

Title (en)

STEEL-HARD CARBIDE MACROSTRUCTURED TOOLS, COMPOSITIONS AND METHODS OF FORMING

Publication

**EP 0046209 B1 19860910 (EN)**

Application

**EP 81105783 A 19810722**

Priority

- US 17880580 A 19800818
- US 25545381 A 19810420

Abstract (en)

[origin: EP0046209A1] Composition of matter composed of 33 to 80 weight per cent of a carbide material having a particle size greater than 400 mesh, and 23 to 70 weight per cent of a metallic matrix material, the carbide material which may be a cemented composite (30), being embedded in and bonded to said metallic matrix material (25) by powder metallurgical techniques of compaction and high temperature and high pressure diffusion bonding; and tools having a cemented carbide wear or cutting element (30), these tools also being formed by powder metallurgy techniques.

IPC 1-7

**B22F 7/06**; **C22C 1/05**; **C22C 29/00**; **B23B 27/14**

IPC 8 full level

**C22C 29/10** (2006.01); **B22F 7/06** (2006.01); **C22C 1/05** (2006.01); **C22C 29/06** (2006.01)

CPC (source: EP KR US)

**B22F 7/06** (2013.01 - EP KR US); **C22C 1/05** (2013.01 - KR); **C22C 1/051** (2013.01 - EP); **C22C 29/067** (2013.01 - EP); **C22C 29/10** (2013.01 - KR); **B22F 2998/10** (2013.01 - EP); **B22F 2999/00** (2013.01 - EP)

C-Set (source: EP US)

EP

1. **B22F 2999/00 + B22F 3/10 + B22F 2201/20**
2. **B22F 2998/10 + B22F 1/09 + B22F 1/12 + B22F 3/04 + B22F 3/10 + B22F 3/15**

US

**B22F 2998/10 + B22F 1/09 + B22F 1/12 + B22F 3/04 + B22F 3/10 + B22F 3/15**

Cited by

EP1997575A1; US4869974A; US4704251A; US4849300A; EP1453627A4; GB2366297A; GB2366297B; EP0630713A1; DE4321143A1; CN113232380A; DE4340652A1; US6124040A; DE4340652C2; US6641640B1; WO0056487A1; WO2019109098A1; US11638987B2; US11958168B2; US6854527B2; US6723277B1; USD921468S; USD955843S; US7691173B2; US7829013B2; US9109413B2; US7556668B2

Designated contracting state (EPC)

AT BE CH DE FR GB IT LI LU NL SE

DOCDB simple family (publication)

**EP 0046209 A1 19820224**; **EP 0046209 B1 19860910**; AU 553481 B2 19860717; AU 7368081 A 19820225; CA 1188136 A 19850604; DE 3175299 D1 19861016; DK 158957 B 19900806; DK 158957 C 19910121; DK 364581 A 19820219; ES 504800 A0 19821201; ES 514551 A0 19831016; ES 8301433 A1 19821201; ES 8400271 A1 19831016; FI 72753 B 19870331; FI 72753 C 19870710; FI 812533 L 19820219; IE 52094 B1 19870610; IE 811872 L 19820218; IL 63549 A0 19811130; IL 63549 A 19831230; KR 830006460 A 19830924; KR 850001553 B1 19851017; MX 157680 A 19881209; NO 159773 B 19881031; NO 159773 C 19890208; NO 812781 L 19820219; NZ 197962 A 19850531; PT 73531 A 19810901; PT 73531 B 19821103

DOCDB simple family (application)

**EP 81105783 A 19810722**; AU 7368081 A 19810804; CA 382094 A 19810720; DE 3175299 T 19810722; DK 364581 A 19810817; ES 504800 A 19810818; ES 514551 A 19820730; FI 812533 A 19810817; IE 187281 A 19810814; IL 6354981 A 19810812; KR 810002979 A 19810817; MX 18874381 A 19810814; NO 812781 A 19810817; NZ 19796281 A 19810807; PT 7353181 A 19810817