

Title (en)

POWDER-METALLURGICALLY PRODUCED, WEAR-RESISTANT MATERIAL

Title (de)

PULVERMETALLURGISCH HERGESTELLTER, VERSCHLEISSBESTÄNDIGER WERKSTOFF

Title (fr)

MATERIAU RESISTANT A L'USURE ET PRODUIT PAR METALLURGIE DES POUDRES

Publication

EP 1882050 A2 20080130 (DE)

Application

EP 06742765 A 20060502

Priority

- EP 2006004086 W 20060502
- DE 102005020081 A 20050429

Abstract (en)

[origin: WO2006117030A1] The invention relates to a wear-resistant material comprising an alloy that contains: 1.5 to 5.5 wt. % of carbon; 0.1 to 2.0 wt. % of silicon; a maximum of 2.0 wt. % of manganese; 3.5 to 30.0 wt. % of chromium; 0.3 to 10 wt. % of molybdenum; 0 to 10 wt. % of tungsten; 0.1 to 30 wt. % of vanadium; 0 to 12 wt. % of niobium; 0 to 12 wt. % of titanium; 1.0 to 6.0 wt. % of nickel, the rest being composed of iron and production-related impurities. The carbon moiety meets the following condition: $C_{\text{alloy}} [w\%] = S1 + S2 + S3$, wherein $S1 = (Nb + Ta + 2(Ti + V \cdot 0.9))/a$, $S2 = (Mo + W/2 + Cr - b)/5$, $S3 = c + (T_{\text{H}} - 900) \cdot 0.0025$, wherein $7 < a < 9$, $6 < b < 8$, $0.3 < c < 0.5$, and $900^\circ\text{C} < T_{\text{H}} < 1220^\circ\text{C}$. The invention also relates to a method for producing said wear-resistant material and uses of the materials.

IPC 8 full level

B22F 3/00 (2006.01); **B22F 7/00** (2006.01); **C22C 33/02** (2006.01); **C22C 38/44** (2006.01); **C22C 38/46** (2006.01); **C22C 38/56** (2006.01)

CPC (source: EP US)

C22C 30/00 (2013.01 - EP US); **C22C 33/0257** (2013.01 - EP US); **C22C 33/0285** (2013.01 - EP US); **C22C 38/001** (2013.01 - EP US); **C22C 38/02** (2013.01 - EP US); **C22C 38/34** (2013.01 - EP US); **C22C 38/44** (2013.01 - EP US); **C22C 38/46** (2013.01 - EP US); **C22C 38/48** (2013.01 - EP US); **C22C 38/50** (2013.01 - EP US); **C22C 38/52** (2013.01 - EP US); **C22C 38/56** (2013.01 - EP US); **C22C 38/58** (2013.01 - EP US); **B22F 2998/10** (2013.01 - EP US); **B22F 2999/00** (2013.01 - EP US); **Y10T 428/12** (2015.01 - EP US)

Citation (search report)

See references of WO 2006117186A2

Cited by

EP3801958A4; EP3801958B1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

DE 102005020081 A1 20061109; DK 1882050 T3 20160801; EP 1882050 A2 20080130; EP 1882050 B1 20160413; SI 1882050 T1 20160831; US 2008253919 A1 20081016; US 2013084462 A1 20130404; US 9410230 B2 20160809; WO 2006117030 A1 20061109; WO 2006117186 A2 20061109; WO 2006117186 A3 20070201

DOCDB simple family (application)

DE 102005020081 A 20050429; DK 06742765 T 20060502; EP 06742765 A 20060502; EP 2006001247 W 20060210; EP 2006004086 W 20060502; SI 200632073 A 20060502; US 201213683971 A 20121121; US 91282906 A 20060502