

## Title (en)

IMPROVED ALUMINUM ALLOYS CONTAINING MAGNESIUM, SILICON, MANGANESE, IRON, AND COPPER, AND METHODS FOR PRODUCING THE SAME

## Title (de)

VERBESSERTE ALUMINIUMLEGIERUNGEN MIT MAGNESIUM, SILIZIUM, MANGAN, EISEN UND KUPFER SOWIE VERFAHREN ZUR HERSTELLUNG DAVON

## Title (fr)

ALLIAGES D'ALUMINIUM AMÉLIORÉS CONTENANT DU MAGNÉSIMUM, DU SILICIUM, DU MANGANÈSE, DU FER ET DU CUIVRE, ET PROCÉDÉS DE PRODUCTION DE CEUX-CI

## Publication

**EP 2822716 A4 20160406 (EN)**

## Application

**EP 13757630 A 20130221**

## Priority

- US 201261608098 P 20120307
- US 2013027024 W 20130221

## Abstract (en)

[origin: WO2013133978A1] New HT aluminum alloy bodies and methods of producing the same are disclosed. The new HT aluminum alloy bodies contain 0.20 - 2.0 wt. % Mg, 0.10 - 1.5 wt. % Si, 0.01 - 1.0 wt. % Fe, and, 0.10 - 1.0 wt. % Cu, wherein, when Si+Cu < 0.60 wt. %, then Fe+Mn <=1.5 wt. %, optionally with up to 1.5 wt. % Mn, optionally with up to 1.5 wt. % Zn, wherein at least one of the Mg, the Si, the Fe, the Cu, the optional Mn, and the optional Zn is the predominate alloying element of the aluminum alloy sheet other than the aluminum, and may be produced by preparing the aluminum alloy body for post-solutionizing cold work, cold working by at least 25%, and then thermally treating. The new HT aluminum alloy bodies may realize improved strength and other properties.

## IPC 8 full level

**B22D 21/04** (2006.01); **C22C 21/00** (2006.01); **C22C 21/08** (2006.01)

## CPC (source: CN EP)

**B22D 21/007** (2013.01 - EP); **B22D 21/04** (2013.01 - CN); **C22C 21/00** (2013.01 - CN EP); **C22C 21/02** (2013.01 - CN); **C22C 21/08** (2013.01 - CN EP); **C22C 21/10** (2013.01 - CN); **C22C 21/16** (2013.01 - CN); **C22C 21/18** (2013.01 - CN); **C22F 1/04** (2013.01 - CN); **C22F 1/043** (2013.01 - EP); **C22F 1/047** (2013.01 - EP); **C22F 1/05** (2013.01 - EP)

## Citation (search report)

- [X] JP 2001073058 A 20010321 - MITSUBISHI ALUMINIUM
- [XA] US 2007137830 A1 20070621 - UNAL ALI [US]
- [A] EP 1715067 A1 20061025 - NIPPON LIGHT METAL CO [JP]
- [A] EP 1883715 A1 20080206 - HONDA MOTOR CO LTD [JP], et al
- [A] EP 1414602 A2 20040506 - ALCOA INC [US]
- See references of WO 2013133978A1

## Cited by

CN109136670A

## 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)

**WO 2013133978 A1 20130912**; AR 090242 A1 20141029; AU 2013202789 A1 20130926; AU 2013202789 B2 20160421; CN 104271289 A 20150107; EP 2822716 A1 20150114; EP 2822716 A4 20160406; TW 201341541 A 20131016

## DOCDB simple family (application)

**US 2013027024 W 20130221**; AR P130100707 A 20130305; AU 2013202789 A 20130221; CN 201380024113 A 20130221; EP 13757630 A 20130221; TW 102108097 A 20130307