

Title (en)
ALUMINIUM ALLOY VACUUM CHAMBER ELEMENTS WHICH ARE STABLE AT HIGH TEMPERATURE

Title (de)
BEI HOHER TEMPERATUR STABILE VAKUUMKAMMERELEMENTE AUS ALUMINIUMLEGIERUNG

Title (fr)
ELEMENTS DE CHAMBRES A VIDE EN ALLIAGE D'ALUMINIUM STABLES A HAUTE TEMPERATURE

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Application
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Abstract (en)
[origin: WO2018162823A1] The invention relates to a vacuum chamber element obtained by machining and surface treatment of sheet metal with a thickness of at least 10 mm made of aluminium alloy with the following composition, as wt%: Si: 0.4 – 0.7; Mg: 0.4 – 1.0; the ratio of Mg/Si in wt% being less than 1.8; Ti: 0.01 – 0.15, Fe 0.08 – 0.25; Cu < 0.35; Mn < 0.4; Cr: < 0.25; Zn < 0.04; other elements < 0.05 each and < 0.15 in total, the remainder being aluminium, characterised in that the grain size of said sheet metal is such that the mean linear intercept length l measured on the L/TC plane according to the ASTM E112 standard, is at least 350 μm between surface and $\frac{1}{2}$ thickness. The invention likewise relates to the method for manufacturing such a vacuum chamber element. The products according to the invention are particularly advantageous in their resistance to creeping at high temperature, while having high properties of corrosion resistance, uniformity of properties in the thickness, and machinability.

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