co to the total amt. of TM in the low m.pt. RE-TM and RE-TM-B phases is higher than the ratio in the RE2TM14B phase. The rare earth-transition metal magnet is produced by mixing a powder contg. mainly the RE2TM14B intermetal cpd. phase with a powder contg. the RE-TM intermetal cpd. phase or the RE-TM eutectic phase and/or the RE-TM-B intermetal cpd. phase, then pressure-moulding and sintering. The m.pt. of the RE-TM and RE-TM-B phases are lower than that of the RE2TM14b phase.

Abstract (fr)

Aimant permanent biphasé présentant d'excellentes caractéristique magnétiques ainsi qu'une grande résistance à la corrosion. On le fabrique en utilisant deux phases magnétiquement favorables en tant que matériaux de départ. L'une est une phase RE2TM14B possédant une densité élevée du flux résiduel; l'autre est une phase RE-TM à bas point de fusion et/ou une phase RE-TM-B contribuant à l'amélioration de l'aptitude au frittage et présentant une fonction de nettoyage de la frontière de grain de la phase principale, permettant au matériau résultant d'être une composition électrochimiquement noble.

IPC 1-7

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IPC 8 full level

C22C 33/02 (2006.01); **C22C 1/04** (2006.01); **C22C 19/00** (2006.01); **C22C 19/07** (2006.01); **C22C 38/00** (2006.01); **H01F 1/053** (2006.01); **H01F 1/057** (2006.01); **H01F 41/02** (2006.01)

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