Title (en)

Plasma boronizing

Title (de)

Plasmaborierung

Title (fr)

Boruration au plasma

Publication

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Application

EP 01110904 A 19981211

Priority

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Abstract (en)

[origin: WO9931291A2] The invention relates to a method for producing a boride layer on a surface by means of plasma boronizing in which a gas medium containing a boron dispenser medium is fed to a reactor (10), and a glow discharge is generated in said reactor (10). The invention also relates to a device which is especially suited for carrying out said method. Known methods for plasma boronizing of, for example, metallic surfaces are disadvantageous in that they do not lead to non-porous boride layers and are thus not suited for industrial series applications. According to the inventive method, the parameters of the production of the plasma produced in a treatment chamber (11) of the reactor (10) have to be selected such that an increased portion of excited boron particles is obtained in the plasma. Non-porous boride layers are acquired in this manner. The inventive method is suited, for example, for coatings of components which need to have a surface that is highly resistant to wear, as the components are subjected to an increased demand, for example, gears, camshafts and the like. Method parameters with which the production of the boride layer can be influenced are, for example, tension, pulse-duty factor, frequency, temperature, pressure during the production of the plasma and the content of boron dispensing medium, and the remaining components in the gas medium which is fed to the reactor (10).

IPC 1-7

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IPC 8 full level

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Citation (search report)

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