

Title (en)

Aluminum alloys for casting, aluminum alloy castings and process for producing aluminum alloy castings

Title (de)

Aluminiumlegierungen zum Gießen, Aluminiumlegierungsgussstücke und Verfahren zur Herstellung von Aluminiumlegierungsgussstücken

Title (fr)

Alliages d'aluminium pour moulage, moulages d'alliage d'aluminium et processus de production de moulages d'alliage d'aluminium

Publication

**EP 1975262 A3 20100915 (EN)**

Application

**EP 08005905 A 20080327**

Priority

JP 2007094817 A 20070330

Abstract (en)

[origin: EP1975262A2] (Assignment) To provide an aluminum alloy casting with excellent strength, fatigue resistance, etc. (Solution) An aluminum alloy casting according to the present invention includes 4-12% Si, 1.0-3.0% Cu, 0.2-0.6% Mg, 0.2-3% Ni, 0.1-0.7% Fe, 0.1-0.3% Ti, 0.03-0.5% Zr, balance Al and inevitable impurities, when the entirety is taken as 100% by mass and has a metallographic structure, comprising a base phase mainly consisting of  $\pm$ -Al, a skeleton phase which is crystallized to surround the base phase in a network configuration, and the first and second precipitation phases which are precipitated in the base phase and have different particle sizes. This aluminum alloy casting has an excellent thermal fatigue strength as well as high strength and high fatigue strength as a base material.

IPC 8 full level

**C22C 21/02** (2006.01); **C22F 1/043** (2006.01)

CPC (source: EP)

**C22C 21/02** (2013.01); **C22C 21/04** (2013.01); **C22F 1/043** (2013.01)

Citation (search report)

- [XJ] JP 2004076110 A 20040311 - TOYOTA CENTRAL RES & DEV
- [XJ] US 2005224145 A1 20051013 - LASLAZ GERARD [FR], et al
- [XAJ] JP 2006316725 A 20061124 - TOYOTA MOTOR CORP
- [XJ] US 2004057865 A1 20040325 - IKUNO HAJIME [JP], et al
- [XJ] JP H07216487 A 19950815 - NIPPON STEEL CORP
- [XA] JP 2000204428 A 20000725 - NIPPON LIGHT METAL CO
- [XA] US 2006266443 A1 20061130 - OKA TOMOO [JP], et al
- [I] WO 0071772 A1 20001130 - NASA [US]
- [I] WO 2005059195 A1 20050630 - SHOWA DENKO KK [JP], et al
- [AD] JP 2004225134 A 20040812 - SHOWA KEIGOKIN KK, et al
- [A] EP 1524324 A2 20050420 - TOYOTA CHUO KENKYUSHO KK [JP]
- [A] FR 2210669 A1 19740712 - SCHMIDT GMBH KARL [DE]
- [A] US 2006133949 A1 20060622 - LASLAZ GERARD [FR]

Cited by

DE102014209102A1; DE102012220765A1; CN115612896A; CN104093867A; CN114774739A; DE102012006967A1; CN114774741A; CN105039798A; US2016281195A1; CN114875280A; CN115874032A; DE102018210007A1; US2018127859A1; CN108070754A; US10612116B2; US2011126947A1; FR3004730A1; US9982328B2; CN104535394A; CN113789453A; CN114318069A; CN103834835A; CN103842534A; CN106523176A; US2018010214A1; DE102019209245A1; CN104812921A; JP2016505382A; JP2018114556A; CN114574736A; US10752980B2; US10022788B2; US11280292B2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA MK RS

DOCDB simple family (publication)

**EP 1975262 A2 20081001**; **EP 1975262 A3 20100915**; **EP 1975262 B1 20111221**; **EP 1975262 B9 20120404**; JP 2008274403 A 20081113; JP 5344527 B2 20131120

DOCDB simple family (application)

**EP 08005905 A 20080327**; JP 2008039308 A 20080220