

Title (en)

Method of modifying thermal and electrical properties of multi-component titanium alloys

Title (de)

Verfahren zur Modifizierung thermischer und elektrischer Eigenschaften von Mehrkomponenten-Titanlegierungen

Title (fr)

Procédé pour modifier les propriétés thermiques et électriques d'alliages de titane à plusieurs composants

Publication

EP 2453029 A1 20120516 (EN)

Application

EP 11172128 A 20110630

Priority

US 92305610 A 20101112

Abstract (en)

A method of increasing the thermal conductivity and decreasing the electrical resistivity of a titanium alloy. Boron is introduced into the titanium alloy to produce TiB precipitates. The TiB precipitates are then aligned in a direction of metal flow by hot metalworking.

IPC 8 full level

C22C 14/00 (2006.01); **C22C 1/04** (2006.01); **C22C 1/10** (2006.01)

CPC (source: EP KR US)

B22D 21/06 (2013.01 - KR); **B22F 3/1039** (2013.01 - EP US); **C22C 1/04** (2013.01 - KR); **C22C 1/0458** (2013.01 - EP US);
C22C 14/00 (2013.01 - EP US); **C22C 32/0031** (2013.01 - EP US); **C22C 32/0073** (2013.01 - EP US); **C22F 1/18** (2013.01 - KR)

Citation (search report)

- [X] US 2006016521 A1 20060126 - HANUSIAK WILLIAM M [US], et al
- [X] US 2007286761 A1 20071213 - MIRACLE DANIEL B [US], et al
- [X] WO 2005060631 A2 20050707 - UNIV OHIO [US], et al
- [A] US 5520879 A 19960528 - SAITO TAKASHI [JP], et al
- [X] TAMIRISAKANDALA S ET AL: "Powder Metallurgy Ti-6Al-4VxB Alloys: Processing, Microstructure and Properties", J O M, SPRINGER NEW YORK LLC, UNITED STATES, vol. 56, no. 5, 1 May 2004 (2004-05-01), pages 60 - 63, XP002570256, ISSN: 1047-4838, [retrieved on 20070628], DOI: 10.1007/S11837-004-0131-5
- [X] TAMIRISAKANDALA S ET AL: "Effect of boron on the beta transus of Ti 6Al 4V alloy", SCRIPTA MATERIALIA, ELSEVIER, AMSTERDAM, NL, vol. 53, no. 2, 1 July 2005 (2005-07-01), pages 217 - 222, XP002570257, ISSN: 1359-6462, [retrieved on 20050420], DOI: 10.1016/J.SCRIPTAMAT.2005.03.038

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

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 2453029 A1 20120516; CN 102465217 A 20120523; JP 2012102394 A 20120531; KR 20120051572 A 20120522;
US 2012118433 A1 20120517

DOCDB simple family (application)

EP 11172128 A 20110630; CN 201110229693 A 20110811; JP 2011189256 A 20110831; KR 20110084208 A 20110823;
US 92305610 A 20101112