

Title (en)

Improvement of properties of the surface of a titanium alloy engine valve

Title (de)

Verbesserung der Oberflächeneigenschaften eines Maschinenventils aus einer Titanlegierung

Title (fr)

Amélioration des propriétés de surface d'une soupape de moteur en alliage de titane

Publication

EP 0679736 B1 19980304 (EN)

Application

EP 94201220 A 19940428

Priority

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Abstract (en)

[origin: EP0679736A1] There is provided a new method of improving properties of the surface of an internal combustion engine valve made from titanium alloy, which comprises; the steps of (a) forming a surface undercoat layer of nickel on a surface of the engine valve (T7); (b) heating the resulting nickel undercoated valve in vacuum or in an atmosphere of inert gas (T9); (c) forming further a three component coat layer comprising nickel, phosphorus and particles of material selected from the group consisting of silicone carbide,, silicone nitride, boron nitride, and the combination thereof, on the surface of the nickel undercoat layer (T11); and (d) heating the resulting coat layer formed on the nickel undercoat layer, at the temperature of 350 DEG C to 550 DEG C, for one to four hours (T13, so as to make the particles of ceramic material uniformly and homogenously dispersed in said coat layer.

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IPC 8 full level

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Cited by

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