

Title (en)

Methods of producing a powder compact and a sintered composite body

Title (de)

Verfahren zur Herstellung eines kompakten Puder- und gesinterten Verbundkörpers

Title (fr)

Procédés de production de poudre compacte et corps composite fritté

Publication

EP 2221131 A1 20100825 (EN)

Application

EP 09161550 A 20090529

Priority

EP 09161550 A 20090529

Abstract (en)

The invention relates to a method of producing a powder compact comprising: in a press tool comprising a die, at least two bottom punches and a top punch, encapsulating a powder B within one or more powders A, the encapsulated powder B and the one or more powders A having different compositions, the encapsulation being made by stepwise positioning, an inner bottom punch and an outer bottom punch surrounding the inner bottom punch, so that a filling space within the die is provided above a punch after each positioning step, one of the powders A or B are introduced into each filling space provided so that powder B is encapsulated within the one or more powders A, and, pressing the combination of powders between the bottom punches and the top punch thereby forming a compact. An additional sintering step provides a sintered body. The invention further relates to a powder compact comprising a pressed powder B encapsulated within one or more pressed powders A, the powders having different compositions. The invention further relates to a sintered body comprising a first sintered material encapsulated within at least one further sintered material, the first and further materials differ in at least one characteristic.

IPC 8 full level

B22F 3/03 (2006.01); **B22F 7/06** (2006.01); **B23B 27/00** (2006.01)

CPC (source: EP)

B22F 3/03 (2013.01); **B22F 7/06** (2013.01); **B30B 11/34** (2013.01); **B22F 2003/033** (2013.01)

Citation (applicant)

- US 2007042217 A1 20070222 - FANG X D [US], et al
- US 6086980 A 20000711 - FOSTER STEPHEN [GB], et al
- US 6511265 B1 20030128 - MIRCHANDANI PRAKASH K [US], et al
- US 5776593 A 19980707 - MASSA TED R [US], et al
- US 2008145686 A1 20080619 - MIRCHANDANI PRAKASH K [US], et al
- US 5697046 A 19971209 - CONLEY EDWARD V [US]
- US 5543235 A 19960806 - MIRCHANDANI PRAKASH K [US], et al
- US 6685880 B2 20040203 - ENGSTROEM LARS-AAKE [SE], et al

Citation (search report)

- [XY] US 3255278 A 19660607 - SMITH MARK J
- [XY] US 5467669 A 19951121 - STROUD DONALD S [US]
- [A] EP 0556914 A2 19930825 - GEN MOTORS CORP [US]
- [A] WO 03013768 A1 20030220 - GKN SINTER METALS INC [US], et al
- [A] US 4743515 A 19880510 - FISCHER UDO K R [SE], et al

Cited by

DE102015201873A1; ES2632888A1; JP2016043379A; DE102014006374A1; JP2017520403A; EP3403817A1; KR20200008553A; WO2016124514A1; US10890241B2; WO2015169756A2; US10919250B2; EP4085993A1; EP4094826A1; WO2015169740A1; US11572272B2; WO2018210634A1; DE102016103051A1; WO2017144499A1; EP3617448A1

Designated contracting state (EPC)

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 TR

Designated extension state (EPC)

AL BA RS

DOCDB simple family (publication)

EP 2221131 A1 20100825

DOCDB simple family (application)

EP 09161550 A 20090529