

Title (en)

HIGH SPEED STEEL PREPARED BY POWDER METALLURGY, WEAR-RESISTANT PART PREPARED THEREBY AND PROCESS FOR ITS MANUFACTURE

Publication

EP 0322397 A3 19891025 (DE)

Application

EP 88890293 A 19881122

Priority

AT 340187 A 19871223

Abstract (en)

[origin: US5021085A] The invention relates to high speed tool steels produced by powder metallurgy; to parts subject to heavy wear which are fabricated from such steel; and to a method of such fabrication. According to the invention, the part subject to heavy wear contains Nb in the amount of 2-15 wt. % and V in the amount of 1-4 wt. %, and further contains metal carbides in the amount of 10-30 vol. %; and that the lower limit of the carbon content is given by the formula $C_{min}=0.45+0.1(\%Nb)+0.20(\%V)$, and the upper limit of the carbon content is given by the formula $C_{max}=1.0+0.15(\%Nb)+0.24(\%V)$. In manufacturing the steel the melt of the alloying components is subjected to atomization in an overheated state (substantially above the liquidus temperature), to produce a powder.

IPC 1-7

C22C 33/02

IPC 8 full level

B22F 9/08 (2006.01); **C21D 6/00** (2006.01); **C22C 33/02** (2006.01); **C22C 38/00** (2006.01); **C22C 38/26** (2006.01)

CPC (source: EP US)

C21D 6/00 (2013.01 - EP US); **C22C 33/0257** (2013.01 - EP US); **C22C 33/0278** (2013.01 - EP US)

Citation (search report)

- [A] DE 3015897 A1 19801106 - NIPPON PISTON RING CO LTD
- [A] LU 66935 A1 19730402
- [A] EP 0130177 A1 19850102 - VER EDELSTAHLWERKE AG [AT]
- [A] EP 0123961 A2 19841107 - KRUPP GMBH [DE]
- [AD] PATENT ABSTRACTS OF JAPAN, Band 7, Nr. 263 (C-196)[1408], 24. November 1983; & JP-A-58 144 456 (FUJIKOSHI K.K.) 27-08-1983

Cited by

CN112522596A; EP0483668A1; US5252119A

Designated contracting state (EPC)

BE CH DE FR GB IT LI LU NL SE

DOCDB simple family (publication)

EP 0322397 A2 19890628; **EP 0322397 A3 19891025**; **EP 0322397 B1 19920122**; AT 391324 B 19900925; AT A340187 A 19900315; DE 3868038 D1 19920305; JP H01212736 A 19890825; US 5021085 A 19910604

DOCDB simple family (application)

EP 88890293 A 19881122; AT 340187 A 19871223; DE 3868038 T 19881122; JP 32228888 A 19881222; US 47613890 A 19900207