

Title (en)

Magnetic materials containing rare earth element iron nitrogen and hydrogen.

Title (de)

Magnetische Stoffe, enthaltend Seltenerdelemente, Eisen, Stickstoff und Wasserstoff.

Title (fr)

Matériaux magnétiques contenant des éléments en terres rares, du fer, du nitrogène et de l'hydrogène.

Publication

EP 0369097 B1 19940615 (EN)

Application

EP 89104753 A 19890316

Priority

JP 28574188 A 19881114

Abstract (en)

[origin: EP0369097A1] Magnetic materials represented by the formula $R\alpha Fe(100-\alpha-\beta-\gamma)N\beta H\gamma(I)$ or $R\alpha Fe(100-\alpha-\beta-\gamma-\delta)N\beta H\gamma M\delta(II)$ wherein R is at least one rare earth element inclusive of Y, M is at least one additive selected from the group consisting of Sn, Ga, In, Bi, Pb, Zn, Al, Zr, Cu, Mo, Ti, Si, MgO, Al₂O₃, Sm₂O₃, AlF₃, ZnF₂, SiC, TiC, AlN and Si₃N₂, α is 5 to 20 atomic percent, β is 5 to 30 atomic percent, γ is 0.01 to 10 atomic percent and δ is 0.1 to 40 atomic percent, sintered magnets and bonded magnets obtained from the magnetic materials.

IPC 1-7

C22C 38/00; H01F 1/04; H01F 1/047; H01F 1/053; H01F 1/08

IPC 8 full level

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CPC (source: EP)

C22C 1/0441 (2013.01); **H01F 1/0553** (2013.01); **H01F 1/059** (2013.01)

Citation (examination)

- US 4689163 A 19870825 - YAMASHITA FUMITOSHI [JP], et al
- JP H05848607 A
- CHEMICAL ABSTRACTS, vol. 109, no. 14, October 3, 1988, Columbus, Ohio, USA INOUE, KIYOSHI "Rare earth -alloy magnets containing nitrogen" page 769, abstract-no. 121 365a; & JP-A-62 269 303
- CHEMICAL ABSTRACTS, vol. 104, no. 12, March 24, 1986, Columbus, Ohio, USA IWATA, MASAO et al. "Iron -rare earth elements-nitro- gen system permanent magnet" page 835, abstract-no. 101 032h; & JP-A-60 176 202
- CHEMICAL ABSTRACTS, vol. 103, no. 26, December 30, 1985, Columbus, Ohio, USA HITACHI METALS, LTD. "Permanent magnets from iron alloys with rare earth metals and nitrogen" page 243, abstract-no. 219 192t; & JP-A-60 131 949
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