

Title (en)

Ti(C,N)-(Ti,Nb,W)(C,N)-Co alloy for super-finishing turning cutting tool applications

Title (de)

Ti(C,N)-(Ti,Nb,W)(C,N)-Co Legierung für Drehwerkzeuge zur Feinstbearbeitung in spanabhebender Fertigung

Title (fr)

Ti(C,N)-(Ti,Nb,W)(C,N)-Co pour outils de coupe pour superfinition en tournage

Publication

EP 1422306 B1 20090520 (EN)

Application

EP 03445110 A 20031010

Priority

SE 0203407 A 20021119

Abstract (en)

[origin: EP1422306A2] The present invention relates to a titanium based carbonitride alloy containing Ti, Nb, W, C, N and Co for metal cutting applications, in particularly superfinishing turning operations. The alloy contains in addition to Ti 3-<9 at% Co with only impurity levels of Ni and Fe, 2-<4 at% Nb, 3-8 at% W and has a C/(C+N) ratio of 0.50-0.75. The amount of undissolved Ti(C,N) cores (A) should be kept between 26 and 37 vol% of the hard constituents, the balance being one or more complex carbonitrides (B) containing Ti, Nb and W. The invented alloy is particularly useful for superfinishing of steel and cast iron.

IPC 8 full level

B23C 5/16 (2006.01); **C22C 29/04** (2006.01); **B22F 3/10** (2006.01); **C22C 1/05** (2006.01); **C22C 14/00** (2006.01)

CPC (source: EP KR US)

C22C 1/051 (2013.01 - EP US); **C22C 29/04** (2013.01 - EP KR); **B22F 2005/001** (2013.01 - EP); **B22F 2998/00** (2013.01 - EP); **B22F 2999/00** (2013.01 - EP)

Designated contracting state (EPC)

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

DOCDB simple family (publication)

EP 1422306 A2 20040526; **EP 1422306 A3 20060412**; **EP 1422306 B1 20090520**; AT E431858 T1 20090615; DE 60327682 D1 20090702; JP 2004169186 A 20040617; KR 20040044157 A 20040527; SE 0203407 D0 20021119; SE 0203407 L 20040520; SE 526180 C2 20050719; SE 526180 C3 20050803

DOCDB simple family (application)

EP 03445110 A 20031010; AT 03445110 T 20031010; DE 60327682 T 20031010; JP 2003389398 A 20031119; KR 20030081459 A 20031118; SE 0203407 A 20021119