

Title (en)
COATED HARD METAL BODY

Publication
EP 0143889 A3 19850925 (DE)

Application
EP 84109267 A 19840804

Priority
DE 3332260 A 19830907

Abstract (en)
[origin: US4749630A] A coated hardmetal body comprised of a hardmetal core which contains cobalt as well as tungsten carbide and of an oxygen containing hard substance layer free of binder metal is disclosed whose hardmetal basic body has a zone at its surface which is 0.2 to 20 microns thick and which contains the CoWB phase in addition to the hardmetal components. It is of particular advantage for the binder metal free, oxygen containing hard substance layer to be composed of aluminum oxide, zirconium oxide or aluminum oxynitride. It is further provided that at least one further binder metal free hard substance layer of carbides, nitrides, borides and/or oxides is applied to the binder metal free hard oxide layer. The coated hardmetal body may advantageously be used as a cutting bit for machining metallic workpieces. The coated hardmetal body is produced by gas phase boration and subsequent hard substance coating according to the CVD process.

IPC 1-7
B23B 27/14

IPC 8 full level
C23C 16/30 (2006.01); **C23C 30/00** (2006.01)

CPC (source: EP US)
C23C 30/005 (2013.01 - EP US)

Citation (search report)

- [Y] DD 144930 A1 19801112 - VOIGT KLAUS, et al
- [Y] US 4343865 A 19820810 - GRAHAM DONALD E
- [A] EP 0015451 A1 19800917 - GEN ELECTRIC [US]
- [A] FR 2300140 A1 19760903 - PLANSEE METALLWERK [AT]
- [A] GB 851208 A 19601012 - METALLGESELLSCHAFT AG
- [A] FR 2313161 A1 19761231 - KRUPP GMBH [DE]
- [A] GB 2005311 A 19790419 - SANDVIK AB
- [Y] PATENTS ABSTRACTS OF JAPAN, Band 3, Nr. 100 (C-56), 24. August 1979, Seite 104 C 56; & JP - A - 54 79 180 (SUMITOMO DENKI KOGYO K.K.) 23.06.1979
- [Y] JOURNAL OF LESS COMMON METALS, Band 82, 1981, Seiten 57-62, Elsevier Sequoia, NL; Z. ZAKHARIEV u.a.: "Preparation and some properties of boride diffusion layers on hard WC-TiC-Co alloys"

Cited by
DE4037480A1; EP0492059A3; DE4110005A1; EP0643152A3; US5516588A

Designated contracting state (EPC)
FR GB SE

DOCDB simple family (publication)
DE 3332260 A1 19850328; EP 0143889 A2 19850612; EP 0143889 A3 19850925; IN 161226 B 19871024; JP S6070179 A 19850420; US 4749630 A 19880607

DOCDB simple family (application)
DE 3332260 A 19830907; EP 84109267 A 19840804; IN 547CA1984 A 19840803; JP 18547284 A 19840906; US 88151486 A 19860630