Title (en)

Process of preparing a permanent magnet containing rare earth metal, boron and iron

Title (de)

Verfahren zur Herstellung eines Dauermagneten aus Seltenerdmetall, Bor und Eisen

Title (fr)

Procédé de preparation d' un aimant permanent contenant du métal de terre rare, du bore et du fer

Publication

EP 0632471 B1 19970924 (EN)

Application

EP 94108868 A 19940609

Priority

JP 14215693 A 19930614

Abstract (en)

[origin: EP0632471A2] A permanent magnet is obtained by pulverizing, molding and sintering a starting material containing an alloy ingot. The alloy ingot contains not less than 90% by volume of prismatic crystals each having a prismatic crystal grain size of 0.1 to 50 mu m along a short axis thereof and a prismatic crystal grain size of larger than 100 mu m and not larger than 300 mu m along a long axis thereof, and is obtained by uniformly solidifying by a single roll method a molten alloy containing 25 to 31% by weight of a rare earth metal, 0.5 to 1.5% by weight of boron and iron under cooling conditions of a cooling rate of higher than 500 DEG C/sec. and not higher than 10,000 DEG C/sec. and a supercooling degree of 50 to 500 DEG C.

IPC 1-7

H01F 1/053

IPC 8 full level

C22C 1/04 (2006.01); **H01F 1/057** (2006.01)

CPC (source: EP KR)

C22C 1/0441 (2013.01 - EP); **H01F 1/00** (2013.01 - KR); **H01F 1/0571** (2013.01 - EP); **H01F 1/0577** (2013.01 - EP)

Cited by

US7217328B2; CN108133797A; DE10045704B4; EP0867897A1; EP0898287A3; EP1207537A1; CN1308476C; EP1403884A3; US7160398B2; US7261781B2; US7507302B2; US6172589B1; US6814776B2; WO0239465A1; WO02062510A1; US6706124B2; US7297213B2; US6790296B2; US6890392B2; KR100315074B1; US7208097B2; US7004228B2; US7547365B2

Designated contracting state (EPC)

AT DE ES FR GB IT NL SE

DOCDB simple family (publication)

EP 0632471 A2 19950104; **EP 0632471 A3 19950215**; **EP 0632471 B1 19970924**; AT E158669 T1 19971015; DE 69405817 D1 19971030; DE 69405817 T2 19980115; KR 0151244 B1 19981015; KR 950001790 A 19950103

DOCDB simple family (application)

EP 94108868 A 19940609; AT 94108868 T 19940609; DE 69405817 T 19940609; KR 19940013245 A 19940613