

Feasibility Study: Separation Techniques for Very Similar Minerals

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Abstract

It can be seen from the various techniques discussed that selective breakage by means of the crushing work index seems like a very viable option as the work index for apatite is three times that of dolomite. It can also be seen that the ball mill did not perform well as a crushing apparatus; rather, it behaved like a traditional ball mill and tended to grind the material even though milling parameters were carefully chosen to avoid grinding. Further testing involving grinding rolls, compressed beds, and possibly an apparatus that would accelerate pebbles to breaking speed may be done in order to determine the technical and economic feasibility of refining such low grade phosphate ore.