

Title (en)

Method of silicifying metallic parts by chemical vapour deposition

Title (de)

Verfahren zum Aufsilizieren von metallischen Gegenstand durch chemische Abscheidung aus der Dampfphase

Title (fr)

Procédé de siliciuration de pièces métalliques par dépôt chimique en phase gazeuse

Publication

EP 0409687 B1 19961106 (FR)

Application

EP 90401931 A 19900704

Priority

FR 8909697 A 19890719

Abstract (en)

[origin: EP0409687A1] Method of improving the surface properties of steel articles, especially their surface hardness, according to which a steel article is prepared in the clean state; the article is heated in an oven under inert atmosphere to a predetermined silicidising temperature of between 800 DEG C and 1100 DEG C; a gaseous mixture of silane ($\text{SiH}_2\text{n}+2$) and of argon is injected into the oven where the steel article maintained at this temperature is located, so as to form a diffusion layer containing 10 to 40% of silicon as atomic percentage at the surface of the steel article, the proportion by volume of silane in the gaseous mixture being preferably between 0.1 and 5%.

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C23C 10/08

IPC 8 full level

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EP 0409687 A1 19910123; **EP 0409687 B1 19961106**; CA 2021305 A1 19910120; DE 69029064 D1 19961212; DE 69029064 T2 19970605; FR 2649995 A1 19910125; FR 2649995 B1 19930813; JP H03138350 A 19910612

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EP 90401931 A 19900704; CA 2021305 A 19900717; DE 69029064 T 19900704; FR 8909697 A 19890719; JP 18958590 A 19900719