

Title (en)

Casting compositions for manufacturing metal casting and methods of manufacturing thereof

Title (de)

Gießzusammensetzungen zur Herstellung von Metallgussteilen und Herstellungsverfahren dafür

Title (fr)

Compositions de moulage pour la fabrication de moulages métalliques et leurs procédés de fabrication

Publication

EP 1930095 A2 20080611 (EN)

Application

EP 07121580 A 20071127

Priority

US 56740906 A 20061206

Abstract (en)

Disclosed herein is a method comprising disposing a casting composition within a sacrificial die; wherein internal features of the sacrificial die provide a replica of a desired casting; wherein the casting composition has a viscosity of about 1 to about 1,000 Pascal-seconds at room temperature when tested at a shear rate of up to 70 seconds⁻¹; reacting the casting composition to form a gel matrix; removing the sacrificial die; extracting a solvent from the gel matrix to form a dried gel; and firing the dried gel to form a ceramic core. Disclosed herein too is a casting composition comprising a monomer and/or a polymer; and a metal and/or ceramic powder; wherein the casting composition has a viscosity of about 1 to about 1,000 Pascal-seconds at room temperature when tested at a shear rate of up to 70 seconds and a flow index of less than 0.6.

IPC 8 full level

B22C 1/18 (2006.01)

CPC (source: EP US)

B22C 1/183 (2013.01 - EP US)

Citation (applicant)

- US 3715334 A 19730206 - KARSTEDT B
- US 3775452 A 19731127 - KARSTEDT B
- US 3220972 A 19651130 - LAMOREAUX HARRY F
- US 3516946 A 19700623 - MODIC FRANK J
- US 4288345 A 19810908 - ASHBY BRUCE A, et al
- US 4421903 A 19831220 - ASHBY BRUCE A [US]
- FREDEL: "Rheological Properties of Alumina Injection Feedstocks", MATERIALS RESEARCH, vol. 8, no. 2, 2005, pages 187 - 189

Cited by

RU2502578C1; EP3170577A1; US9950358B2; US9297277B2

Designated contracting state (EPC)

DE FR GB IT

Designated extension state (EPC)

AL BA HR MK RS

DOCDB simple family (publication)

EP 1930095 A2 20080611; **EP 1930095 A3 20080618**; **EP 1930095 B1 20091111**; CA 2612051 A1 20080606; CA 2612051 C 20150224; DE 602007003176 D1 20091224; JP 2008155284 A 20080710; JP 5755394 B2 20150729; US 2008135721 A1 20080612

DOCDB simple family (application)

EP 07121580 A 20071127; CA 2612051 A 20071122; DE 602007003176 T 20071127; JP 2007311888 A 20071203; US 56740906 A 20061206