



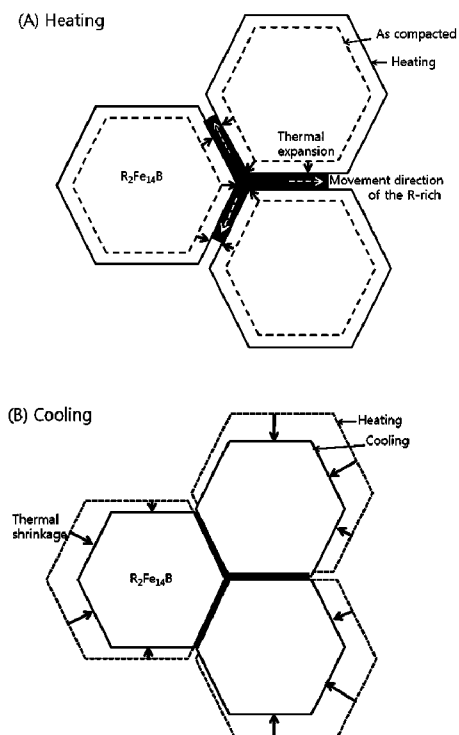
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- (71) Applicant (for all designated States except US): **INDUSTRY-UNIVERSITY COOPERATION FOUNDATION, HANYANG UNIVERSITY** [KR/KR]; Rm 110, 1Fl. HIT B/D, 17 Haengdang-dong Sungdong-gu, Seoul 133-791 (KR).

- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **KIM, Young-Do** [KR/KR]; 6-1307, Daelim Apt., 217 Bangi 1(il)-dong, Songpa-gu, Seoul 138-771 (KR). **KIM, Se-Hoon** [KR/KR]; Rm. 201, 248-112 Guui 1(il)-dong, Gwangjin-gu, Seoul 143-826 (KR). **KIM, Jin-Woo** [KR/KR]; 59-6, Bonggok-dong, Uichang-gu, Changwon-si, Gyeongsangnam-do 641-821 (KR).
- (74) Agent: **SHINWOO PATENT & LAW FIRM**; 2nd Floor, 643-11 Yeoksam 1-dong, Gangnam-gu, Seoul 135-910 (KR).
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[Continued on next page]

(54) Title: R-FE-B SINTERED MAGNET WITH ENHANCED MECHANICAL PROPERTIES AND METHOD FOR PRODUCING THE SAME

[Fig. 3]



(57) Abstract: Disclosed are an R-Fe-B sintered magnet and a method for producing the same. More specifically, provided is an R-Fe-B (R=Nd, Dy, Pr, Tb, Ho, La, Ce, Sm, Gd, Er, Tm, Yb, Lu or Th) sintered magnet having a structure in which R<sub>2</sub>Fe<sub>14</sub>B crystal grains as major phases are surrounded with R-rich phases, wherein a dihedral angle between two adjacent R<sub>2</sub>Fe<sub>14</sub>B crystal grains and the R-rich phase contacting the R<sub>2</sub>Fe<sub>14</sub>B crystal grains is 70° or less in a triple junction formed by the R<sub>2</sub>Fe<sub>14</sub>B crystal grains. The sintered magnet maintains a high coercive force and exhibits improved mechanical properties and is thus applicable to motors or permanent magnets used at high temperatures.

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**A. CLASSIFICATION OF SUBJECT MATTER****H01F 1/053(2006.01)i, H01F 1/08(2006.01)i**

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**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

H01F 1/053; B32B 15/01; H01F 41/02; C21D 1/00; H01F 41/22; H01F 1/057

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

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eKOMPASS(KIPO internal) &amp; Keywords: R-Fe-B, dihedral angle, thermal treatment

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	KR 10-2010-0097580 A (INDUSTRY-UNIVERSITY COOPERATION FOUNDATION HANYANG UNIVERSITY) 03 September 2010 See abstract; paragraphs [0047]-[0053]; and claims 1-3.	1-19
A	US 2008-0286595 A1 (YOSHIMURA KOSHI et al.) 20 November 2008 See abstract; and claim 1.	1-19
A	KR 10-2006-0102483 A (SHIN-ETSU CHEMICAL CO., LTD.) 27 September 2006 See abstract; and claim 1.	1-19
A	KR 10-2005-0036165 A (JAHWA ELECTRONICS CO., LTD.) 20 April 2005 See abstract; and claims 1-3.	1-19

 Further documents are listed in the continuation of Box C. See patent family annex.

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Authorized officer

Song Ho Keun

Telephone No. 82-42-481-8418



**INTERNATIONAL SEARCH REPORT**

Information on patent family members

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