

Title (en)
Bearing steel excellent in corrosion resistance

Title (de)
Lagerstahl mit guter Korrosionsbeständigkeit

Title (fr)
Acier pour roulements ayant une excellente résistance à la corrosion

Publication
EP 1420078 A3 20060503 (EN)

Application
EP 03026063 A 20031112

Priority
JP 2002328854 A 20021112

Abstract (en)
[origin: EP1420078A2] Bearing steel containing 0.10 wt% to 0.35 wt% of C, less than 0.5 wt% of Si, 0.3 wt% to 1.5 wt% of Mn, 0.03 wt% or less of P, 0.03 wt% or less of S, 1.0 wt% to 3.5 wt% of Ni, 1.0 wt% to 5.0 wt% of Cr, 0.03 wt% to 2.5 wt% of Mo, 0.005 wt% to 0.050 wt% of Al, 0.003 wt% or less of Ti, 0.0015 wt% or less of O, 0.025 wt% or less of N, and a substantially residual part of Fe, wherein the bearing steel after carburizing or carbonitriding treatment exhibits a surface C concentration of not lower than 0.9 %, contains 15 % by area or less of carbide and contains 0.1 % by area or less of rod-like carbide 10 having an aspect ratio of not lower than 3 in terms of the ratio of major diameter to minor diameter and having a minor diameter of not smaller than 2 µm.

IPC 8 full level
C23C 8/22 (2006.01); **C22C 38/00** (2006.01); **C22C 38/44** (2006.01); **C23C 8/32** (2006.01)

CPC (source: EP US)
C22C 38/001 (2013.01 - EP US); **C22C 38/002** (2013.01 - EP US); **C22C 38/02** (2013.01 - EP US); **C22C 38/04** (2013.01 - EP US);
C22C 38/06 (2013.01 - EP US); **C22C 38/44** (2013.01 - EP US); **C22C 38/46** (2013.01 - EP US); **C22C 38/48** (2013.01 - EP US);
C22C 38/50 (2013.01 - EP US); **C23C 8/22** (2013.01 - EP US); **C23C 8/32** (2013.01 - EP US)

Citation (search report)
• [X] EP 0933440 A1 19990804 - NIPPON STEEL CORP [JP]
• [X] EP 0763606 A1 19970319 - NIPPON STEEL CORP [JP]
• [X] US 5595610 A 19970121 - MAEDA HISAO [JP], et al
• [X] US 4026727 A 19770531 - FINKL CHARLES W, et al
• [X] GB 763398 A 19561212 - GUSSSTAHLWERK BOCHUMER VER AG
• [X] US 5383768 A 19950124 - SIGA MASAO [JP], et al
• [X] PATENT ABSTRACTS OF JAPAN vol. 015, no. 285 (C - 0851) 19 July 1991 (1991-07-19)
• [X] PATENT ABSTRACTS OF JAPAN vol. 1995, no. 01 28 February 1995 (1995-02-28)
• [X] PATENT ABSTRACTS OF JAPAN vol. 1996, no. 09 30 September 1996 (1996-09-30)
• [X] PATENT ABSTRACTS OF JAPAN vol. 2000, no. 05 14 September 2000 (2000-09-14)
• [X] PATENT ABSTRACTS OF JAPAN vol. 2000, no. 20 10 July 2001 (2001-07-10)
• [X] PATENT ABSTRACTS OF JAPAN vol. 1996, no. 07 31 July 1996 (1996-07-31)
• [X] PATENT ABSTRACTS OF JAPAN vol. 018, no. 328 (C - 1215) 22 June 1994 (1994-06-22)

Cited by
CN106893947A; EP2169082A1; EP1978124A1; WO2016107517A1; US8343255B2

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 RO SE SI SK TR

DOCDB simple family (publication)
EP 1420078 A2 20040519; EP 1420078 A3 20060503; EP 1420078 B1 20190227; US 2004094238 A1 20040520

DOCDB simple family (application)
EP 03026063 A 20031112; US 70453903 A 20031112