



Enhancing of Fe removal in pyrophyllite using magnetite ore susceptor

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Pyrite and hematite are an impurity that reduces the grade of pyrophyllite in the final products. Because the impurity in pyrophyllite which was associated with hydrothermally altered rocks. Microwave has been extensively explored in various fields of materials processing. This technology exhibits unique characteristics including volumetric and selective heating, which eventually lead to many exceptional advantages over conventional processing methods including both energy and cost savings, improved product quality and faster processing. The aim of this study was to investigate the application possibility of microwave process for Fe removal in pyrophyllite. The pyrite and quartz of the pyrophyllite was determined by reflected light microscopy and XRD. The result of Fe removal experiment in pyrophyllite using microwave susceptor(magnetite ore included ilmenite and magnetite) showed to decrease of Fe content in pyrophyllite. The Fe removal of 93.62% and parameters were obtained under the following conditions by magnetite ore was 20.0 g, the pyrophyllite was 10.0 g, and the microwave heating time was 10.0 min. By means of microwave, Fe removal in pyrophyllite can be rapidly and efficiently pyrolyze. if some of the magnetite ore, which acts as a microwave susceptor, is mixed with the raw material.

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