

Title (en)
Powder metal mold

Title (de)
Pulvermetallform

Title (fr)
Moule de métal pulvérulent

Publication
EP 2283952 A2 20110216 (EN)

Application
EP 10172220 A 20100806

Priority
US 54120009 A 20090814

Abstract (en)
Described is a process of producing a component from a gamma prime or gamma double prime precipitation-strengthened nickel-base superalloy. The process includes forming a powder of the superalloy and filling a can (10) with the powder wherein the can includes nickel-chromium-molybdenum-niobium alloy. The can (10) is evacuated and sealed in a controlled environment. The can (10) and the powder are consolidated at a temperature, time, and pressure to produce a consolidation. The consolidated billet is forged at a temperature and strain rate to produce a forging with a uniform fine grain throughout. A further aspect described is a mold including a nickel-chromium-molybdenum-niobium alloy can.

IPC 8 full level
B22F 3/12 (2006.01); **B22F 3/15** (2006.01); **B22F 3/17** (2006.01); **C22C 1/04** (2006.01)

CPC (source: EP US)
C22C 1/0433 (2013.01 - EP US); **C22C 19/055** (2013.01 - EP US); **C22C 19/056** (2013.01 - EP US); **C22F 1/10** (2013.01 - EP US); **B22F 2998/10** (2013.01 - EP US)

C-Set (source: EP US)
B22F 2998/10 + **B22F 3/1216** + **B22F 3/15** + **B22F 3/17** + **B22F 2003/247** + **B22F 2003/248**

Citation (applicant)
• US 2007020135 A1 20070125 - JACKSON JOSEPH J [US], et al
• US 6315846 B1 20011113 - HIBNER EDWARD LEE [US], et al
• US 6531002 B1 20030311 - HENRY MICHAEL FRANCIS [US], et al

Cited by
EP3327159A1; US10787723B2

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

Designated extension state (EPC)
BA ME RS

DOCDB simple family (publication)
EP 2283952 A2 20110216; **EP 2283952 A3 20140312**; RU 2010133879 A 20120220; US 2011038748 A1 20110217

DOCDB simple family (application)
EP 10172220 A 20100806; RU 2010133879 A 20100813; US 54120009 A 20090814