

Title (en)  
Nitrogen-containing sintered hard alloy

Title (de)  
Stickstoffenthaltende hartgesinterte Legierung

Title (fr)  
Alliage dur fritté contenant de l'azote

Publication  
**EP 0687744 B1 19991103 (EN)**

Application  
**EP 95107670 A 19950518**

Priority  
• JP 10558494 A 19940519  
• JP 4929095 A 19950215

Abstract (en)  
[origin: EP0687744A2] A nitrogen-containing sintered hard alloy includes at least 75 percent by weight and not more than 95 percent by weight of a hard phase containing Ti, a group 6A metal and WC in a prescribed composition, and at least 5 percent by weight and not more than 25 percent by weight of a binder phase containing Ni, Co and unavoidable impurities, and contains at least 5 percent by weight and not more than 60 percent by weight of Ti in terms of a carbide or the like, and at least 30 percent by weight and not more than 70 percent by weight of a metal belonging to the group 6A of the periodic table in terms of a carbide, while the atomic ratio of nitrogen/(carbon + nitrogen) in the hard phase is at least 0.2 and less than 0.5, and the nitrogen-containing sintered hard alloy is provided with a soft layer containing a binder phase metal and WC in its outermost surface, and has a layer which is hardly provided with the hard phase containing WC in a portion immediately under the soft layer in a thickness of at least 3  $\mu$ m and not more than 30  $\mu$ m. According to this composition, it is possible to provide a nitrogen-containing sintered hard alloy which can be employed as a cutting tool having high reliability with no surface coating also in working under conditions bringing a strong thermal shock.  
<IMAGE>

IPC 1-7  
**C22C 29/02**; **C22C 29/04**; **C22C 29/08**; **C22C 29/16**

IPC 8 full level  
**B22F 7/02** (2006.01); **C22C 1/05** (2006.01); **C22C 29/02** (2006.01); **C22C 29/04** (2006.01)

CPC (source: EP KR)  
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Cited by  
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