

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

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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

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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

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