

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.

IPC 1-7  
**B22D 19/14**; **B22D 19/00**; **B22D 17/00**

IPC 8 full level  
**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)  
• [DA] DE 19653149 A1 19980625 - BAYERISCHE MOTOREN WERKE AG [DE], et al  
• [A] DE 4343945 C1 19950914 - AUSTRIA METALL [AT]  
• [A] EP 0928654 A1 19990714 - GUT GMBH [DE]  
• [A] DE 19526363 A1 19960125 - GKN SANKEY LTD [GB]  
• [A] DE 4212558 A1 19921022 - GKN SANKEY LTD [GB]  
• [A] DE 19826848 A1 19991223 - BORBET GMBH [DE]  
• [A] DATABASE WPI Section Ch Week 197826, Derwent World Patents Index; Class M22, AN 1978-46562A, XP002250121

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

Designated contracting state (EPC)  
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)  
**EP 1174200 A2 20020123**; **EP 1174200 A3 20031001**; **EP 1174200 B1 20060621**; AT E330736 T1 20060715; DE 10035202 A1 20020131;  
DE 50110214 D1 20060803; ES 2266055 T3 20070301

DOCDB simple family (application)  
**EP 01117615 A 20010717**; AT 01117615 T 20010717; DE 10035202 A 20000720; DE 50110214 T 20010717; ES 01117615 T 20010717