

Title (en)

METHOD FOR PRODUCING A VANE FOR A ROTARY VANE PUMP, VANE FOR A ROTARY VANE PUMP AND ROTARY VANE PUMP

Title (de)

VERFAHREN ZUR HERSTELLUNG EINES FLÜGELS FÜR EINE FLÜGELZELLENPUMPE, FLÜGEL FÜR EINE FLÜGELZELLENPUMPE SOWIE FLÜGELZELLENPUMPE

Title (fr)

PROCÉDÉ DE FABRICATION D'UNE PALETTE DESTINÉE À UNE POMPE À PALETTES, PALETTE DESTINÉE À UNE POMPE À PALETTES, AINSI QUE POMPE À PALETTES.

Publication

EP 2948262 A1 20151202 (DE)

Application

EP 14705702 A 20140124

Priority

- DE 102013001246 A 20130125
- EP 2014000188 W 20140124

Abstract (en)

[origin: WO2014114461A1] The invention relates to a method for producing a net-shape vane for a rotary vane pump, which vane is preferably open-pored and consists of a metal sinter material. The vane has at least one first front face and one second front face which is preferably oriented parallel to the first front face, and a first lateral surface and second lateral surface that is oriented parallel to the first lateral surface. Furthermore, the vane comprises a first contour surface and a second contour surface. The method for producing the vane comprises at least the following steps: pressing (20) a powder mixture to a green body by means of a powder press, sintering (21) the green body inside a sintering furnace to a sintering element having an austenitic structure, quenching the sintering element inside the sintering furnace to a temperature below the martensitic start temperature for hardening (22), tempering (23) the sintering element preferably inside the sintering furnace, removing (24) the sintering element as net-shape vane, preferably as removal from the sintering furnace. After removing the sintering element, deburring (25) can optionally be made. The invention further relates to a vane and a rotary vane pump.

IPC 8 full level

B22F 7/00 (2006.01); **B22F 3/24** (2006.01); **C22C 33/02** (2006.01); **F01C 21/08** (2006.01); **F04C 2/344** (2006.01)

CPC (source: EP US)

B22F 3/12 (2013.01 - US); **B22F 3/24** (2013.01 - US); **B22F 5/00** (2013.01 - US); **B22F 7/002** (2013.01 - EP US); **C22C 33/0257** (2013.01 - EP US); **C22C 33/0264** (2013.01 - EP US); **C22C 38/02** (2013.01 - EP US); **C22C 38/04** (2013.01 - EP US); **C22C 38/08** (2013.01 - EP US); **C22C 38/12** (2013.01 - EP US); **C22C 38/16** (2013.01 - EP US); **C22C 38/18** (2013.01 - EP US); **F01C 21/0809** (2013.01 - EP US); **F01D 5/286** (2013.01 - US); **F04C 2/3442** (2013.01 - EP US); **F04C 2/3448** (2013.01 - US); **F04C 15/0088** (2013.01 - US); **F04C 18/3448** (2013.01 - US); **F04C 29/02** (2013.01 - US); **B22F 2003/248** (2013.01 - EP US); **F04C 2230/22** (2013.01 - EP US)

Citation (search report)

See references of WO 2014114461A1

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 102013001246 A1 20140731; BR 112015017659 A2 20170711; CN 105102161 A 20151125; CN 105102161 B 20171010; EP 2948262 A1 20151202; EP 2948262 B1 20210721; JP 2016511327 A 20160414; JP 6367235 B2 20180801; US 2015352638 A1 20151210; US 9855604 B2 20180102; WO 2014114461 A1 20140731

DOCDB simple family (application)

DE 102013001246 A 20130125; BR 112015017659 A 20140124; CN 201480006003 A 20140124; EP 14705702 A 20140124; EP 2014000188 W 20140124; JP 2015554089 A 20140124; US 201414762368 A 20140124