

Title (en)

THICK AlZnMgCu ALLOY PRODUCTS HAVING IMPROVED PROPERTIES

Title (de)

DICKE WERKSTUECKE AUS AL-ZN-MG-CU LEGIERUNG MIT VERBESSERTEN EIGENSCHAFTEN

Title (fr)

PRODUITS EPAIS EN ALLIAGE A1ZnMgCu A PROPRIETES AMELIOREES

Publication

EP 0876514 A1 19981111 (FR)

Application

EP 97901668 A 19970124

Priority

- FR 9700144 W 19970124
- FR 9601103 A 19960125

Abstract (en)

[origin: WO9727343A1] A rolled, forged or extruded product made of an AlZnMgCu alloy and having a thickness of more than 60 mm, and a composition as follows (in wt %): $5.9 < \text{Zn} < 8.7$, $1.7 < \text{Mg} < 2.5$, $1.4 < \text{Cu} < 2.2$, $\text{Fe} < 0.14$, $\text{Si} < 0.11$, $0.05 < \text{Zr} < 0.15$, $\text{Mn} < 0.02$, $\text{Cr} < 0.02$, with $\text{Mg} + \text{Cu} < 4.1$, other elements < 0.05 each and < 0.10 in total. The product is treated by dissolving, quenching and optionally annealing, and the T7451 and T7452 treated product has the following properties: (a) a quarter-thickness yield strength R0.2 of over 400 MPa in directions L and TL, (b) a planar deformation resistance greater than 26 MPa 2ROOT m in direction S-L, and greater than $74 - 0.08e - 0.07 \text{ R0.2L MPa } 2\text{ROOT m}$ in direction L-T (e = thickness in mm), and (c) a stress corrosion threshold higher than 240 MPa. Said products are particularly useful for making structural members for aircraft, and wing spars in particular.

IPC 1-7

C22C 21/10; **C22F 1/053**

IPC 8 full level

B29C 45/26 (2006.01); **C22C 21/10** (2006.01); **C22F 1/00** (2006.01); **C22F 1/053** (2006.01)

CPC (source: EP)

C22C 21/10 (2013.01); **C22F 1/053** (2013.01)

Citation (search report)

See references of WO 9727343A1

Cited by

CN111172436A; US10301710B2; US7452429B2; US10472707B2

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DOCDB simple family (application)

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