

Title (en)

SINTERED MECHANICAL PART WITH ABRASIONPROOF SURFACE AND METHOD FOR PRODUCING SAME

Title (de)

GESINTERTES MECHANISCHES TEIL MIT ABRIEBFESTER OBERFLÄCHE UND VERFAHREN ZU SEINER HERSTELLUNG

Title (fr)

PIECE MECANIQUE FRITTEE A SURFACE ANTIABRASION ET PROCEDE POUR SA REALISATION

Publication

EP 0986653 B1 20011205 (FR)

Application

EP 98922560 A 19980527

Priority

- CA 9800516 W 19980527
- CA 2207579 A 19970528

Abstract (en)

[origin: US6623876B1] The invention concerns a mechanical part with abrasionproof surface characterized in that it comprises a sintered metallic body obtained from metallic powders and a laser-deposited cermet coating. The coating has a certain thickness whereof a portion is metallurgically bound with the metallic body. The laser deposit enables the sintered part to be surface-melted under the effect of the laser beam. The surface of the sintered part to be coated is therefore fused over a thickness ranging between 10 µm and 1 mm, which enables the surface pores to be closed, as is characteristic of sintered parts, thereby increasing its resistance to shocks. Moreover, the small surface coated at a given moment by the laser enables the self-hardening of the exposed part, following the beam displacement, by the heat-sink effect of the surrounding metallic volume. The resulting coating also has very low porosity owing to the complete fusion of the powders by laser.

IPC 1-7

C23C 24/10; **C23C 26/02**

IPC 8 full level

C22C 29/02 (2006.01); **B22F 3/24** (2006.01); **C22C 19/05** (2006.01); **C22C 19/07** (2006.01); **C23C 4/10** (2006.01); **C23C 24/10** (2006.01); **G06F 19/00** (2018.01)

CPC (source: EP KR US)

B22F 3/105 (2013.01 - KR); **C23C 24/10** (2013.01 - EP US); **C23C 24/103** (2013.01 - KR); **C23C 26/02** (2013.01 - EP US); **B22F 2301/20** (2013.01 - KR); **B22F 2302/10** (2013.01 - KR); **B22F 2999/00** (2013.01 - KR); **Y10T 428/252** (2015.01 - EP US)

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)

WO 9854379 A1 19981203; AT E210209 T1 20011215; AU 733070 B2 20010503; AU 7517598 A 19981230; BR 9809467 A 20000620; CA 2207579 A1 19981128; CN 1190517 C 20050223; CN 1258323 A 20000628; DE 69802800 D1 20020117; DE 69802800 T2 20020808; EA 001332 B1 20010226; EA 199901088 A1 20000626; EP 0986653 A1 20000322; EP 0986653 B1 20011205; JP 2002510361 A 20020402; JP 4083817 B2 20080430; KR 100540461 B1 20060112; KR 20010012957 A 20010226; NO 321415 B1 20060508; NO 995828 D0 19991126; NO 995828 L 19991210; PL 186654 B1 20040227; PL 336929 A1 20000717; US 6623876 B1 20030923

DOCDB simple family (application)

CA 9800516 W 19980527; AT 98922560 T 19980527; AU 7517598 A 19980527; BR 9809467 A 19980527; CA 2207579 A 19970528; CN 98805547 A 19980527; DE 69802800 T 19980527; EA 199901088 A 19980527; EP 98922560 A 19980527; JP 50003699 A 19980527; KR 19997010927 A 19991124; NO 995828 A 19991126; PL 33692998 A 19980527; US 42458699 A 19991124