

Title (en)

METHOD FOR COATING SOLID DIAMOND MATERIALS

Title (de)

VERFAHREN ZUM BESCHICHTEN VON SOLIDEN DIAMANTWERKSTOFFEN

Title (fr)

PROCÉDÉ POUR MUNIR DES MATÉRIAUX DE TYPE DIAMANT SOLIDES D'UN REVÊTEMENT

Publication

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Application

EP 18702669 A 20180130

Priority

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Abstract (en)

[origin: WO2018141748A1] The present invention relates to a method for coating solid diamond materials (solid PCDs), in order to solder or bond the coated diamond materials into a metallic surface or a second diamond surface under ambient air, wherein the diamond materials are at least partially coated under a noble gas atmosphere by means of a vapour depositing process, wherein the coating is performed with at least one carbide-forming chemical element selected from the group consisting of: B, Ti, Zr, Hf, V, Nb, Ta, Cr, Mo and W; wherein a partial amount of the diamond carbon of the diamonds that are contained in the surface of the diamond materials is converted into elemental carbides, which form an elemental carbide layer; and wherein, with respect to the molar ratio, there is a stoichiometric excess of the chemical element in relation to the elemental carbides formed, and so an element layer is deposited onto the surface of the elemental carbide layer or a mixed elemental carbide/element layer forms and is deposited on the element layer or mixed elemental carbide/element layer occurring. The invention also relates to a machine component, in particular a tool, with a soldered-in solid PCD.

IPC 8 full level

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Citation (search report)

See references of WO 2018141748A1

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