

Title (en)

THIN FILM COATINGS FOR FUEL INJECTOR COMPONENTS

Title (de)

DÜNNE ÜBERZUGSSCHICHT FÜR KRAFTSTOFFEINSPRITZVENTILKOMPONENTEN

Title (fr)

REVETEMENTS DE FILMS FIN POUR COMPOSANTS D'INJECTEUR

Publication

EP 1177375 A1 20020206 (EN)

Application

EP 00904657 A 20000215

Priority

US 0040001 W 20000215

Abstract (en)

[origin: WO0161182A1] A thin film coating for a low alloy steel or tool steel components in a fuel injector (14), such as a fuel injector needle valve (86) is disclosed. A thin film coating (96) consists of a metal carbon material layer less than 2.0 microns thick applied to a low alloy steel substrate (95) or tool steel substrate (95) used in fuel injector components, such as the fuel injector needle valve (86) or a portion thereof. Optionally, a thin bond layer (98) of chromium is deposited between the steel substrate (95) and the primary metal carbon material coating (96). The thin film coating (96) minimizes abrasive and adhesive wear associated with the needle valve (86) and cooperating nozzle surfaces (62, 63) of the fuel injector (14).

IPC 1-7

F02M 47/02; **F02M 57/02**; **F02M 59/10**; **F02M 61/16**; **C23C 14/02**

IPC 8 full level

C23C 14/02 (2006.01); **C23C 14/06** (2006.01); **C23C 28/00** (2006.01); **C23C 30/00** (2006.01); **F02M 57/02** (2006.01); **F02M 61/16** (2006.01)

CPC (source: EP)

C23C 14/025 (2013.01); **C23C 14/06** (2013.01); **C23C 28/322** (2013.01); **C23C 28/343** (2013.01); **C23C 28/347** (2013.01); **C23C 28/36** (2013.01); **C23C 30/00** (2013.01); **F02M 57/025** (2013.01); **F02M 61/166** (2013.01); **F02M 2200/9038** (2013.01)

Citation (search report)

See references of WO 0161182A1

Citation (examination)

WO 9748836 A1 19971224 - DORFMAN BENJAMIN F [US]

Designated contracting state (EPC)

DE FR GB

DOCDB simple family (publication)

WO 0161182 A1 20010823; EP 1177375 A1 20020206

DOCDB simple family (application)

US 0040001 W 20000215; EP 00904657 A 20000215