In another aspect, there is provided a substrate at least partially coated with an (Al,Ti)N coating as described above.

In another aspect, there is provided a method for coating a substrate as described above, characterized in that at least the coating portion A and/or the coating portion B of the (Al,Ti)N coating are/is deposited by means of PVD techniques.

In another aspect, there is provided a PVD method for depositing a (Al,Ti)N coating on a substrate, said coating having at least two different coating portions, A and B, said A and B coating portions having different grain size, preferably in nanometer magnitude order, the coating portion A exhibiting an average grain size larger than it in the coating portion B, characterized in that the plasma produced during the deposition of the coating portion A exhibit a lower electron temperature and/or lower ionization of the reactive gas in comparison with during the deposition of the coating portion B.

The (Ti,Al)N coating according to the present invention is a monolayer coating exhibiting two different areas or coating portions, A and B, characterized principally by different morphology structures.

The inventors found surprisingly that the cutting performance of the (Ti,Al)N coatings can be considerably improved when the coating portion A exhibits a basically more pronounced columnar morphology structure and larger grain size than the coating

titanium and aluminum is used as source material and for the coating formation nitrogen or an essentially nitrogen comprising gas is used as a reactive gas.

13. Method according to any of the claims 11 to 12, characterized in that at least for depositing the coating portion A and/or the coating portion B of the (Al,Ti)N coating an arc evaporator comprising a cathode, an anode arranged in the direct neighborhood of the cathode and a magnetic means is used, wherein the magnetic means allows to lead the streamlines of the magnetic field to the anode.

~~15~~14. Method according to any of the claims 11 to 13, characterized in that for depositing the coating portion A a higher coil current value is used than for depositing the coating portion B.

~~16~~15. Method according to any of claims 11 to ~~15~~14, characterized in that for depositing the coating portion B of the (Al,Ti)N coating a bias voltage having a more negative value is applied at the substrate to be coated in comparison to it applied for depositing the coating portion A.

~~17~~16. PVD method for depositing a (Al,Ti)N coating on a substrate, said coating having at least two different coating portions, A and B, said A and B coating portions having different grain size, preferably in nanometer magnitude order, the coating portion A exhibiting an average grain size larger than it in the coating portion B, characterized in that the plasma produced during the deposition of the coating portion A exhibit a lower electron temperature and/or lower ionization of the reactive gas in comparison with during the deposition of the coating portion B.

~~18~~17. PVD method according to claim ~~17~~16, characterized in that, the PVD method is an reactive arc evaporation PVD method.

~~19~~18. PVD method according to claim ~~18~~17, characterized in that, for depositing the coating portion A and/or for depositing the coating portion B at least one arc evaporator comprising a cathode, an anode arranged in the direct neighborhood of the cathode and a magnetic means is used, wherein the magnetic means allows to lead the streamlines of the magnetic field to the anode.

~~20~~19. PVD method according to any of the claims ~~17~~ 16 to ~~19~~18, characterized in that, for depositing the coating portion A a higher coil current than for depositing the coating portion B is used.

~~21~~20. PVD method according to any of the claims ~~17~~ 16 to ~~20~~19, characterized in that, for depositing the coating portion A a negative bias voltage is applied at the substrate to be coated whose absolute value is lower than it applied for depositing the coating portion B.

~~22~~21. PVD method according to any of the claims ~~17~~ 16 to ~~21~~20, characterized in that, for depositing the coating portions A and B a same type of target material, consisting of the same elements and having same chemical composition in atomic percentage is used.

~~23~~22. PVD method according to any of the claims ~~17~~ 16 to ~~22~~21, characterized in that, at least one of the targets used for depositing the coating portions A and/or B is made by powder metallurgy techniques.