Cement based battery waste management

It is followed by a comprehensive discussion on potential civil infrastructures that integrate concrete batteries into structures, development of concrete electrodes, and advancements in cement ...

Here, we compile a thermodynamic database devoted to aqueous iron species and solid oxides as well as chloride complexes, aiming to describe their speciation and solubility within the ...

Lithium waste from electric vehicles could become a vital ingredient in low-carbon concrete, say researchers testing a new environmental solution.

This study introduced FPW, the battery waste after recycling Li from LFP batteries, to the cement and concrete field. The characteristics and compositions of FPW, and the effects of FPW on ...

From electrode coating scraps to rejected cells and aging test modules, gigafactories produce tons of hazardous and valuable waste daily. If unmanaged, this undermines the sustainability mission they ...

FPW was used to replace cement at increased ratios up to 10%. The results showed that a suitable dosage of the battery waste (e.g. 5%) enabled the blended cement binder to achieve refined pore ...

This review paper presents a compilation of works carried out by various researchers working towards the development of cement-based batteries along with a review on the various ...

This pilot study investigates a scalable, low-impact disposal method by incorporating LIB waste into concrete, evaluating both the structural and environmental effects of LIB waste on ...

This review highlights the possible adoption of cement-based battery waste management techniques. The proposed remediation approaches involve modification of existing methods for ...

This article presents the development of a rechargeable cement-based battery, with a comprehensive evaluation of its electrochemical performance, charge and discharge cycle stability, ...

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