

Title (en)
Casting articles by directional solidification.

Title (de)
Gegossene Gegenstände mit gerichteter Erstarrung.

Title (fr)
Articles coulés par solidification dirigée.

Publication
EP 0126550 A1 19841128 (EN)

Application
EP 84302679 A 19840419

Priority
GB 8310852 A 19830421

Abstract (en)
A method for moulding an article, for example a turbine blade, which is made up of one or more directionally solidified crystals of metal. A mould (21) is produced having a series of bores (32 to 38) in which seed crystals (42 to 48) are located, the seed crystals having previously been calibrated to determine the angle and direction of inclination of their 100 planes. The seed crystals are arranged so that the orientation of the 100 planes coincide with that desired in the article relative to the geometry of the article and the mould is located on the chill plate (19). Molten alloy is then admitted to the mould cavity and directional solidification takes place with the result that crystals (13 to 18) solidify from the seed crystals having the same crystallographic orientation.

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B22D 27/045 (2013.01)

Citation (search report)
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• [A] DE 2909844 A1 19790927 - REMET CORP
• [A] EP 0034021 A1 19810819 - TRW INC [US]
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CN1332070C; EP1093872A1; US5275227A; US6497272B1; EP0477136A1; EP3685937A1; GB2590401A; US6343641B1; GB2266066A; GB2266066B; US2021394261A1; US11931801B2; US11198175B2; WO2020112087A1; US11377753B2; US11383295B2; US12005493B2

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