

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

**EP 1988183 A1 20081105 (EN)**

Application

**EP 08703995 A 20080128**

Priority

- JP 2008051186 W 20080128
- JP 2007025504 A 20070205

Abstract (en)

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 R<sub>2</sub>T<sub>14</sub>B 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

**C22C 38/00** (2006.01); **B22D 11/06** (2006.01); **B22F 1/00** (2006.01); **B22F 9/04** (2006.01); **C21D 6/00** (2006.01); **C22C 33/02** (2006.01); **H01F 1/053** (2006.01); **H01F 1/057** (2006.01); **H01F 1/08** (2006.01)

CPC (source: EP KR US)

**B22D 11/0611** (2013.01 - EP KR US); **C22C 33/0278** (2013.01 - EP KR US); **H01F 1/0571** (2013.01 - EP KR US); **H01F 1/058** (2013.01 - KR); **H01F 1/059** (2013.01 - KR); **B22F 2009/041** (2013.01 - EP KR US); **B22F 2009/044** (2013.01 - EP KR US); **B22F 2998/00** (2013.01 - EP KR US); **B22F 2999/00** (2013.01 - EP KR US); **H01F 1/058** (2013.01 - EP US); **H01F 1/059** (2013.01 - EP US)

Cited by

DE112009003804B4

Designated contracting state (EPC)

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

Designated extension state (EPC)

AL BA MK RS

DOCDB simple family (publication)

**EP 1988183 A1 20081105**; **EP 1988183 A4 20120125**; CN 101541996 A 20090923; JP 2008214747 A 20080918; KR 101036968 B1 20110525; KR 20080106211 A 20081204; RU 2008135113 A 20100310; RU 2389097 C1 20100510; TW 200903532 A 20090116; US 2009035170 A1 20090205; WO 2008096621 A1 20080814

DOCDB simple family (application)

**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