Title (en)

Process of manufacturing a structural element made of a die-cast aluminium alloy

Title (de)

Verfahren zur Herstellung eines Strukturbauteiles aus einer Aluminium-Druckgusslegierung

Title (fr)

Procédé de fabrication d'un élément de structure en alliage d'aluminium moulé sous pression

Publication

EP 0918095 B1 20030326 (DE)

Application

EP 97810884 A 19971120

Priority

EP 97810884 A 19971120

Abstract (en)

[origin: EP0918095A1] A structural component of a die cast aluminum alloy, which contains 0.05-0.4 wt.% Sc and optionally 0.1-0.4 wt.% Zr. Preferred Alloys: The aluminum alloy has the composition (by wt.) NOTGREATER 0.5% Si, NOTGREATER 1.0% Fe, 0.1-1.6% Mn, NOTGREATER 5.0% Mg, NOTGREATER 0.3% Ti, NOTGREATER 0.1% Zn, 0.05-0.4% Sc, optionally 0.1-0.4% Zr, balance Al and NOTGREATER 0.2% total (NOTGREATER 0.02% each) impurities. The especially preferred composition is (a) 0.1-0.8 (especially 0.15-0.25)% Si, 0.2-0.8 (especially 0.5-0.7)% Fe, 0.5-1.8 (especially 1.2-1.4)% Mn, NOTGREATER 1.5% Mg, NOTGREATER 0.3% Ti, NOTGREATER 0.1% Zn, 0.05-0.4 (especially 0.05-0.2)% Sc, optionally 0.1-0.4 (especially 0.1-0.2)% Zr, balance Al and NOTGREATER 0.2% total (NOTGREATER 0.02% each) impurities; or (b) 0.05-1.0 (especially 0.15-0.25)% Si, 0.05-0.2 (especially NOTGREATER 0.15)% Fe, 0.5-1.8 (especially 0.8-1.0)% Mn, 2.0-4.5 (especially 2.5-3.5)% Mg, NOTGREATER 0.2% Ti, NOTGREATER 0.1% Zn, 0.05-0.4 (especially 0.05-0.2)% Sc, optionally 0.1-0.4 (especially 0.1-0.2)% Zr, balance Al and NOTGREATER 0.2% total (NOTGREATER 0.02% each) impurities.

IPC 1-7

C22C 21/00; C22C 21/06

IPC 8 full level

C22C 21/00 (2006.01); **C22C 21/06** (2006.01)

CPC (source: EP)

C22C 21/00 (2013.01); **C22C 21/06** (2013.01)

Cited by

DE102007018123A1; CN106282696A; DE102007041775B3; DE19838017C2; CN111378880A; DE10310453A1; DE102009032588A1; DE19838015C2; EP1508627A4; DE19838018C2; CN111363960A; CN111378878A; DE10352932A1; DE10352932B4; CN105648291A; DE10248594B4; CN113909448A; DE102007018123B4; AT501867B1; AT501867A1; US7713470B2; US6258318B1; WO2011124221A2; WO2005045081A1; WO2009030194A1; WO03052154A1; WO2005045080A1; WO0011229A3; DE102010032768A1; WO2012013185A1; US6607616B2; US11471984B2; WO2011124220A1; DE102012216845A1; US10450634B2

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