

Title (en)
Aluminium alloy for pressure die casting

Title (de)
Aluminium-Druckgusslegierung

Title (fr)
Alliage d'aluminium pour moulage sous pression

Publication
EP 1612286 B1 20110713 (DE)

Application
EP 05405361 A 20050526

Priority
CH 10912004 A 20040629

Abstract (en)
[origin: EP1612286A2] The aluminum alloy for die casting, especially with high ductility and expansion in the casting condition for the automotive industry, incorporates selectively 0.05-0.3 wt.% zirconium, 30-300 ppm of strontium or 5-30 ppm of sodium and/or 1-30 ppm of calcium for durable refinement of gallium phosphide and/or indium phosphide in a volume to give 1-250 ppm of phosphorus for granular refinement, and titanium and boron introduced into aluminum pre-alloy, with 1-2 wt. % titanium and 1-2 wt.% boron, for grain refining : The aluminum alloy incorporates (in wt.%) 8.0-11.5 silicon, 0.08-0.4 magnesium, 0.3-0.8 manganese, =0.1 iron, =0.1 copper, =0.1 zinc, =0.15 titanium, =0.05-0.5 molybdenum, and =0.05-0.3 zirconium.

IPC 8 full level
C22C 21/02 (2006.01); **C22C 1/06** (2006.01); **C22C 21/04** (2006.01)

IPC 8 main group level
C01F (2006.01)

CPC (source: EP KR US)
C22C 1/06 (2013.01 - EP US); **C22C 21/02** (2013.01 - EP KR US); **C22C 21/04** (2013.01 - EP US)

Cited by
DE102015007929A1; EP3235917A1; WO2017182102A1; CN112708793A; DE102010055011A1; KR20180132140A; AT511397A1; AT511397B1; EP3176275A1; DE102006032699A1; DE102006032699B4; EP3334850A4; EP4339315A1; WO2008006908A1; EP3342888A1; EP3342890A1; EP3342889A1; EP3235916A1; WO2017182103A1; US11421305B2; US11781202B1; EP3235917B1; EP3176275B1; EP3176275B2

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR

Designated extension state (EPC)
BA HR YU

DOCDB simple family (publication)
EP 1612286 A2 20060104; EP 1612286 A3 20070530; EP 1612286 B1 20110713; AT E516379 T1 20110715; BR PI0502521 A 20070213; BR PI0502521 B1 20150811; BR PI0502521 B8 20160913; CA 2510545 A1 20051229; CA 2510545 C 20140930; CN 1737176 A 20060222; DK 1612286 T3 201111024; ES 2368923 T3 20111123; JP 2006016693 A 20060119; KR 101295458 B1 20130809; KR 101490581 B1 20150205; KR 20060046361 A 20060517; KR 20130023330 A 20130307; MX PA05006962 A 20060124; NO 20053158 D0 20050628; NO 20053158 L 20051230; NO 339588 B1 20170109; PL 1612286 T3 20111230; PT 1612286 E 20110919; SI 1612286 T1 20111028; US 2006011321 A1 20060119; US 7108042 B2 20060919

DOCDB simple family (application)
EP 05405361 A 20050526; AT 05405361 T 20050526; BR PI0502521 A 20050628; CA 2510545 A 20050623; CN 200510081148 A 20050629; DK 05405361 T 20050526; ES 05405361 T 20050526; JP 2005190485 A 20050629; KR 20050046629 A 20050601; KR 20130018089 A 20130220; MX PA05006962 A 20050624; NO 20053158 A 20050628; PL 05405361 T 20050526; PT 05405361 T 20050526; SI 200531356 T 20050526; US 17005105 A 20050628