

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

Publication
EP 3592875 C0 20240501 (FR)

Application
EP 18714563 A 20180301

Priority
• FR 1751981 A 20170310
• FR 2018050481 W 20180301

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 ½ 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.

IPC 8 full level
C22C 21/08 (2006.01); **C22F 1/05** (2006.01); **C25D 11/04** (2006.01)

CPC (source: EP KR US)
C22C 21/02 (2013.01 - EP US); **C22C 21/08** (2013.01 - EP KR US); **C22F 1/043** (2013.01 - EP US); **C22F 1/047** (2013.01 - EP KR);
C22F 1/05 (2013.01 - EP KR US); **C25D 11/04** (2013.01 - EP); **C25D 11/08** (2013.01 - EP KR US); **C25D 11/10** (2013.01 - EP KR US);
C25D 11/18 (2013.01 - EP KR)

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Participating member state (EPC – UP)
AT BE BG DE DK EE FI FR IT LT LU LV MT NL PT SE SI

DOCDB simple family (publication)
WO 2018162823 A1 20180913; CN 110402296 A 20191101; CN 110402296 B 20210420; EP 3592875 A1 20200115; EP 3592875 B1 20240501;
EP 3592875 C0 20240501; FR 3063740 A1 20180914; FR 3063740 B1 20190315; JP 2020510761 A 20200409; KR 102584052 B1 20230927;
KR 20190126851 A 20191112; SG 11201907957Y A 20191128; TW 201840864 A 20181116; US 11248280 B2 20220215;
US 2021130933 A1 20210506

DOCDB simple family (application)
FR 2018050481 W 20180301; CN 201880017403 A 20180301; EP 18714563 A 20180301; FR 1751981 A 20170310;
JP 2019571109 A 20180301; KR 20197029492 A 20180301; SG 11201907957Y A 20180301; TW 107108171 A 20180309;
US 201816492085 A 20180301