Title (en)

ZIRCONIUM ALLOY HAVING EXCELLENT CORROSION RESISTANCE AND CREEP RESISTANCE, AND METHOD FOR MANUFACTURING SAME

Title (de)

ZIRCONIUMLEGIERUNG MIT HERVORRAGENDER KORROSIONSBESTÄNDIGKEIT UND KRIECHFESTIGKEIT UND VERFAHREN ZUR HERSTELLUNG DAVON

Title (fr)

ALLIAGE DE ZIRCONIUM AYANT D'EXCELLENTES RÉSISTANCE À LA CORROSION ET RÉSISTANCE AU FLUAGE ET PROCÉDÉ DE FABRICATION DE CE DERNIER

Publication

EP 3284836 A4 20180926 (EN)

Application

EP 15889277 A 20150508

Priority

- KR 20150052711 A 20150414
- KR 2015004641 W 20150508

Abstract (en)

[origin: US2016304991A1] A zirconium alloy is manufactured through melting; solution heat treatment at 1,000 to 1,050° C. for 30 to 40 min and β-quenching using water; preheating at 630 to 650° C. for 20 to 30 min and hot rolling at a reduction ratio of 60 to 65%; primary intermediate vacuum annealing at 570 to 590° C. for 3 to 4 hr and primarily cold-rolled at a reduction ratio of 30 to 40%; secondary intermediate vacuum annealing at 560 to 580° C. for 2 to 3 hr and secondarily cold-rolled at a reduction ratio of 50 to 60%; tertiary intermediate vacuum annealing at 560 to 580° C. for 2 to 3 hr and tertiarily cold-rolled at a reduction ratio of 30 to 40%; and final vacuum annealing at 440 to 650° C. for 7 to 9 hr.

IPC 8 full level

C22C 16/00 (2006.01); **B21B 3/00** (2006.01); **C22F 1/18** (2006.01)

CPC (source: CN EP US)

B22F 1/00 (2013.01 - US); **C22C 1/02** (2013.01 - CN EP US); **C22C 16/00** (2013.01 - CN EP US); **C22F 1/186** (2013.01 - CN EP US); B22D 7/005 (2013.01 - EP US)

Citation (search report)

- [A] US 2012145287 A1 20120614 - KIM HYUN GIL [KR], et al
- [AD] KR 20120126205 A 20121121
- [A] CN 103589910 A 20140219 - UNIV SHANGHAI
- [A] CN 103409661 A 20131127 - CHINA NUCLEAR POWER TECHNOLOGY RES INST CO LTD, et al
- See references of WO 2016167397A1

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)

US 2016304991 A1 20161020; CN 107438675 A 20171205; CN 107438675 B 20200407; EP 3284836 A1 20180221; EP 3284836 A4 20180926; EP 3284836 B1 20200701; JP 2018514650 A 20180607; JP 6588104 B2 20191009; KR 101604105 B1 20160316; WO 2016167397 A1 20161020

DOCDB simple family (application)

US 201615097354 A 20160413; CN 201580078752 A 20150508; EP 15889277 A 20150508; JP 2017553426 A 20150508; KR 2015004641 W 20150508; KR 20150052711 A 20150414