

Title (en)

SILUMIN FOR PRESSURE DIE CASTING WITH ADDITIVE OF WOLFRAM AND VANADIUM

Title (de)

SILUMIN ZUM DRUCKGIESSEN MIT ADDITIV AUS WOLFRAM UND VANADIUM

Title (fr)

SILUMINE POUR MOULAGE SOUS PRESSION, AVEC UN ADDITIF DE TUNGSTÈNE ET DE VANADIUM

Publication

**EP 3184659 A1 20170628 (EN)**

Application

**EP 15003706 A 20151223**

Priority

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Abstract (en)

The subject of this invention is hypo-eutectic silumin with additive of wolfram and vanadium designed for pressure die casting. In accordance with the invention it contains in weight percentage: 7,5-8,7% Si; 0,7-1,2% Fe; 2,0- 3,0% Cu; 0,10-0,50% Mn; 0,05-0,50% Mg; 0,00-0,15 % Cr; 0,05-0,40 % Ni; 0,9-1,1 % Zn; 0.20-0.35% Pb; 0.10-0.15% Sn 0,00-0,10 % Ti; 0,10-0,30 % W; 0,10-0,30 % V and the balance being Al. The application of silumin with additive of W and V for pressure die casting enables to get the effect of supersaturation of silumin solid solution with these additives. Supersaturation of silumin solid solutions with wolfram and vanadium is possible thanks to extremely dynamic silumin crystallization process inside pressure casting die. The effect of supersaturation with additives W and V, aluminum in particular, induces enlarging of silumin tensile strength R<sub>m</sub> and unit elongation A. Silumin in accordance with the invention is characterized by its content of W 0,10-0,30 % and V 0,10-0,30 % in weight percentage.

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