

Title (en)

Injection molding methods for manufacturing components capable of transporting liquids

Title (de)

Spritzgießverfahren zur Herstellung von Komponenten zur Beförderung von Flüssigkeiten

Title (fr)

Procédés de moulage à injection pour fabriquer des composants capables de transporter des liquides

Publication

**EP 2018917 A1 20090128 (EN)**

Application

**EP 08160360 A 20080714**

Priority

US 77804807 A 20070715

Abstract (en)

Methods for manufacturing components capable of transporting a liquid including providing a mold, placing at least one core made from a core material into the mold, injecting a component material into the mold about the core to produce a green component, heating the green component to burn out the core and produce a brown component, and sintering the brown component to produce a finished component capable of transporting a liquid where the finished component is from 95% to 99% dense.

IPC 8 full level

**B22F 5/10** (2006.01)

CPC (source: EP US)

**B22F 3/1021** (2013.01 - EP US); **B22F 3/225** (2013.01 - EP US); **B22F 2998/00** (2013.01 - EP US); **B22F 2998/10** (2013.01 - EP US)

C-Set (source: EP US)

1. **B22F 2998/00** + **B22F 5/106**
2. **B22F 2998/10** + **B22F 3/225** + **B22F 3/1021** + **B22F 3/15**

Citation (applicant)

- EP 0065702 A2 19821201 - MTU MUENCHEN GMBH [DE]
- US 6274083 B1 20010814 - CLARK III ERNEST BURDELL [US]

Citation (search report)

- [XY] EP 0065702 A2 19821201 - MTU MUENCHEN GMBH [DE]
- [Y] US 6274083 B1 20010814 - CLARK III ERNEST BURDELL [US]
- [Y] WO 0160581 A1 20010823 - CERABIO LLC [US], et al
- [Y] US 5972269 A 19991026 - BARROS EDUARDO L [US], et al
- [A] US 2004126266 A1 20040701 - JACKSON MELVIN [US], et al
- [Y] GULSOY O ET AL: "A new technology in production of aerospace components: powder injection molding (PIM)", PROCEEDINGS OF INTERNATIONAL CONFERENCE ON RECENT ADVANCES IN SPACE TECHNOLOGIES - 20-22 NOV. 2003 - ISTANBUL, TURKEY,, 1 January 2003 (2003-01-01), pages 575 - 578, XP009106428

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FR2944720A1; EP3052784A4; WO2015050987A1; EP3245018A1; US8991188B2; US11015808B2; US11421884B2; US11421885B2

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Designated extension state (EPC)

AL BA MK RS

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DOCDB simple family (application)

**EP 08160360 A 20080714**; CA 2636745 A 20080703; CN 200810131632 A 20080715; JP 2008180836 A 20080711; MX 2008008376 A 20080624; US 77804807 A 20070715