Title (en)

A METAL-BASE ALLOY PRODUCT AND METHODS FOR PRODUCING THE SAME

Title (de)

LEGIERUNGSPRODUKT AUF METALLBASIS UND VERFAHREN ZU SEINER HERSTELLUNG

Title (fr)

PRODUIT EN ALLIAGE À BASE DE MÉTAL ET SES PROCÉDÉS DE PRODUCTION

Publication

EP 2585620 A4 20180411 (EN)

Application

EP 11798482 A 20110623

Priority

- SE 1050694 A 20100624
- SE 2011050835 W 20110623

Abstract (en)

[origin: WO2011162713A1] The present invention relates to a metal base alloy and to methods for producing the alloy. The metal base alloy product consists of the formula Mebase Ta Sib Crc Mnj Ve Cf, wherein - Mebase is a metal base selected from the group consisting of Fe, Co and Ni, in an amount ranging from about 45-75 w%, - Ta is an alloying material selected from the group consisting of Mo, Nb and Ta in an amount a ranging from about 5-10 w%, - Sib is a further alloying member in an amount b ranging from about 4-10 w%, - Crc is a further alloying member in an amount c ranging from about 8-30 w%, - Mnd is a further alloying member in an amount d ranging from about 0-10 w% - Ve is a further alloying member in an amount e ranging from about 0-10 w%, and - Cf is a further alloying member in an amount f ranging from about 2-4 w%. The metal base alloy product contains a substantially homogenous dispersion of separate precipitated carbide particles in an amount ranging from 10-65 percentages by volume and the precipitate carbide particles have an average diameter of 0.01-5 micrometers.

IPC 8 full level

C21D 6/00 (2006.01); **B22F 9/00** (2006.01); **C21D 1/25** (2006.01); **C22C 19/05** (2006.01); **C22C 19/07** (2006.01); **C22C 32/00** (2006.01); **C22C 38/22** (2006.01); **C22C 38/34** (2006.01); **C22C 38/36** (2006.01); **C22C 38/38** (2006.01)

CPC (source: EP US)

C21D 1/25 (2013.01 - EP US); **C21D 6/002** (2013.01 - EP US); **C22C 1/04** (2013.01 - US); **C22C 1/0433** (2013.01 - US); **C22C 1/1036** (2013.01 - EP US); **C22C 19/051** (2013.01 - EP US); **C22C 19/055** (2013.01 - EP US); **C22C 19/056** (2013.01 - EP US); **C22C 19/057** (2013.01 - EP US); **C22C 19/058** (2013.01 - US); **C22C 19/07** (2013.01 - EP US); **C22C 30/00** (2013.01 - EP US); **C22C 32/0052** (2013.01 - EP US); **C22C 37/06** (2013.01 - US); **C22C 38/02** (2013.01 - EP US); **C22C 38/04** (2013.01 - EP US); **C22C 38/22** (2013.01 - EP US); **C22C 38/24** (2013.01 - EP US); **C22C 38/26** (2013.01 - EP US); **C22C 38/34** (2013.01 - US); **C22C 38/36** (2013.01 - EP US); **C22C 38/38** (2013.01 - US); **C22F 1/10** (2013.01 - US); B22F 2998/10 (2013.01 - EP US); C21D 2211/004 (2013.01 - EP US)

Citation (search report)

- [A] US 4425300 A 19840110 - TERAMOTO TAKAO [JP], et al
- [A] JP H06155074 A 19940603 - TOYOTA MOTOR CORP
- [A] JP S6475641 A 19890322 - MASUMOTO TAKESHI, et al
- [XA] SATHEES RANGANATHAN ET AL: "Rapid Solidification Behavior of Fe-Cr-Mn-Mo-Si-C Alloys", METALLURGICAL AND MATERIALS TRANSACTIONS B, SPRINGER-VERLAG, NEW YORK, vol. 38, no. 6, 1 December 2007 (2007-12-01), pages 917 - 926, XP019697943, ISSN: 1543-1916
- [IA] RANGANATHAN S ET AL: "Influence of Mo in the structure of rapidly solidified Fe-Mo-Cr-Mn-Si-C alloy", INTERNATIONAL JOURNAL OF CAST METALS RESEARCH, CAST METALS DEVELOPMENT, BIRMINGHAM, GB, vol. 22, no. 1-4, 1 August 2009 (2009-08-01), pages 264 - 267, XP009503675, ISSN: 1364-0461, [retrieved on 20130718], DOI: 10.1179/136404609X367902
- [A] KISHITAKE KATSUHIKO ET AL: "Nonequilibrium phases in rapidly solidified high-carbon Fe-Cr-Mo alloys", MATERIALS TRANSACTIONS, JIM 1993 JAN PUBL BY JAPAN INST OF METALS, vol. 34, no. 1, January 1993 (1993-01-01), pages 54 - 61, XP002775859, Retrieved from the Internet <URL:https://www.jstage.jst.go.jp/article/matertrans1989/34/1/34_1_54/_pdf> [retrieved on 20171122]
- [A] KISHITAKE K ET AL: "STRUCTURES AND TEMPERING BEHAVIOR OR RAPIDLY SOLIDIFIED HIGH-CARBON IRON ALLOYS", METALLURGICAL TRANSACTIONS A. PHYSICAL METALLURGY AND MATERIALSSCIENCE, METALLURGICAL SOCIETY OF AIME. NEW YORK, US, vol. 22A, no. 3, 1 March 1991 (1991-03-01), pages 775 - 782, XP000249801
- See references of WO 2011162713A1

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)

WO 2011162713 A1 20111229; EP 2585620 A1 20130501; EP 2585620 A4 20180411; US 2013195709 A1 20130801

DOCDB simple family (application)

SE 2011050835 W 20110623; EP 11798482 A 20110623; US 201113806455 A 20110623