

Title (en)

ALUMINIUM-COPPER-LITHIUM ALLOY SHEETS FOR PRODUCING AEROPLANE FUSELAGES

Title (de)

BLECHE AUS ALUMINIUM-KUPFER-LITHIUM-LEGIERUNG ZUR HERSTELLUNG VON FLUGZEUGRÜMPFEN

Title (fr)

TÔLES EN ALLIAGE D'ALUMINIUM-CUIVRE-LITHIUM POUR LA FABRICATION DE FUSELAGES D'AVION

Publication

**EP 2981631 B1 20170802 (FR)**

Application

**EP 14719034 A 20140401**

Priority

- FR 1300763 A 20130403
- FR 2014000069 W 20140401

Abstract (en)

[origin: WO2014162068A1] The invention concerns a sheet 0.5 to 8 mm thick made from aluminium alloy comprising 2.6 to 3.0% by weight of Cu, 0.5 to 0.8% by weight of Li, 0.1 to 0.4% by weight of Ag, 0.2 to 0.7% by weight of Mg, 0.06 to 0.20% by weight of Zr, 0.01 to 0.15% by weight of Ti, optionally at least one element chosen from Mn, V, Cr, Se, and Hf, the quantity of the element, if chosen, being 0.01 to 0.8% by weight for Mn, 0.05 to 0.2% by weight for V, 0.05 to 0.3% by weight for Cr, 0.02 to 0.3% by weight for Se, 0.05 to 0.5% by weight for Hf, a quantity of Zn less than 0.2% by weight, a quantity of Fe and Si less than or equal to 0.1% by weight each, and inevitable impurities at a concentration less than or equal to 0.05% by weight each and 0.15% by weight in total, said sheet being obtained by a method comprising casting, homogenising, hot rolling and optionally cold rolling, solution heat treatment, quenching and tempering, the composition and the tempering being combined in such a way that the elasticity limit in the longitudinal direction Rp0.2(L) is between 395 and 435 MPa. The sheet according to the invention is particularly advantageous for producing aircraft fuselage panels.

IPC 8 full level

**B64C 1/00** (2006.01); **C22C 21/16** (2006.01); **C22F 1/057** (2006.01)

CPC (source: EP US)

**B22D 21/007** (2013.01 - US); **C22C 21/14** (2013.01 - US); **C22C 21/16** (2013.01 - EP US); **C22F 1/057** (2013.01 - EP US)

Citation (opposition)

Opponent : Arconic Inc.

- CN 101967588 A 20110209 - BEIJING INST AERONAUTICAL MATERIALS AVIAT INDUSTRY CORP CHINA
- US 7744704 B2 20100629 - BES BERNARD [FR], et al
- CN 102021457 B 20120627 - AVIC BEIJING INST OF AERONAUTICAL MATERIALS
- THE ALUMINIUM ASSOCIATION: "Rolling Aluminium: From the Mine Through the Mill", 2008, XP055325910
- DAVIS ET AL.: "Aluminium and Aluminium Alloys, ASM Speciality Handbook", 1993, pages: 36

Cited by

WO2021111069A1; FR3104172A1

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 2014162068 A1 20141009**; BR 112015024820 A2 20170718; BR 112015024820 B1 20200512; CA 2907807 A1 20141009; CA 2907807 C 20210601; CN 105102647 A 20151125; CN 105102647 B 20171013; EP 2981631 A1 20160210; EP 2981631 B1 20170802; FR 3004196 A1 20141010; FR 3004196 B1 20160506; US 2016060741 A1 20160303

DOCDB simple family (application)

**FR 2014000069 W 20140401**; BR 112015024820 A 20140401; CA 2907807 A 20140401; CN 201480020260 A 20140401; EP 14719034 A 20140401; FR 1300763 A 20130403; US 201414781097 A 20140401