

Title (en)
Method of surface treatment of titanium metal

Title (de)
Oberflächenbehandlungsverfahren von Titan

Title (fr)
Procédé de traitement de surface de titane

Publication
EP 1172455 A3 20031105 (EN)

Application
EP 01117022 A 20010712

Priority
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Abstract (en)
[origin: EP1172455A2] A method of carburizing treatment is proposed in which if carburizing is carried out at a low temperature, carbon will not turn amorphous and deposit on the surface of a titanium metal but reliably penetrate into between metallic atoms. It is a method of surface treatment of a titanium metal comprising the steps of heating the titanium metal to a temperature of 400-690 DEG C in a cleaning gas atmosphere containing hydrogen gas, subjecting the surface of the titanium metal to cleaning by applying a DC voltage of 200-1500 V, and plasma carburizing in an atmosphere comprising a carburizing gas having the molar ratio of hydrogen atoms (H) to carbon atoms (C) adjusted to (H/C) \leq 9 at a pressure of 13-400 Pa and a temperature of 400-690 DEG C . Ionization reaction in the gas is suppressed suitably. Because there exists no excessive carbon which is not used for carburization but turns soot or glass-like carbon, in the atmosphere during carburization, carburizing reaction progresses smoothly.

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C23C 8/36

IPC 8 full level
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C23C 8/36 (2013.01 - EP US)

Citation (search report)

- [A] GB 2261227 A 19930512 - UNIV HULL [GB]
- [A] US 5062900 A 19911105 - BERNERON ROGER [FR], et al
- [A] WO 9843284 A1 19981001 - MICRON TECHNOLOGY INC [US]

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