

Title (en)
CARBON-METAL COMPOSITE MATERIAL

Title (de)
KOHLENSTOFF-METALL VERBUNDWERKSTOFF

Title (fr)
COMPOSITE CARBONE-MÉTAL

Publication
EP 3380445 A1 20181003 (DE)

Application
EP 16816209 A 20161124

Priority
• DE 102015223240 A 20151124
• EP 2016078741 W 20161124

Abstract (en)
[origin: WO2017089498A1] The invention relates to a method for producing a three-dimensional component from a composite material containing carbon and metal, comprising the following steps: a) providing a composition in powder form comprising one or more components, which are selected from the group consisting of amorphous carbon, graphite, and hybrid forms thereof, b) providing a liquid binder, c) depositing a flat layer consisting of the material provided in a) and locally depositing droplets of the material provided in b) on said layer and repeating step c) any number of times, wherein the local depositing of the droplets is adjusted in subsequent repetitions of this step according to the desired shape of the component to be produced, d) curing or drying the binder at least in part and obtaining a green body having the desired shape of the component, e) carbonizing the green body at a temperature of at least 500 °C, and f) infiltrating the carbonized green body with a metal at a temperature above the melting temperature of the metal.

IPC 8 full level
C04B 41/00 (2006.01); **C04B 35/52** (2006.01); **C04B 35/622** (2006.01); **C04B 35/634** (2006.01); **C04B 41/51** (2006.01); **C04B 41/88** (2006.01)

CPC (source: EP)
C04B 35/522 (2013.01); **C04B 35/622** (2013.01); **C04B 35/634** (2013.01); **C04B 41/009** (2013.01); **C04B 41/51** (2013.01); **C04B 41/5127** (2013.01); **C04B 41/515** (2013.01); **C04B 41/88** (2013.01); **C04B 2235/5296** (2013.01); **C04B 2235/5427** (2013.01); **C04B 2235/6026** (2013.01); **C04B 2235/945** (2013.01)

C-Set (source: EP)
1. **C04B 41/009 + C04B 35/52**
2. **C04B 41/009 + C04B 35/52 + C04B 38/00**
3. **C04B 41/515 + C04B 41/4523**
4. **C04B 41/5127 + C04B 41/4523 + C04B 41/5161**
5. **C04B 41/51 + C04B 41/4523**

Citation (search report)
See references of WO 2017089498A1

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)
DE 102015223240 A1 20170524; EP 3380445 A1 20181003; WO 2017089498 A1 20170601

DOCDB simple family (application)
DE 102015223240 A 20151124; EP 16816209 A 20161124; EP 2016078741 W 20161124