

Title (en)  
TITANIUM ALLOY-BASED SHEET MATERIAL FOR LOW-TEMPERATURE SUPERPLASTIC DEFORMATION

Title (de)  
TITANLEGIERUNGSBASIERTES FOLIENMATERIAL ZUR SUPERPLASTISCHEN TIEFTEMPERATURVERFORMUNG

Title (fr)  
MATÉRIAU EN FEUILLE À BASE D'ALLIAGE DE TITANE POUR DÉFORMATION SUPERPLASTIQUE À BASSE TEMPÉRATURE

Publication  
**EP 3617335 A4 20200819 (EN)**

Application  
**EP 17907725 A 20170425**

Priority  
RU 2017000266 W 20170425

Abstract (en)  
[origin: EP3617335A1] Herein disclosed includes the manufacture of sheets from a titanium alloy having a chemical composition efficiently balanced with manufacturability based on known conventional manufacturing techniques for finished products exhibiting low temperature superplastic forming properties. The result is achieved by a sheet material for low temperature superplastic made of titanium alloy with the following content of element by % wt.: 4.5-5.5Al, 4.5-5.5V, 0.1-1.0Mo, 0.8-1.5Fe, 0.1-0.5Cr, 0.1-0.5Ni, 0.16-0.250, remainder is titanium and residual elements and having molybdenum structural equivalent [Mo]equiv. > 5 and aluminum structural equivalent [Al]equiv. < 8; the equivalent values are calculated from the expressions: Moequiv.=Mo+V/1.5+Cr×1.25+Fe×2.5×Ni/0.8Alequiv.=Al+O×10+Zr/6.

IPC 8 full level  
**C22C 14/00** (2006.01); **B21B 1/00** (2006.01); **C22F 1/18** (2006.01)

CPC (source: EP RU US)  
**B21B 1/38** (2013.01 - RU); **C22C 14/00** (2013.01 - EP RU US); **C22F 1/183** (2013.01 - EP US)

Citation (search report)

- [I] RU 2549804 C1 20150427 - KORPORATSIJA VSMPO AVISMA AOOT [RU]
- [YD] RU 2555267 C2 20150710 - KORPORATSIJA VSMPO AVISMA AOOT [RU]
- [Y] EP 0408313 A1 19910116 - NIPPON KOKAN KK [JP]
- [A] US 4299626 A 19811110 - PATON NEIL E, et al
- [A] EP 2527478 A2 20121128 - PUBLIC STOCK COMPANY VSMPO AVISMA CORP [RU]
- See also references of WO 2018199791A1

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

DOCDB simple family (publication)  
**EP 3617335 A1 20200304**; **EP 3617335 A4 20200819**; **EP 3617335 B1 20211117**; BR 112019022330 A2 20200526;  
BR 112019022330 B1 20221129; CA 3062762 A1 20191128; CN 111279003 A 20200612; CN 111279003 B 20220128;  
JP 2020517834 A 20200618; JP 7028893 B2 20220302; RU 2017139320 A 20190513; RU 2017139320 A3 20190513; RU 2691434 C2 20190613;  
US 2020149133 A1 20200514; WO 2018199791 A1 20181101

DOCDB simple family (application)  
**EP 17907725 A 20170425**; BR 112019022330 A 20170425; CA 3062762 A 20170425; CN 201780091937 A 20170425;  
JP 2019558569 A 20170425; RU 2017000266 W 20170425; RU 2017139320 A 20170425; US 201716607592 A 20170425