Title (en)

METHOD FOR MANUFACTURING AN ALUMINUM-COPPER-LITHIUM ALLOY WITH IMPROVED COMPRESSIVE STRENGTH AND IMPROVED TOUGHNESS

Title (de)

VERFAHREN ZUR HERSTELLUNG EINER ALUMINIUM-KUPFER-LITHIUM-LEGIERUNG MIT VERBESSERTER DRUCKFESTIGKEIT UND VERBESSERTER ZÄHIGKEIT

Title (fr)

PROCEDE DE FABRICATION D'UN ALLIAGE ALUMINIUM CUIVRE LITHIUM A RESISTANCE EN COMPRESSION ET TENACITE AMELIOREES

Publication

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Application

EP 19726469 A 20190424

Priority

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Abstract (en)

[origin: WO2019211546A1] The invention relates to a manufacturing method in which an alloy is prepared that comprises 3.5 to 4.7 wt% of Cu; 0.6 to 1.2 wt% of Li; 0.2 to 0.8 wt% of Mg; 0.1 to 0.2 wt% of Zr; 0.0 to 0.3 wt% of Ag; 0.0 to 0.8 wt% of Zn; 0.0 to 0.5 wt% of Mn; at most 0.20 wt% of Fe + Si; optionally an element selected from Cr, Sc, Hf and V, the amount of said element, if selected, being from 0.05 to 0.3 wt% for Cr and for Sc, 0.05 to 0.5 wt% for Hf and for V; the other elements being at most 0.05 wt% each and 0.15 wt% in total, a refiner is introduced, the alloy is cast in a crude form, homogenized, hot-worked, solution heat-treated, quenched, cold-worked, and tempered, in which the refiner contains particles of TiC and/or the cold working is between 8 and 16%. The products obtained by the method according to the invention have an advantageous compromise between mechanical strength and toughness.

IPC 8 full level

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CPC (source: EP US)

B21B 3/00 (2013.01 - US); **C22C 21/14** (2013.01 - US); **C22C 21/16** (2013.01 - EP US); **C22C 21/18** (2013.01 - EP US); **C22F 1/057** (2013.01 - EP US); B21B 2003/001 (2013.01 - US)

Citation (search report)

See references of WO 2019211546A1

Designated contracting state (EPC)

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DOCDB simple family (publication)

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