Magnesium alloy solar container materials

In this review, we provide a timely summary on the recent progress in three types of important Mg-based energy materials, based on the fundamental strategies of composition and structure engineering.

Magnesium (Mg) and its alloys are temporary implant materials with exceptional mechanical properties and biodegradability [[1], [2], [3]]. Owing to the superior biocompatibility, Mg ...

Here, the fabrication of a chemically stable and multifunctional buffer layer, magnesium oxide (MgO x), via thermal evaporation is demonstrated in four-terminal perovskite/silicon tandem ...

Based on the wide application of Mg alloys, the micro/nano containers in smart self-healing protective coatings are divided into inorganic, organic materials, carbon materials and ...

Given these advantages, magnesium alloys are emerging as viable alternatives to aluminum alloys in solar thermal storage systems, driving increased research to optimize their industrial scalability.

Therefore, Mg alloys have the potential to be various functional materials, such as electromagnetic shielding material, damping material, and thermal conductive material. This review comprehensively ...

Coating technologies are a commonly used way to protect metals against corrosion. However, with more and more severe service environments of materials, many protective coating systems often are not ...

Substance information for UN 1418 - Magnesium, powder or Magnesium alloys, powder based on the Hazardous Materials Table (Title 49 CFR 172.101) to assist in preparing a risk assessment for ...

Herein, we systematically studied the electrochemical properties of lithium-magnesium alloys with different lithium contents as anode materials for lithium-ion batteries based on first ...

The eutectic copper-magnesium alloy, Cu-67 wt% Mg, is an attractive phase change material due to its high thermal conductivity and melting temperature of approximately 490 °C, ...

Herein, a single phase of Mg2Ni (Cu) alloy is designed via atomic reconstruction to achieve the ideal integration of photothermal and catalytic effects for stable solar-driven hydrogen...

The obtained results make magnesium-copper alloys one of the most promising materials for thermal energy storage application due to the highest thermal conductivity reported so ...

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Extrusion process is one of the main means of forming lightweight and low plastic magnesium alloy components. In order to solve the long-term bottlenecks which restrict the rapid ...

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Mg 2 Ni alloys also provide faster kinetics of absorption and desorption processes compared to magnesium hydride 48. Therefore, Mg 2 Ni is selected in this study as the metal hydride ...

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