

New Technique of High-Efficiency Concentration of Magnetite - Magnetic Field Screening Method

Feng ansheng, Yang Huipeng, Li Yingguo, Lei Qingyu and Yu anzhou

Zhengzhou Research Institute of Complex Utilization of Mineral Resources ,Zhengzhou,450006,China

Abstract

The magnetic field screening separator backing the patent technique of Magnetic Field Screening Method is a new invention based on Magnetic Flocculation Gravity-flow Concentrator which was rewarded gold medal by International Knowledge Property Office. It has some evident advantages towards the Magnetic Flocculation Gravity-flow Concentrator. And it is obviously different from the traditional magnetic concentrator: It does not directly attract the magnetic iron, but to use the magnetic difference between the magnetic ore and the locked-middling grain ore in the special weak even magnetic field, magnetizes magnetite to chain substance selectively, and increases magnetite's setting velocity difference and size difference to the still diffused locked-middling grain, discharges gangue and locked particle efficiently by using "special screens" installed in magnetic field so that liberated magnetite flow into concentrate, thereby realizes magnetite's being separated efficiently. And the grade can be raised, moreover, grinding fineness requirement can be relaxed. Thus realize the increased production. its separating performance and effect is in the lead throughout the world. And the result of industrial utilization in Miao Gou of Tangshan steel company is that the processing ability of grinding mill was improved 10%, and simultaneously the iron ore concentrate grade jumped 1.7% according to the unchanged process.