

Title (en)

Sintered materials for valve guides and production methods therefor

Title (de)

Gesinterte Materialien für Ventileführungen und Herstellungsverfahren dafür

Title (fr)

Matériaux frittés pour guides de soupape et procédés de production associés

Publication

EP 2436463 A2 20120404 (EN)

Application

EP 11007891 A 20110928

Priority

JP 2010222975 A 20100930

Abstract (en)

A sintered material for valve guides consists of, by mass %, 1.3 to 3 % of C, 1 to 4 % of Cu, and the balance of Fe and inevitable impurities. The sintered material exhibits a metallic structure made of pores and a matrix, the matrix is a mixed structure of a pearlite phase, a ferrite phase, an iron carbide phase, and a copper phase, and a part of the pores includes graphite that is dispersed therein. The iron carbide phase is dispersed at 3 to 25 % by area ratio and the copper phase is dispersed at 0.5 to 3.5 % by area ratio with respect to a cross section of the metallic structure, respectively.

IPC 8 full level

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CPC (source: EP KR)

B22F 3/1028 (2013.01 - EP KR); **B22F 3/11** (2013.01 - EP KR); **B22F 5/008** (2013.01 - EP KR); **C22C 9/00** (2013.01 - EP KR); **C22C 9/02** (2013.01 - EP KR); **C22C 13/00** (2013.01 - EP KR); **C22C 33/0264** (2013.01 - EP KR); **C22C 38/008** (2013.01 - EP KR); **C22C 38/16** (2013.01 - EP KR); **F01L 3/02** (2013.01 - EP KR)

Citation (applicant)

- JP S5534858 B2 19800910
- JP 2680927 B2 19971119
- JP 4323069 B2 20090902
- JP 4323467 B2 20090902
- JP 4380274 B2 20091209
- JP 2008202123 A 20080904 - HITACHI POWDERED METALS

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 2436463 A2 20120404; **EP 2436463 A3 20120711**; **EP 2436463 B1 20130710**; CN 102443739 A 20120509; CN 102443739 B 20140507; JP 2012092441 A 20120517; JP 5783457 B2 20150924; KR 101365816 B1 20140220; KR 20120034052 A 20120409

DOCDB simple family (application)

EP 11007891 A 20110928; CN 201110315889 A 20110930; JP 2011211843 A 20110928; KR 20110099927 A 20110930