

Title (en)

Method of and installation for producing fiber reinforced metal pieces.

Title (de)

Verfahren und Vorrichtung zur Herstellung von faserverstärkten Metallteilen.

Title (fr)

Procédé et installation pour la fabrication de pièces métalliques renforcées par des fibres.

Publication

EP 0275426 A2 19880727 (DE)

Application

EP 87117752 A 19871201

Priority

DE 3701218 A 19870117

Abstract (en)

The direct transfer of the vacuum die-casting technique in cold-chamber die-casting machines used for the manufacture of unreinforced castings to the manufacture of fibre-reinforced castings involves serious disadvantages. As a result of the arrangement of the vacuum connection above the mould cavity, the gases present in the melt container and in the filling chamber are drawn right through the mould cavity when the melt is drawn in. Gas residues can therefore remain in the inserted fibrous body and lead to the formation of gas bubbles or shrink holes in the casting. There is also a risk of, for example, lubricant vapours or highly volatile alloy constituents condensing on the fibres. This impedes the wetting of the fibres with the molten metal, and the achievable bonding strength is thus markedly reduced. These disadvantages are to be avoided by the novel process. According to the process of the invention, the vacuum connection is arranged in the region of the casting run (8) between the filling chamber (1) and the mould cavity (7). Residual gases from the filling chamber (1) are thus extracted before they pass into the mould cavity (7), the fibrous moulding being degassed at the same time. This prevents any contamination of the fibres, so that high bonding strengths are achieved. Vacuum die-casting of fibre-reinforced aluminium castings.

Abstract (de)

Der Vakuumschluß im Bereich des Gießlaufs (8) ist zwischen der Füllkammer (1) und dem Formhohlraum (7) angeordnet. Restgase aus der Füllkammer (1) werden dadurch abgesaugt, bevor sie in den Formhohlraum (7) gelangen, wobei gleichzeitig der Faserformkörper entgast wird. Auf diese Weise wird jede Kontamination der Fasern verhindert, so daß hohe Verbundfestigkeiten erzielt werden.

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B22D 19/00; **B22D 21/00**

IPC 8 full level

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CPC (source: EP)

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Cited by

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