

Title (en)

Method for the manufacture of objects from iron-cobalt-molybdenum/tungsten-nitrogen alloys

Title (de)

Verfahren zur Herstellung von Gegenständen aus Eisen-Cobalt-Molybdän/Wolfram-Stickstoff-Legierungen

Title (fr)

Procédé de fabrication d'objets en alliages de fer- cobalt - molybdène/tungstène - azote inerte

Publication

**EP 2886673 B1 20190612 (DE)**

Application

**EP 14192704 A 20141111**

Priority

AT 508202013 A 20131212

Abstract (en)

[origin: CA2873761A1] The disclosure relates to a production of a semi-finished product for a manufacturing of objects, particularly tools, from a precipitation-hardenable alloy having a composition in wt.% of Co = 15.0 to 30.0, Mo up to 20.0, W up to 25.0, Fe and manufacturing-specific impurities as a remainder. To achieve an economical, highly precise production of objects or tools of the above alloy with reduced effort, it is provided to prevent a formation of ordered structures of the Fe atoms and Co atoms in the matrix of the type (Fe+(29xCo)) + approximately 1 wt.% Mo of the semi-finished product by a thermal special treatment, to thus improve a workability of the material.

IPC 8 full level

**C22C 33/02** (2006.01); **B22F 3/15** (2006.01); **B22F 3/24** (2006.01); **C21D 6/00** (2006.01); **C21D 6/02** (2006.01)

CPC (source: AT EP KR US)

**B22F 3/16** (2013.01 - AT); **B22F 3/24** (2013.01 - AT US); **C21D 1/26** (2013.01 - EP KR US); **C21D 6/007** (2013.01 - EP KR US); **C21D 6/02** (2013.01 - KR); **C22C 33/0285** (2013.01 - EP KR US); **C22C 38/001** (2013.01 - EP KR US); **C22C 38/10** (2013.01 - AT EP KR US); **C22C 38/12** (2013.01 - KR); **C22C 38/22** (2013.01 - EP US); **B22F 2003/248** (2013.01 - US); **B22F 2998/10** (2013.01 - EP KR US); **C21D 6/02** (2013.01 - EP US)

C-Set (source: EP US)

**B22F 2998/10 + B22F 9/082 + B22F 3/15 + B22F 2003/248**

Citation (examination)

- TURK C ET AL: "Impact of the B2 ordering behavior on the mechanical properties of a FeCoMo alloy", MATERIALS SCIENCE AND ENGINEERING: A, vol. 662, 18 March 2016 (2016-03-18), pages 511 - 518, XP029501228, ISSN: 0921-5093, DOI: 10.1016/J.MSEA.2016.03.083
- EIDENBERGER E ET AL: "Spinodal decomposition in Fe-25 at%Co-9 at%Mo", INTERMETALLICS, ELSEVIER SCIENCE PUBLISHERS B.V, GB, vol. 18, no. 11, 1 November 2010 (2010-11-01), pages 2128 - 2135, XP027298284, ISSN: 0966-9795, [retrieved on 20100727]
- EIDENBERGER E ET AL: "Precipitation Behavior of Fe-25 At. Pct Co-9 At. Pct Mo Investigated by In-Situ Small-Angle Neutron Scattering and Complementary Methods", METALLURGICAL AND MATERIALS TRANSACTIONS A, SPRINGER-VERLAG, NEW YORK, vol. 41, no. 5, 23 September 2009 (2009-09-23), pages 1230 - 1234, XP019796820, ISSN: 1543-1940

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DOCDB simple family (publication)

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DOCDB simple family (application)

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