

Title (en)

Process to manufacture a diamond cutting tool with oriented crystals and cutting tool manufactured with said process

Title (de)

Diamantschleifwerkzeug mit orientierten Kristallen und zugehöriges Herstellungsverfahren

Title (fr)

Outil de coupe en diamant et procédé de manufacture

Publication

**EP 1323498 A1 20030702 (EN)**

Application

**EP 02102685 A 20021205**

Priority

IT MI20012580 A 20011206

Abstract (en)

The invention concerns a diamond cutting tool, of the type comprising a layer of diamond crystals (3) anchored onto its surface (2), preferably by electrolytic deposit or by chemical means. According to the invention, said layer is formed by oriented diamond crystals (3); moreover, the surface (2) of anchorage of the diamond crystals (3) is preferably inclined in respect of the bottom surface (Y-Y) of the cutting performed by said tool. The invention also concerns a process to manufacture such a diamond cutting tool, comprising at least a working step - known per se - to form a fixing layer of electrolytic metal apt to retain a single layer of diamond crystals (3) onto the surface (2) of a metallic supporting body (1), and a previous working step - according to the invention - to orient said diamond crystals (3) in a uniform manner; for this purpose, a vibration is imparted on said metallic supporting body (1) for a short time, from a few seconds to some minutes, while it is dipped into the mass of diamond crystals. <IMAGE>

IPC 1-7

**B24D 18/00**; **B24D 5/02**

IPC 8 full level

**B24D 5/02** (2006.01); **B24D 18/00** (2006.01)

CPC (source: EP)

**B24D 5/02** (2013.01); **B24D 18/0018** (2013.01)

Citation (search report)

- [XA] EP 0090274 A2 19831005 - DIAMOND PAUBER SRL [IT]
- [X] DE 2702936 A1 19771027 - FINOMKERAMIAIPARI MUEVEK
- [A] US 3957593 A 19760518 - HAACK WILLIAM M
- [A] US 3691707 A 19720919 - ARX HENRY R VON, et al
- [A] US 4079552 A 19780321 - FLETCHER J LAWRENCE
- [A] US 5374293 A 19941220 - TAKASHITA JUNJI [JP], et al

Cited by

CN101934506A; WO2016198316A1; US10703015B2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SI SK TR

DOCDB simple family (publication)

**EP 1323498 A1 20030702**; **EP 1323498 B1 20070103**; AT E350198 T1 20070115; DE 60217281 D1 20070215; IT MI20012580 A1 20030606

DOCDB simple family (application)

**EP 02102685 A 20021205**; AT 02102685 T 20021205; DE 60217281 T 20021205; IT MI20012580 A 20011206