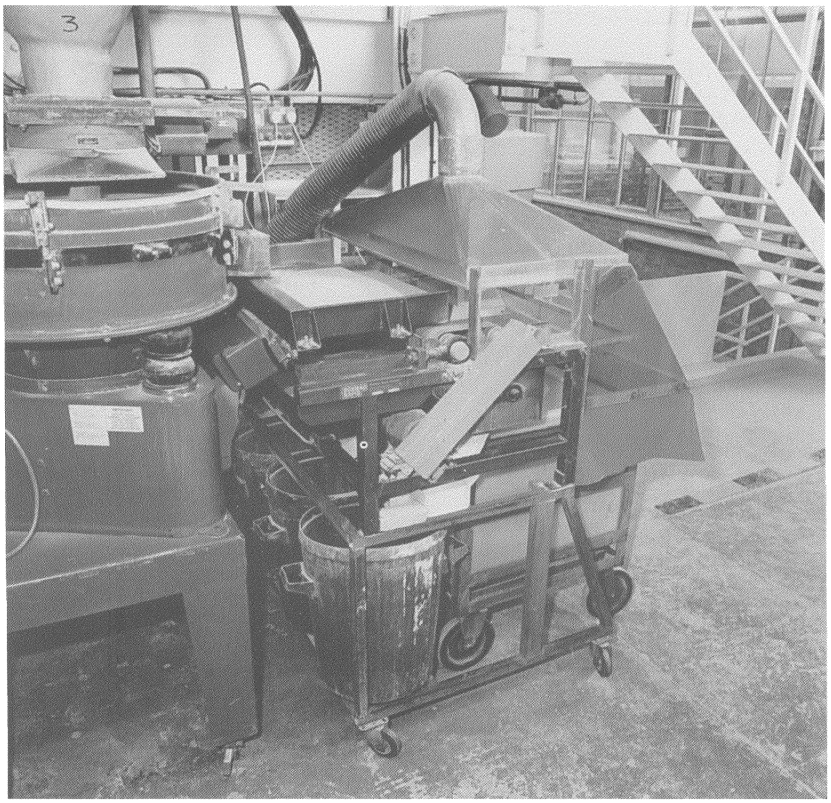
Magnetic and Electrical Separation, Vol. 4, pp. 274–275
Reprints available directly from the publisher
Photocopying permitted by license only

News Briefs

WEDGWOOD POTTERY BENEFITS FROM MAGNETIC SEPARATION

Wedgwood have been producing pottery since 1759 and the group now accounts for 25% of the British ceramic tableware industry's output for 25% of its exports. Changes in design have resulted in greater areas of the ware remaining undecorated and the imperfections will thus show more easily. The iron particles introduced into materials during the extraction and preparation processes caused a brown rust stain in the surface of the products. Boxmag–Rapid has supplied a permanent roll rare earth magnetic separator Magnaroll to remove iron contamination from the spray dried granulate which is used in place of the more traditional body slip to form items such as plates and saucers. The roll separator (see the photograph below) operates at a throughput of 1 to 2 tonnes per hour in this application.



PRODUCTION OF PERMANENT MAGNETS IN THE CIS

Production figures for output of permanent magnets in the CIS have traditionally not been disclosed. It has been, however, recently reported that the CIS is the largest producer of Alnico magnets in the world; output amounted to 4.2 kt in 1990. Production of Alnico magnets is large because the CIS is the third largest producer of cobalt, and magnet producers obtain cobalt raw materials at low prices.

Output of ferrite magnets in the CIS totaled 20 kt in 1990; the leading producers are SPA Ferrite in St. Petersburg and UNIIEM in Moscow. By contrast, production of rare–earth permanent magnets in the CIS is low. In 1990 output of Sm magnets totaled 40 t, and production of Nd–Fe–B magnets was still on a trial level. The world production of permanent magnets in 1990 is summarized in the following Table. (Source: *Roskill's Letter from Japan, December 1992*)

	Ferrite magnets	Alnico magnets	Sm magnets	Nd magnets	Total	
Japan		82 kt	1.8 kt	600 t	1.3 kt	85.7 kt
USA	44 kt	0.78 kt	80 t	0.4 kt	45.26 kt	
Western Europe		33 kt	0.75 kt	130 t	90 t	33.97 kt
CIS	20 kt	4.2 kt	40 t	10 t	24.25 kt	
Asia		35 kt	90 t	——	——	35.09 kt
Total		214 kt	7.62 kt	850 t	1.8 kt	224.27 kt

NEW HIGH–T_c SUPERCONDUCTOR

A newly announced (*Nature 362*, 1993, p. 226) high–temperature superconductor $HgBa_2CuO_{4+x}$, with critical temperature of 94 K has several qualities that distinguish it from other cuprate superconductor recently discovered. Most importantly, it is apparently easy to synthesize and structurally simple. These qualities will greatly facilitate experimentation with it for potential applications. Secondly, its transition temperature of 94 K is very high, especially for a superconductor based on a single copper layer. It is possible that members of this family based on double or triple copper layers, when synthesized and correctly processed, should have even higher transition temperatures, perhaps in the vicinity of 125 K which are accessible at present only in thallium–oxide–based materials.