

# Manufacture of glass-ceramics based on discard tin slag.

**University of Birmingham - Harmless Treatment and Valuable Metals Recovery of Tungsten Leaching Residues: A Thermodynamic and Experimental Study**



Description: -

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## Characterization and recycling potential of the discarded cathode ray tube monitors

Experimental Procedures Experimental compositions were prepared by the mixtures of BOF slag—80 mesh, grinded by the cement ball mill with 5 kg capacity , fly ash—100 mesh , quartz sand —100 mesh , flux Na<sub>2</sub>CO<sub>3</sub>, analytical reagent and coal powders anthracite, —100 mesh, labeled as CP in an appropriate amount. On the basis of differential scanning calorimetry DSC analyses, this article took the glass and glass—ceramic samples which the Bayan Obo tailing and fly ash added respectively to 50% and 20% as the object of study. In order to obtain the optimal bending strength of the samples, heating in N<sub>2</sub> could decrease the optimal sintering temperature compared with heating in air, and both samples have almost the same optimal bending strength values.

## Harmless Treatment and Valuable Metals Recovery of Tungsten Leaching Residues: A Thermodynamic and Experimental Study

For the samp-N, crystals with different shapes are obtained. Report on critical raw materials and the circular economy. Five different mixing ratios of waste and MgO were analyzed.

### BOF Slag Glass

In addition, the T<sub>c</sub> of samples heated in N<sub>2</sub> samp-N is slightly higher than that of samples heated in air samp-A. All these green samples were heated under the environment of air or N<sub>2</sub> at temperatures among 700—1000°C for 1 hour holding time, and then cooled to the room temperature, where the heating rate was 7°C·min<sup>-1</sup> and the cooling rate was 5°C·min<sup>-1</sup>.

## Harmless Treatment and Valuable Metals Recovery of Tungsten Leaching Residues: A Thermodynamic and Experimental Study

Wastes from industrial processes and energy generation facilities pose environmental and health issues. This may be caused by the positive effect of Fe<sup>2+</sup> ions much more than that of Fe<sup>3+</sup> ions on lowering the melting temperature of the samples. Glass-ceramics: Their production from wastes—A Review Glass-ceramics: Their production from wastes—A Review Rawlings, R.

## **Characterization and recycling potential of the discarded cathode ray tube monitors**

Bending Strength Characteristics In , the bending strength BS values of these sintered samples could be divided into two groups, one of the samp-A dashed lines and the other of the samp-N solid lines. Also, aluminum-containing components present in liquid Al<sub>2</sub>O<sub>3</sub> slag phase formed at 1000 °C and silica-containing phase at high temperatures were dominated by SiO<sub>2</sub>, CaSiO<sub>3</sub>, and SiO<sub>2</sub> slag.

## **Ancient tin production: Slags from the Iron Age Carvalhelhos hillfort (NW Iberian Peninsula)**

Thermal Characterization In order to investigating the influences of different atmospheres and reduction degrees on the crystallization of parent glasses, the simultaneous thermal analysis, DTA, was carried out in the 20°C—1000°C range. The optimal physical—chemical properties are achieved at 950 °C, with bulk density of 2. The possibility of fabricating highly porous materials using different types of wastes for sound and thermal insulating as well as catalytic support applications is also discussed based on literature results.

## **Ancient tin production: Slags from the Iron Age Carvalhelhos hillfort (NW Iberian Peninsula)**

Because the contents of chemical constituents of samples were varied in the above error range after heat treatment seeing and , the chemical composition in oxide form is considered unchanged. With the sintering method of one-step process, the bending strength of slag glass-ceramics is high enough for their application, and the heating time of this process is so shorter than that of the traditional two-step process that the heating energy consumption could be further reduced. Cite this article Su, K.

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