

Title (en)
MAGNESIUM ALLOY MATERIAL AND METHOD FOR MANUFACTURING THE SAME

Title (de)
MAGNESIUMLEGIERUNGSWERKSTOFF UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)
MATÉRIAU D'ALLIAGE DE MAGNÉSIUM ET PROCÉDÉ POUR LA FABRICATION DE CELUI-CI

Publication
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Application
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Priority

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Abstract (en)
[origin: WO2009038215A1] The present invention provides a magnesium alloy material excellent in mechanical properties without using specific manufacturing facilities and processes and a method of manufacturing the same. The magnesium alloy material is an Mg-Zn-RE alloy containing, as an essential component, Zn and at least one of Gd, Tb, and Tm as RE, and of the rest including Mg and unavoidable impurities, and has stacking faults of a thickened two-atomic layer of Zn and RE in the alloy structure of the Mg-Zn-RE alloy. A method of manufacturing a magnesium alloy material involves a casting step, a solution treatment step, and a heat treatment step and the heat treatment step is carried out in a condition satisfying $-14.58[\ln(x)] + 532.32 < y < -54.164[\ln(x)] + 674.05$ and $0 < x = 2$, wherein y denotes the heat treatment temperature (K) and x denotes the heat treatment time (h).

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