

Title (en)

A COMBINATION OF CASTING PROCESS AND ALLOY COMPOSITIONS RESULTING IN CAST PARTS WITH SUPERIOR COMBINATION OF ELEVATED TEMPERATURE CREEP PROPERTIES, DUCTILITY AND CORROSION PERFORMANCE

Title (de)

KOMBINATION AUS GIESSVERFAHREN UND LEGIERUNGSZUSAMMENSETZUNGEN, DIE ZU GUSSTEILEN MIT ÜBERLEGENER KOMBINATION VON KRIECHFESTIGKEIT BEI ERHÖHTER TEMPERATUR, DUKTILITÄT UND KORROSIONSLISTUNG FÜHRT

Title (fr)

COMBINAISON DE PROCESSUS DE COULAGE ET COMPOSITIONS ALLIÉES PRODUISANT DES PIÈCES COULÉES DE COMBINAISON SUPÉRIEURE DE PROPRIÉTÉS DE FLUAGE À TEMPÉRATURE ÉLEVÉE, DE DUCTILITÉ ET DE RÉSISTANCE À LA CORROSION

Publication

**EP 1957221 A1 20080820 (EN)**

Application

**EP 06805766 A 20060919**

Priority

- EP 2006009082 W 20060919
- EP 05077583 A 20051110
- EP 06805766 A 20060919

Abstract (en)

[origin: WO2007054152A1] A process for casting a magnesium alloy consisting of 2,0 - 6,00 % by weight of aluminium, 3,00 - 8,00 % by weight of rare earth metals (RE-metals), the ratio of the amount of RE-metals to the amount of aluminium expressed as % by weight being larger than 0,8, at least 40 % by weight of the RE-metals being cerium, less than 0,5 % by weight of manganese, less than 1,00 % by weight of zinc, less than 0,01 % by weight of calcium less than 0,01 % by weight of strontium and the balance being magnesium and unavoidable impurities, the total impurity level being below 0,1 % by weight, wherein the alloy is cast in a die the temperature of which is controlled in the range of 180-340°C, the die is filled in a time which expressed in milliseconds is equal to the product of a number between 5 and 500 multiplied by the average part thickness expressed in millimeter, the static metal pressures being maintained during casting between 20-70 MPa and is subsequently intensified up to 180 MPa.

IPC 8 full level

**B22D 21/00** (2006.01); **B22D 17/08** (2006.01); **C22C 23/02** (2006.01); **C22C 23/06** (2006.01)

CPC (source: EP KR US)

**B22D 17/00** (2013.01 - EP US); **B22D 17/08** (2013.01 - KR); **B22D 21/007** (2013.01 - EP US); **B22D 21/04** (2013.01 - KR); **C22C 23/02** (2013.01 - EP KR US); **C22C 23/06** (2013.01 - EP KR US)

Citation (search report)

See references of WO 2007054152A1

Citation (third parties)

Third party :

- US 2003230392 A1 20031218 - CZERWINSKI FRANK [CA], et al
- GB 1452671 A 19761013 - NL INDUSTRIES INC
- EP 1060817 A1 20001220 - MITSUI MINING & SMELTING CO [JP]
- US 2009090479 A1 20090409 - WESTENGEN HAKON [NO], et al

Cited by

DE202016105961U1; US10751793B2

Designated contracting state (EPC)

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BA HR MK RS

DOCDB simple family (publication)

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