

Title (en)
HOLLOWS CASTING SYSTEMS AND METHODS

Title (de)
VERFAHREN UND SYSTEME ZUM GIESSEN VON HOHLKÖRPERN

Title (fr)
SYSTEMES ET PROCEDES DE PRODUCTION DE PIECES DE FONTE EN CREUX

Publication
EP 1259347 A1 20021127 (EN)

Application
EP 00919899 A 20000329

Priority
• US 0008483 W 20000329
• US 51133900 A 20000223

Abstract (en)
[origin: WO0162418A1] Casting systems and methods form a hollows metal casting, in which the hollows metal casting comprises a fine-grain, homogeneous microstructure. The microstructure is essentially oxide- and sulfide-free, segregation defect free, and essentially free of voids caused by air entrapped during solidification of the metal from a liquidus state to a solid state. The casting system (3) with for forming hollows castings comprises an electroslag refining system; a nucleated casting system (2) in which a casting is solidified; and a cooled mandrel (205) disposed at least in a liquidus portion (148) of the casting (145) in the nucleated casting system. The liquidus portion of the metal casting is solidified around the cooled mandrel in a manner sufficient to form a hollows casting with microstructure that comprises a fine-grain, homogeneous microstructure that is essentially oxide- and sulfide-free, segregation defect free, and essentially free of voids caused by air entrapped during solidification from a liquidus state to a solid state.

IPC 1-7
B22F 3/115; **B22F 9/08**; **B22D 23/10**

IPC 8 full level
B22D 1/00 (2006.01); **B22D 7/04** (2006.01); **B22D 23/00** (2006.01); **B22D 23/10** (2006.01); **B22D 25/02** (2006.01); **B22D 27/04** (2006.01); **B22F 3/115** (2006.01); **C22B 9/18** (2006.01); **C22B 9/193** (2006.01); **C23C 4/12** (2006.01); **F01D 25/00** (2006.01)

CPC (source: EP KR)
B22D 23/10 (2013.01 - EP KR); **B22F 3/115** (2013.01 - EP); **C22B 9/18** (2013.01 - EP); **C23C 4/123** (2016.01 - EP); **B22F 2009/0852** (2013.01 - EP); **B22F 2009/0856** (2013.01 - EP); **B22F 2998/00** (2013.01 - EP)

Citation (search report)
See references of WO 0162418A1

Designated contracting state (EPC)
CH DE FR GB IT LI

DOCDB simple family (publication)
WO 0162418 A1 20010830; EP 1259347 A1 20021127; JP 2003523828 A 20030812; KR 100718407 B1 20070514; KR 20020086908 A 20021120

DOCDB simple family (application)
US 0008483 W 20000329; EP 00919899 A 20000329; JP 2001561469 A 20000329; KR 20027010967 A 20020822