

Title (en)

METHOD FOR THE CENTRELESS GRINDING OF SHAFT PARTS, IN PARTICULAR OF TUBES FOR ASSEMBLED CAMSHAFTS

Title (de)

VERFAHREN ZUM CENTERLESS-SCHLEIFEN VON WELLENTHEILEN, INSBESONDERE VON ROHREN FÜR GEBAUTE NOCKENWELLEN

Title (fr)

PROCÉDÉ DE RECTIFICATION CENTERLESS DE PARTIES D'ARBRES, NOTAMMENT DE TUBES POUR ARBRES À CAMES ASSEMBLÉS

Publication

EP 3022014 B1 20191023 (DE)

Application

EP 14731228 A 20140616

Priority

- DE 102013214226 A 20130719
- EP 2014062525 W 20140616

Abstract (en)

[origin: WO2015007444A1] The invention provides a method for the centreless grinding of shaft parts (9), in particular of tubes for assembled camshafts, in the case of which the shaft part (9) which is to be ground, and has axial centring portions (11) on its end sides, is ground in rotatably driven fashion, in a manner which is customary in centreless grinding, in a gap between the grinding wheel (1) and regulating wheel (2). The grinding wheel (1) and regulating wheel (2) have a width which corresponds at least to the length of the shaft part (9). The shaft part (9) is ground in its end regions (28) first of all concentrically in relation to the centring portions (11), and this produces ground formations concentrically in relation to the centring portions (11). This is followed by the grinding of the intermediate region (29), which is located between the end regions (28), and then by the entire shaft part (9) being ground to size in a dimensionally accurate and dimensionally stable manner on the basis of the ground formations at the end regions (28) of the shaft part (9), said formations being made concentrically in relation to the centring portions (11) and resting on a support (16). In order to implement the method, the invention provides an appropriately dimensioned grinding-wheel and regulating-wheel pair (1, 2) in a centreless grinding machine, in the case of which regions of increased diameter, i.e. a respective profiling, are/is provided in the side regions of said machine in order to grind the end regions (28) of the shaft part (9).

IPC 8 full level

B24B 5/28 (2006.01); **B24B 5/22** (2006.01); **B24B 5/24** (2006.01)

CPC (source: EP RU US)

B24B 5/22 (2013.01 - EP RU US); **B24B 5/24** (2013.01 - EP US); **B24B 5/28** (2013.01 - EP RU US); **B24B 5/30** (2013.01 - EP US)

Citation (examination)

JP 2004167610 A 20040617 - ISOBE SEIKO KK

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

DOCDB simple family (publication)

DE 102013214226 A1 20150122; **DE 102013214226 B4 20180621**; CN 105392596 A 20160309; CN 105392596 B 20170616; EP 3022014 A1 20160525; EP 3022014 B1 20191023; ES 2765207 T3 20200608; RU 2016102744 A 20170801; RU 2016102744 A3 20180313; RU 2660943 C2 20180711; US 2016151875 A1 20160602; US 9878417 B2 20180130; WO 2015007444 A1 20150122

DOCDB simple family (application)

DE 102013214226 A 20130719; CN 201480040728 A 20140616; EP 14731228 A 20140616; EP 2014062525 W 20140616; ES 14731228 T 20140616; RU 2016102744 A 20140616; US 201414903202 A 20140616