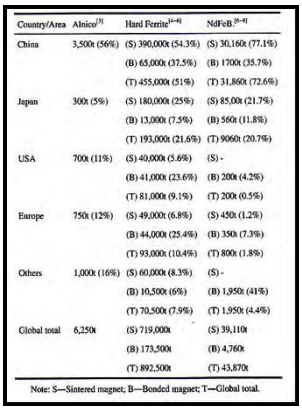
Study of Nd Feb hydrides and their application to the production of permanent magnets

University of Birmingham - US8734714B2



Country/Area	Alnico[3]	Hard Ferrite[4–6]	NdFeB[6–8]
China	3,500t (56%)	(S) 390,000t (54.3%)	(S) 30,160t (77.1%)
		(B) 65,000t (37.5%)	(B) 1700t (35.7%)
		(T) 455,000t (51%)	(T) 31,860t (72.6%)
Japan	300t (5%)	(S) 180,000t (25%)	(S) 85,00t (21.7%)
		(B) 13,000t (7.5%)	(B) 560t (11.8%)
		(T) 193,000t (21.6%)	(T) 9060t (20.7%)
USA	700t (11%)	(S) 40,000t (5.6%)	(S) -
		(B) 41,000t (23.6%)	(B) 200t (4.2%)
		(T) 81,000t (9.1%)	(T) 200t (0.5%)
Europe	750t (12%)	(S) 49,000t (6.8%)	(S) 450t (1.2%)
		(B) 44,000t (25.4%)	(B) 350t (7.3%)
		(T) 93,000t (10.4%)	(T) 800t (1.8%)
Others	1,000t (16%)	(S) 60,000t (8.3%)	(S) -
		(B) 10,500t (6%)	(B) 1,950t (41%)
		(T) 70,500t (7.9%)	(T) 1,950t (4.4%)
Global total	6,250t	(S) 719,000t	(S) 39,110t
		(B) 173,500t	(B) 4,760t
		(T) 892,500t	(T) 43,870t

Note: S—Sintered magnet; B—Bonded magnet; T—Global total.

Description: -
-study of Nd Feb hydrides and their application to the production of permanent magnets
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Notes: Thesis (Ph.D)-University of Birmingham, Dept of Metallurgy and Materials.
This edition was published in 1989

Tags: #Recycling #of #bonded #NdFeB #permanent #magnets #using #ionic #liquids

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Review of rare earth elements recovery from secondary resources for clean energy technologies: Grand opportunities to create wealth from waste.

Rare Earths and the Balance Problem: How to Deal with Changing Markets?

Handbook on the Physics and Chemistry of Rare Earths. In this paper, thermodynamic analyses and the results of fundamental experiments are reported and the feasibility of the proposed process is discussed.

Highly coercive sintered magnets from (Nd, Dy)

It has been used very successfully for melting steel alloys. The merit of permanent magnet generators for large scale wind turbines has also been established, and these new applications will boost the usage of Nd-Fe-B PM in the near future.

Neodymium magnet

Advanced Engineering Materials 2020, 22 6 , 1901206. Moreover, MgCl 2 was removed and the REE chlorides were concentrated by utilizing the differences in vapor pressure. The composition of each sample was determined by ICP-AES analysis and the concentration of chlorine was measured using potentiometric titration DKK-Toa Co.

Neodymium

Neodymium magnets appear in products such as , professional , in-ear , and , and computer where low mass, small volume, or strong magnetic fields are required. Next, the crucible was moved to the bottom of the reaction tube in order to start the extraction reaction by melting the MgCl 2 in the crucible. For instance, a supply risk associated with holmium would have a much smaller impact on the economy with respect to a supply risk associated with dysprosium, because the demand for holmium is much less than that for dysprosium.

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