

Title (en)
Wearing part.

Title (de)
Verschleissenteil.

Title (fr)
Pièce d'usure.

Publication
EP 0083043 A1 19830706 (DE)

Application
EP 82111762 A 19821217

Priority
AT 555781 A 19811224

Abstract (en)
[origin: US4599281A] There is disclosed a wearing part comprising a basic body, a coating applied directly to the basic body or to a backing provided on the basic body and which coating consists of one or a plurality of layers of oxycarbides and/or oxynitrides and/or oxyborides and/or oxyboron nitrides and/or oxyboron carbon nitrides of the elements Ti, Zr, Hf, B, Si and Al and having an oxygen content in a range of from about 0.1 to about 5% by weight, alternating in each case with one or a plurality of layers of aluminum-boron mixed oxides having a boron content in a range of from about 0.01 to about 1% by weight. Compared to previously known wearing parts provided with multi-layer coatings a wearing part in accordance with the present invention exhibits significantly increased resistance to wear, as well as excellent adhesive strength, with respect to the hard-material coating, thus resulting in a substantially prolonged useful life.

Abstract (de)
Ein Verschleißteil, insbesondere ein Hartmetall-Schneideinsatz zur spanabhebenden Bearbeitung, ist mit einem mehrschichtigen Hartstoffüberzug versehen. Der unmittelbar oder über eine Unterlagsschicht auf dem Grundkörper aufgetragene Überzug besteht aus je einer oder mehreren Schichten von Oxikarbid und/oder Oxikarbonitrid und/oder Oxinitrid und/oder Oxiborid und/oder Oxibornitrid und/oder Oxiborkarbonitrid der Elemente Ti, Zr, Hf, B, Si, Al mit einem Sauerstoff-Gehalt von 0,1 bis 5 Gew.%, die jeweils im Wechsel mit einer oder mehreren Schichten von Aluminium-Bor-Mischoxiden mit Bor-Gehalten von 0,01 bis 1 Gew.% aufgebracht werden. Das Verschleißteil weist gegenüber bekannten mehrlagig beschichteten Verschleißteilen eine wesentlich höhere Verschleißfestigkeit sowie eine ausgezeichnete Haftfestigkeit der Hartstoff-Beschichtung auf.

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C23C 13/04; **C23C 11/08**

IPC 8 full level
C04B 41/89 (2006.01); **B32B 18/00** (2006.01); **C23C 16/30** (2006.01); **C23C 16/36** (2006.01); **C23C 16/40** (2006.01); **C23C 30/00** (2006.01)

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

Citation (search report)
• GB 1557470 A 19791212 - GEN ELECTRIC
• PATENT ABSTRACTS OF JAPAN, unexamined applications, C Field, Vol. 4, No. 178, 10, Dezember 1980 THE PATENT OFFICE JAPANESE GOVERNMENT page 116 C 34 * JP - A - 55-119165 (TOSHIBA TUNGALOY K.K.) *
• PATENT ABSTRACTS OF JAPAN, unexamined applications, C Field, Vol. 5, No. 28, 20.Februar 1981 THE PATENT OFFICE JAPANESE GOVERNMENT page 122 C 44 * JP - A - 55-154 564 (SUMITOMO DENKI KOGYO K.K.) *
• PATENT ABSTRACTS OF JAPAN, unexamined applications, C field, vol.5, no. 195, 11.Dezember 1981 THE PATENT OFFICE JAPANESE GOVERNMENT, Page 26 C 83 * JP - A - 56-116 878 (TOSHIBA TUNGALOY K.K.) *
• PATENT ABSTRACTS OF JAPAN, unexamined applications, C field, Vol.5, No. 58, 21. April 1981 THE PATENT OFFICE JAPANESE GOVERNMENT page 46 C 51 * JP - A - 56-9365 (MITSUBISHI KINZOKU K.K.) *
• PATENT ABSTRACTS OF JAPAN, unexamined applications, C field , Vol. 5, No. 49, 8. April 1981 THE PATENT OFFICE JAPANESE GOVERNMENT, page 95 C 49 * JP - A - 56-3670 (TOSHIBA TUNGALOY K.K.) *

Cited by
EP0149318A1; EP0152673A3; EP0306077A3; EP0302984A1; AT387186B; EP0283923A1; EP0196201A1; US4720437A; EP0172325A1; DE3434616A1; GB2310218A; GB2310218B; EP0149449A1; AT385947B; US6726987B2

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