

News Briefs

MAGNETIC SHIELD USING Bi-BASED SUPERCONDUCTOR

With the use of bismuth-based superconducting material, researchers from Furukawa Electric Co. and NGK Insulators Ltd., Japan, have jointly developed a magnetic shield chamber with attenuation capability of 10^{-7} , three orders of magnitude higher than with conventional shielding that uses ferromagnetic materials. Moreover, its attenuation ability is not affected by low frequencies of less than 0.1 Hz which, in the case of ferromagnetic materials, cause a considerable deterioration in the shielding effect. The new system was made possible by combining superconductors and ferromagnetic materials in a special arrangement. A sintering process for Bi-based superconductors with a large critical current density was also developed. It enables production of a shield only 200 μm thick. It is expected that the new system will be commercialised within one year.

WET DRUM SEPARATORS FOR COAL PREPARATION

Boxmag-Rapid Ltd. have supplied two wet drum magnetic separators to coal preparation plant manufacturer Birtley Engineering. The separators are to be incorporated into two coal washing plants at British Coal's mine at Longannet, Scotland. The plants each having a throughput of 150 t/h use a magnetite-based heavy medium process operating at specific density of 1.6 to 1.7. The drum separators are designed to recover the magnetite and reportedly achieve recovery efficiencies of 99.8% in single stage and 99.92% in double configuration. The separators supplied under this order are nos. 1000 and 1001 of the type made by Boxmag-Rapid.

THE TOP 20 IN WESTERN WORLD MINING IN 1991

List of top twenty mining organisations in the Western world has been published recently. It also transpires that the single biggest company's control has grown by 70% and concentration at the level of 10 companies has increased by 30% from 1975 to 1991.

1. Anglo-American Corp. (South Africa), share of total value 8.3%, 2. RTC Corp. (UK) 4.6%, 3. State of Chile, 2.7%, 4. State of Brazil, 2.3%, 5. Broken Hill (Australia) 2.1%, 6. Inco (Canada) 1.7%, 7. Brascan/Noranda (Canada) 1.6%, 8. MIM Holdings (Australia) 1.5%, 9. Phelps Dodge Corp. (USA) 1.3%, 10. Ascaro (USA) 1.3%, 11. State of France, 1.2%, 12. Gencor (South Africa) 1.2%, 13. Western Mining Corp. (Australia) 1.2%, 14. State of Zaire, 1.1%, 15. Placer Dome (Canada) 1.1%, 16. Imcera Group (USA) 1.1%, 17. Freeport McMoran (USA) 1.1%, 18. State of Malaysia, 1.0%, 19. State of Marocco, 0.9%, 20. Trelleborg (Sweden) 0.9%.