

### 论文摘要

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## 粒度和调整剂对石英与菱镁矿浮选分离的影响

王金良, 孙体昌

(北京科技大学 土木与环境工程学院, 北京 100083)

**摘要:**以石英和菱镁矿单矿物为试样, 研究菱镁矿不同粒级对其可浮性的影响, 考察调整剂KD-1(含钙的盐类化合物)和苛化玉米淀粉对单矿物上浮率的影响。结果表明: 随菱镁矿粒度的逐渐减小, 上浮率增加, 证明细粒菱镁矿的上浮主要是由于泡沫的机械夹带作用; 调整剂KD-1可以有效地降低泡沫的粘度从增加其流动性, 因此有利于石英与菱镁矿的浮选分离; 苛化玉米淀粉可很好地抑制细颗粒菱镁矿, 而对石英的影响较复杂。

**关键字:** 菱镁矿; 石英; 粒度; 调整剂; 反浮选

## Effects of grain size and regulators on separation of quartz from magnesite

WANG Jin-liang, SUN Ti-chang

(School of Civil and Environmental Engineering, University of Science and Technology Beijing, Beijing 100083, China)

**Abstract:** The loss of fine magnesite to the tailing in the process of separating quartz from magnesite by reverse flotation with the amine as collectors was investigated. The effects of some factors were investigated using pure quartz and magnesite as samples. The factors studied include particle size of magnesite, KD-1 and corn starch used as regulators. KD-1 is a trade name of a regulator mainly consisted of salts of calcium. The results show that, with the particle size declining, the floatation rate increases dramatically. This proves that the fine magnesite floated with the froth mainly due to the mechanical entrainment. The regulator KD-1 is favor of flotation separation quartz from magnesite, it can reduce effectively the viscosity of froth and increase its fluidity. Corn starch is the better depressant for fine magnesite. The effect of corn starch on the flotation of quartz is complex.

**Key words:** magnesite; quartz; particle size; regulator; reverse flotation

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地 址：湖南省长沙市岳麓山中南大学内 邮编： 410083

电 话： 0731-8876765, 8877197, 8830410 传真： 0731-8877197

电子邮箱： [f-ysxb@mail.csu.edu.cn](mailto:f-ysxb@mail.csu.edu.cn)