

Title (en)
ALUMINIUM-BASED ALLOY

Title (de)
LEGIERUNG AUF ALUMINIUMBASIS

Title (fr)
ALLIAGE À BASE D'ALUMINIUM

Publication
EP 2006403 A1 20081224 (EN)

Application
EP 07747842 A 20070307

Priority
• RU 2007000109 W 20070307
• RU 2006109658 A 20060327

Abstract (en)
The invention covers a field of metallurgy of alloys based on aluminum, in particular, to the alloy of aluminum-copper-magnesium-lithium system applied for manufacturing semi-finished products and parts thereof used as structural materials for aerospace engineering. The invention is directed to enhancement of ductility and processibility of aluminum-copper-magnesium-lithium system alloys, increase of yields by manufacturing semi-finished products and parts thereof, assurance of possibility to produce thin sheets, thin-walled sections and die-forgings by reducing production labor intensiveness, by preservation required strength and operation characteristics demanded to structural materials for aerospace engineering. The indicated technical result is achieved by the fact, that the alloy contains the following component ratio, wt %: lithium- 1.6 - 1.9; copper- 1.3 - 1.5; magnesium- 0.7 - 1.1; zirconium- 0.04 - 0.2; beryllium- 0.02 - 0.2; titanium- 0.01 - 0.1; nickel-0.01-0.15; manganese- 0.01 - 0.2; gallium- 0.001; - 0.01 - 0.3; sodium- up to 0.0005; calcium- 0.005 - 0.02; and, at least, one element selected from the group including vanadium- 0.005 - 0.01 and scandium-0.005 - 0.01; aluminum- remainder.

IPC 8 full level
C22C 21/00 (2006.01); **C22C 21/12** (2006.01); **C22C 21/16** (2006.01); **C22F 1/04** (2006.01)

CPC (source: EP US)
C22C 21/00 (2013.01 - EP US); **C22C 21/12** (2013.01 - EP US); **C22C 21/16** (2013.01 - EP US); **C22F 1/04** (2013.01 - EP US)

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 LV MC MT NL PL PT RO SE SI SK TR

DOCDB simple family (publication)
EP 2006403 A1 20081224; **EP 2006403 A4 20090318**; **EP 2006403 B1 20100120**; AT E455874 T1 20100215; DE 07747842 T1 20090430; DE 602007004465 D1 20100311; ES 2319718 T1 20090512; ES 2319718 T3 20100528; PT 2006403 E 20100426; RU 2310005 C1 20071110; US 2009068056 A1 20090312; WO 2007111529 A1 20071004

DOCDB simple family (application)
EP 07747842 A 20070307; AT 07747842 T 20070307; DE 07747842 T 20070307; DE 602007004465 T 20070307; ES 07747842 T 20070307; PT 07747842 T 20070307; RU 2006109658 A 20060327; RU 2007000109 W 20070307; US 92009007 A 20070307