

Title (en)
MACHINING PROCESS FOR TRAPEZOID RINGS WITH SMALL AXIAL DIMENSIONS, USED IN PISTONS OF INTERNAL COMBUSTION ENGINES

Title (de)
BEARBEITUNGSPROZESS FÜR AXIAL NIEDRIGE TRAPEZRINGE FÜR KOLBEN VON BRENNKRAFTMASCHINEN

Title (fr)
PROCÉDÉ D'USINAGE DE SEGMENTS TRAPÉZOÏDAUX INFÉRIEURS AXIAUX POUR PISTONS DE MOTEURS À COMBUSTION INTERNE

Publication
EP 2981383 A1 20160210 (DE)

Application
EP 14707167 A 20140228

Priority
• DE 102013205879 A 20130403
• DE 102013221395 A 20131022
• EP 2014053918 W 20140228

Abstract (en)
[origin: WO2014161696A1] The invention relates to a method for producing a piston (1) for internal combustion engines, said piston comprising a circumferential trapezoid annular groove (2) for receiving trapezoid rings with small axial dimensions and the groove having a groove base (5) with adjoining surfaces (6, 7) and groove flanks (3, 4). According to the invention, the groove base (5) with adjoining surfaces (6, 7) is created in a first method step by machining using a cutting steel (15) and the groove flanks (3, 4) are created in a further method step. Also disclosed are a piston (1) produced according to the claimed method and a cutting steel (15).

IPC 8 full level
B23B 27/06 (2006.01); **B23B 1/00** (2006.01); **F02F 3/22** (2006.01); **F16J 9/00** (2006.01); **F16J 9/20** (2006.01)

CPC (source: EP US)
B23B 1/00 (2013.01 - EP US); **B23B 27/06** (2013.01 - EP US); **F02F 3/00** (2013.01 - US); **F16J 9/00** (2013.01 - EP US); **F16J 9/20** (2013.01 - US); **F16J 9/203** (2013.01 - EP US); **F16J 9/22** (2013.01 - EP US); **B23B 2200/0485** (2013.01 - US); **B23B 2215/245** (2013.01 - EP US); **B23B 2215/247** (2013.01 - US); **B23B 2220/12** (2013.01 - EP US)

Citation (search report)
See references of WO 2014161696A1

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 102013221395 A1 20141009; BR 112015024586 A2 20170718; CN 105377482 A 20160302; CN 105377482 B 20180522; EP 2981383 A1 20160210; MX 2015013680 A 20160630; MX 366438 B 20190709; US 10197161 B2 20190205; US 2016025219 A1 20160128; WO 2014161696 A1 20141009

DOCDB simple family (application)
DE 102013221395 A 20131022; BR 112015024586 A 20140228; CN 201480026102 A 20140228; EP 14707167 A 20140228; EP 2014053918 W 20140228; MX 2015013680 A 20140228; US 201414782109 A 20140228