

Title (en)
Hard covering film for cutting tool

Title (de)
Hartbeschichtung für Schneidwerkzeug

Title (fr)
Film de couverture en dur pour outil de découpe

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Application
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Abstract (en)
[origin: EP2031090A2] It is an object of the present invention to provide a hard covering film for a cutting tool which can improve the wear resistance beyond that of a conventional AlCrN film. According to the present invention, there is provided a hard covering film for a cutting tool formed on a cutting tool substrate, characterized in that: the hard covering film comprises a first multi-layer covering film layer formed by alternately layering two or more layers each of a first covering film layer and a second covering film layer; the first covering film layers have metal and semi-metal components that are expressed (in terms of at%) by Al(100-x-y-z)Cr (x) V (y) B (z) (where 20 ≤ x ≤ 40, 2 ≤ y ≤ 15, and 5 ≤ z ≤ 15), have N as a non-metallic element, and have unavoidable impurities; the second covering film layers have metal and semi-metal components that are expressed (in terms of at%) by Al(100-u-v-w) Cr (u) V (v) B (w) (where 20 ≤ u ≤ 40, 0 ≤ v ≤ 5, 0 ≤ w ≤ 5), have N as a non-metallic element, and have unavoidable impurities; the relationship between y and v such that y ≠ v is satisfied; and the relationship between z and w such that z - 5 ≤ w is satisfied.

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