

Title (en)

PROCESS FOR PREPARING A SINTERED HARD METAL, AND SINTERED HARD METAL OBTAINED THEREBY

Publication

EP 0330913 A3 19900613 (DE)

Application

EP 89102623 A 19890216

Priority

DE 3806602 A 19880302

Abstract (en)

[origin: US4944800A] A sintered hard metal body having improved heat resistance and higher cutting performance is produced by a process including mixing together at least one hard substance, at least one binder material, and at least one of at least one complex carbide and at least one complex nitride to form a starting mixture each constituent of which is in powdered form. The at least one hard substance is selected from the group consisting of carbides, nitrides, and carbonitrides of transition metals of Groups IVB, VB and VIB of the Periodic Table of Elements, is present as at least one of a carbide, a mixed carbide, a nitride, a mixed nitride, a carbonitride, and a mixed carbonitride, and has a cubic crystal form. The at least one binder metal is selected from the group including iron, nickel and cobalt. The starting mixture is then ground and compressed into a predetermined shape, followed by sintering to melt the at least one binder metal and decompose the complex carbide and/or complex nitride to form at least one of at least one transition metal carbide and at least one transition metal nitride which grows on the surface of the at least one hard substance in powdered form and forms a diffusion inhibiting layer thereon.

IPC 1-7

C22C 1/05

IPC 8 full level

C22C 1/05 (2006.01); **C22C 29/02** (2006.01); **C22C 29/04** (2006.01); **C22C 29/06** (2006.01); **C22C 29/08** (2006.01); **C22C 29/10** (2006.01); **C22C 29/16** (2006.01); **C22C 32/00** (2006.01)

CPC (source: EP US)

C22C 1/051 (2013.01 - EP US); **C22C 1/058** (2023.01 - EP US); **C22C 19/00** (2013.01 - EP US); **C22C 29/02** (2013.01 - EP US); **C22C 33/02** (2013.01 - EP US); **B22F 2998/00** (2013.01 - EP US)

Citation (search report)

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- [A] US 4108649 A 19780822 - MOSKOWITZ DAVID
- [AD] DE 2830010 A1 19790215 - MITSUBISHI METAL CORP
- [X] CHEMICAL ABSTRACTS, Band. 104, Nr. 14, 7. April 1986, Seite 320, Zusammenfassung 114910t, Columbus, Ohio, US; & JP-A-60 176 973 (MITSUBISHI METAL CORP.) 11-09-1985
- [A] CHEMICAL ABSTRACTS, Band. 105, Nr. 8, 25. September 1986, Seite 294, Zusammenfassung Nr. 65212b, Columbus, Ohio, US; & JP-A-61 77 670 (MITSUBISHI METAL CORP.) 21-04-1986
- [A] CHEMICAL ABSTRACTS, Band 105, Nr. 12, 22. Oktober 1986, Seite 271, Zusammenfassung Nr. 101688x, Columbus, Ohio, US; & JP-A-61 83 681 (MITSUBISHI METAL CORP.) 28-04-1986
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Designated contracting state (EPC)

AT CH DE ES FR GB IT LI NL SE

DOCDB simple family (publication)

US 4944800 A 19900731; AT E89329 T1 19930515; DD 279031 A5 19900523; DE 3806602 A1 19880707; DE 3806602 C2 19910404; DE 58904302 D1 19930617; EP 0330913 A2 19890906; EP 0330913 A3 19900613; EP 0330913 B1 19930512; ES 2054893 T3 19940816; JP H01294842 A 19891128; JP H0711042 B2 19950208

DOCDB simple family (application)

US 31817789 A 19890302; AT 89102623 T 19890216; DD 32609089 A 19890228; DE 3806602 A 19880302; DE 58904302 T 19890216; EP 89102623 A 19890216; ES 89102623 T 19890216; JP 4866389 A 19890302