

Title (en)

A method for sintering metal matrix composite materials

Title (de)

Verfahren zum Sinter von Metallmatrixverbundmaterialien

Title (fr)

Procédé de frittage de matériaux composites de matrice métallique

Publication

**EP 2606996 A1 20130626 (EN)**

Application

**EP 11195717 A 20111223**

Priority

EP 11195717 A 20111223

Abstract (en)

Described herein is a method for sintering a composite material including at least one metal phase and at least one ceramic phase. The method comprises the following steps: - providing the at least one metal phase in the form of powders of pre-alloyed metal material; - providing the at least one ceramic phase in the form of powders of ceramic material; - mixing the powders of the at least one metal phase and of the at least one ceramic phase; and - sintering the mixed powders for a time interval of between 10<sup>-4</sup> s and 60 s, wherein one or more metal phases have a coefficient of thermal expansion of between 0 K<sup>-1</sup> and 6·10<sup>-6</sup> K<sup>-1</sup>.

IPC 8 full level

**B22F 3/00** (2006.01); **C04B 35/117** (2006.01); **C04B 35/515** (2006.01); **C22C 1/00** (2006.01); **C22C 1/05** (2006.01); **C22C 1/10** (2006.01)

CPC (source: EP)

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Citation (applicant)

- WO 2010070623 A2 20100624 - EPOS S R L [IT], et al
- REPORT ON CARCINOGENS, BACKGROUND DOCUMENT FOR COBALT-TUNGSTEN CARBIDE: POWDERS AND HARD METALS, 2009

Citation (search report)

- [X] WO 9703775 A1 19970206 - OSPREY METALS LTD [GB], et al
- [X] EP 1837103 A1 20070926 - NIPPON LIGHT METAL CO [JP], et al
- [X] WO 03039790 A2 20030515 - UNIV WASHINGTON [US], et al
- [X] WO 2007101282 A2 20070913 - ARC AUSTRIAN RES CENTERS GMBH [AT], et al
- [X] US 2008079021 A1 20080403 - BAYERER REINHOLD [DE], et al
- [X] JP 2008066379 A 20080321 - SUMITOMO ELECTRIC INDUSTRIES
- [X] WO 9900524 A1 19990107 - MASSACHUSETTS INST TECHNOLOGY [US]

Cited by

EP3862110A1; CN114346238A; US2022023944A1

Designated contracting state (EPC)

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