Title (en)

Countergravity casting using particulate supported thin walled investment shell mold.

Title (de)

Steigendguss unter Verwendung einer besonders gelagerten verlorenen Gussform mit dünnwandigem Überzug.

Title (fr)

Coubé de métall à contre-gravité sous utilisation d'un moule perdue particulièrement soutenu avec revêtement d'épaisseur mince.

Publication

EP 0474078 B1 19951129 (EN)

Application

EP 91114237 A 19910824

Priority

US 57931990 A 19900906

Abstract (en)

[origin: EP0474078A1] An expendable pattern (10) of an article to be cast comprises a meltable material that expands upon heating (e.g., a wax pattern). The pattern is invested with particulate mold material to form a thin, layered shell (30) having a wall thickness not exceeding about .12 inch. The thin shell wall thickness unexpectedly reduces damage and distortion to the shell during removal of the pattern therefrom by steam autoclaving. After firing, the thin gas permeable shell mold is surrounded by a refractory particulate support media (60) in a vacuum housing (70). The vacuum housing (70) is then evacuated to evacuate the mold cavity (36) defined by the thin shell (30) and concurrently a pressure is applied to the support media (60) so as to compress the support media about the thin shell to support the shell against casting stresses when molten metal is countergravity cast into the evacuated mold cavity (36). <IMAGE>

IPC 1-7

B22D 18/06

IPC 8 full level

B01J 3/04 (2006.01); **B22C 9/04** (2006.01); **B22C 13/08** (2006.01); **B22D 18/06** (2006.01)

CPC (source: EP)

B22C 9/04 (2013.01); **B22D 18/06** (2013.01)

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EP 91114237 A 19910824; AU 8249591 A 19910816; BR 9103830 A 19910904; CA 2049228 A 19910815; CN 91108800 A 19910905; DE 69114954 T 19910824; JP 25280891 A 19910905; MX 9100964 A 19910905; SU 5001482 A 19910905; YU 149191 A 19910905