

Title (en)

Composite material base on a magnesium alloy containing zirconium and reinforced by carbon and process for making it

Title (de)

Mit Kohlen verstärkter Verbundwerkstoff bestehend aus einer Zirkonium enthaltenden Magnesiumlegierung

Title (fr)

Matériau composite associant un alliage de magnésium contenant du zirconium à un renfort carboné, et son procédé de fabrication

Publication

**EP 0587494 B1 19990310 (FR)**

Application

**EP 93402183 A 19930908**

Priority

FR 9210797 A 19920910

Abstract (en)

[origin: EP0587494A1] Composite material using a magnesium alloy containing zirconium in combination with a carbonaceous reinforcement, and process for its manufacture. According to the invention such a composite material is prepared by infiltrating a reinforcement made of carbon or graphite fibres with a liquid magnesium alloy containing from 0.3 to 1 % by weight of zirconium, at a temperature of 650 to 850 DEG C. Under these conditions a layer of zirconium carbide is formed on the fibres, containing magnesium in solid solution, corresponding, for example, to the formula  $ZrC_xMg_y$  with  $0.3 < x < 1$  and  $0.02 < y < 0.12$ , which causes the fibres to be wetted by the molten magnesium and produces good adhesiveness between the fibres and the matrix, without degrading the mechanical characteristics of the fibres.

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**C22C 1/09**

IPC 8 full level

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CPC (source: EP US)

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Citation (examination)

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Cited by

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