

Investigation of Some Flotation Parameters and the Role of Dispersants in the Flotation of Chalcopyrite

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Abstract : A suitable choice of flotation parameters and reagents have a strong effect on the effectiveness of flotation process. The objective of this paper is to give an overview of the flotation of chalcopyrite with the different conditions and dispersants. Flotation parameters such as grinding time, pH, type, and dosage of dispersant were investigated. In order to understand the interaction of some dispersants, sodium silicate, sodium hexametaphosphate and sodium polyphosphate were used. The optimum results were obtained at a pH of 11.5 and a grinding time of 10 minutes. A copper concentrate was produced assaying 29.85% CuFeS₂ and 65.97% flotation recovery under optimum rougher flotation conditions with sodium silicate.

Keywords : chalcopyrite, dispersant, flotation, reagent

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