

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 μ m and not more than 30 μ 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>

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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
CN106413954A; CN114277299A; US2021001405A1; US11802324B2; EP1548136A1; US6110603A; EP2687310A4; DE19922057B4; DE19845376A1; DE19845376B4; DE19845376C5; US10307830B2; US6506226B1; WO0003047A1; US7449043B2; US7708936B2; US7678327B2; US7427310B2

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