

Title (en)
Casting process and core to be used therein

Title (de)
Giessereiverfahren und Gusskern für die Verwendung in diesem Verfahren

Title (fr)
Procédé de coulée et noyau utilisé dans ce procédé

Publication
EP 1174200 A3 20031001 (DE)

Application
EP 01117615 A 20010717

Priority
DE 10035202 A 20000720

Abstract (en)
[origin: EP1174200A2] Process for casting a component from a light metal having; (i) a casting core consisting of a matrix infiltrated with infiltration channels comprises a docking phase in which a liquid melt enters the intermediate space between the core and a shell surrounding the core; (ii) an infiltration phase in which the liquid melt penetrates the infiltration channels in the edge zone of the core under reduced pressure; (iii) a cooling phase in which the melt is converted into a thixotropic state; and (iv) a pressure phase in which the thixotropic melt is placed under pressure to prevent solidification porosity in the cast workpiece. An Independent claim is also included for a casting core. Preferred Features: The material regions of the matrix limiting the infiltration channels are made from a light but dense material to prevent penetration by the melt. The size of the space of the infiltration channels in the core is at least three to five times greater than the diameter of the crystal body of the light metal used for the melt. The matrix consists of porous mineral spheres joined together at contact surfaces and having a diameter between 1 and 8 mm.

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B22D 19/14; **B22D 19/00**; **B22D 17/00**

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B22D 17/00 (2006.01); **B22D 19/14** (2006.01); **C22C 1/10** (2006.01)

CPC (source: EP)
B22D 17/007 (2013.01); **B22D 19/14** (2013.01); **C22C 1/1021** (2023.01); **C22C 1/1036** (2013.01); **C22C 1/1073** (2023.01); **B22F 2999/00** (2013.01)

C-Set (source: EP)
B22F 2999/00 + **C22C 1/1036** + **B22F 7/006**

Citation (search report)
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• [A] DE 4343945 C1 19950914 - AUSTRIA METALL [AT]
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• [A] DATABASE WPI Section Ch Week 197826, Derwent World Patents Index; Class M22, AN 1978-46562A, XP002250121

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EP1844881A3; DE102006057786A1; FR2927269A1; US8652611B2; WO03031252A1; US7588069B2; EP1844881A2

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