Title (en)

Coated running surfaces of combustion-engine cylinders and process of its manufacture

Title (de)

Zylinderlaufflächenschicht für Verbrennungsmotoren sowie Verfahren zu deren Herstellung

Title (fr)

Revêtements de surfaces de contact de cylindres pour moteurs à combustion et procédé de sa fabrication

Publication

EP 1340834 B1 20090422 (DE)

Application

EP 03405004 A 20030107

Priority

CH 3462002 A 20020227

Abstract (en)

[origin: EP1340834A2] Cylinder running surface layer applied by plasma spraying has a number of open pores and has a degree of porosity of 0.5-10%. The average pore size is 1-50 microns. The pores are distributed dimensionally or in a planar manner in the running surface layer surface. The cylinder running surface layer surface contains 0.5-8 wt.% oxygen with iron oxide (FeO) and iron oxide (Fe3O4) crystals to form a solid lubricant. The roughness of the cylinder running surface layer is adjusted to 0.02-0.4 microns (average roughness) with a depth of 0.5-5 microns. An Independent claim is also included for a process for the production of a cylinder running surface layer. Preferred Features: The cylinder running surface layer has a Vickers micro-hardness HV0.3 of 350-550 N/mm squared. The cylinder running surface layer has the following composition: 0.05-1.5 wt.% carbon (C), 0.05-3.5 wt.% manganese (Mn), 0.05-18 wt.% chromium (Cr), 0.01-1 wt.% silicon (Si), 0.001-0.4 wt.% sulfur (S) and a balance of iron (Fe).

IPC 8 full level

C23C 4/16 (2006.01); **F16J 10/04** (2006.01); **C23C 4/04** (2006.01); **C23C 4/12** (2006.01); **C23C 4/18** (2006.01)

CPC (source: EP KR US)

C23C 4/04 (2013.01 - KR); **C23C 4/06** (2013.01 - EP US); **C23C 4/134** (2016.01 - EP US); **C23C 4/16** (2013.01 - EP US); **C23C 4/18** (2013.01 - EP US)

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Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT SE SI SK TR

DOCDB simple family (publication)

EP 1340834 A2 20030903; **EP 1340834 A3 20040331**; **EP 1340834 B1 20090422**; AT E429524 T1 20090515; CA 2416692 A1 20030827; CA 2416692 C 20060502; CH 695339 A5 20060413; CN 100338253 C 20070919; CN 1441078 A 20030910; DE 50311438 D1 20090604; JP 2003253418 A 20030910; KR 100593341 B1 20060626; KR 20030071507 A 20030903; US 2003164150 A1 20030904; US 6701882 B2 20040309

DOCDB simple family (application)

EP 03405004 A 20030107; AT 03405004 T 20030107; CA 2416692 A 20030120; CH 3462002 A 20020227; CN 03106641 A 20030227; DE 50311438 T 20030107; JP 2003008271 A 20030116; KR 20030011560 A 20030225; US 36687503 A 20030214