

Title (en)
PRODUCTION OF METAL MATRIX COMPOSITES

Publication
EP 0271222 A3 19890712 (EN)

Application
EP 87309973 A 19871111

Priority
US 93032786 A 19861112

Abstract (en)
[origin: EP0271222A2] A method of producing a composite cast article having a metal matrix containing divided dispersible solid material, i.e. divided solid filler, such as reinforcing fibres or particles, including the steps of stacking alternating layers (16) of initially solid metal and the dispersible solid (18) in a mold or die (10) having a wall laterally surrounding the stack; heating the wall to raise the temperature of the metal layers (16) above the liquidus, thereby to melt the metal in the stack; and exerting axially directed pressure on the stack to force the molten metal into the layer or layers (18) of dispersible solid, while solidifying the metal by controlling heat flow in such a manner that a solidification front advances unidirectionally, along the cavity axis, entirely through the or each metal-infiltrated filler layer.

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C22C 1/09; **B22D 19/14**; **B22D 27/04**

IPC 8 full level
B22D 18/02 (2006.01); **B22D 19/00** (2006.01); **B22D 19/02** (2006.01); **C22C 47/08** (2006.01); **C22C 47/20** (2006.01)

CPC (source: EP KR)
B22F 7/00 (2013.01 - KR); **C22C 47/08** (2013.01 - EP); **C22C 47/20** (2013.01 - EP)

Citation (search report)
• [X] US 4573517 A 19860304 - BOOTH STUART E [GB], et al
• [AD] US 3970136 A 19760720 - CANNELL JOHN CORJEAG, et al
• [A] EP 0094970 A1 19831130 - TOYOTA MOTOR CO LTD [JP], et al
• [A] GB 2080165 A 19820203 - ROLLS ROYCE
• [A] DE 2147735 A1 19730329 - BATTELLE INSTITUT E V
• [A] PATENT ABSTRACTS OF JAPAN, vol. 9, no. 245 (M-418)[1968], 2nd October 1985; & JP-A-60 99 474 (TOYOTA JIDOSHA K.K.) 03-06-1985

Cited by
US2017297674A1; DE19650056A1; EP0320302A3; DE19712624A1; DE19712624C2; US10399657B2; US5851686A; EP0312294A1; EP0368785A1; AU625092B2; US10179364B2; US10434568B2; WO9117011A1

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