

Title (en)

FORGED ALUMINUM ALLOY MATERIAL AND METHOD FOR PRODUCING SAME

Title (de)

GESCHMIEDETES ALUMINIUMLEGIERUNGSMATERIAL UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)

MATÉRIAU D'ALLIAGE D'ALUMINIUM FORGÉ ET SON PROCÉDÉ DE FABRICATION

Publication

EP 2811042 A4 20160608 (EN)

Application

EP 13744215 A 20130110

Priority

- JP 2012020956 A 20120202
- JP 2012250374 A 20121114
- JP 2013050314 W 20130110

Abstract (en)

[origin: EP2811042A1] Provided is an aluminum alloy forged material comprising an excess amount of Si and a large quantity of a strength-increasing element such as Cu or Mn, and by which high strength and high toughness can be stably obtained even if the forged material is thinned, and also provided is a method for producing the same. A forged material constituted from an aluminum alloy which contains prescribed quantities of Mg, Si, Cu, Fe, Ti and B and further contains one or more elements selected from among Mn, Cr and Zr, with the remainder comprising Al and inevitable impurities, wherein the electrical conductivity measured at 20 °C on the surface of the aluminum alloy is greater than 42.5 % IACS but not more than 46.0 % IACS, and the forged aluminum alloy material has 0.2% proof stress of 360 MPa or more and Charpy impact value of 6 J/cm² or more.

IPC 8 full level

B22D 21/04 (2006.01); **C22C 21/02** (2006.01); **C22C 21/06** (2006.01); **C22F 1/00** (2006.01); **C22F 1/05** (2006.01)

CPC (source: EP US)

B22D 21/04 (2013.01 - EP US); **C22C 21/02** (2013.01 - EP US); **C22C 21/08** (2013.01 - EP US); **C22F 1/00** (2013.01 - EP US); **C22F 1/043** (2013.01 - EP US); **C22F 1/05** (2013.01 - EP US)

Citation (search report)

- [I] JP H09249951 A 19970922 - NIPPON LIGHT METAL CO
- [I] JP H07145440 A 19950606 - MITSUBISHI ALUMINIUM
- [I] US 5240519 A 19930831 - KAMIO HAJIME [JP], et al
- [I] JP 2011225988 A 20111110 - KOBE STEEL LTD
- [I] JP 2000144296 A 20000526 - KOBE STEEL LTD
- [I] EP 0987344 A1 20000322 - KOBE STEEL LTD [JP]
- See references of WO 2013114928A1

Cited by

EP2921567A4; EP3214191A1; EP4275812A1; WO2023218058A1; EP3464659B1; EP3464659B2

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

DOCDB simple family (publication)

EP 2811042 A1 20141210; EP 2811042 A4 20160608; EP 2811042 B1 20170621; CN 103975085 A 20140806; CN 103975085 B 20170222; JP 2013177672 A 20130909; JP 5863626 B2 20160216; US 2014367001 A1 20141218; WO 2013114928 A1 20130808

DOCDB simple family (application)

EP 13744215 A 20130110; CN 201380004213 A 20130110; JP 2012250374 A 20121114; JP 2013050314 W 20130110; US 201314370605 A 20130110