Title (en)
COATED CEMENTED CARBIDE INSERT FOR METAL CUTTING APPLICATIONS

Title (de)
BESCHICHTETE SINTERKARBIDEINSÄTZE FÜR DIE VERWENDUNG BEIM METALLSCHNEIDEN

Title (fr)
INSERT EN CARBURE FRITTE REVETU POUR APPLICATIONS DE COUPE DE METAL

Publication
EP 0792390 B1 20000308 (EN)

Application
EP 95942809 A 19951215

Priority
- SE 9501516 W 19951215
- SE 9404587 A 19941230

Abstract (en)
[origin: WO9621052A1] The present invention relates to coated inserts for metal cutting applications containing at least one hard constituent of a carbide, nitride and/or carbonitride of the metals Ti, Ta, Hf, Nb, V, Zr and W or solid solutions thereof, in 3-20 weight-%, preferably 4-14 weight-%, binder phase. By using a binder phase comprising in solid solution: Co max 95 %, Ni max 95 % and Cr 3-25 % improved properties are obtained particularly in machining operations of intermittent character. Coatings comprising carbides and/or carbonitrides and/or oxicarbides and/or oxinitrides and/or oxicarbonitrides of titanium and/or Al2O3 are particularly useful.

IPC 1-7 (main, further and additional classification)
C23C 30/00; B23B 27/14; C04B 41/87

IPC 8 full level (invention and additional information)
C23C 30/00 (2006.01)

CPC (invention and additional information)
C23C 30/005 (2013.01)

Citation (examination)
WO 8002569 A1 19801127 - SANDVIK AB [SE], et al

Cited by
US6612787B1; US6554548B1; US6866921B2; US6575671B1

Designated contracting state (EPC)
AT CH DE FR GB IT LI SE

EPO simple patent family
WO 9621052 A1 19960711; AT 190363 T 20000315; DE 69515503 D1 20000413; DE 69515503 T2 20001123; EP 0792390 A1 19970903; EP 0792390 B1 20000308; IL 116549 A 19991222; IL 116549 D0 19960331; SE 513978 C2 20001204; SE 9404587 D0 19941230; SE 9404587 L 19960701

INPADOC legal status

2011-11-30 [PG25 DE] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : DE
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20110701

2011-11-30 [PG25 GB] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : GB
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20101215

2011-11-17 [REG DE R119] APPLICATION DEEMED WITHDRAWN, OR IP RIGHT LAPSED, DUE TO NON-PAYMENT OF RENEWAL FEE
- Document : DE 69515503
- Effective date : 20110701

2011-10-31 [PG25 LI] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : LI
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20101231

2011-10-31 [PG25 CH] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : CH
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20101231

2011-09-30 [PG25 SE] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO

- Ref Country Code : SE
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20101216

2011-09-13 [REG SE EUG] EUROPEAN PATENT HAS LAPSED

2011-08-31 [PG25 AT] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : AT
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20101215

2011-08-24 [GBPC] GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE
- Effective date : 20101215

2011-07-29 [REG CH PL] PATENT CEASED

2011-03-15 [REG CH PFA] NAME/FIRM CHANGED
- Owner name : SANDVIK INTELLECTUAL PROPERTY AB
- Free text : SANDVIK INTELLECTUAL PROPERTY AB# #811 81 SANDVIKEN (SE) -TRANSFER TO- SANDVIK INTELLECTUAL PROPERTY AB# #811 81 SANDVIKEN (SE)

2010-06-30 [PGFP DE] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : DE
- Payment date : 20091222
- Year of fee payment : 15

2010-04-30 [PGFP GB] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : GB
- Payment date : 20091209
- Year of fee payment : 15

2010-01-29 [PGFP AT] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : AT
- Payment date : 20091211
- Year of fee payment : 15

2010-01-29 [PGFP CH] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : CH
- Payment date : 20091215
- Year of fee payment : 15

2010-01-29 [PGFP SE] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : SE
- Payment date : 20091207
- Year of fee payment : 15

2006-02-15 [REG CH PUE] ASSIGNMENT
- Owner name : SANDVIK INTELLECTUAL PROPERTY AB
- Free text : SANDVIK INTELLECTUAL PROPERTY HB##811 81 SANDVIKEN (SE) -TRANSFER TO- SANDVIK INTELLECTUAL PROPERTY AB##811 81 SANDVIKEN (SE)

2005-11-02 [REG GB 732E] AMENDMENTS TO THE REGISTER IN RESPECT OF CHANGES OF NAME OR CHANGES AFFECTING RIGHTS (SECT. 32/1977)

2005-10-31 [REG CH PUE] ASSIGNMENT
- Owner name : SANDVIK INTELLECTUAL PROPERTY HB
- Free text : SANDVIK AKTIEBOLAG##811 81 SANDVIKEN (SE) -TRANSFER TO- SANDVIK INTELLECTUAL PROPERTY HB##811 81 SANDVIKEN (SE)

2005-07-13 [REG GB 732E] AMENDMENTS TO THE REGISTER IN RESPECT OF CHANGES OF NAME OR CHANGES AFFECTING RIGHTS (SECT. 32/1977)

2002-01-01 [REG GB IF02] EUROPEAN PATENT IN FORCE AS OF 2002-01-01

2001-02-21 [26N] NO OPPOSITION FILED

2000-06-23 [ET] FR: TRANSLATION FILED

2000-04-13 [REF] CORRESPONDS TO:
- Document : DE 69515503 20000413

2000-03-31 [REG CH NV] NEW AGENT
- Representative's name : BOVARD AG PATENTANWAELTE

2000-03-15 [REG CH EP] ENTRY IN THE NATIONAL PHASE

2000-03-08 [AK] DESIGNATED CONTRACTING STATES:
- Kind Code of Ref Document : B1
- Designated State(s) : AT CH DE FR GB IT LI SE

2000-03-08 [PG25 FR] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : FR
- Free text : THE PATENT HAS BEEN ANNULLED BY A DECISION OF A NATIONAL AUTHORITY
- Effective date : 20000308

2000-03-08 [PG25 IT] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : IT
- Free text : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT
- Effective date : 20000308

2000-03-08 [REF] CORRESPONDS TO:
- Document : AT 190363 T 20000315

1998-07-22 [17Q] FIRST EXAMINATION REPORT
- Effective date : 19980605

1997-09-03 [17P] REQUEST FOR EXAMINATION FILED
- Effective date : 19970324

1997-09-03 [AK] DESIGNATED CONTRACTING STATES:
- Kind Code of Ref Document : A1
- Designated State(s) : AT CH DE FR GB IT LI SE