

Title (en)

METHOD AND ASSEMBLY FOR FORMING COMPONENTS HAVING INTERNAL PASSAGES USING A LATTICE STRUCTURE

Title (de)

VERFAHREN UND ANORDNUNG ZUR FORMUNG VON KOMPONENTEN MIT INNENDURCHFÜHRUNGEN MIT EINER GITTERSTRUKTUR

Title (fr)

PROCÉDÉ ET ENSEMBLE DE FORMATION DE COMPOSANTS AYANT DES PASSAGES INTERNES AU MOYEN D'UNE STRUCTURE EN TREILLIS

Publication

EP 3181265 A1 20170621 (EN)

Application

EP 16204609 A 20161216

Priority

US 201514973595 A 20151217

Abstract (en)

A mold assembly (301) for use in forming a component (80) having a first internal passage (82) defined therein includes a mold (300) that defines a mold cavity (304) therein. The mold assembly also includes a lattice structure (340) selectively positioned at least partially within the mold cavity and formed from a first material (322). The first material (322) is at least partially absorbable by a component material (78) in a molten state. The mold assembly (301) further includes a first segmented core (310) that includes at least one joint segment (354) coupled to the lattice structure (340). The at least one joint segment (354) is coupled in serial flow communication to at least one extension segment (360) such that a first hollow structure (320) is defined. A first inner core (324) is disposed within the first hollow structure (320) such that at least a portion (315) of the first inner core (324) defines the first internal passage (82) when the component (80) is formed in the mold assembly (301).

IPC 8 full level

B22C 9/04 (2006.01); **B22C 9/10** (2006.01); **F01D 5/18** (2006.01)

CPC (source: CN EP US)

B22C 9/04 (2013.01 - EP US); **B22C 9/046** (2013.01 - CN); **B22C 9/10** (2013.01 - EP US); **B22C 9/103** (2013.01 - CN); **B22C 9/22** (2013.01 - CN); **B22C 9/24** (2013.01 - EP US); **B22D 25/02** (2013.01 - EP US); **F01D 5/18** (2013.01 - EP US); **F05D 2230/211** (2013.01 - EP)

Citation (search report)

- [A] GB 2118078 A 19831026 - HOWMET TURBINE COMPONENTS
- [A] WO 2015009448 A1 20150122 - UNITED TECHNOLOGIES CORP [US]
- [A] WO 2014105108 A1 20140703 - UNITED TECHNOLOGIES CORP [US]
- [A] US 2010150733 A1 20100617 - ABDEL-MESSEH WILLIAM [US], et al
- [A] US 4905750 A 19900306 - WOLF WALTER S [US]
- [A] GB 731292 A 19550608 - GEN MOTORS CORP

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 RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 3181265 A1 20170621; CN 106890938 A 20170627; JP 2017140650 A 20170817; US 2017173685 A1 20170622

DOCDB simple family (application)

EP 16204609 A 20161216; CN 201611272996 A 20161216; JP 2016240795 A 20161213; US 201514973595 A 20151217