

Title (en)

Process for obtaining a continuous metallurgical bond between the linings of the cylinders and the cast which constitutes the crankcase of an internal-combustion engine.

Title (de)

Verfahren für einen kontinuierlichen Metallbund zwischen Zylinderfutter und Kurbelgehäuseguss einer Brennkraftmaschine.

Title (fr)

Procédé pour obtenir une bondage métallurgique continue entre des fourreaux cylindres et un bâtiment-moteur moulé d'un moteur à combustion interne.

Publication

**EP 0450722 A1 19911009 (EN)**

Application

**EP 91200747 A 19910329**

Priority

IT 1996890 A 19900406

Abstract (en)

A process for obtaining a continuous metallurgical bond between the linings of the cylinders and the cast which constitutes the crankcase of an internal-combustion engine, which crankcase is made from a material different from the material which constitutes the linings, is disclosed, which process comprises carrying out a surface treatment by depositing a thin metal layer on the external surface of the lining, which metal is different from the metals which constitute the lining and the crankcase cast, and is capable of increasing the wettability of, and the heat transfer coefficient between, the materials which constitute the lining and the cast; and casting around the same lining, positioned inside the mould, the metal or metal alloy from which the crankcase is made.

IPC 1-7

**F02F 1/10**; **F02F 7/00**

IPC 8 full level

**B22D 19/08** (2006.01); **F02F 1/00** (2006.01); **F02F 1/08** (2006.01); **B22D 19/00** (2006.01); **F02F 1/10** (2006.01); **F02F 7/00** (2006.01)

CPC (source: EP)

**B22D 19/08** (2013.01); **F02F 1/004** (2013.01); **F02F 7/00** (2013.01); **F02F 2007/009** (2013.01)

Citation (search report)

- [AT] DE 3837254 A1 19900510 - BAYERISCHE MOTOREN WERKE AG [DE]
- [A] FR 1340869 A 19631025 - WILLYS MOTORS
- [X] PATENT ABSTRACTS OF JAPAN, vol. 11, no. 54 (M-563)[2501] 19 February 1987; & JP-A-61 215 439 (YANMAR DIESEL ENGINE CO. LTD.) 25 September 1986
- [A] PATENT ABSTRACTS OF JAPAN, vol. 14, no. 113 (M-944)[4056] 02 March 1990; & JP-A-01 313 652 (ISUZU MOTORS LTD.) 19 December 1989
- [A] PATENT ABSTRACTS OF JAPAN, vol. 12, no. 145 (M-693)[2992] 06 May 1988; & JP-A-62 265 453 (HONDA MOTOR CO. LTD.) 18 November 1987

Cited by

CN113999999A; EP0659899A1; DE4244502C1

Designated contracting state (EPC)

AT BE CH DE DK ES FR GB GR LI LU NL SE

DOCDB simple family (publication)

**EP 0450722 A1 19911009**; **EP 0450722 B1 19950104**; AT E116714 T1 19950115; BR 9101389 A 19911126; CA 2039878 A1 19911007; CN 1027188 C 19941228; CN 1056923 A 19911211; DE 69106418 D1 19950216; DE 69106418 T2 19950706; DK 0450722 T3 19950515; ES 2066332 T3 19950301; GR 3015109 T3 19950531; IT 1240746 B 19931217; IT 9019968 A0 19900406; IT 9019968 A1 19911006; JP H04251657 A 19920908

DOCDB simple family (application)

**EP 91200747 A 19910329**; AT 91200747 T 19910329; BR 9101389 A 19910405; CA 2039878 A 19910405; CN 91102700 A 19910406; DE 69106418 T 19910329; DK 91200747 T 19910329; ES 91200747 T 19910329; GR 950400334 T 19950217; IT 1996890 A 19900406; JP 9972491 A 19910405