

Title (en)

Investment casting method yielding cast articles with enhanced surface finish

Title (de)

Feingiessverfahren zur Erzeugung von Gegenständen mit sehr präziser Oberfläche

Title (fr)

Procédé de coulée de précision donnant des objets à état de surface de haute précision

Publication

EP 0747149 A3 19980408 (EN)

Application

EP 96304194 A 19960606

Priority

US 48104995 A 19950607

Abstract (en)

[origin: EP0747149A2] A modified investment casting process is provided which allows cast articles having a smooth surface finish to be obtained while using casting patterns made of a photocurable liquid polymer by a stereolithography process, or by molded thermoplastic materials. Moreover, the process of the invention eliminates or minimizes the incidence of mold cracking due to expansion of the casting pattern. The process involves first preparing a casting pattern through a stereolithography process or through molding a thermoplastic material. Thereafter, a wax or wax like coating is applied to the casting pattern and an investment assembly is prepared. A mold is obtained from the investment assembly by first subjecting the investment assembly to a first temperature range sufficient to melt and extract the wax or wax like material, leaving behind the casting pattern. Thereafter, the investment assembly is subjected to an elevated temperature in a second temperature range that is sufficient to melt and extract the casting pattern. <IMAGE>

IPC 1-7

B22C 7/02; **B22C 9/04**

IPC 8 full level

B22D 23/00 (2006.01); **B22C 7/02** (2006.01); **B22C 9/04** (2006.01); **C08F 290/00** (2006.01); **C08F 299/02** (2006.01)

CPC (source: EP)

B22C 7/023 (2013.01); **B22C 9/043** (2013.01)

Citation (search report)

- [Y] EP 0649691 A1 19950426 - TEXAS INSTRUMENTS INC [US]
- [Y] US 4556528 A 19851203 - GERSCH HERBERT M [US], et al
- [A] DE 3225980 A1 19840112 - FICHTEL & SACHS AG [DE]
- [Y] PATENT ABSTRACTS OF JAPAN vol. 013, no. 193 (M - 822) 9 May 1989 (1989-05-09)

Cited by

CN102151790A; CN110560636A; CN107685133A; CN110978874A; CN113102688A; CN112743043A

Designated contracting state (EPC)

DE FR GB IT

DOCDB simple family (publication)

EP 0747149 A2 19961211; **EP 0747149 A3 19980408**; **EP 0747149 B1 20000823**; AU 5459496 A 19961219; AU 708428 B2 19990805; DE 69609898 D1 20000928; DE 69609898 T2 20010222; JP 4059937 B2 20080312; JP H09136140 A 19970527

DOCDB simple family (application)

EP 96304194 A 19960606; AU 5459496 A 19960529; DE 69609898 T 19960606; JP 18261696 A 19960606