

Title (en)

METHOD FOR PROVIDING A PARTIALLY SOLIDIFIED ALLOY SUSPENSION AND DEVICES

Title (de)

VERFAHREN ZUM BEREITSTELLEN EINER TEILERSTARRTEN LEGIERUNGSSUSPENSION UND VORRICHTUNGEN

Title (fr)

PROCEDE D'OBTENTION D'UNE SUSPENSION D'ALLIAGE PARTIELLEMENT SOLIDIFIEE ET DISPOSITIFS Y RELATIFS

Publication

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Application

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Abstract (en)

[origin: DE10100632A1] The invention relates to a method for providing a partially solidified alloy suspension, wherein the alloy is initially in a liquid state and is subsequently cooled. In order to be supplied to a forming device (6-8), at least one of the following combinations of features is carried out: a) the residence time on the suspending line (9) is selected in such a way that the desired phase content is obtained at least approximately within the cycle time of the forming machine, b) at least 20 % of the fusion heat is removed from the liquid alloy on the suspension line (9), as disclosed in enthalpy values in kJ/mol, and/or c) the liquid alloy is fed upon distribution of a first plurality of nuclei in a melt volume continuous to a second additional nucleating step in a turbulent flow with heat extraction and the partially solidified alloy suspension thus obtained is conveyed to a forming device (6-8) in a third step. A device for carrying out the method advantageously comprises a storage chamber (9') for liquid alloy and a suspending line (9) running from the input to the output arranged downstream therefrom.

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