

Title (en)

PROCESS FOR PRODUCTION OF ROUGHLY SHAPED MATERIAL FOR ENGINE PISTON

Title (de)

VERFAHREN ZUR HERSTELLUNG EINES RAU GEFORMTEN MATERIALS FÜR EINEN MOTORKOLBEN

Title (fr)

PROCÉDÉ DE PRODUCTION D'UN MATÉRIAU DE FORME BRUTE POUR PISTONS DE MOTEUR

Publication

**EP 2453034 A4 20170823 (EN)**

Application

**EP 10794250 A 20100702**

Priority

- JP 2010061329 W 20100702
- JP 2009158954 A 20090703

Abstract (en)

[origin: EP2453034A1] A production method of a roughly shaped material for an engine piston includes a continuous casting step for obtaining a cast rod (31) having a diameter of 85 mm or less by continuously casting a molten aluminum alloy (30) at a molten alloy temperature of 720 °C or higher, and a forging step for obtaining a roughly shaped material (11) for an engine piston by forging a forging material (32) obtained by homogenizing the cast bar (31) at 370 to 500 °C. A composition of the molten alloy (30) includes Si: 11.0 to 13.0 mass%, Fe: 0.6 to 1.0 mass%, Cu: 3.5 to 4.5 mass%, Mn: 0.25 mass% or less; Mg: 0.4 to 0.6 mass%, Cr: 0.15 mass% or less, Zr: 0.07 to 0.15 mass%, P: 0.005 to 0.010 mass%, Ca: 0.002 mass% or less, and the balance being Aluminum and inevitable impurities.

IPC 8 full level

**C22F 1/043** (2006.01); **B21J 5/00** (2006.01); **B21K 1/18** (2006.01); **B22D 11/00** (2006.01); **C22C 21/02** (2006.01); **F02F 3/00** (2006.01); **F16J 1/01** (2006.01)

CPC (source: EP KR US)

**B21J 1/04** (2013.01 - EP US); **B21J 5/00** (2013.01 - KR); **B21K 1/18** (2013.01 - EP KR US); **B22D 11/00** (2013.01 - KR); **B22D 11/003** (2013.01 - EP US); **C21D 7/13** (2013.01 - EP US); **C22C 21/02** (2013.01 - EP US); **C22F 1/043** (2013.01 - EP KR US); **F02F 3/00** (2013.01 - EP US); **F02F 2200/04** (2013.01 - EP US); **Y10T 428/12229** (2015.01 - EP US)

Citation (search report)

- [A] EP 2048259 A1 20090415 - SHOWA DENKO KK [JP]
- [A] JP H01147039 A 19890608 - KOBE STEEL LTD
- [A] WO 03010429 A1 20030206 - SHOWA DENKO KK [JP], et al
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- [A] JP 2000265232 A 20000926 - NIPPON LIGHT METAL CO
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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 SE SI SK SM TR

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**EP 2453034 A1 20120516**; **EP 2453034 A4 20170823**; CN 102482752 A 20120530; CN 102482752 B 20130911; JP 5526130 B2 20140618; JP WO2011002082 A1 20121213; KR 101362645 B1 20140212; KR 20120023742 A 20120313; US 2012100385 A1 20120426; WO 2011002082 A1 20110106

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