

Title (en)  
COMPOSITE MATERIAL AND METHOD FOR PRODUCTION THEREOF

Title (de)  
MIT EINER DIAMANTSCHICHT ÜBERZOGENER VERBUNDWERKSTOFF UND VERFAHREN ZU DESSEN HERSTELLUNG

Title (fr)  
MATERIAU COMPOSITE ET SON PROCEDE DE REALISATION

Publication  
**EP 1390566 A2 20040225 (DE)**

Application  
**EP 02740345 A 20020513**

Priority  

- DE 0201710 W 20020513
- DE 10124051 A 20010516
- DE 10130590 A 20010627

Abstract (en)  
[origin: WO02092866A2] The invention relates to a composite material, comprising a hard metal or cermet substrate body, coated with at least one diamond layer. According to the invention, the adhesion of the diamond layer on fine-grained hard metal or cermet substrate bodies may be improved, whereby the C content of the hard metal or cermet substrate body lies between 89 % and 99 %, preferably between 94 % and 99 % of the maximum possible content at which C porosity occurs, or, for hard metal substrate bodies with Co binder, the magnetic saturation polarisation is 89 to 99 %, preferably 94 to 99 % of the maximum saturation polarisation  $4 \pi \sigma_{\max} = 2 \text{ Co} - 2,2 \text{ Cr}_3\text{C}_2$ , (Co and  $\text{Cr}_3\text{C}_2$  each given in mass % and  $4 \pi \sigma_{\max}$  in  $\mu\text{T} \cdot \text{m}^3 \cdot \text{kg}^{-1}$ ).

IPC 1-7  
**C23C 30/00**; **C22C 29/08**; **C22C 1/05**

IPC 8 full level  
**B22F 3/24** (2006.01); **C04B 41/87** (2006.01); **C22C 1/05** (2006.01); **B23B 27/14** (2006.01); **C22C 29/08** (2006.01); **C23C 16/02** (2006.01); **C23C 16/27** (2006.01); **C23C 30/00** (2006.01)

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**C22C 1/051** (2013.01 - EP US); **C22C 29/08** (2013.01 - EP US); **C23C 16/0218** (2013.01 - EP US); **C23C 16/271** (2013.01 - EP US); **C23C 30/005** (2013.01 - EP US); **B22F 2003/241** (2013.01 - EP US); **B22F 2998/10** (2013.01 - EP US); **B22F 2999/00** (2013.01 - EP US); **Y10T 428/30** (2015.01 - EP US)

C-Set (source: EP US)  

1. **B22F 2998/10** + **B22F 3/24** + **C23C 16/00**
2. **B22F 2999/00** + **B22F 3/24** + **B22F 2201/30**

Citation (examination)  

- EP 0251264 A1 19880107 - MITSUBISHI METAL CORP [JP]
- US 5716170 A 19980210 - KAMMERMEIER DIRK [DE], et al
- US 5955212 A 19990921 - MATSUMOTO YASUSHI [JP], et al
- DD 118898 A1 19760320
- See also references of WO 02092866A2

Cited by  
CN104630530A

Designated contracting state (EPC)  
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**WO 02092866 A2 20021121**; **WO 02092866 A3 20030313**; CN 1296518 C 20070124; CN 1463303 A 20031224; EP 1390566 A2 20040225; HU P0302074 A2 20030929; JP 2004529270 A 20040924; US 2004141867 A1 20040722

DOCDB simple family (application)  
**DE 0201710 W 20020513**; CN 02801691 A 20020513; EP 02740345 A 20020513; HU P0302074 A 20020513; JP 2002589729 A 20020513; US 47798103 A 20031117