

Title (en)
LOW COST, SUBSTANTIALLY ZR-FREE ALUMINUM-LITHIUM ALLOY FOR THIN SHEET PRODUCT WITH HIGH FORMABILITY

Title (de)
KOSTENGÜNSTIGE, IM WESENTLICHEN ZR-FREIE ALUMINIUM-LITHIUM-LEGIERUNG FÜR DÜNNBLECH MIT HOHER FORMBARKEIT

Title (fr)
ALLIAGE ALUMINIUM-LITHIUM À FAIBLE COÛT ET SENSIBLEMENT SANS ZR POUR UN PRODUIT EN FEUILLE MINCE À HAUTE FORMABILITÉ

Publication
EP 3495520 B1 20230607 (EN)

Application
EP 18210045 A 20181204

Priority
US 201715830569 A 20171204

Abstract (en)
[origin: EP3495520A1] A low cost, substantially Zr-free, low density 2xxx aluminum-lithium alloy is disclosed. The aluminum-lithium alloy can be produced to high formability sheet products capable of being formed into wrought products with a thickness of 0.01" to 0.249". Aluminum-lithium alloys of the invention comprise from 3.2 to 4.1 wt. % Cu, 1.0 to 1.8 wt. % Li, 0.8 to 1.2 wt. % Mg, 0.10 to 0.50 wt. % Zn, 0.10 to 1.0 wt. % Mn, up to 0.12 wt. % Si, up to 0.15 wt. % Fe, up to 0.15 wt. % Ti, up to 0.15 wt. % incidental elements, with the total of these incidental elements not exceeding 0.35 wt. %, and the balance being aluminum. Ag should not be intentionally added and should not be more than 0.1 wt. % as a non-intentionally added element. Zr should not be intentionally added and should not be more than 0.05 wt. % as a non-intentionally added element. Mg is at least equal to or higher than 2 * Zn in weight percent in the invented alloy. Methods for manufacturing wrought products including aluminum-lithium alloys of the present invention are also provided.

IPC 8 full level
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Citation (opposition)
Opponent : C-TEC CONSTELLIUM TECHNOLOGY CENTER, CONSTELLIUM ISSOIRE

- EP 3012338 A1 20160427 - KAISER ALUMINUM FABRICATED PRODUCTS LLC [US]
- CN 102021457 A 20110420 - AVIC BEIJING INST OF AERONAUTICAL MATERIALS
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- "Standards and Data 2017 Metric SI", 1 December 2017, ALUMINUM ASSOCIATION TECHNICAL COMMITTEE ON PRODUCT STANDARDS, ISBN: 978-0-9863631-2-2, article ALUMINUM ASSOCIATION: "Aluminum and Aluminum Alloy Density Calculation Procedure", pages: 2 - 2-13, XP093171194
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