

Leaching of NdFeB magnet scarp

윤호성*, 정경우, 김철주
한국지질자원연구원
(hsyoon@kigam.re.kr*)

Currently, large amounts of scarp form NdFeB magnet manufacture are stockpiled owing to the lack of a cost-effective processing method. Because of the growing new market for individual rare-earth metals such as Nd and owing to the likely continuing increase in demand for permanent magnets, scarp treatment will undoubtedly become an important alternative materials source. Development of a viable method to process NdFeB scarp will aid manufacturers economically and reduce the necessity of consuming rare-earth materials.

In the present study, Nd was recovered from NdFeB scarp. To dissolution Nd and Fe, scarp was oxidizing-roasted and leached in sulfuric acid solution. Nd and Fe was separated using double-salt precipitation method by the addition of sodium sulfate to leach liquor. Optimized temperature of oxidizing-roasting was 500°C for sintering magnet and 700°C for bonded magnet. When oxidizing-roasted NdFeB magnet was treated in 2M sulfuric acid at 50°C for 2hr with the pulp density of 15%, 99.4% of Nd and 95.7% of Fe was leached and recovered.