

Title (en)

Free cutting alloy

Title (de)

Automatenlegierung

Title (fr)

Alliage de décolletage

Publication

**EP 1431411 A1 20040623 (EN)**

Application

**EP 04004045 A 20000901**

Priority

- EP 00118990 A 20000901
- JP 25090299 A 19990903
- JP 2000070257 A 20000314
- JP 2000221433 A 20000721
- JP 2000251602 A 20000822
- JP 2000251626 A 20000822

Abstract (en)

provided is free cutting alloy excellent in machinability, preserving various characteristics as alloy. The free cutting alloy contains: one or more of Ti and Zr as a metal element component; and C being an indispensable element as a bonding component with the metal element component, wherein a (Ti,Zr) based compound including one or more of S, Se and Te is formed in a matrix metal phase. The free cutting alloy is more excellent in machinability, preserving various characteristics as alloy at similar levels to a conventional case. The effect is especially conspicuous, for example, when a compound expressed in a chemical form of (Ti,Zr)<sub>4</sub>C<sub>2</sub>(S,Se,Te)<sub>2</sub> as the (Ti,Zr) based compound is formed at least in a dispersed state in the alloy structure. <IMAGE>

IPC 1-7

**C22C 38/60; C22C 38/40; C22C 38/28; C22C 38/18; C22C 19/05; C22C 27/06**

IPC 8 full level

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CPC (source: EP)

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Citation (search report)

- [YA] GB 1519313 A 19780726 - SANDVIK AB
- [Y] R.KIESSLING ET AL: "Non-metallic inclusions in steel", 1978, THE INSTITUTE OF MATERIALS, LONDON, GB, XP002155733
- [A] PATENT ABSTRACTS OF JAPAN vol. 1998, no. 10 31 August 1998 (1998-08-31)
- [A] PATENT ABSTRACTS OF JAPAN vol. 009, no. 324 (C - 320) 19 December 1985 (1985-12-19)

Cited by

RU2485200C1; DE102013214464A1; DE102013214464A9

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**EP 1085105 A2 20010321; EP 1085105 A3 20010516; EP 1085105 B1 20060628**; DE 60029063 D1 20060810; DE 60029063 T2 20070628; DE 60029260 D1 20060817; DE 60029260 T2 20070830; DE 60029261 D1 20060817; DE 60029261 T2 20070201; DE 60029364 D1 20060824; DE 60029364 T2 20070809; DE 60030175 D1 20060928; DE 60030175 T2 20070830; EP 1431409 A1 20040623; EP 1431409 B1 20060705; EP 1431410 A1 20040623; EP 1431410 B1 20060712; EP 1431411 A1 20040623; EP 1431411 B1 20060705; EP 1431412 A1 20040623; EP 1431412 B1 20060816

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