Title (en)

CAST COMPOSITE MATERIALS

Title (de)

GEGOSSENES VERBUNDMATERIAL

Title (fr)

MATERIAUX COMPOSITES COULES

Publication

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Application

EP 91912577 A 19910712

Priority

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- US 57221890 A 19900816
- US 55863090 A 19900726

Abstract (en)

[origin: WO9201821A1] A cast composite material is made from particles and a matrix alloy preselected composition that is difficult to wet to the particles. A wetting alloy having a composition that readily wets the particles is first mixed with the particles under conditions that wet the wetting alloy to the particles. The wetting alloy is selected so that it has no alloying elements in excess of that in the preselected matrix alloy, and preferably with wettability inhibiting elements reduced. After wetting and mixing have been achieved, the remaining alloying ingredients are added to the melt to adjust the matrix to the desired composition. The approach is applicable to cast composite materials containing both reactive and nonreactive particles. Also described is a cast composite material formed from about 5 to about 35 volume percent of particulate reinforcement, e.g. silicon carbide, embedded in an aluminum alloy matrix having from about 8.5 to about 12.6 weight percent silicon. This silicon-containing composite material is particularly well suited for use as a foundry alloy for remelting purposes.

IPC 1-7

C22C 1/10; B22D 27/20

IPC 8 full level

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