

Title (en)
Nitrogen-containing sintered hard alloy

Title (de)
Stickstoffenthaltende hartgesinterte Legierung

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

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EP 0822265 A2 19980204 (EN)

Application
EP 97115279 A 19950518

Priority
• EP 95107670 A 19950518
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• JP 4929095 A 19950215

Abstract (en)
A nitrogen-containing sintered hard alloy includes a hard phase containing WC serving as an essential element and a carbide, nitride or a carbo-nitride of at least one transition metal being selected from the groups 4,A 5A and 6A of the periodic table or a composite carbo-nitride thereof and a binder phase containing Ni, Co and unavoidable impurities, an exudation layer containing a metal binder phase, mainly composed of Ni and Co, and WC being present on an alloy of this part, wherein the exudation layer is internally divided into a three layers in order of an outermost layer and an intermediate layer and an lowermost layer, wherein the outermost layer containing at least 0 percent by volume and not more than 30 percent by volume of WC with a rest being formed by a metal binder phase, the intermediate layer contains at least 50 percent by volume and not more than 100 percent by volume of WC with a rest being formed by a metal binder phase, the lower layer containing at least 0 percent by volume and not more than 30 percent by volume of WC with a rest being formed by a metal binder phase, wherein the outermost and lowermost layers being at least 0.1 μm and not more than 10 μm in thickness, the intermediate layer being at least 0.5 μm and not more than 10 μm in thickness. 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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EP 0687744 A2 19951220; **EP 0687744 A3 19960821**; **EP 0687744 B1 19991103**; DE 69513086 D1 19991209; DE 69513086 T2 20000713; DE 69523342 D1 20011122; DE 69523342 T2 20020627; EP 0822265 A2 19980204; EP 0822265 A3 19980415; EP 0822265 B1 20011017; KR 0180522 B1 19990218; KR 950032671 A 19951222

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