

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 B1 19990714 (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 < Zn < 8.7, 1.7 < Mg < 2.5, 1.4 < Cu < 2.2, Fe < 0.14, Si < 0.11, 0.05 < Zr < 0.15, Mn < 0.02, Cr < 0.02, with Mg + 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 R0.2L MPa 2ROOT 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)

Cited by
CN111172436A; US10301710B2; US7452429B2; US10472707B2

Designated contracting state (EPC)
DE FR GB

DOCDB simple family (publication)
WO 9727343 A1 19970731; CA 2244148 A1 19970731; CA 2244148 C 20050104; DE 69700330 D1 19990819; DE 69700330 T2 20000113; DE 876514 T1 19990506; EP 0876514 A1 19981111; EP 0876514 B1 19990714; FR 2744136 A1 19970801; FR 2744136 B1 19980306; JP 2000504068 A 20000404; JP 4235260 B2 20090311

DOCDB simple family (application)
FR 9700144 W 19970124; CA 2244148 A 19970124; DE 69700330 T 19970124; DE 97901668 T 19970124; EP 97901668 A 19970124; FR 9601103 A 19960125; JP 52661497 A 19970124