

Title (en)

R-T-B ALLOY, METHOD FOR PRODUCING THE SAME, FINE POWDER FOR R-T-B RARE EARTH PERMANENT MAGNET, AND R-T-B RARE EARTH PERMANENT MAGNET

Title (de)

R-T-B LEGIERUNG, HERSTELLUNGSVERFAHREN DAFÜR, FEINES PULVER FÜR EINEN PERMANENTEN R-T-B-SELTENERDMAGNETEN, UND PERMANENTER R-T-B-SELTENERDMAGNET

Title (fr)

ALLIAGE R-T-B, SON PROCEDE DE FABRICATION, POUDRE FINE POUR UN AIMANT PERMANENT DE TERRES RARES R-T-B ET AIMANT PERMANENT DE TERRES RARES R-T-B

Publication

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Application

EP 08703995 A 20080128

Priority

- JP 2008051186 W 20080128
- JP 2007025504 A 20070205

Abstract (en)

[origin: EP1988183A1] An object of the present invention is to provide an R-T-B type alloy (wherein R is at least one element selected from Sc, Y, La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Ho, Er, Tm, Yb, and Lu; T is a transition metal that contains 80% by mass or more of Fe; and B is one that contains 50% by mass or more of boron (B) and also contains at least one element of C and N within a range from 0 to less than 50% by mass) that contains at least Dy, as a raw material for a rare earth-based permanent magnet having excellent magnetic characteristics, and the R-T-B type alloy provided in the present invention includes a main phase such as an R₂T₁₄B phase for exhibiting magnetic properties; an R-rich phase that is relatively enriched with R compared to the overall alloy compositional ratio; and a Dy-rich region that is formed close to the R-rich phase and relatively enriched with Dy compared to the compositional ratio.

IPC 8 full level

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CPC (source: EP KR US)

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C-Set (source: EP US)

1. **B22F 2998/00 + B22F 9/04**
2. **B22F 2999/00 + B22F 9/04 + B22F 2201/013**

Citation (search report)

- [X] US 2004163737 A1 20040826 - TOMIZAWA HIROYUKI [JP], et al
- [X] EP 1338359 A1 20030827 - SANTOKU CORP [JP], et al
- [X] EP 1479787 A1 20041124 - NEOMAX CO LTD [JP]
- See references of WO 2008096621A1

Cited by

DE112009003804B4

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

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EP 08703995 A 20080128; CN 200880000095 A 20080128; JP 2008018041 A 20080129; JP 2008051186 W 20080128; KR 20087021142 A 20080128; RU 2008135113 A 20080128; TW 97103541 A 20080130; US 28093008 A 20080128